

Scaling Africa RISING validated feed and forage technologies and management practices for improved productivity of small ruminants in the Ethiopian highlands

Joint progress report for TAAT and Africa RISING

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The Africa Research in Sustainable Intensification for the Next Generation (Africa RISING) program comprises three research-for-development projects supported by the United States Agency for International Development as part of the U.S. government's Feed the Future initiative.

Through action research and development partnerships, Africa RISING will create opportunities for smallholder farm households to move out of hunger and poverty through sustainably intensified farming systems that improve food, nutrition, and income security, particularly for women and children, and conserve or enhance the natural resource base.

The three projects are led by the International Institute of Tropical Agriculture (in West Africa and East and Southern Africa) and the International Livestock Research Institute (in the Ethiopian Highlands). The International Food Policy Research Institute leads an associated project on monitoring, evaluation and impact assessment.



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PROGRESS REPORT

Project Title: Scaling Africa RISING validated feed and forage technologies and management practices for improved productivity of small ruminants in the Ethiopian highlands

Activity description: Implementation of Technologies for African Agricultural Transformation (TAAT) Livestock Compact.

Funding Source: African Development Bank (AfDB)

Contract duration: The duration of the contract is the date of signing to December 31, 2019.

Contract support by ILRI: USD 30,000

Implementer: Africa RISING project

1. Introduction

Feed spoilage and other waste is a significant factor contributing to feed shortages. Proper utilization of available feed resources is one of the ways to cope with feed shortages. In the AR research sites, it has been observed that wooden feed troughs and feed storage sheds reduce feed wastage during utilization and storage by about 30–50%. Farmers were also able to minimize the labour demand for feeding and taking care of animals when animals are tethered and offered feed on feeding troughs. Construction of feeding troughs for different classes of animals is therefore important to implement a sustainable cut-and-carry feeding system in the highlands, particularly at this time when free movement of animals has been limited due to local bylaws restricting free grazing.

2. Objectives

- To establish demonstrations of Africa RISING’s validated feed and forage innovations (feed trough) with the potential to improve small ruminant production in the Ethiopian Highlands.
- To capacitate farmers who are engaged in small ruminant production through short term trainings, exchange visits and field days using these demonstrations as a focus.
- To generate quantitative and qualitative evidence on the extent to which the demonstrations of feed and forage innovations, and other, associated capacity development initiatives, have led to benefits in the households of small ruminant producers in terms nutrition and income diversification.

3. Progress

i. Selection of project implementation sites and participating farmers

Initially, we held a discussion with Africa RISING Basona woreda and north Shewa zonal focal persons on the planned scaling activities and demonstration of post-harvest feed management and utilization interventions. We also presented three proposed kebeles such as Gudo Beret, Bakello and Angolela for the implementation of the project activities. Once we confirmed the acceptability of the three kebeles from the partners, we selected 33-34 farmers in each of the three kebeles. The farmers’ selection criteria considered are the following:

- those farmers who would be interested to construct the trough and avail wood in time
- have both cattle and sheep, and are engaged in some sort of market-oriented livestock production (dairy fattening) and
- have a potential to adopted other AR forage technologies

ii. Group discussion with farmers

We organized a group discussion forum for 100 selected farmers (Table 1 and Photo 1). The objectives of the group discussion are to orient the farmers about the design of the feed troughs and receive feedbacks on the types of feed troughs they are interested to construct in their respective locations.

Table 1. Farmers attended the group discussion

Kebele	Total selected farmers	Number of farmers participated during farmers group discussion in each Kebele
Bakello	33	Total = 24 (Male= 20 and Female= 4)
Angolela	34	Total = 32 (Male= 28 and Female= 4)
Gudo Beret	33	Total = 20 (Male=20 and Female= 2)

Farmers preference on the type of feed trough varied depending on their location, size and types of livestock holding. Potential options and farmers preferences of the feed trough design include: one sided (either for cattle or small ruminants) and two sided (one side for cattle and the other side for small ruminants or calves). Farmers in Angolela have cross breed dairy cows and practice indoor feeding. These farmers are interested to extend roofing using their own resources (corrugated sheet of iron). They feel that the current size of the feeding trough is not enough to protect their dairy cows from sunlight.



Photo 1. Group discussion with farmers in Gudo Beret(left), Angolela (middle) and Bakelo (right) kebles

iii. Practical training on “construction of feeding trough” for local carpenters

The purpose of the training was to equip the local carpenters on how to construct one and two-sided feeding troughs targeting both cattle, calves and small ruminants. The trainees were able to construct the skeleton of a one-sided feeding trough and a two-sided feeding trough (Photo 2) at Bakello Kebele.



Photo 2. One sided feed trough on the left and two-sided feed trough on the right

There was also constructive discussion among the participants during the training. The participants were 8 local carpenters from three Kebeles; development agents (DAs) from 3 Kebeles; one expert and the head from Basona Worena Woreda livestock development and promotion office (Table 2).

Table 2. Participants of feeding trough construction training on April 23, 2019.

SN	Name	Organization	Job/Position	Address
1	Belege Teshome	Gudo Beret kebele	Carpenter	0920234740
2	Mekbib Girma	Gudo Beret Kebele	Carpenter	0914463266
3	Wagaye T/Tsadik	Angolela Kebele	Carpenter	0977274661
4	Wubie Gelie	Angolela Kebele	Carpenter	0920853260
5	Getnet Engdawork	Angolela Kebele	Carpenter	0913164433
6	Lakew Tateke	Bakello Kebele	Carpenter	0921236201
7	Gashaw Negess	Bakello Kebele	Carpenter	0921563747
8	Mulu Beyene	Bakello Kebele	Carpenter	0921664991
9	Yibeltal Dessie	Bakello Kebele livestock	DA	0901037021
10	Kasu Tadesse	Gudo Beret Kebele livestock	DA	0910110724
11	Bekele Getachew	Angolela Kebele livestock	DA	0947361865
12	Zegeye W/Agegnehu	Basona Worena Woreda livestock off.	Expert	0913103943
13	Eshetu Demessie	Basona Worena Woreda livestock off.	Head	0912922685

After the training each of the trained carpenter signed an agreement with Africa RISING specifically on the number of feed troughs, he would construct in his respective Kebele and due date to finalize construction. The Kebele DAs, Woreda experts and Africa RISING site coordinator take the responsibility of monitoring and follow-up to have smooth implementation on the ground. The progress of the construction is summarized as below (Table 3).

Table 3. Status of feeding trough construction in each Kebele as of June 2019.

SN	Kebele	Targeted feeding troughs to be constructed	Completed until now	Skeleton finished but roofing remains	Not yet stated
1	Angolela	34	15	19	0
2	Bakello	33	16	14	3
3	Gudo Beret	33	0	23	10

4. Next plan

Table 4. TAAT-Africa RISING work plan on feed trough technology scaling and capacity building

SN	Activities	December 2018 - June 2019	July 2019	August 2019	September 2019	October 2019
1	Site/kebele selection					
2	Farmer selection					
3	Farmer groups meeting					
4	Training of carpenters					
5	Feed trough construction					
6	Data collection tool preparation					
7	Data collection on sampled hhs					
8	Field days					
9	Experience sharing visit					
10	Targeted support to youth/women groups					
11	Stakeholders meeting workshop					
12	Data summary and reports					