

PENHA-Uganda

Nkoma Farm Agricultural Learning and Exotic Goats Breeding Centre:
Improving Agricultural Productivity
and
Helping Farmers'/Women's Groups to Increase their Incomes

Summary Report 2012



PENHA Executive Director, Dr. Zeremariam Fre with a guest at Nkoma Farm

Synopsis

This project delivers tangible benefits for poor women, helping them to substantially increase their incomes. Our well managed stock of imported South African Boer goats allows us to produce mixed breeds that do well in local conditions, but grow faster and produce more meat than pure local goats. Nkoma Farm supplies cross-bred goats to women's groups who receive training in the proper management of an improved goat project. With good management, local groups and farmers can make profits of around \$1,000 a year. Rural incomes are commonly \$150-200 annually, so an individual member of one of our groups can potentially double her income.

The Nkoma Farm project, alongside our other efforts such as business skills training, is an important part of our women's empowerment program, helping women in socially and economically disadvantaged pastoralist communities.

Open Gate with other British grants has enabled us to support the upgrading of facilities at the Nkoma Farm Breeding Centre, with water supply and troughs, new structures (sheds, paddocks and fences), and new pure Boer goat stock. (There are currently, September 2012, no new male Boer goats in Uganda, and in-breeding is becoming a real problem, so it was important to bring in new stock to maintain the health and quality of our animals.) This funding enables us to maintain effective veterinary care and herd management, with carefully controlled breeding. Our goats still compare favorably with those of other projects in Uganda.

New feed crops have also been introduced at Nkoma (principally Desdemodium and elephant grass) and we aim to demonstrate a wide variety of new crop varieties developed by local research stations.

Nkoma also maintains an impressive stock of traditional Ankole cows, Boran cows, Fresian crosses and imported bulls, showing the range of mixed breeds that can be introduced in order to increase meat and/or milk production. Careful breeding can produce hardy, locally adapted new cross-bred cattle. Nkoma provides services for wealthier farmers who wish to upgrade their herds. In general, however, poor and landless pastoralists cannot make the necessary investments. They maintain their herds of low-productivity, traditional Ankole cows, which can survive arid conditions and cover long distances in search of pasture. Demonstration alone can do little for these pastoralists. (This is the subject of research based on consultations with pastoralists, conducted by PENHA-Uganda project coordinator Elizabeth Katushabe with the League of Pastoral Peoples, LPP, an international NGO.)

The project has been effective, but has also faced various challenges, which are presented in this report.

We intend to address these challenges and to strengthen and expand the project. In particular, we want to extend the supply of highly productive cross-bred goats to the semi-arid agro-pastoral regions of Teso and Karamoja in Eastern Uganda.

1. Direct Benefits to Farmer Groups & Enhanced Agricultural Productivity

Enhancing agricultural productivity is central to government policy and the government's National Agricultural Advisory Services (NAADS) program. NAADS is based on providing services to farmer groups across the country. The program boasts that around 80% of farmer groups are now within 3kms of a demonstration centre.

Our program fits in with this approach, aiming to provide direct support to well organized women's groups in disadvantaged (semi-arid) pastoral areas, as well as information and demonstration of new techniques for women's groups and herders' associations (referred to as "farmer groups" even when animal husbandry is their primary activity).

PENHA has concentrated on supplying exotic goats ("improved breeds") to women's groups. The women's groups receive goat management training and visit Nkoma to observe proper management first hand.

The project has delivered tangible benefits to the beneficiaries, helping them to substantially increase their incomes. PENHA intends to expand the project to cover the Teso and Karamoja regions of eastern Uganda.

2. Complementing Other PENHA Work

The project supports and complements PENHA's efforts to promote rural women's enterprise and strengthen pastoralists' local organizations. Under our Danida-funded women's economic empowerment program, women's groups received business skills training and participated in discussions of the challenges they face as entrepreneurs. One local entrepreneur successfully produces and markets frozen yoghurt under the "Nkoma Farm" brand, with equipment and training provided under the project.

PENHA-Uganda has also collaborated with the League of Pastoral Peoples (LPP) to conduct research on herders' management of traditional livestock breeds, the Ankole cow, in a context where many are switching to improved, "exotic" cattle. Workshops with herders have helped to understand the challenges faced by poor and landless

pastoralists, who cannot afford the investments needed to upgrade their herds and become more commercially oriented.

3. Goat Stock at the Breeding Center

Current stock at Nkoma stands at around 170 exotic goats (25%, 50% and 75% Boer-Mubende crosses) and 4 pure South African Boers, with a larger number of local Mubende goats held in separate housing. A new bull was imported from South Africa.

It has been difficult to maintain high standards of management (disease and breeding control), but the quality of Nkoma's goats still compares well with those of other, better-funded programs. The goats at Nkoma are in reasonably good condition.

