



Africa Research in Sustainable Intensification for
the Next Generation
Ethiopian Highlands Project
Technical report, 1 October 2016 – 30 March 2017

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www.africa-rising.net



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 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. <http://africa-rising.net/>



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Contents

Acronyms.....	1
Summary.....	2
Trade-offs and synergies	3
Adaptation and adoptability.....	3
Livelihoods.....	3
Enabling environments.....	3
Equity.....	3
Scaling out related activities	4
Technologies validated by Africa RISING for scaling	4
Interaction and identification of potential scaling development partners.....	5
Capacity building	6
Trainings	6
Main technologies proposed for scaling out.....	8
Key issues identified from ToT general discussions and reflection meetings	8
Students attachment outputs	10
Highlights from our sites	11
Oromia region.....	11
Tigray region.....	11
Amhara region.....	12
Southern Region.....	12
Communications and knowledge sharing	13
Conferences/Symposium and partners meeting	13
Review and planning meeting	13
Africa RISING-LIVES-N2Africa joint workshop	14
Science Symposium	15
Annex 1. Africa RISING in the Ethiopian highlands: Template for scaling partnership	22
Annex 2: Training of Trainers Workshop Agenda.....	23

Acronyms

Africa RISING	Africa Research in Sustainable Intensification for the next generation
ATVET	Agriculture Technical vocational education and training
CIMMYT	International Maize and Wheat improvement Center
CIP	International Potato Center
DAs	Development Agents
DLS	Diffused Light Storage
GO	Governmental Organizations
ICARDA	International Center for Agricultural Research in the Dry Areas
ICRAF	World Agroforestry Centre
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
ILRI	International Livestock Research Institute
IP	Innovation Platform
IWMI	International Water Management Institute
LIVES	Livestock and Irrigation Value Chains for Ethiopian Smallholders
NGO	Non-Governmental Organizations
PLC	Private Limited Company
SNNPR	Southern Nations Nationalities and Peoples Region
TARI	Tigray Agriculture research Institute
TOT	Training of trainers
USAID	United States Agency for International Development

Summary

Phase II of the Africa RISING project in the Ethiopian highlands became operational in October 2016 following approval by USAID of the second phase of the Africa RISING program. The project will run from October 2016–September 2021 and will mainly focus on strengthening partnership for wider scaling-out of the already tested and validated technologies and innovations. It retains its focus on research in development, carrying out backstopping research in association with the scaling activities and providing training and other capacity building support.

During the first six months, the main activities carried out include: consultation with potential partners for scaling out; a review and planning meeting with wider stakeholders; and a series of training of trainers (ToTs) workshops aimed at introducing and familiarizing development partners to the already tested technologies and best practices, equipping their technical staff with the skills and knowledge for managing each technology, and jointly planning the implementation process. Though the ToTs workshops have been conducted in all the Africa RISING-focused regions, this quarterly report will only cover the ToTs workshop organized in this reporting period which was held in the southern region.

During this reporting period, our site teams were hugely engaged in a series of face-to-face meetings to ensure partners understood the available technologies and selected the ones they would like to work with on a larger scale. They also held planning meetings with development partners to: identify the possible sites to scale out the technologies/innovation, and clearly identify target beneficiaries and the respective roles to be played by Africa RISING and their development partners.

This quarterly report will also present the joint workshop that Africa RISING organized together with two other ILRI projects in Ethiopia: the Livestock and irrigation value chains for Ethiopian smallholders (LIVES) and N2Africa projects. This was the first of its kind and attracted the participation of around 100 people with the objectives of: raising wider awareness and knowledge about the technologies and approaches that are tested and validated by the projects; facilitating the uptake of successful experiences/ innovations that combine productivity enhancement and market access; and facilitating dialogue on improving the linkage/partnership between research and development actors, as well as cross-learning.

Introduction

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.

In the second phase, the Africa RISING project in the Ethiopian Highlands will seek to elaborate the generic research questions presented in the program umbrella document for issues identified largely during phase I. The research questions addressed by our specific activities will contribute insights from specific SI-related activities and geographic areas within the country.

Trade-offs and synergies

Umbrella research question: What are the environmental, economic, human and social consequences of productivity-enhancing interventions? And what are the productivity-enhancing consequences (according to the SI framework of environmental-, economic-, human- and social-enhancing interventions?

Adaptation and adoptability

Umbrella research question: How are these interventions aiming at increasing productivity and environmental conditions adapted to the endowments of diverse farmer typologies in the target areas?

Livelihoods

Umbrella research question: How do changes in the management of specific activities or combination of activities within a farm (e.g. a field or a livestock unit) affect overall livelihood conditions for different farmer typologies?

Enabling environments

Umbrella research question: How do enabling conditions affect the nature (variety, agro-inputs, complexity, diversity) of promising interventions moving towards SI?

Equity

Umbrella RQ: How does social capital affect community productivity, cooperation and wellbeing along with the scaling of SI innovations?

Africa RISING in Ethiopia is led by scientists from the International Livestock Research Institute in partnership with scientists from other CGIAR centres, the Ethiopian national agricultural research system and local communities.

Highlights from the current reporting period

Scaling out related activities

Technologies validated by Africa RISING for scaling

Africa RISING in the Ethiopian highlands introduced and validated more than 17 technologies in the first phase in its four sites / eight research kebeles (Table 1). The action research approach with farming communities in the areas of crop, livestock, high value fruit trees, soil and water management, small scale irrigation, farm mechanization and watershed management enabled the project to clarify diverse ecological, socioeconomic and policy issues, and provide answers to emerging research questions around the constraints and opportunities that operate in our target systems. The project initially limited its research activities to four woredas and eight kebeles of the Amhara, SNNPR, Oromia and Tigray regions. The results of the action research strongly suggest that there are various technologies and practices which can be scaled to wider communities and areas within the existing project sites and beyond during the second phase (2017-2021).

