



Report on Climate Smart Feed and Fodder Training for Experts, DAs and farmer, Bale Zone, Oromia

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Through action research and development partnerships, Africa RISING is creating 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 regional 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 the program's monitoring, evaluation and impact assessment.



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1. Introduction

Livestock production and productivity are very low in Ethiopia. One of the major constraints is the poor quality and inadequate quantity of feed available. The farming system in Bale zone, where Africa RISING Project has been operating, is dominated by production of wheat as a major food and cash crop. Most grazing lands changed to cultivated land due to increasing human population. Wheat straw has been the major livestock feed in the area, which is low in palatability and nutritional value. As a result, the livestock production and productivity has been declining from time to time. Therefore, cultivated forage crops are potential supplement to enhance the feed availability and quality to transform livestock production.

To overcome these problems, the government has been engaging NGOs, government lead projects, national and international research institutions, higher education institutions, and private sectors. To achieve this objective, capacitating experts, DAs and farmers is crucial. In line with this objective, AICCRA/Africa RISING project has been working on seed supply and training of partners at local level. The trainings were delivered at two stages, one at zonal level and the second at kebele level. This report covers the objectives, mode of training delivery, major outputs, and the number of beneficiaries.

2. Objectives of the training

The objective of the training was:

- To equip farmers and Kebele DA's with knowledge and skills of cultivated fodder production, management and utilization,
- Enable experts and DAs to use ILRI's on farm feed advisor tool (software) so that they can support farmers in ration formulation,
- To train farmers and DAs on post-harvest feed management and utilization,
- To refresh experts and Kebele DA's on animal feed management and utilization,

3. Mode of Training Delivery

To better achieve the intended objectives of the project, the site level team set some selection criteria to select target districts, Kebeles and farmers. Based on the selection criteria, three target districts (Sinana, Goba and Agarfa), six kebeles (Shallo, Besaso, Ititu Sura, Aloshe, Mekona Chefe and Ali kebeles, respectively) and 450 HHs (75 HHs from each kebele) were selected for the training. The training for farmers and DAs was delivered in their respective FTCs.

First, the project organized Training of trainers (ToT) for selected expert from Bale zone and the three target districts (Sinana, Agarfa and Goba) for three consecutive days in Bahir Dar. The training participants were Africa RISING contact persons. The training was delivered from 16-18 May 2022.

Subsequently, we jointly developed a concept note, cost breakdown and training action plans. Based on this we organized the training at two stages. One was the training organized for two days (30 June – 1 July 2022) at zonal level. It was targeted for zonal and woreda level experts and DAs from the six Kebeles, two kebeles each from the three woredas.

Table 1: DAs and Experts participated in the feed and forage innovation training at Zonal level

Participants coming from	Kebele	Experts/Higher Officials		DAs		Total		Grand Total
		Male	Female	Male	Female	Male	Female	
Bale Zone	-	6	0	0	0	6	0	6
MWU	-	1	0	0	0	1	0	1
Sinana	Shallo and Besaso	3	1	1	2	4	3	7
Goba	It/Sura & Aloshe	3	1	1	3	4	4	8
Agarfa	M/Chafe and Ali	4	0	3	1	7	1	8
Total		17	2	5	6	22	8	30

The objective was to refresh zonal and woreda level experts as well as DAs about the improved feed and forage innovations. The training consists of theoretical and practical exercises. The practical exercise includes the mobile application which is called ILRI's on farm feed advisor tool (software). DAs and experts downloaded the application from google play store and installed on their smart mobile phones. Following this, they did a practical exercise on how to apply the tool to support farmers in ration formulation particularly for dairy cattle based on locally available feed resources. It was interactive and thoughtful exercise. Experts and DAs were familiarized with the tool and happy with the result obtained using the application.

As can be seen from Table 1 above, in this training we able to address more than 30 participants. 11 of them were kebele level DAs whereas 19 of the total participants were subject matter specialists (SMS) and higher officials.



Figure 1: Training delivery to experts and DAs at Zonal level

The second was the training facilitated by the trained trainers from Bale zone and the three woredas for twelve days in between 2-19 July 2022. The training was provided for selected farmers and DAs from six kebeles. The objective was to equip farmers and Kebele DAs with knowledge and skills of cultivated fodder production, management (including post-harvest mgt) and utilization.



Figure 2: Training participants group photo in Aloshe Kebele, Goba district.

I was engaged and effectively facilitated the training for DAs and farmers in the three target woredas. Before the training delivery, Africa RISING contact persons who trained on the cultivated forage management and utilization in Bahir Dar translated the training materials into local language and contextualized the content. Zonal contact person and I supported them in translating the contents. The materials made better understanding among farmers and DAs during the training delivery. It was engaging and followed by field visit, experience sharing visit and practical works like crop residue treatment using EM.



