

PROJECT PROFILE

<u>Sector</u>	Agriculture
<u>Sub-sector</u>	Crops
<u>Code</u>	AG 21 (B)
<u>Title</u>	Crop Production Systems Research.
<u>Location</u>	Country-wide
<u>Total Plan Exp.</u>	US\$ 2.193m
<u>Funds Secured</u>	US\$ 2.193m
<u>Funding Gap</u>	Nil
<u>Implementing Agency</u>	NARO
<u>Start Date</u>	2001
<u>Completion Date</u>	2005

Background

Small-scale family owned farming units, with crops grown under rain fed conditions, dominate agricultural production in Uganda. The use of modern techniques and mechanization is very low, production practices are labour intensive, appropriate management practices are often not applied by the majority of producers, and there is limited availability of most of the improved varieties of food crops. The types of agricultural activities that can be economically viable, in any given area, largely depend on the physical environmental conditions and how these interact with socio-economic factors. The homogeneity of these factors formed the basis for defining the 12 agro-ecological zones of Uganda, each of which presents unique opportunities and constraints. Because of this comprehensive delineation and definition of the agro-ecological zones and associated production systems, research efficiency and technology dissemination will be enhanced, through better priority setting and improved technology targeting.

Objectives

- (i) Strategic agribusiness planning at district/zonal-level for the priority Key Enterprise Systems (KES) in agricultural commodities and factors;
- (ii) Varietal improvement (with emphasis on resistance-breeding) to achieve increased production-level by at least 50% in the priority KESs in food, industrial and horticultural-crops;
- (iii) Technology synthesis of system-based and KES-specific recommendation packages on the priority on-farm concerns in pre-production, production, and harvesting, as well as the off-farm priority concerns of processing/value-addition, storage and utilization, and marketing of the KES-specific products;
- (iv) Crop management (with focus on improvement of cultural and agronomic practices, nutrient efficiency, and optimum productivity);
- (v) Plant health management (with a focus on management of diseases, pests, and food-hygiene concerns);
- (vi) Studies on Hazard Analysis and Critical Control-Points (HACCP) with a critical focus on quality-control and minimizing of losses in stored and processed products and
- (vii) A functional National Gene-Bank with viable collections of germplasm accessions of plant germplasm for sustainable varietal-development; and,
- (viii) Operationalization of technology enterprise development initiatives through functional linkages with NARO's development-partners (i.e. seed-companies, KES-specific farmers/entrepreneurs, NGOs, universities, and IARCs under CGIAR).

Expected Outputs

- Basic knowledge and information, not available anywhere else, on topics important for generation of new technologies.
- Improved technology options for the different agro-ecological zones and production systems, based on assessed needs and opportunities.
- Functional structures and mechanisms for adapting, promoting and disseminating client-accepted technology options for the agro-ecological zones and systems.

Performance Indicators

- Pure stocks of breeder and foundation seed/ planting material for major crop varieties with desirable and client-acceptable characteristics established and multiplied at the NARO research institutes.
- Better performing varieties of crops developed/introduced and available for system-oriented adaptive research.
- Better performing varieties identified through participatory research and farmer acceptance evidenced by at least 75% of the farmers adopting one new variety.
- Adequate amounts of genetically pure, clean and viable planting materials of superior crop varieties produced for each of the 12 the agro-ecological zone.

Technical Description

The project is designed to reflect the national agricultural sector development objective of increasing the benefits derived from sustainable agriculture by clients and end-users. The generic purpose is to increase availability and use of improved technologies for increased crop productivity, food security, profitability and sustainable agriculture and livelihoods. The project will incorporate a strong *socio-economics* thrust that will continuously generate and provide information on technology needs, acceptability, profitability, marketability and sustainability of different technologies within a specified agro-ecology or production system. It will also assess impact of technologies generated and develop policy recommendations. *Commodity improvement and management* thrusts will develop and make available technologies and technology packages for increased productivity of given commodities for specific production systems.

Feasibility Study

NARO, through consultative process involving farmers and other stakeholders arrived at the priorities for research in the crop sub-sector. Major areas of research focus in the crop sub-sector were identified as (i) integrated management of pests and diseases of selected crops and (ii) germ-plasm improvement for specific agro-ecologies. Components of research supported by external donors have been presented to and agreed upon by the donors and NARO.

Financing

The project is financed jointly by GoU, Banana Cropping-IDRC, Bean Research-CIAT, UK, and FAO. For FY 2002/03, GoU contribution will be US\$ 0.141m, IDRC US\$ 1.1312m, CIAT US\$ 0.2509m, DFID US\$ 0.7215m and FAO US\$ 0.0676m.

Plan of Operation.

The project is implemented by the National Agricultural Research Organization, (NARO), with the major crop research institutes at Kawanda, Namulonge and Serere and the zonal centers taking lead. Major activities include:

- (i) Needs assessments for improved crop production technologies for each zone
- (ii) System-oriented adaptive research involving participatory system-oriented on farm trials of new varieties and technologies
- (iii) Outreach, technology and information dissemination, training and service to the public.