Table 1: Africa RISING validated technologies ready to be scaled to more areas and farmers

No.	List of Africa RISING validated technologies	Lead institutions	Collaborators
1	Post-harvest feed management (feed trough and Feed shed)	ILRI	Local partners
2	Sweet lupin-feed and food crop	ILRI	Local partners
3	Oat-vetch mixture	ILRI	Local partners
4	Tree Lucerne- fodder and fertilizer tree	ILRI	CIP, Local partners
5	Forage/faba bean intercropping	ILRI	ICARDA, Local partners
6	Desho and Napiar grasses	ILRI	Local partners
7	Improved high value fruit trees (avocado and apple)	ICRAF	ILRI, IWMI
8	Improved potato varieties and storage technologies (DLS)	CIP	ICARDA, CIMMYT, Local partners
9	Improved wheat varieties (durum and bread wheat varieties)	CIMMYT	ICARDA, CIP, Local partners
10	Improved faba bean varieties	ICARDA	CIP, CIMMYT, Local partners
11	Improved barley varieties (malt and food barley varieties)	ICARDA	CIP, CIMMYT, Local partners
12	Improved lentil varieties	ICARDA	Local partners
13	Improved field pea varieties	ICARDA	Local partners
14	Improved chickpea varieties	ICRISAT and ICARDA	Local partners
15	Multi-purpose 2 wheel drive tractor	CIMMYT	IWMI, Local partners
16	Multi-functional landscapes/ watersheds management	CIAT	ILRI, ICRAF, Local partners
17	Small scale irrigation technologies (solar pumps, rope and washer, irrigation scheduling)	IWMI	ILRI, ICRAF, Local partners
18	Crop response and soil-test based blended fertilizers/ nutrients amendments	ICRISAT	Local partners
19	Integrated Ensete Disease Management	Areka Research Center	ILRI, CIP, Local Partners

Interaction and identification of potential scaling development partners

Africa RISING in the Ethiopian highlands conducted several meetings with potential development partners (Table 2) to popularize the technologies validated through the action research process during the first phase of the project. The project also developed a template to identify which development partner is interested in which technology and where to scale it out (Annex 1).

Table 2: Scaling development partners in the different sites/regions- Examples

Potential development partners communicated from Oct 2016-May 2017	Possible regions/sites for scaling	NGOs/GOs
InterAide France	SNNPR, Lemo	NGO
Send-a-Cow	SNNPR, Lemo	NGO
Ethiopian Catholic Church	SNNPR, Lemo	NGO
Hundie	Addis Ababa	NGO
World Bank – Safety net program	Addis Ababa	
Woreda, zonal and regional livestock and fishery development offices, and agriculture and natural resources development offices	SNNPR, Amhara, Oromia and Tigray/Lemo, Basona, Sinana, Endamehoni	GOs
GRAD/REST	Tigray/ Endamehoni	NGO
Raya, Dashen and Habesha Breweries	Tigray/ Endamehoni and Amhara/ Debre Birhan	PLC
Oromia Seed Enterprise	Oromia/Sinana	GO
Madda Walabu, Wachemo, Debre Birhan Universities	SNNPR, Amhara, Oromia and Tigray/Lemo, Basona, Sinnan, Endamehoni	GOV
Saint Mary and Michew ATEVT collages	Tigray/Endamehoni	GOs
Regional and Federal Research centers	SNNPR, Amhara, Oromia and Tigray/Lemo, Basona, Sinnan, Endamehoni	GOs

Capacity building

Trainings

Africa RISING has been engaging with relevant research and development partners' right from the beginning in 2012. One of our key engagement strategies has been through capacity building. This engagement is seen as one of the most important during the second phase since scaling of technologies and practices requires strong engagement with development partners. In accordance with this, the Africa RISING project and its CGIAR partners have been engaged in identifying development partners to scale their respective technology packages. Some of the identified partners have already reached the level of planning for the scaling of proven technologies and requested Africa RISING to move faster so that preparation for the upcoming Meher (long rainy) season could be completed on time. Some of these development partners have requested the provision of technical training to their technical staff who will be directly involved in the implementation of the scaling out activities and who will in turn train farmers and development agents where the technologies will be disseminated. Therefore, it is deemed important for Africa RISING and CGIAR partners to approach this proactive request as a team rather than separately.

Responding to this demand, three-day Training of Trainers (ToT) workshops were organized at each site for development partners. The trainings were designed with the following key objectives:

- To introduce and familiarize development partners with the already validated Africa RISING project technologies/innovations in the Ethiopian Highlands
- To equip the technical staff of the partners with skills and knowledge of the management and utilization of each technology/innovations
- To jointly evaluate submitted plans and make them ready for implementation

For this six monthly report only the ToT conducted in SNNP region (Table 3 and Photos 1-6) is covered. The remaining three trainings (Amhara, Oromia, and Tigray) will be reported in the next report (1 April 2017- 30 September 2017)

The format of the training was based on a blended learning format consisting of both theoretical and practical sessions. The first two days of the training was more theoretical in which participants were introduced to Africa RISING project in the Ethiopian highlands and the various Africa RISING technologies which are ready to be scaled as well as the need to integrate gender issues into our joint scaling activities. There were also presentations from key development partners in the southern regions: Inter Aide Ethiopia, Wachemo University, Send a cow, Catholic Church development commission, Hossana, Lemo Woreda Livestock and Fisheries Development office, Lemo Woreda Agricultural and Natural Resource Management (NRM) Development office.

The afternoon of the first day and the morning of the second day was exclusively dedicated to the training where by participants were divided up into three fields (crop, Livestock and Natural resources management) for focused training in those areas. At the start of each training, the lead CGIAR centers made a brief presentation to introduce the specific technology that Africa RISING is promoting for scaling followed by an in-depth discussion and question and answer sessions.

