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Upscaling of community-based breeding programs in Ethiopia: 2020 report

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Upscaling of community-based breeding programs in Ethiopia: 2020 report ICARDA

Background

In Ethiopia pilot community-based breeding programs (CBBPs) have been designed and implemented since 2010 by a team of researchers from the International Center for Agricultural Research in the Dry Areas, the International Livestock Research Institute, BOKU University, Austria and Ethiopian National Agricultural Research Centers. These programs were evaluated and found to be technically feasible to implement, result in measurable genetic gains and socioeconomic benefits to the rural poor. The Ethiopian Government has accepted CBBP as the strategy of choice for genetic improvement of small ruminants. Consequently, the Livestock and Fisheries sector development projects has adopted CBBP and CBBP is being upscaled in Ethiopia through partnership between Ministry of Agriculture and ICARDA. This brief report outlines the accomplishments of the project during November 2019-October 2020.

Components of the project: The major activities to be undertaken in the project are the following:

1. Strengthen small ruminant community-based breeding programs (CBBPs)
2. Design breeding structure and disseminate improved genotype
3. Establish database and recording system
4. Monitor and evaluation of the breeding program
5. Market linkages
6. Establish field solutions for dissemination of improved genetics

Plans for the year and accomplishments

1. Awareness creation

With a plan to upscale CBBPs in Ethiopia in the four major regions (Amhara, Oromia, South and Tigray), a consultative meeting was organized with partners, including NARs, extension staff, LFSDP and ICARDA staff, for each region. This was done in Sekota for Amhara, Adama for Oromia, Hawassa for South and Mekelle for Tigray. During the consultation/ planning meetings, detailed work plan and budget, the role of each partner and schedule of activities was discussed and agreed up on. A technical committee to follow on routine activities as well as steering committee tasked with the overall coordination was established.

When implementing the upscale, farmers and enumerators were also made aware of the objective of the project and expectations from each party.

2. Identification of sheep/goat population and sites

Through consultative meetings with the various stakeholders, we identified districts for our CBBP upscale (Table 1). Additionally, in consultation with regional staff of the ministry and researchers we identified specific villages for the upscale operation.

Table 1. Small ruminant population identified for CBBP upscale

SR species	SR population targeted	Amhara	Oromia	South	Tigray
Sheep	Menz	X			
	Washara	X			
	Bonga			X	
	Doyogena			X	
	Abera			X	
	Horro		X		
	Arsi-bale		X		
	Begait				X
	Atsbi				X
Goat	Abergelle	X			
	Central highland	X			
	Konso			X	
	Central highland (Meta wolkite)		X		
	Harerge highland		X		
	Abergelle				X

3. Capacity development (TOT and community trainings)

Due to the COVID situation, we were not able to travel and organize big trainings. However, the following trainings were conducted virtually or face to face.

1. TOT on certification of improved sires for 20 researchers and ministry livestock experts (Virtual)
2. TOT on ultrasonography in sheep and goat for 23 researchers and ministry livestock experts (Virtual)
3. TOT on upscaling of CBBP focusing on collection of baseline data, animal identification and startup of CBBP was provided to 40 researchers, project team, extension staff of the ministry from the four Oromia sites in Shashemene (face to face)
4. Enumerator were given on the job training on collection of baseline data, animal identification and startup of CBBP in all the upscale sites by researchers (face to face)
5. Farmer trainings were also carried out in some of the sites (face to face):
 - a. Amhara: Gonder Zuria 150 farmers were trained and the training focused on animal management and principles of cooperative.
 - b. Tigray: Humera, 32 farmers, 3 admin staff, 6 experts from bureau of agriculture were trained on animal breeding, health, nutrition and principles of cooperatives.
6. A workshop was held in September 2020 in Debre berhan to discuss on the achievement and planning of CBBP scaling out for the year 2020/21. A total of 25

participants from Debre Berhan Research centers and district level livestock experts and officials attended the workshop (face to face).



Figure 1. Practical trainings in various sites

4. Strengthening of 27 existing CBBPs

Existing CBBPs in Amhara: Menz (5), Abergelle (5), Maksegnit (2); Oromia: Horro (2), Meta wolkite (2); South: Konso (5), Doyogena (8), Bonga (15); Tigray: Abergelle (2), were strengthened through provision of required materials (ear tags, markers, applicator, weighing scales) and trainings to researchers, enumerators and farmers. Consequently, these CBBPs were able to produce improved sires which were distributed to the production sites.

5. Procurement of operational materials

For effective implementation of the project, items needed were procured and are being distributed when needed. Ear tags, ear tag markers, applicators, weighing scales, veterinary supplies and drugs were procured from the local markets and are being used. Additionally, lab items, consumables and synchronization hormones were imported.

6. Field implementation

Following the trainings, a team of researchers and extension staff were engaged in identification of participant households based on criteria provided, collection of baseline data, animal identification, and startup of CBBP. Two hundred forty-four improved breeding sires were purchased and transferred from CBBP to production sites last year. Additionally, during the reporting period a total of 350 sires were purchased and distributed and these would be used on around 14,000 dams. Routine animal data recording is going on and there are new births from the distributed sires. For example, more than 2300 newborn lambs/kids were registered and recorded in the scaling out sites in Amhara.

In Amhara region upscaling of CBBPs has been implemented in 18 villages involving about 1200 households and 19000 animals are participating. In Oromia, around 575 households, in South 278 households and in Tigray 216 households are so far participating in the scheme.



Figure 2. Breeding rams in Humera site



Figure 3. Field implementation in Abergelle site

Plans for 2021

- Implementation of upscale with the remaining populations in South Ethiopia (Bonga and Abera)
- TOT, training of farmers,
- Strengthen existing CBBPs and upscale operations
- Establishment of field solutions (synchronization and artificial insemination) for dissemination of improved genetics
- Establishment of database and recording system
- Link the CBBPs with markets
- Total of five breeders' cooperatives established
- Experience sharing visits will be organized for farmer leaders to different sites
- Routine data recording to help with identification of best sires will be implemented

Conclusion

We undertook inception workshops in the four regions. Trainings and field implementation of the upscale operation has started in all regions in all villages, except for two districts in South Ethiopia. The regions are at different levels of implementation. The Amhara work is relatively advanced. In 2020, the remaining populations in South shall be fully covered. We will also strengthen the existing CBBP and dissemination shall be carried out through both natural mating and AI. Market linkages shall also be established.