Salt and mineral supplementation has been adequate, although the low quality and quantity of dry season forage remains a problem. There is a need to experiment with new dry-season feeds, perhaps making use of the invasive weed *Prosopis*.

The pure Boer goats require good supplementary feeds (cut-and-carry forage) as well as plentiful and clean water supply. New water supply, with pipes and troughs, has enabled us to meet these needs.



4. Improving Management and Expanding the Project

Thanks to good management at Nkoma, the health and general condition of our goats compares well with those of similar projects across the country. Expenditures on veterinary services, vaccines and medicines account for a large portion of running costs, alongside salaries for staff and herders. (Vaccination and deworming are carried out regularly.)

We have closely followed the recommendations of our veterinarians, Dr. Onyait and Dr. Wangoola (facilitators of PENHA's goat management training workshops), and made a number of improvements at Nkoma:

- ☐ **New Water Points** – a new, modern water point has been installed so that fresh, clean water is available year round. This has helped to improve the health and general condition of the animals. Over time, it should also help to reduce veterinary expenditures.
- ☐ **New Forage and Fodder Crops** - legumes and plants of high nutritional value and protein content have improved nutrition and made the animals less vulnerable to disease.
- ☐ **New paddocks and fencing** – these have allowed us to carefully control breeding, to introduce proper rotational grazing and prevent the goats from damaging the crops of neighbouring farms.
- ☐ **New Shelter/Structures for Goats** – the original (large) goat shed has been repaired and a new smaller one constructed. Keeping many goats in a single, large shed facilitates the transmission of disease. Separate shelters are needed to isolate animals that become sick.
- ☐ **New Pure Boer Goats** – these were necessary to mitigate the problem of inbreeding, which is affecting similar projects across the country.
- ☐ **On site demonstration** of proper feeding and management – training is provided for all groups that receive goats, but refresher courses and on-going advisory services are needed. The capacity of Nkoma Farm to host workshops and trainings has been substantially expanded, with accommodation for facilitators and a meeting room.

Major developments include:

- ☐ **Increased capacity to hold workshops and training seminars** – accommodation for trainers/facilitators, meeting room and expanded space for demonstration.
- ☐ **A wider range of mixed cattle breeds**

- **Yoghurt Making** – the operation has been taken over by a local woman entrepreneur, serving local markets and the roadside trade with packaged/”branded” products in several flavours, with plans to serve urban supermarkets.



Several new, smaller pens and sheds at Nkoma help to reduce the transmission of diseases

5. Contributions to the farm

There have also been very significant investments at Nkoma Farm that have upgraded facilities and capacity. Barnabas Nuwamanya, a commercial ranger, owner of Nkoma Farm and PENHA-Uganda’s Livestock Adviser, provides the land for a peppercorn rent, a very significant in-kind contribution, the improvements mention above in section 4, and oversees management of the farm.

The funders have been a series of major contributions by Open Gate with smaller ones from the Miss K.M. Harbinson’s Charitable Trust and the Eva Reckitt Trust.

6. Serving Teso and Eastern Uganda

PENHA has conducted goat management and animal husbandry training workshops (covering goats, pigs and cattle) for FAO Farmer Field School (FFS) facilitators in Eastern and Northern Uganda. The FAO (UN Food & Agriculture Organization) FFS program aims to support agro-

pastoral communities in Teso, Lango and Acholiand. These communities lost almost all their livestock to Karimojong raiders and in the 20-year war with the Lord's Resistance Army (LRA). A generation has grown up without traditional animal husbandry skills. Through training in husbandry skills and restocking, particularly with goats, the FFS program aims to bolster livelihoods and increase incomes. PENHA trained Farmer Field School Facilitators (community extension officers who manage centers at sub-county level) in basic goat management. A number of projects have been established, linked to the NAADS program, but coverage is inadequate. PENHA intends to extend its women's empowerment efforts to Teso and the Nkoma Breeding Centre would support the supply of goats to participating women's groups.

7. Goat Distribution to Women's Groups

Over 2007 and 2008, around 300 goats were distributed to more than 30 women's groups in Masaka, Ssembabule, Nyabushozi and Kabale districts. In 2010 and 2011, 100 goats were supplied to women's groups and farmer groups.

Each group receives 10 goats, including a 75% Boer male and a mix of local and crossed females. (In some cases, adjustments are necessary and a smaller or larger number of cross-bred goats will be supplied in order to complement existing stock appropriately.) The aim is to establish a breeding stock of 20 goats, with 2 bucks, for each women's group. Each group should also have a roofed goat pen, suitable forage and feed plants and a water source.