Table 3: Trainings and field visits conducted in the Africa RISING sites to speed up scaling partnerships

Sites	Men	women	Farmers	Experts	Total	Remark
Lemo						
Training	79	6	0	85	85	This is mainly participants of the ToT
Field visits				97	97	This is mainly participants of the ToT



Photo 1: Participants in the ToT in Hossana at Wachemo University. Photo credit: (Simret Yasabu,



Photo 2 Crop group in training. Photo credit: (Simret Yasabu, ILRI)



Photo 3: Field visit to see the two wheel tractor introduced by CIMMYT/Africa RISING. Photo credit: (Simret Yasabu, ILRI)



Photo 4 Feeding trough introduced by ILRI. Photo Credit: (Simret Yasabu, ILRI)



Photo 5: Participants getting briefed by Hadia Seid from ICRAF on Avocado tree .Photo credit: (Simret



Photo 6: General discussion after field visit. Photo credit: (Simret Yasabu, ILRI)

Main technologies proposed for scaling out

No	Type of technology	Lead promoter
1.	Multipurpose 2 wheel drive tractor	CIMMYT
2.	Desho grass	ILRI
3.	Faba bean, bread and durum wheat, food and malt barley, field pea, lentil, chick pea	ICARDA
4.	Feeding trough and feed storage	ILRI
5.	High value crops/Avocado + Apple/	ICRAF
6.	Integrated Enset disease management	Areka research center
7.	Multi- functional land scape	CIAT
8.	Oat/vetch mixture and seed system	ILRI
9.	Potato varieties and storage technology	CIP
10.	Solar system Irrigation technology	IWMI
11.	Tree lucern- fodder and fertilizer tree	ILRI
12.	Sweet lupin- feed and food crop	ILRI

Key issues identified from ToT general discussions and reflection meetings

- **How to address Enset and apple disease related issues.** Bacterial wilt on enset and root rot, apple scab and powdery mildew on enset are major diseases affecting the expansion and productivity of the two high value crops. Bringing solutions to these disease problems requires involvement of all stakeholders and decision makers at federal and regional level. It was proposed to organize a workshop, where policy makers actively participate and design strategies on how to mobilize communities to solve enset and apple diseases problems. Organizing and facilitating a stakeholder workshops in relation to the two high value crops is an opportunity for Africa RISING to contribute toward food and nutrition security and improve income sources for smallholder farmers.
- **Scaling Avocado improved varieties.** Africa RISING has managed to introduce early fruiting and dwarf avocado varieties at the Lemo site. These varieties have the potential to be one of the most widely adopted Africa RISING technologies addressing farmers' priorities. It has been suggested that the project should move aggressively on scaling of this technology by mobilizing farmers and NGOs to purchase grafted seedlings from certified horticultural nurseries and implement in the coming main rainy season. Training on grafting will be arranged for farmers, extension staff members and University to sustainably supply seedlings for next year scaling program.
- **Training on specific technical aspects of the validated technologies** to the DAs and farmers is still important. However, it may not be possible to conduct detailed training to many of

the DAs and farmers considering the available time in relation to the upcoming planting season. It will be useful to find some mechanisms by which the DAs and farmers can be made aware of the validated technologies and implement scaling activities accordingly. The first mechanism is likely to be identification of potential scaling kebeles in different woredas, bringing selected DAs and supervisors, and conducting a one day briefing on the technologies, site and farmers' selection, and documentation. In this case some of the experts that received ToT, site coordinators and technology owners handle the training. The second mechanism is to identify options for providing technical support through circulating fact sheets and field level supervision to DAs and farmers. CGIAR centers, site coordinators and local level partners should manage and follow up on this activity. One or both of the mechanism/s can be applied depending on the local situation.

- **Quick assessments of validated technologies.** Participants in the meeting suggested quickly assessing which validated technologies can go for scaling in the upcoming planting season. This exercise will help to focus and use resources appropriately.
- **Identification of champion and focal persons.** Focal and champion persons at woreda level can be useful for communication purposes and speeding up the scaling processes. These individuals should be identified in the livestock and fisheries development offices, and agriculture and natural resources offices. Site coordinators should formally communicate with different scaling woredas and request the office heads to delegate focal persons. It will be useful to have at least two focal persons (one crop and one livestock) per woreda. The Africa RISING project should identify incentives for the focal persons.
- **M&E and data collection templates.** M&E and data collection templates need to be prepared for each of the validated technologies and shared with all concerned including local focal persons. Africa RISING SI and other indicators should be also communicated to the development partners. Awareness creation around indicators will help the development partners to understand what is expected from the project.
- **Ownership of achievements/success.** Africa RISING is transparent concerning ownership. It will add value on what the local partners are doing in relation to scaling. The project accepts and promotes the principle of joint ownership of achievements.
- **Publication and data sharing issues.** The issue of publication and inclusion of partners as coauthors need further discussion.
- **Gender balance in the groups of trainees** continues to be an issue. Whilst this basically reflects the gender balance in our partner organisations, the project will continue to encourage wider participation of women at this level. Gender balance amongst our targeted beneficiary households is generally more encouraging.

Students attachment outputs

Africa RISING has attached 30 MSc and PhD students during the first phase. Some students have already completed their studies and submitted their theses to Africa RISING. The following are some of the theses produced in the last six months (Table 4).

Table 4: Student attachment outputs

Name of student	Title	University	Supervisors	Type of theses
Hintsa Hailesilassie Birle	The Effect of Improved Fodder Production on Livestock Productivity in Endamehoni District, Southern Tigray Ethiopia	Mekele University, Ethiopia	Emiru Birhane (Mekele University), Melkamu Bezabih (ILRI) and Mulubrhan Balehegn (Mekele University)	MSc
Meseret Woldeyohannes	Estimating water balance of Tegona watershed in south eastern Ethiopia, using swat model	Madda Walabu University, Ethiopia	Sintayehu Fetene (Madda Walabu University), Lulseged Tamene (CIAT) and Kindu Mekonnen (ILRI)	MSc
Workalegn Asseffa	Agrobiodiversity conservation practices and gender consideration in Sinana district, southeastern Ethiopia	Madda Walabu University, Ethiopia	Demeke Datiko (Madda Walabu University), Mulema Annet (ILRI) and Gonfa Kewessa (Madda Walabu University)	MSc

