Fodder bank innovations for resource poor smallholder dairy cattle farmers

Uganda
KABIRIZI JOLLY

Project Summary

Elevator Pitch

Concise Summary: Help us pitch this solution! Provide an explanation within 3-4 short sentences.

Smallholder dairy cattle production is a major source of milk and income for resource poor farmers. The project objective is to improve feed quality and quantity, animal performance and household income by integrating fodder trees and forage legumes in the farming systems.

File attachments:
Photos.doc

About You

Location

Project Street Address
P.O. Box 7084, Kampala

Project City
Kampala

Project Province/State
Wakiso district

Project Postal/Zip Code
+245

Project Country

Your idea

Country your work focuses on:
Uganda

Website URL
http://www.naro.go.ug

YouTube Upload

What stage is your project in?
Operating for more than 5 years

What is the average monthly household income in your target community, in US Dollars?
<$100

Innovation

Describe your idea in fewer than 50 words.

Smallholder dairy cattle production is a major source of milk and income for resource poor farmers. The project objective is to improve feed quality and quantity, animal performance and household income by integrating fodder trees and forage legumes in the farming systems.

What makes your idea unique?

Smallholder cattle production is of strategic importance in addressing the Millennium Development Goals 1 (eradicating extreme poverty and hunger) and 3 (promoting gender equality and empower women) in Uganda. The project also hinges on the major premises of the Plan for Modernization of Agriculture policy which emphasizes farmer empowerment through demand-driven research agenda; poverty focus in social and economic development; environmental concerns; responsiveness to demand and market opportunities; enhancing opportunities for multi-stakeholder participation (including private sector and civil society organization) and the expected increase in the efficiency of resource use; and opportunities for feed resource interventions. Fodder bank innovations comprise of integrating forage legumes and fodder trees in the farming system. The legumes and fodder trees have high protein biomass that is capable of improving animal productivity. In addition, forage legumes and
fodder grasses enhance environmental protection; reduce pesticide residues; control pests and diseases in other crops; protect the soil from erosion; support the nitrogen and carbon cycle and increase soil fertility through manure an end result of a well fed livestock.

What is your area of work? (Please check as many as apply.)

What impact have you had?

Through farmer workshops, field visits and agricultural shows, we have trained over 2 million farmers in 63 districts. We have established about 300 ha of maize or sorghum/lablab intercrop; 1,250 ha Napier grass/ forage legume intercrop; 650 ha lablab and about 7,200 calliandra fodder trees. HIV/AIDS affected households have been supplied with labour saving forage choppers. The youth have been equipped with technical and entrepreneurial skills in forage production, conservation and utilization as a source of income. Intercropping forage legumes with maize or sorghum has improved fodder and grain yield by about 17% and 20%, respectively and enabled farmers to utilize land more efficiently and maximize returns from limited resources and stabilize income returns overtime. Better feeding methods have increased milk yield by about 40% and a return to investment increased by 50%. Farmers have started adding value to low quality forages through production of nutrient feed blocks using locally available ingredients, crop residues and farmer waste such as poultry litter. Group formation has helped farmers to exchange information on farming and improve service delivery and start new projects. The groups have also helped women to get recognition in the village and respect by their husbands. The women use the groups as a social protection measure against marginalization. Five new projects developed and funded.

Describe the primary problem(s) that your project is addressing.

Smallholder dairy cattle production is a major source of milk and income contributing about 70% of the total farm agricultural income in Uganda. Most of these farmers experience inconsistent supply of good quality forages for their cattle throughout the year. They therefore miss opportunities to benefit from high prices of milk because of inadequate feeding. Majority of dairy cattle farmers own less than 1 ha of land for food and fodder production. Utilization of fodder bank innovations such as cereal crop/forage legume intercrops; elephant grass/legume mixtures and/or fodder trees that do not require a lot of land is considered the most appropriate under smallholder production condition. The project is therefore designed to overcome the problem of seasonal feed shortage and poor animal performance in intensive dairy production in smallholdings.

Describe the steps that your organization is taking to make your project successful.

Farmers are trained in entrepreneurial skills of dairy farming and fodder bank production as a business. Field days, farmer workshops, agricultural shows; farmer-radio-talk shows are conducted to encourage interaction and collaborative learning between farmers and to monitor and assess the performance of the innovations that are introduced on the farms and their contribution to household welfare. Performance of animals accompanied by records on fodder production help farmers to decide on what innovation they would adopt. Farmer manuals and handbooks are produced and translated into local languages and sold to farmers at an affordable price. For sustainability of the project, farmers multiply seed for future use. Collaboration with the private sector and marketing organizations is strengthened to ensure that the milk, cereal grain and pasture seed produced by farmers is sold.

Impact

What will it take for your project to be successful over the next three years? Success in Year 1:

Develop and package information for capacity building of stakeholders willing to undertake development of fodder bank innovations, and who would like to build on our experiences. Field days, field tours and farmers’ workshops will be conducted on the farms where the innovations will be validated. The host farmers will be the ‘expertise’ on the technology and will discuss it with the invited farmers. The farmers will also be encouraged to multiply their own pasture seed. This will improve seed availability, reduce price per kilo of seed and enhance adoption of fodder banks innovations.

Success in Year 2:

Commercial production and marketing of high quality forages to interested farmers. Post harvest processing and value addition of forages into nutrient feed blocks. The project staff will prepare articles for the local newspapers. We shall continue sourcing for funds in order to scale-up.

Success in Year 3:

The team will document lessons learned from participatory production and dissemination of fodder bank innovations.