8. Costs and Earnings for Women's Groups

Herd Productivity

Twinning rates are high for Boer/Mubende (local) crosses. Kidding takes place roughly every 7 months. Kid mortality rates are usually under 10%. A group with a stock of 1 buck and 10 does can expect to produce a litter of 14 kids, almost twice a year. With good feeding, water supply and veterinary care, productivity is higher, in terms of both animal numbers and weight. (Sale price is a function of weight.)

Goat Prices on Local Markets

Prices have risen significantly across the board, in line with steady inflation over the past several years. Both costs and returns have gone up for beneficiaries. The figures presented below are rough estimates/averages. Prices vary widely from one place to another and by season. One-off sales of goats on local markets fetch much lower prices than “in-bulk” or contract sales to urban buyers.

Marketing continues to be a challenge for local women's groups. Sometimes, when women urgently need cash or cannot afford marketing costs, valuable cross-bred goats are sold locally at the much lower price of a local Mbende goat. Transport costs are high, with long distances to markets. Often women have to hire a man to take their animals to market. It costs around 50,000 shillings to take one or two goats to the nearest market on a motorbike taxi (using soda crates with grass bedding). For larger sales, buyers/middlemen may arrange for transport. However, women also continue to lack bargaining power vis-à-vis traders, butchers and restaurants.

	Goat Prices (Uganda Shillings) 2009	Goat Prices (Uganda Shillings/USD) 2012 (Information from the Nakaseke NAADS Program)
Local Mubende goat	30,000 – 60,000 Ug Sh	200,000 Ug Sh (\$91 USD)
50% Boer	200,000 Ug Sh	400,000 Ug Sh (\$181 USD)
75% Boer	350,000 Ug Sh	800,000 Ug Sh (\$364 USD)
75% Boer female		500,000 Ug Sh (\$227 USD)

(Exchange rate, September 2012 - \$1 USD = 2,200 Uganda Shillings)

Start-Up and Running Costs for a Women's Group

Fixed Costs

	2009	2012
Fixed costs of constructing a (small) roofed goat pen	150,000 Ug Sh	300,000 Ug Sh
Land rental	500,000 Ug Sh per year (around \$300)	800,000 Ug Sh

Variable Costs for a 6-8 Month Period

	2009	2012
Supplementary feeds	100,000 Ug Sh	180,000 Ug Sh
20kg of salt	10,000 Ug Sh	20,000 Ug Sh
1 liter of de-wormer	14,000 Ug Sh	30,000 Ug Sh
250 ml of "Tsetse Tick"	20,000 Ug Sh	45,000 Ug Sh
ropes	20,000 Ug Sh	40,000 Ug Sh
Veterinary services/labor	120,000 Ug Sh	250,000 Ug Sh
Total variable costs (for 6-8 months)	284,000 Ug Sh	595,000 Ug Sh

In practice, veterinary costs may be substantially higher than this rough average suggests. Two bad outbreaks of Heart Water disease over 2010/2011 have resulted in very much higher veterinary costs, or else in the loss of animals. This makes costs and earnings highly variable and subject to a relatively high degree of uncertainty.

Estimated Earnings for a 6-8 Month Period

14 kids sold locally at 300,000 Ug Sh	4,200,000 Ug Sh
Earnings = sales minus costs (excluding start-up or fixed costs)	3,605,000 Ug Sh

Typically, a group with a small stock of goats can expect earnings of around \$800 in six months, or \$1,600 in a year. Divided equally between 10 members, earnings generated would be \$160

per member. This represents, roughly, an additional 50% of annual income for a poor rural household (in a semi-arid area).

Some farmer groups have performed better than this, and a number of individual men have been able to establish very profitable enterprises that are almost as well managed as Nkoma Farm.

The project has focused on women's groups because women tend to spend more of their disposable income within the household, on things like school fees and medical expenses that promote household welfare. But, the adoption of improved goat breeds by men is also a project goal. And mixed groups have emerged naturally, as some women's groups have brought in male members, in particular to help with marketing.



Group members in isolated, pastoral Ntuusi – they manage their goats well, but marketing is a challenge.

9. Challenges

Managing the pure Boer goat is difficult and expensive (with veterinary care, water supply, feed and the need for careful breeding/mating). The Boer males are large and aggressive, and even the 75% crosses are difficult to handle, as well as susceptible to disease. The significant investment at Nkoma Farm has made it possible for us to produce and maintain good stock, but the challenges are on-going.

The program has faced a number of challenges – both for PENHA at the breeding center and for the women’s groups and farmer groups that the project serves.