Highlights from our sites

Oromia region

- On 22 December 2016, Africa RISING Sinana Research site organized a farmer field day at Ilu-Sanbitu and Salka Kebeles. The objective was to show some of the major Africa RISING project best practices on the ground and to discuss with decision makers on how to scale out these technologies to the wider community in the second phase. More than 50 participants from Bale zonal admin and office of Agriculture, Bale zone livestock and fishery resource development office, Sinana agricultural research center, Madda Walabu University, Oromia seed enterprise Bale branch, Sinana Woreda office of agriculture and admin office, Sinana Woreda livestock and fishery resource development office, HUNDEE local NGOs, Woreda and kebele operational innovation platform technical groups, direct beneficiary and guest model farmers participated.
- On 13 January 2017: Africa RISING Oromia region, Sinana site, organized a one day meeting with decision makers from key Government offices: Zonal offices of Agriculture, livestock and fishery resource development, irrigation and AGP; representative from Madda Walabu University, Sinana Woreda offices of administration, agriculture, livestock and fishery resource development. The objective was to share the best agricultural technologies and innovations validated in phase one and ready to be scaled out in phase two. There was also a discussion on how best to devolve the responsibility of scaling activities to development partners. By the end of the meeting there was a clear understanding of the role the project will have in phase II and that of the partners who are interested in scaling out the technologies and innovations. A steering committee was established at the zonal level composed of member from Zonal office heads/vice of agriculture, livestock and fishery, irrigation, MWU, Sinana Agricultural research center and Africa RISING Site coordinator. The university took the lead in facilitation of the meetings and the site coordinators will play the secretarial role. It was agreed that the committee will be part of zonal level Innovation platform planned to be established.

Tigray region

- 28-29-December 2016: Africa RISING Endamehoni site compiled best practices/ technologies scaling document based on the feedbacks received from the regional and zonal level scaling discussion. The document includes short information on agronomic and management practices, research finding (result), economic and recommendation information for each technology. Participants included Gebrehiwot Hailemariam (CIP), Tesfaye Hagos (Tigray Agriculture research institute, Adhana Mesele (TARI-Alamata), Hagos Mesele (Endamehoni Bureau of Agriculture, Angesom Taye (Ethiopian Institute of Agriculture research - Mehoni), and I participated to compile the document.
- 21-Decemembr 2016: Africa RISING Endamehoni site conducted an interactive zonal level scaling out discussion with heads/ representatives from south Tigray zone Office of agriculture and administration, woredas office of agriculture and administration, Maichew ATVET College, GRAD, TARI, Alamata and Mehoni Agricultural research center. ILRI/Africa RISING presented the feed, forage and landscape related on farm research achievement highlights and also food crop related on farm research achievement. The meeting participant showed a high interest to scale out the project's best technologies like feed trough and shed, oat-vetch, Fabien and its disease management practice, bread wheat, barley, potato & Diffused Light storage (DLS) and apple. It was also agreed that partners to

provide their scaling plan; and agreed to form zonal level scaling steering and monitoring committee that will be an integral part of the existing IP.

Amhara region

- Friday 27 January 2017: Basona Werena site organized a half day meeting to have discussion and get commitment of key zonal and Woreda partners of the project tested and validated technologies/innovations . All partners expressed their strong commitment to work in close collaboration with the project in scaling out tested technologies and approaches that is believed to benefit the small holder farmers. To follow this up a technical committee/ working group and a steering committee was established that will be closely working with the site coordinator to come up with a document having the proposed the technologies and approaches to be implemented in the zone.

Southern Region

- 27-28 October: Lemo/Hossana site organized farmers' field day in collaboration with lemo woreda office of agriculture. The field day took place at Jewe and upper Gana of the project research Kebeles. A total of 37 farmers participated in both kebeles. Cattle feeding trough, avocado fields, lupine (a type of legume used as animal feed and human food) demonstrations, yield gap analysis (fertilizer research), were major activities visited during the field day.
- 4-6 March 2017: Lemo /Hossana hosted a training of trainers. The details of this training is covered under the capacity building heading.

Communications and knowledge sharing

The main communication channels supported are:

- Wiki internal workspace(http://africa-rising.wikispaces.com/ethiopia_highlands)
- Project updates on the program website (africa-rising.net/category/countries/ethiopia/)
- A monthly partners meeting in Addis Ababa
- A Yammer network with internal updates
- Photos: <https://www.flickr.com/photos/africa-rising/sets>
- Repository: <https://cgspace.cgiar.org/handle/10568/16500>

Conferences/Symposium and partners meeting

Review and planning meeting



Photo 7: Participants of the review and planning meeting. Photo credit: ILRI/Habtamu Apollo

In November 2016, the project in the Ethiopian highlands organized a Review and Planning meeting (Photo 7) to serve as a bridge between discussing the results of the first phase and plans for the coming phase. The meeting brought together project partners and stakeholders to review phase I outputs and achievements, provide an overview of the phase II project and approach, review and

refine scaling proposals from phase I, and discuss implementation processes for Phase II.

More information is available at

- http://africa-rising.wikispaces.com/ethiopia_planning_nov2016
- <https://africa-rising.net/2017/01/10/ethiopia-phase2>
- <https://www.slideshare.net/africa-rising/photoreport-etplanning-nov2016compressed> and photo 4.

