RESEARCH PROGRAM ON Livestock

More meat, milk, and eggs by and for the poor

Activity Report: Livestock Genetics Flagship

Training of trainers in community-based breeding program for small ruminants in pastoral communities of Kenya October–November 2020

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CGIAR is a global partnership that unites organizations engaged in research for a food-secure future. The CGIAR Research Program on Livestock provides research-based solutions to help smallholder farmers, pastoralists and agro-pastoralists transition to sustainable, resilient livelihoods and to productive enterprises that will help feed future generations. It aims to increase the productivity and profitability of livestock agri-food systems in sustainable ways, making meat, milk and eggs more available and affordable across the developing world. The Program brings together five core partners: the International Livestock Research Institute (ILRI) with a mandate on livestock; the International Center for Tropical Agriculture (CIAT), which works on forages; the International Center for Agricultural Research in the Dry Areas (ICARDA), which works on small ruminants and dryland systems; the Swedish University of Agricultural Sciences (SLU) with expertise particularly in animal health and genetics and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) which connects research into development and innovation and scaling processes.

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Overview

The Government of Kenya through the Ministry of Agriculture, Livestock and Fisheries and Irrigation (MALFI) is working with the ILRI Livestock Genetics team on aspects of the World Bank aided Regional Pastoral Livelihoods Resilience Project (RPLRP-Kenya) that aims to enhance livelihoods and resilience of pastoral and agro-pastoral communities in cross-border drought prone areas of Kenya. The ILRI Livestock Genetics team is specifically contributing to improving livestock productivity in three counties, Turkana, Isiolo and Marsabit through capacity building, herd management and community-based breeding interventions. The range of activities are in line with the RLPLRP objectives that seek to: i) maintain the genetic diversity of indigenous livestock while improving their productivity and ii) promote behavior, change and reorient producers' mindset to be more commercial.

Capacity development of national actors in livestock production

Long term sustainability of interventions in communities will be possible through engaging locally based extension service providers and enhancing their capacity in the implementation of livestock management strategies that enhance productivity in challenging environments. A training of trainers (TOT) model was adopted for integrating best practices for sheep and goat production in the target areas. The training programs are organized for county technical staff from the Directorate of Livestock and directorate of Vet services in Isiolo, Marsabit and Turkana counties.

Courses were designed for adoption using ICT technology platforms alongside practical implementation in pastoral herds. For the first round of training, the MALFI requested the training to be conducted in-person rather than remotely using ICT platforms. The Global challenge with Covid-19 in 2020 necessitated the trainings to be re-structured to ensure safety of all participants in line with government protocols. The program was thus divided into sets of training, conducted over three days for each county independently with participants as presented in Table 1.

Table 1:Number of participants trained from different counties grouped by gender

County	**Number of technical staff trained**		
	Men	**Women**	**Total**
Isiolo	9	4	13
Marsabit	11	3	14
Turkana	10	5	15
Total	*30*	*12*	*42*
Facilitators:			
ILRI/MALFI	1	2	3

Course participants (Turkana County)

Course content

Topics covered in the training were as follows:

- Impact pathway for a community-based breeding program for small ruminants in pastoral systems
- Identification and selection of sites and communities for interventions
- Formation of community groups to implement livestock improvement
- Objective methods of identifying and selecting breeding animals
- Digital data capture using the Open Data Kit (ODK)
- Demonstration on derivation of statistics from performance data and its use in genetic evaluation of animals using the ASReml software
- Interpretation and use of results from a genetic evaluation for selection of animals for breeding

The on-line Modules developed by the ILRI Livestock Genetics team were used as core materials for training. These were "Best practices for selective breeding for improved livestock productivity" Module 1: Enquire and Module 2: Engage.

Practical demonstrations on how to select breeding animals was implemented on pre-selected farms within the county.