Challenges at Nkoma

Inadequate Monitoring & Evaluation	High transport costs, long distances and dispersed communities make it difficult and expensive to follow up with women’s groups.
	Mobile phone networks support M & E, with quick updates on emerging problems and diseases, but are not a good substitute for monitoring visits.
High Transport and Fuel Costs	The costs of distributing goats are significant
Inflation/High Cost of Living	US ethanol subsidies, a weak dollar and rapid economic growth have all contributed to inflation and sustained price increases. This has put upward pressure on wages and raised the cost of veterinary care, along with other costs.
Theft	The animals are vulnerable to thieves and there have been significant losses. Herders provide security, but there are also some associated costs.
In-breeding	This remains a challenge, in spite of new stock and careful control of breeding. Exchanges of animals with other programs would help, but poor management at other farms makes this problematic.
Serious disease outbreaks	Nkoma Farm’s goats have suffered from two serious outbreaks of disease, with significant animal losses. Herd sizes have, however, been able to recover fairly quickly.

Inadequate dry-season feed	The severe 2011 drought resulted in very difficult conditions.
A lack of collaboration with NAADS centres and other programs	Similar projects have tended to see themselves as rivals and are slow to collaborate.

The women's groups and farmer groups face similar challenges, as well as some additional ones of their own.

The 50% crosses can be fairly easily managed by women's groups, but they struggle to cope with 75% males. Male farmer groups and individual male farmers have been better able to cope with the management challenges and establish properly commercial operations.

Women's groups need to have adequate land (a problem for many) and good pens/goat sheds, in addition to training, if they are to manage their stock effectively.



Shembaare Group in at the Ntuusi-Rwemiyaga border

Challenges faced by beneficiaries

Inadequate plot sizes and landlessness	<p>Most of the beneficiaries own only small plots of land, and many are landless.</p> <p>Renting additional plots of land becomes necessary for a project with 10-20 animals or more.</p>
Inadequate fencing	<p>Few groups can invest in proper fencing, so the goats frequently damage neighbours' crops – compensation costs can be very substantial.</p>
Failure to maintain effective goat management	<p>Many of the smaller, less cohesive women's groups have struggled to maintain sound management practices.</p> <p>All have received training, but many need refresher trainings or on-going support.</p>
Increased costs of hired labour	<p>Most groups have to hire a local man to help with herding. (Universal Primary Education means that children are no longer available for this.)</p>
Poor selection of groups	<p>For some of the groups with inadequate skills or facilities (plot sizes), there may be better alternatives to goat farming.</p> <p>In hindsight, the project probably distributed too many goats too quickly, with inadequate screening of groups.</p>
Poor record keeping	<p>Even groups that manage their stock well tend not to maintain proper records.</p>
Poor marketing/inability to serve distant markets	<p>(These challenges were discussed above.)</p>
Theft	<p>Theft is not usually a problem for women's groups, as goats are kept near households.</p>

Most of the women have been able to manage their goats well and generate good incomes. Some have faced real difficulties and would prefer pig farming, poultry or other alternatives.

(Revolving funds would allow them to make their own choices.) Where the difficulties are insurmountable, it would be better for the group to sell their goats and take up other activities.

In Teso and the drier pastoral areas of eastern Uganda, it is easier for women's groups to manage cross-bred goats – there is less pressure on land and some of the challenges described above do not apply. The project would, then, benefit from shifting its focus eastwards.

10. Improving and Expanding the Program

The program has been a real success and has supported other work, training and policy efforts, in valuable ways. Most importantly, it delivers tangible benefits – increased incomes for people in poor, rural communities. We hope to address the challenges and expand the program, with these steps:

- ☐ **Improved monitoring & evaluation and provision of on-going advice to women's groups** – more frequent monitoring visits are necessary, as well as extension services, perhaps in collaboration with NAADS centres across the country.
- ☐ **Refresher training sessions** in order to improve management by weaker groups
- ☐ **Better Screening of Beneficiary Groups** – only well-run and cohesive groups, with adequate shelter and facilities should receive goats. At the same time, resources should be concentrated on the better managed groups that can maintain self-sustaining stocks of 20-30 goats and run their operations as a business, making complementary investments and marketing their goats more effectively.
- ☐ **Development of complementary and alternative packages of support, including high-value crops** - complementary activities, such as fruit trees, which also provide shade for goats, and fish ponds, for which goat manure supplies nutrients, should be developed. Some participating groups in Kabale already have fish ponds. High-value crops provide alternatives to goat husbandry, and new investments will be needed at Nkoma to support this. The small tree nursery at Nkoma needs to be redeveloped, with a view to providing a comprehensive range of new varieties for multiplication and distribution.
- ☐ **Introduction of new dry-season fodder/feeds.**
- ☐ **Scaling up the project** so that it can meet the growing demand for goats and supply goat stock to NAADS and to other NGO projects on a commercial basis, and so become more self-sustaining.
- ☐ **Extending the project to cover women's groups in Teso and Karamoja regions**