Africa RISING-LIVES-N2Africa joint workshop

The International Livestock Research Institute (ILRI) has been implementing several action research projects in Ethiopia over the last few years. These action research projects have been implementing development interventions along commodity value chains and systems in various parts of the country. Research protocols were superimposed on development interventions to assess their feasibility,



Photo 8. Joint Africa RISING-LIVES-N2 Africa workshop held in Dec 2016
Photo credit: ILRI/Apollo Habtamu

effectiveness and development outcomes. In order to share its experiences in implementing action research projects, ILRI managed to organize a Multi-donor workshop (Photo 8) with the following objectives:

- To create wider awareness and knowledge about the technologies and approaches that are tested and validated by LIVES(funded by Global Affairs Canada), N2Africa(funded by Bill and Melinda Gates Foundation), Africa RISING(funded by USAID)
- To facilitate the uptake of successful experiences/innovations that combine productivity enhancement and market access
- To facilitate dialogue on improving the linkage/partnership between research and development actors and facilitate cross learning

The Africa RISING project presented seven papers from the first phase R4D findings. The topics covered from Africa RISING project were:

- Feed innovations for improved livestock productivity in the Ethiopian highlands: Africa RISING experiences
- Drip irrigation and service provision of irrigation water: New ways to step into affordable small scale irrigated agriculture
- Crop varieties research and implications on closing yield gaps and diversifying incomes - Africa RISING experiences
- Decision support tools for farm-level fertilizer recommendation in Ethiopia
- Landscape management: Africa RISING project R4D experiences in the Ethiopian highlands
- Evidence based assessment of scalability of agricultural technologies: The case of improved food legumes and small ruminant market sheds
- Innovation platforms as institutional innovations for sustainable intensification in Ethiopian highlands

More information is available at: africa-rising.wikispaces.com/AfricaRISING_LIVES_N2Africa

Science Symposium



Photo 9: A world cafe session in progress during the Africa RISING Science for Impact Workshop. Photo credit: Jonathan Odhong'/ IITA

The Africa RISING Science for Impact Workshop was held in White Sands Hotel, Dar es Salaam from 17-19 January 2017 (Photo 9). The objectives of the workshop were to:

- Present and critically assess the major science and technology results of the Program, with an emphasis on innovations that can be taken to scale
 - Discuss and agree important Program-wide implementation arrangements necessary to achieve the Program's goals
- The Africa RISING team of the

Ethiopian highlands actively participated in the workshop and presented 12 posters and 4 PowerPoints. More information for the workshop is available: http://africa-rising.wikispaces.com/science_event17

Blog posts: project updates have been blog posted on the website:

[Gender-based constraints and opportunities to agricultural intensification in Ethiopia](#)

[Africa RISING project in the Ethiopian highlands lessons from phase I](#)

[More scaling, less research – Africa RISING project in Ethiopia looks forward to phase II](#)

[Ethiopian farmers are intensifying and integrating Africa RISING interventions in a stepwise fashion](#)

[Beyond adoption – fruit farmers in Ethiopia are innovating with their Africa RISING technologies](#)

[Intensifying with high value trees in Africa RISING Ethiopia – some reflections from the first phase](#)

[Agricultural pathways to improved nutrition in the Ethiopian highlands: dietary practices](#)

[Mush irrigation scheme in Ethiopia provides opportunities for improved crop and water management](#)

[Can improved food legume varieties increase technical efficiency in crop production in the Bale highlands, Ethiopia?](#)

Outputs and products: The following 48 outputs and products were registered in CGSpace during the reporting period:

Journal Articles

Bezabih, M., Duncan, A.J., Mekonnen, K., Adie, A., Khan, A.K. and Thorne, P.J. 2016. The role of irrigated fodder production to supplement the diet of fattening sheep by smallholders in southern Ethiopia. *Tropical and Subtropical Agroecosystems* 19(3): 263–275. <http://hdl.handle.net/10568/79450>;

Smith, A., Snapp, S. Chikowo, R. Thorne, P., Bekunda, M. and Glover, J. (2016) Measuring sustainable intensification in smallholder agroecosystems: A review. *Global Food Security*, **12**: 127-138.

Tamene, L., Adimassu, Z., Ellison, J., Yaekob, T., Woldearegay, K., Mekonnen, K., Thorne, P. and Quang Bao Le. 2017. Mapping soil erosion hotspots and assessing the potential impacts of land management practices in the highlands of Ethiopia. *Geomorphology* 292:153–163. <http://hdl.handle.net/10568/80914>;

Thorne, P.J. and Conroy, C. (2017) Research on livestock, livelihoods and innovation. Pp 303 – 329 in *Agricultural Systems: Agroecology and Rural Innovation for Development (Second Edition)*. Eds S. Snapp and B. Pound. London, U.K. Academic Press. 542p

Manuals /guidelines

Bezabih, M., Mekonnen, K., Adie, A. and Thorne, P. 2016. Guidelines on the utilization of cultivated oat-vetch and tree lucerne fodder in the Africa RISING sites of the Ethiopian highlands. Nairobi, Kenya: ILRI. <http://hdl.handle.net/10568/78175>;

Reports

Hailemariam, G., Ebrahim, M., Hagos, T. Mesele, A., Taye, A., Meslele, H., Mekonnen, K. and Bezabih, M. 2017. Summary of research for development ‘best practice’ technologies validated in the Africa RISING Endamehoni site in Ethiopia, 2013-2016. Nairobi, Kenya: ILRI. <http://hdl.handle.net/10568/80429>;

Nigussie, L., Lefore, N., Schmitter, P. and Nicol, A. 2017. Gender and water technologies: Water lifting for irrigation and multiple purposes in Ethiopia. Nairobi, Kenya: ILRI. <http://hdl.handle.net/10568/79989>;

Photo reports

Yasabu, S. 2016. Photo report on the Africa RISING Ethiopia Review and Planning Meeting, Addis Ababa, 29-30 November 2016. Nairobi, Kenya: ILRI. <http://hdl.handle.net/10568/79395>;

Yasabu, S. 2016. Photo report on LIVES, Africa RISING, N2Africa Ethiopia joint workshop and exhibition on promoting productivity and market access technologies and approaches to improve farm income and livelihoods in Ethiopia: Lessons from action research projects, Addis Ababa, 8-9 December 2016. Nairobi, Kenya: ILRI. <http://hdl.handle.net/10568/78487>;

Posters

Adie, A., Bezabih, M., Mekonnen, K., Thorne, P.J., Duncan, A.J., Ebrahim, M., Dubale, W., Asfaw, A. and Alene, T. 2016. Cultivated forages for improved livestock productivity in the highlands of Ethiopia. Poster prepared for the Africa RISING Ethiopia Review and Planning Meeting, Addis Ababa, 29-30 November 2016. Nairobi, Kenya: ILRI.