Do you have a business plan or strategic plan? (yes/no)

yes

What are the three most important actions needed to grow your initiative or organization? STEP 1:

Availability of good quality and affordable pasture seed is a key to adoption of fodder innovations. The project will continue to encourage small-scale pasture seed production. It will work closely with the seed and private sector companies to ensure availability of market for seed and milk. Farmers will be equipped with skills and knowledge on fodder production, processing, utilization and marketing of produce. We shall continue to identify training needs for the different stakeholders.

What are the three most important actions needed to grow your initiative or organization? STEP 2:

Develop policy dialogue platforms involving local and district decision makers, farmers’ organizations, women organizations, input, credit and service providers and processors to promote alternative policies in relation to prices, taxation and credit facilities to increase revenue from dairy and fodder bank production.

What are the three most important actions needed to grow your initiative or organization? STEP 3:

Establish platforms for strengthening partnerships in market information sharing among stakeholders and across-sites to be established. Using the traditional and modern information communication tools and methods, market information communication strategies will be developed and utilized to improve stakeholder decision-making in marketing their produces. The information will focus on access to credit facilities, prices of inputs and outputs along the value chain. Particularly important will be the investigation on use of mobile telephone to share market information.
Describe the expected results of these actions.

a) Demand driven innovations to improve the resilience, productivity and sustainability of smallholder dairy and fodder bank production units promoted while protecting the environment.
b) Market access for dairy and improved forages expanded.
c) Pro-poor policies to facilitate the transformation of integrated dairy and fodder bank units into profit making enterprises enacted.
d) Enhanced contribution of smallholder dairy cattle production systems to improved livelihoods and quality of the environment.

What was the defining moment that led you to this innovation?

During a baseline survey conducted in Masaka district, Uganda in 2002 to identify major constraints affecting smallholder dairy cattle production, farmers noted that inadequate (quality and quantity) feed is a major constraint to smallholder dairy cattle production. The consensus of farmers and other stakeholders was that efforts by government to improve genetic potential and management of risks associated with diseases would not realize the intended impact unless the nutrition of the dairy cattle was improved alongside such efforts. A dissemination (feedback) workshop to present summarised results of the survey to farmers and other stakeholders was conducted at a government farm where improved forage technologies based on on-station results were being tested/demonstrated. At the farm, participants were guided around the demonstration plots by the extension staff and the researcher. The farmers scored each forage technology using the following criteria: labour, land and capital requirements; suitability in the cropping systems; herbage biomass and/or grain yield; and; contribution of the technology to household income and food security. Based on total scores from farmers’ assessment of the technologies and results of previous on-station studies, fodder bank innovations (forage legumes, fodder trees and food crop-forage legume intercrops) were selected by farmers. In order to source for funding, research proposals were formulated and submitted to DANIDA.

Tell us about the social innovator behind this idea.

Dr. Jolly Kabirizi holds a Bachelor of Science degree (Upper Second class) in Agriculture; Master of Science degree in Animal Science and a PhD degree in Animal science. Since 1975 Jolly has disseminated fodder bank innovations to over 10 million farmers (women, men, children and youth). Her small farm located in the peri-urban areas of Kampala, Uganda is one of the demonstration farms where farmers are equipped with skills and knowledge on improved dairy cattle farming (see [link](http://www.newvision.co.ug/PA/9/756/671799)). She has donated improved heifers, local chicken, improved goats and pigs to resource poor farmers to improve household income, nutrition and welfare. Jolly is a team leader for 4 multi-disciplinary and multi-institutional regional and national projects. Jolly has always had a desire to solve the farmers’ problems with their involvement and participation. The impact she has made in resource poor and HIV/AIDS affected households is well documented in scientific papers, national and international reports on dairy production; local and international articles such as [link](http://people.africadatabase.org/en/person/18025.html); [link](http://www.asareca.org/a-aarnet/20projects.htm); [link](http://www.genderdiversity.cgiar.org/resource/ProfilesRound2).

How did you first hear about Changemakers?

From the New Vision Paper, Uganda of 4th May 2009

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**Sustainability**

What would prevent your project from being a success?

Successful implementation of this project is contingent to a favourable political and economic environment in the country, cohesion among the stakeholders at benchmark sites and country level, prevailing of favourable weather conditions; pests and diseases such as the Napier stunt and smut disease that is a very big threat to the dairy industry; the willingness of farmers to participate in the project and favourable government policies on land, subsidies; taxation regime; price formation mechanisms; credit system. The current financial crisis in the world is likely to affect a number of projects we are implementing.

**Financing source**

If yes, provide organization name.

National Livestock Resources Research Institute under The National Agricultural Research Organization,

How long has this organization been operating? (i.e. less than a year; 1-5 years; more than 5 years)

More than 10 years

Does your organization have a Board of Directors or an Advisory Board?

Yes

Does your organization have any non-monetary partnerships with NGOs? (yes/no)

Yes

Does your organization have any non-monetary partnerships with businesses? (yes/no)

Yes

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The Story

Does your organization have any non-monetary partnerships with government? (yes/no)

Yes

Please tell us more about how these partnerships are critical to the success of your innovation.
Partnership building is a key to combining skills between farmers, policy makers, service providers and institutions for maximum impact and giving greater strength to scale up the fodder bank innovations through information dissemination activities. The project team work with a wide range of other stakeholders along the research to development continuum in the three countries. These include other National Agricultural Research Centers, Government ministries dealing with Agriculture, Livestock Development and Natural Resource Management, local government administration, Community Based Organizations and Non Government Organizations and the private sector. The above stakeholders play varied but critical roles along the technology uptake pathway hence their input in the project is vital.

**How many people will your project serve annually?**
Over 10,000

**What is your organization’s business classification?**
Government

**What is the total number of employees and total number of volunteers at your organization?**
20 employees and over 20 volunteers

**Have you received funding from any of the following groups? (Please check as many as apply.)**

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