Practical demonstration on farm

Training session

Interventions for improving productivity in target counties identified by course participants

An interactive session was held with course participants in which they were tasked with identifying key opportunities and activities that they could undertake within their counties to improve productivity and offtake from the pastoral communities. Ideas presented are listed as follows:

County	Action points
Isiolo	• Isiolo abattoir is great opportunity that the county should take advantage of as its ready market for the outputs of the breeding program. • The team agreed to set up one pioneer core innovation group at Barambate, implement the selection, monitor changes and replicate to other groups. • CPTL and Director livestock to organize for a planning meeting and come strategy/plan outlining the activities and timelines towards implementing breeding program for the selected site.(Barambate) • Share the plan with relevant stakeholders to synergize the activities. • Share KLMC market data with the farmers and train them how to access market information • Collaborate with KSAP and integrate the breeding program in the value chain. Organize farmers into breeding societies which will be increase their bargaining power. • Collaborate with Kenya Livestock Breeders Association (KLBO) to set breed standards for Galla Goat. • County to make use of the National Strategic framework and explore proposals and collaborations with donors and other partners. Identify gaps in areas that complement the breeding program. The gaps should attract funding from donors, and this will ultimately benefit the breeding program.
Marsabit	• County to collaborate with the Livestock Recording Center LRC to take up data analysis of data for the breeding program. • Ward livestock officers to be supported and facilitated to do data collection • The team agreed to set up one pioneer core innovation group at within Saku ,re-align the group to have a breeding objective, implement the selection, monitor changes and replicate to other groups • The deputy Director Livestock and the CPTL to brief the Director of livestock, CEC and the Chief officer on the deliberations from the training of Tots. Plan and organize for a planning meeting within two weeks and involve all the officers trained. • Document and outline a plan with timelines on how to implement the breeding program for the identified site. Share the outline with all relevant stakeholders. Identify training gaps that partners can take up. • County to collaborate with the Livestock Recording Center LRC to take up data analysis of data for the breeding program. • Ward livestock officers to be supported and facilitated to do data collection County to identify gaps in areas that complement the breeding program. The gaps should attract funding from donors, and this will ultimately benefit the breeding program.

County	Action points
Turkana	• The upcoming breeding center is a great opportunity for the breeding program as breeding stocks for the center will be source from the farmers in the breeding program. • Integrate the PFS in Kalemnyang and Naanam into Core innovation groups. • The project to support and facilitate Ronald to do data collection .Ronald was tasked to identify a data collector. • ILRI to support on procurement of two smart phones to support data collection. • County to collaborate with the Livestock Recording Center LRC to take up data analysis of data for the breeding program. • Digital data collection using the Animal registration tool used by ILRI for the PFS groups. ILRI to customize the tool • County to support and facilitate technical staff to conduct training to farmers on community-based breeding. • Collaborate with NARIC and integrate the breeding program in the value chain. Organize farmers into breeding societies which will be increase their bargaining power . • Collaborate with Kenya Livestock Breeders Association (KLBO) to set breed standards for Small East Africa Goat. • Incorporate short term gain into the breeding programs that will motivate farmers to continue with the breeding program animal shows, handouts such as dewormers, acaricide etc.

RPLRP project team

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2. **Ministry of Agriculture Livestock ,Fisheries and Cooperatives-MALFI**

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Annexes

Links to modules and other training materials

1. Module 1: **Enquire**-Best practices for selective breeding for improved productivity:
2. Module 2: **Engage**-Best practices for selective breeding for improved productivity *https://cgspace.cgiar.org/handle/10568/97176*
3. Power-point presentation

ILRI-RPLRP-ToT_20201023.pdf

Annex 1: Training program

Day 1		
Time	**Session**	**Facilitator**
0800–0830	Registration	MALFI
0830–0900	Introductions and scene setting	MALFI and ILRI
0900–0930	Introduction to the training objectives and mode	ILRI
0930–1030	Introduction to the impact pathway	
1030–1100	Health break	
1100–1300	Module 1: Engage	ILRI
1300–1400	Lunch break	
1400–1600	Module 2: Enquire	ILRI
1600–1630	Wrap-up of modules (digital module)	
1630–1700	Health break	
Day 2		
0830–0900	Reflections on day 1	MALFI and ILRI
0900–1030	Introduction to ODK	ILRI
1030–1100	Health break	
1100–1300	Practice on using ODK	ILRI
1300–1400	Lunch break	
1400–1600	Data analysis (Genetic evaluation using ASReml)	ILRI
1600–1630	Health break	
Day 3		
0900–1300	Field visit for practical demonstration on Module 2	MALFI and ILRI
1300–1400	Lunch break	
1400–1500	Wrap-up and closure of the training	MALFI and ILRI