<http://hdl.handle.net/10568/78249>;

Ahmed, S., Tadesse, N. and Aynewa, Y. 2016. Participatory variety selection and scaling: Cool-season food legumes. Poster prepared for the Africa RISING Ethiopia Review and Planning Meeting, Addis Ababa, 29-30 November 2016. Addis Ababa: ICARDA.

<http://hdl.handle.net/10568/79171>;

Ahmed, S., Tadesse, N. and Aynewa, Y. 2016. Participatory variety selection and scaling: Small grain cereals. Poster prepared for the Africa RISING Ethiopia Review and Planning Meeting, Addis Ababa, 29-30 November 2016. Addis Ababa: ICARDA.;

<http://hdl.handle.net/10568/79174>;

Amede, T., Asrat, T. and Legesse, G., Mekonnen, K., Asfaw, A., Ibrahim, M., Alene, T., Dubale, W., Kihara, J. and Tamene, L. 2016. Feeding your soil-nurturing the people. Poster prepared for the Africa RISING Ethiopia Review and Planning Meeting, Addis Ababa, 29-30 November 2016. Addis Ababa: ICRISAT.

<http://hdl.handle.net/10568/78247>;

Amede, T., Asrat, T. and Legesse, G., Mekonnen, K., Asfaw, A., Ibrahim, M., Alene, T., Dubale, W., Kihara, J. and Tamene, L. 2016. Decision support tools for fertilizer recommendation. Poster prepared for the Africa RISING Ethiopia Review and Planning Meeting, Addis Ababa, 29-30 November 2016. Addis Ababa: ICRISAT.

<http://hdl.handle.net/10568/78248>;

Amede, T., Asrat, T., Legesse, G., Mekonnen, K., Asfaw, A., Ibrahim, M., Alene, T., Dubale, W., Kihara, J. and Tamene, L. 2017. Natural resource management: Africa RISING science, innovations and technologies with scaling potential from the Ethiopian highlands. Poster prepared for the Africa RISING Science for Impact Workshop, Dar es Salaam, 17-19 January 2017. Patancheru, India: ICRISAT.

<http://hdl.handle.net/10568/79999>;

Baudron, F., Tirfessa, D., Kahan, D., Mulatu, E. and Mupangwa, W. 2016. Giving power to Africa-RISING farmers through small mechanization. Poster prepared for the Africa RISING Ethiopia Review and Planning Meeting, Addis Ababa, 29-30 November 2016.

Mexico, D.F., Mexico: CIMMYT. <http://hdl.handle.net/10568/78231>;

Baudron, F., Tirfessa, D., Kahan, D., Mulatu, E., Mupangwa, W. and Yahaya, R. 2017. Conservation agriculture/farmers mechanization: Africa RISING science, innovations and technologies with scaling potential from the Ethiopian Highlands. Poster prepared for the Africa RISING Science for Impact Workshop, Dar es Salaam, 17-19 January 2017. Mexico City, Mexico: CIMMYT. <http://hdl.handle.net/10568/80003>;

Begum, S., Sharma, K., Mekonnen, K., Lema, Z., Hailu, T. and Fofanah, M. 2017. Nutrition: Africa RISING science, innovations and technologies with scaling potential

from the Ethiopian highlands. Poster prepared for the Africa RISING Science for Impact Workshop, Dar es Salaam, 17-19 January 2017. Lima, Peru: CIP.;
<http://hdl.handle.net/10568/80070>;

Bezabih, M., Mekonnen, K., Adie, A. and Thorne, P. 2016. Feed innovations for improved livestock productivity in the Ethiopian highlands: Africa RISING experiences. Presented at the Workshop and Exhibition on Promoting Productivity and Market Access Technologies and Approaches to Improve Farm Income and Livelihoods in Ethiopia: Lessons from Action Research Projects, ILRI, Addis Ababa, 8-9 December 2016. Nairobi, Kenya: ILRI. <http://hdl.handle.net/10568/79414>;

Bezabih, M., Mekonnen, K., Adie, A., Asfaw, A., Ebrahim, M., Alene, T., Dubale, W. and Thorne, P..J. 2017. Livestock: Africa RISING science, innovations and technologies with scaling potential from the Ethiopian Highlands. Poster prepared for the Africa RISING Science for Impact Workshop, Dar es Salaam, 17-19 January 2017. Nairobi, Kenya: ILRI. <http://hdl.handle.net/10568/79995>;

Bezabih, M., Mekonnen, K., Adie, A., Thorne, P., Duncan, A.J., Ebrahim, M., Dubale, W., Asfaw, A. and Alene, T. 2016. Postharvest handling and utilization of crop residues in the highlands of Ethiopia. Poster prepared for the Africa RISING Ethiopia Review and Planning Meeting, Addis Ababa, 29-30 November 2016. Nairobi, Kenya: ILRI. <http://hdl.handle.net/10568/78227>;

Gebrekestos, A. and Seid, H. 2016. Facilitate improving availability of quality planting material to intensify high value trees. Poster prepared for the Africa RISING Ethiopia Review and Planning Meeting, Addis Ababa, 29-30 November 2016. Nairobi, Kenya: World Agroforestry Centre. <http://hdl.handle.net/10568/78238>;

Gebrekestos, A. and Seid, H. 2016. Intensifying with high value trees in Africa RISING Ethiopia for food and nutrition security, income and climate resilient farming. Poster prepared for the Africa RISING Ethiopia Review and Planning Meeting, Addis Ababa, 29-30 November 2016. Nairobi, Kenya: World Agroforestry Centre. <http://hdl.handle.net/10568/78234>;

Gebrekestos, A., Seid, H., Melke, A., Hadgu, K. and Astatke, A. 2017. High value trees: Africa RISING science, innovations and technologies with scaling potential from the Ethiopian Highlands. Poster prepared for Impact Workshop, Dar es Salaam, 17-19 January 2017. Nairobi, Kenya: ICRAF. <http://hdl.handle.net/10568/80069>;

