

PROJECT PROFILE

<u>Sector:</u>	Agriculture
<u>Sub-sector:</u>	Livestock
<u>Code:</u>	AG 74 (B)
<u>Title:</u>	Animal Production Systems Research.
<u>Implementing Agency:</u>	NARO
<u>Location:</u>	Various
<u>Total Plan Exp:</u>	US\$ 6.2961m
<u>Funds Secured:</u>	US\$ 6.2961m
<u>Funding Gap:</u>	Nil
<u>Start Date:</u>	2001
<u>Completion Date:</u>	2005

Background

The production of livestock in Uganda has traditionally been confined to the smallholder sector. Animals are integrated within the economic structure of the subsistence farm and village life. Approximately 75% of the livestock in Uganda are found in the western rangelands. Cattle serve as the major source of draft power; they also provide food for the family, hides for the leather industry, and fertiliser for crops. Farmers keep other livestock and poultry as sources of food, skins, manure, and rural employment.

Objectives

- (i) Strategic agribusiness planning at national-level as well as at district-level for each priority KES in livestock systems;
- (ii) Improvement of appropriate breeding-stock for the priority-KESs in livestock systems (with emphasis on development and improvement of high-yielding and stress-tolerant livestock);
- (iii) Technology synthesis to generate 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) Livestock management with focus on improvement of husbandry practices, feed efficiency, and optimum productivity;
- (v) Animal health 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 minimising of losses;
- (vii) Operationalisation of technology enterprise development initiatives through functional linkages with NARO's development-partners (i.e. KES-specific farmers/entrepreneurs, NGOs, universities, as well as other NARS and IARCs).

Expected Outputs

- (i) Strategic and basic knowledge on topics important for generation of new technologies as well as pertinent policy-oriented research.
- (ii) Improved technology options that respond to the problems and opportunities of a given priority-KES at district-level as brought out by pertinent stakeholders
- (iii) Functional structures and mechanisms for adapting, promoting and disseminating client-accepted technology options for each agro-ecological zone and system.

Technical Description

The project will generate technologies to raise the productivity of indigenous and introduced animal breeds within each production system through the use of animal breeding, animal husbandry and feed resource development. These technologies will be developed with full participation of the clients to ensure that they are profitable and sustainable for livestock and poultry production.

The priority-KESs to be covered by Livestock Systems Research are: (i) Dairy (Smallholder) KES; (ii) Beef KES; (iii) Goats and Sheep KES; (iv) Poultry KES; (v) Pigs KES; (vi) Pasture and Fodder KES; and (vii) Draft Animals KES. The Dairy KES has two components: Cattle (dairy-beef dual-purpose) and Goats (dairy-chevon dual-purpose). The top-priority zones for the intensive dairy KES are the Victoria crescent and highland zones while the western rangelands are suitable for extensive dairying. On the other hand, the top-priority zones for the beef KES are the western rangelands, Teso/Lango and Karamoja rangelands. Invariably supporting the dairy KES and the beef KES is the pasture and fodder KES, especially with respect to pasture improvement and strategies for dry season feeding. Small ruminants are well spread and particularly suited to the less humid zones further away from the L. Victoria crescent. The poultry KES has two components: Commercial Poultry and Indigenous Poultry. Research will focus on improvements for the later system.

Performance Indicators

- Indigenous breed characteristics and population dynamics established and findings documented.
- Indigenous knowledge and systems documented.
- Population dynamics of ticks, tsetse flies and worms and yield loss due to TBD's, trypanosomiasis and helminthosis assessed and the results widely disseminated.
- Information on epidemiological patterns of CBPP and infectious causes of infertility in dairy cattle and indigenous practices for their management collected and documented.
- Indicators and models for predicting impending stress-causing factors and disease outbreaks documented.
- Etiology, pathology and pathogenesis of other peculiar diseases of emerging economic importance.
- Characteristics and production requirements of preferred and locally available feed and feeding materials determined and findings documented.
- Alternative pasture improvement methodologies and options assessed and field guidelines published for each of the production zones and systems for cattle, small ruminants, pigs and poultry.
- Range condition status and feed resource development and management options for each production system determined and findings documented.
- Analytical tools for field assessment of ruminant and poultry feeds quality developed.

Feasibility Study

NARO, through a highly participatory process involving farmers and other stakeholders arrived at the priorities for research with respect to livestock and poultry production. Genetic improvement, integrated management of diseases and improvement of feeds were identified as the three major constraints to animal production. Components of livestock research supported by external donors have been presented to and agreed upon by the donors and NARO.

Project Financing

The project is jointly financed by GoU, DANIDA and IAEA. The contribution of GoU for the FY 2002/03 is US\$ 0.0562m, DANIDA 2.0503m and IAEA US\$ 0.0643m.

Plan of Operation

The project is implemented by the Livestock Research Institute (LIRI), Namulonge Agricultural and Animal Research Institute (NAARI) and Serere Agricultural and Animal Research Institute of the National Agricultural Research Organization (NARO) in collaboration with Makerere University (Faculty of Agriculture and Faculty of Veterinary Medicine), Danish Institute of Animal Science (DIAS) and the field extension service. Major activities include:

- Studies on (genetic) characterization of indigenous animal breeds.
- Studies on etiology and epidemiology of major diseases
- Development of management procedures for conservation and sustainable utilization of

indigenous animal genetic resources, feed resources, and management of vectors and diseases etc. including integration of indigenous practices.

- Participatory development of breed selection and systematic animal genetic improvement packages.
- Development of management packages for dairy, beef, small ruminant and poultry enterprises.
- Development of integrated crop-livestock and multi-species management packages.
- Technology and information dissemination, training and service to the public.
- Adoption and impact-assessment studies (both ex-ante and ex-post).
- Monitoring and evaluation of technologies for economic viability and social acceptability.
- Policy-analysis and marketing studies, including credit provision, input supply, processing, etc.
- Characterisation and diagnosis of constraints of the production systems