



RESEARCH
PROGRAM ON
Livestock

More meat, milk and eggs by and for the poor

Out scaling of community-based breeding programs: attractive and innovative approach to improving the lives of smallholder producers in low input systems

Aynalem Haile, ICARDA

M-BoSs Inception Workshop, ILRI, Addis Ababa, 29-30 June 2017



Community-based breeding programs

- Participatory breeding – decentralized breeding plans and programs
- Improvement programs carried out by communities of smallholder farmers often at subsistence level
- Community-based breeding considers proper farmers breeding objectives, infrastructure, participation and ownership
- CBBPs are built on bottom-up participatory approach



Breeding structures for CBBP

- Select in the whole population of the community the best males and females as replacement breeding stock
- Rearing of male candidates in central governmental test stations or may be entrusted to one or more members of the community
- Identify some farmers with 'best' animals to fulfil the specific function of producing males for the whole population
- When the nucleus animals are run by several farmers, the nucleus is dispersed amongst them
- There are also livestock systems with large herds per family. Here a single farmer may own the nucleus and produce males for several farmers which in turn supply best females to this nucleus farmer

Steps for setting up community-based breeding



- **Duration:** 36 months
- **Countries of implementation:** Ethiopia and Tanzania
- **Partners:** ARARI, TARI, SARI, TALIRI, EMBRAPA, ICARDA

Background

- Africa- Brazil Market place project: Improving livelihoods of smallholders through implementing sustainable small ruminant improvement programs
- M-BoSs

Specific objectives

- to establish CBBPs for two goat breeds in pilot communities in Ethiopia and Tanzania based on collection of relevant baseline information;
- to test and implement, at scale, efficient, low-cost synchronization and artificial insemination protocols for wider dissemination of improved genetics;
- to customize the data management and recording system (DREMS) for wider application in goat breeding programs;
- to further develop and customize mobile recording application to facilitate performance data recording;
- to identify, assess and develop the technical and institutional capacities and arrangements required to sustain goat breeding programs;
- to develop marketing strategies for breeding bucks (possibly breeding females too) and live goats and their products.

Activities

- Description of the production system and animals (Tanzania)
- Define breeding objectives of the communities (Tanzania)
- Set up breeding structures (new in Tanzania; existing structures refined in Ethiopia)
- Customize Data Recording and Management System (DREMS) and a mobile recording application
- Develop field solutions for dissemination of improved genetics (both countries)
- Build technical and institutional capacities and arrangements required to sustain goat breeding programs (both countries)
- Market linkages (both countries)

Expected results

- Target breeds, locations, communities, production systems and market opportunities in Tanzania identified and characterized.
- Breeding objectives and trait preferences of communities in Tanzania defined in a participatory manner.
- Breeding structures set-up in Tanzania and existing structures in Ethiopia optimized and number of coops increased from 5 to 9.
- Reproductive technologies: synchronization followed by AI and ultrasound pregnancy diagnosis tested and applied
- An offline version of the DREMS and mobile recording application made available for wide use in Ethiopia and Tanzania.
- Institutional capacities and arrangements required to sustain CBBPs identified and established.
- Technical capacity of national partners developed.

Expected impact at the level of the target communities:

- **Increased productivity** as reflected through more births, better growth and reduced mortality leading to increased offtake.
- **Increased household income** from sales of a higher number of animals and a higher price for improved bucks and does.
- **Increased consumption** of goat meat and products, contributing to improved nutrition and health
- Goat keepers and breeder **cooperatives capacitated** to manage the breeding programs at community level
- **Women are empowered** as a result of their full engagement in CBBP
- **Capital built** in the cooperatives through the sale of improved bucks and other related activities

Expected impact at national/regional level

- **Technical capacities** of different actors and institutions involved in CBBP implementation **developed** through tailor-made training courses and on the job training enabling them to maintain and routinely manage CBBPs.
- **Institutional capacity for managing CBBPs established** in the countries through involving all relevant stakeholders in CBBPs and implementing CBBPs through the national partners.
- **Long-term sustainable utilization of indigenous genetic resources facilitated** and alternatives to importing improved genetics demonstrated for decision and policy makers.

Schedule of activities

Key activities	Year 1				Year 2				Year 3				
Annual review and planning workshops	X												
Description of the production system and animals	X												
Define breeding objectives of the communities	X	X											
Set up breeding structures		X	X	X	X								
Customize DREMS and a mobile recording application				X	X	X	X	X					
Develop field solutions for dissemination of improved genetics				X	X	X	X	X	X	X			
Build technical and institutional capacities				X	X	X	X	X	X	X	X		
Market linkages					X	X	X	X	X	X	X		

CGIAR Research Program on Livestock

livestock.cgiar.org



The program thanks all donors and organizations which globally support its work through their contributions to the [CGIAR system](#)

The **CGIAR Research Program on Livestock** aims to increase the productivity of productivity of livestock agri-food systems in sustainable ways, making meat, milk and eggs more available and affordable across the developing world.



This presentation is licensed for use under the Creative Commons Attribution 4.0 International Licence.