Gebrekestos, A., Seid, H., Melke, A., Negussie, A., Astatke, A., Hadgu, K., Mekonnen, K. and Hagos, F. 2016. Enhancing food and nutritional security through introducing high value fruit trees in the highlands of Ethiopia. Poster prepared for the Africa RISING Ethiopia Review and Planning Meeting, Addis Ababa, 29-30 November 2016. Nairobi, Kenya: World Agroforestry Centre. <http://hdl.handle.net/10568/78226>;

Hagos, F., Gebrekestos, A., Tamene, L., Schmitter, P., Tegegne, D., Hailelassie, A., Barron, J., Lefore, N., and Mupangwa, W. 2017. Innovation adoption for scaling: Africa RISING science, innovations and technologies with scaling potential from the Ethiopian Highlands. Poster prepared for the Africa RISING Science for Impact Workshop, Dar es Salaam, 17-19 January 2017. Colombo, Sri Lanka: IWMI.;

<http://hdl.handle.net/10568/80067>;

Hagos, F., Lefore, N., Barron, J., Nigussie, L. and Schmitter, P. 2016. Water lifting technologies for smallholder farmers provide opportunities for sustainable intensification. Poster prepared for the Africa RISING Ethiopia Review and Planning Meeting, Addis Ababa, 29-30 November 2016. Colombo, Sri Lanka: IWMI.

<http://hdl.handle.net/10568/78230>;

Kihara, J., Gurmesssa, B., Sommer, R. and Tamene, L. 2016. Improved agronomy increases wheat yield In Africa RISING action sites. Poster prepared for the Africa RISING Ethiopia Review and Planning Meeting, Addis Ababa, 29-30 November 2016. Cali, Colombia: CIAT. <http://hdl.handle.net/10568/78228>;

Lema, Z., Ebrahim, M., Asfaw, A., Alene, T., Dubale, W. and Yasabu, S. 2017. Multi-stakeholder Innovation Platforms and knowledge management: Africa RISING science, innovations and technologies with scaling potential from the Ethiopian Highlands. Poster prepared for the Africa RISING Science for Impact Workshop, Dar es Salaam, 17-19 January 2017. Nairobi, Kenya: ILRI. <http://hdl.handle.net/10568/80066>;

Lema, Z., Ebrahim, M., Dubale, W., Asfaw, A. and Alene, T., Yasabu, S. and Mekonnen, K. 2016. Innovation platforms as institutional innovations for sustainable intensification in Ethiopian highlands. Poster prepared for the Africa RISING Ethiopia Review and Planning Meeting, Addis Ababa, 29-30 November 2016. Nairobi, Kenya: ILRI. <http://hdl.handle.net/10568/78236>;

Mekonnen, K., Bezabih, M., Adie, A., Thorne, P., Duncan, A.J., Ebrahim, M., Dubale, W., Asfaw, A. and Alene, T. 2016. Feeds and forage action research in the Africa RISING sites of the Ethiopian highlands. Poster prepared for the Africa RISING Ethiopia Review and Planning Meeting, Addis Ababa, 29-30 November 2016. Nairobi, Kenya: ILRI. <http://hdl.handle.net/10568/78229>;

Mekonnen, K., Bezabih, M., Jogo, W., Thorne, P., Mulema, A., Adie, A., Dubale, W., Ebrahim, M., Asfaw, A. and Alene, T. 2016. Fodder and fertilizer trees action research in Africa RISING sites. Poster prepared for the Africa RISING Ethiopia Review and Planning Meeting, Addis Ababa, 29-30 November 2016. Nairobi, Kenya: ILRI. <http://hdl.handle.net/10568/78235>;

Mekonnen, K., Bezabih, M., Thorne, P., Adie, A. and Ahmed, S. 2017. Sustainable intensification (SI) innovations driven by crop ecology: Africa RISING science, innovations and technologies with scaling potential from the Ethiopian Highlands. Poster prepared for the Africa RISING Science for Impact Workshop, Dar es Salaam, 17-19 January 2017. Nairobi, Kenya: ILRI. <http://hdl.handle.net/10568/80001>;

Mulema, A.A. 2017. Integrating gender into scaling: Africa RISING science, innovations and technologies in the Ethiopian Highlands. Poster prepared for the Africa RISING Science for Impact Workshop, Dar es Salaam, 17-19 January 2017. Nairobi, Kenya: ILRI. <http://hdl.handle.net/10568/79977>;

Negassa, A., Shapiro, B., Kidane, T., Abdena, A. and Hansen, J. 2016. Ex-ante assessment of potential market demands and commercial viabilities for private forage

seeds production in Ethiopia. Poster prepared for the Africa RISING Ethiopia Review and Planning Meeting, Addis Ababa, 29-30 November 2016. Nairobi, Kenya: ILRI. <http://hdl.handle.net/10568/78245>;

Negassa, A., Shapiro, B., Kindu, T., Abdena, A., Hansen, J., Hoekstra, D. and Jogo, W. 2017. Value chains, markets and economics: Africa RISING Science, Innovations and Technologies with Scaling Potential from the Ethiopian Highlands. Poster prepared for the Africa RISING Science for Impact Workshop, Dar es Salaam, 17-19 January 2017. Nairobi, Kenya: ILRI. <http://hdl.handle.net/10568/80000>;

Schmitter, P., Hagos, F., Tegegne, D., Adie, A., Tamirat, T., Baudron, F., Blummel, M., Gebrikirstos, A., Hailelassie, A., Lefore, N. and Barron, J. 2016. Farmer access to irrigation scheduling advice leads to sustainable intensification of high value crops. Poster prepared for the Africa RISING Ethiopia Review and Planning Meeting, Addis Ababa, 29-30 November 2016. Colombo, Sri Lanka: IWMI.; <http://hdl.handle.net/10568/78244>;

Sharma, K., Lema, Z., Hailu, T., Mekonnen, K., and Fofanah, M. 2016. Pathways to improved nutrition in the Ethiopian Highlands. Poster prepared for the Africa RISING Ethiopia Review and Planning Meeting, Addis Ababa, 29-30 November 2016. Lima, Peru: CIP. <http://hdl.handle.net/10568/78232>;