Figure 3: Practical training on how to do a Crop residue treatment using EM in Goba, Aloshe kebele

Farmers practically engaged in crop residue treatment using effective microorganisms (EM). The above image displayed how to apply the EM on the crop residue (barley) in Aloshe Kebele of Goba district.



Figure 4: Experience Sharing visit on how to cultivate desho grass in Aloshe Kebele, Goba district.

Figure 4 displayed while an experience sharing visit conducted on one of the model farmers homesteads. The farmer is well experienced in cultivating desho grass in short growing as well as in the main seasons. He shared his experience to the training participants from the kebele.



Figure 5: An experience sharing visit conducted during the livestock feed innovation training in Ititu-Sura kebele FTC in Goba district.

Figure 5 above also showed the fodder beet seedlings raised in Ititu-Sura kebele FTC for further scaling within the kebele and beyond. The participant farmers have got the chance to visit/be familiarized/ with the technology, has got explanation on the agronomy part, management and utilization. The farmers were very happy to use the technology and the seedlings dispatched to them based on individual interest (Figure 6).



Figure 6: While conducting the field visit, the fodder beet seedlings raised on Ititu-Sura FTC dispatched to individual farmers based on interest.



Figure 7: Oat- vetch mixture demonstration in Ititu-Sura Kebele FTC visited by training participants, Goba district.



Figure 8: Alfalfa demonstration in Mekona Chefe Kebele Nursery site visited by the training participants, Agarfa district.



Figure 9: Different grass family's demonstration in M/Chefe kebele government nursery site, while visited by the training participants followed by explanation by Mr. Endale Tefera.

Farmers were very happy by the training and motivated to apply the experience and knowledge they grasped through the training. Farmers and DAs were thankful to the AICCRA/Africa RISING projects. In this training we addressed 437 participants and, in both trainings, we able to address 467 participants including farmers DAs and experts (See Table 2).

Table 2: Farmers, DAs and Experts participated in the feed and forage innovation training-Sinana

Zone	Woreda	Kebele	Famers		Experts/DA		Total		Grand Total
			Male	Female	Male	Female	Male	Female	
Bale	Sinana	Shallo	55	8	4	1	59	9	68
		Besaso	73	2	4	1	77	3	80
	Goba	Ititu Sura	52	16	5	2	57	18	75
		Aloshe	68	7	5	2	73	9	82
	Agarfa	M/Chafe	56	11	5	2	61	13	74
	Ali		51	1	6		57	1	58
Total			355	45	29	8	384	53	437

The Table 2 above shows that out of the total of 450 farmers selected, 400hhs (45 females) engage in the training. The remaining number of farmers missed due to personal problems and others. 20 kebele DAs and 17 experts from woreda level including higher officials and one zonal expert engaged in the training. Totally, 437 (53 Females) participants involved in the training organized in the three woredas and six kebeles.

4. Major out puts/Results

After this training delivery, experts, DAs and farmers better understood the benefit of improved feed and forage innovations. Farmers motivated and interested to apply what they grasped through the training on the ground. They promised to allocated land for selected fodder cultivation.

- Farmers were also familiarized with feed conservation technologies/postharvest feed mgt-feeding trough and feed storage.
- They also engaged in practical work on crop residue treatment with effective microorganisms (EM) and molasses. They were happy with the innovation and interested to continue applying the technology.
- Pannal discussion was organized after each the training program. The seed supply issues, supply of molasses and EM, AI and related issue were the major points of discussion.
- Experts and DAs were able to apply ILRI On farm feed advisor tool to support farmers in ration formulation from locally available feed resources.
- Experience sharing visit conducted during the training helped participant farmers to better understand the cultivated forage management and utilization.
- After the training, the number of farmers applied improved feed and forage innovation increased. AICCRA/Africa RISING supplied Oat 24 quintal and Vetch 8 quintals for oat + vetch mixture scaling in the woredas where we trained farmers and DAs.

Table 3: Oat + Vetch scaling by Africa RISING in 2022 main season

Technology	Seed dispatched (kg)	Name of Woreda	Number of kebeles	Number of HHs	Total area (ha)
Oat+vetch	1211	Sinana	12	529 (45F)	12.11
Oat+vetch	977	Goba	11	500 (24F)	9.77
Oat+vetch	1001	Agarfa	9	500 (14F)	10
Total	3189	3	32	1529	31.88

I successfully facilitated the seed dispatching from 28-29 July 2022 immediately after the training delivery. Table 3 above indicated that in the three target woredas, we able to address 1529 direct beneficiary farmers in 32 kebeles. Twelve Kebeles in Sinana, eleven Kebeles in Goba and nine Kebeles in Agarfa woredas. In total, we able to cover above 30ha of land.

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