Sharma, K., Lunt, T., Kifle, A., Hailu, M. and Begum, S. 2016. Potato technologies for improved food security and better income. Poster prepared for the Africa RISING Ethiopia Review and Planning Meeting, Addis Ababa, 29-30 November 2016. Lima, Peru: CIP. <http://hdl.handle.net/10568/78233>;

Sharma, K., Lunt, T., Kifle, A., Hailu, M., Begum, S., Derseh, M., Adie, A. and Mekonnen, K. 2017. Post-harvest and food safety: Africa RISING science, innovations and technologies with scaling potential from the Ethiopian Highlands. Poster prepared for the Africa RISING Science for Impact Workshop, Dar es Salaam, 17-19 January 2017. Lima, Peru: CIP. <http://hdl.handle.net/10568/80065>;

Tadesse, N., Sharma, K., Baudron, F., Ahmed, S., Aynewa, Y., Asfaw, A., Alene, T., Ebrahim, M., Dubale, W., Mekonnen, K. and Thorne, P. 2017. Genetic intensification: Africa RISING science, innovations and technologies with scaling potential from the Ethiopian Highlands. Poster prepared for the Africa RISING Science for Impact Workshop, Dar es Salaam, 17-19 January 2017. Addis Ababa, Ethiopia: ICARDA. <http://hdl.handle.net/10568/80064>;

Tamene, L., Schmitter, P., Woldearegay, K., Gurmessa, B., Adimassu, Z., Mekonnen, K., Hagos, F., Yaekob, T., Gebrekirstos, A. and Hailelassie, A. 2017. Soil and water managements and landscapes: Africa RISING science, innovations and technologies with scaling potential from the Ethiopian highlands. Poster prepared for the Africa RISING Science for Impact Workshop, Dar es Salaam, 17-19 January 2017. Cali, Colombia: CIAT. <http://hdl.handle.net/10568/79985>;

Tamene, L., Woldearegay, K., Mekonnen, K., Yaekob, T., Alene, T., Dubale, W., Adimassu, Z., Gurmessa, B., Yasabu, S. and Thorne, P. 2016. Action research in action in the Ethiopian highlands. Poster prepared for the Africa RISING Ethiopia Review and

Planning Meeting, Addis Ababa, 29-30 November 2016. Cali, Colombia: CIAT.
<http://hdl.handle.net/10568/78243>;

Tamene, L., Yaekob, T., Ellison, J., Mekonnen, K., Woldearegay, K., Alene, T., Dubale, W., Adimassu, Z., Gurmessa, B., Kassie, G., Yasabu, S. and Thorne, P. 2016. Evidence to enhance resources management planning and decision making. Poster prepared for the Africa RISING Ethiopia Review and Planning Meeting, Addis Ababa, 29-30 November 2016. Cali, Colombia: CIAT. <http://hdl.handle.net/10568/78242>;

Wamatu, J., Alkhtib, A., Alemu, T., Mersha, A., Wegi, T., Kemal, S. and Rischkowsky, B. 2017. Feeds and Forage Development: Africa RISING science, innovations and technologies with scaling potential from the Ethiopian Highlands. Poster prepared for the Africa RISING Science for Impact Workshop, Dar es Salaam, 17-19 January 2017. Addis Ababa, Ethiopia: ICARDA.; <http://hdl.handle.net/10568/80068>;

Woldearegay, K., Tamene, L., Mekonnen, K., Admassu, Z. and Yaekob, T. 2016. Promoting landscape restoration and water harvesting at scale: The case of Africa RISING project, Ethiopia. Poster prepared for the Africa RISING Ethiopia Review and Planning Meeting, Addis Ababa, 29-30 November 2016. Mekelle, Ethiopia: Mekelle University. <http://hdl.handle.net/10568/79168>;

Yaekob, T., Tamene, L., Gebreyohanes, S., Seyoum, S., Mekonnen, K., Adimassu, Z. and Woldearegay, K. 2016. Impacts of SWC interventions and land use on discharge and sediment yield at plot and watershed scale. Poster prepared for the Africa RISING Ethiopia Review and Planning Meeting, Addis Ababa, 29-30 November 2016. Cali, Colombia: CIAT. <http://hdl.handle.net/10568/78246>;

Presentations

Amede, T., Asrat, T., Legesse, G., Mekonnen, K., Asfaw, A., Ibrahim, M., Alene, T., Dubale, W., Thorne, P.J. and Tamene, L. 2016. Decision support tools for farm-level fertilizer recommendation in Ethiopia. Presented at the Workshop and Exhibition on Promoting Productivity and Market Access Technologies and Approaches to Improve Farm Income and Livelihoods in Ethiopia: Lessons from Action Research Projects, ILRI, Addis Ababa, 8-9 December 2016. Patancheru, India: ICRISAT.
<http://hdl.handle.net/10568/79917>;

Mekonnen, K. and Thorne, P. 2017. Africa RISING in the Ethiopian highlands: Some phase I achievements. Presented at the Africa RISING Science for Impact Workshop, Dar es Salaam, 17-19 January 2017. Nairobi, Kenya: ILRI.;
<http://hdl.handle.net/10568/79184>;

Tamene, L., Yaekob, T., Ellison, J., Mekonnen, K., Woldearegay, K., Adimassu, Z., Alene, T., Dubale, W., Ibrahim, M., Gurmessa, B., Tesfahun, G.K. and Thorne, P. 2016. Integrated landscape management: Africa RISING R4D experiences in the Ethiopian highlands. Presented at the Workshop and Exhibition on Promoting Productivity and Market Access Technologies and Approaches to Improve Farm Income and Livelihoods in Ethiopia: Lessons from Action Research Projects, ILRI, Addis Ababa, 8-9 December 2016. Cali, Colombia: CIAT. <http://hdl.handle.net/10568/79925>;

Annex 1. Africa RISING in the Ethiopian highlands: Template for scaling partnership

Development Partner _____

Location _____

Technologies/innovations-examples	Locations for scaling				Number of households (direct beneficiaries)					Expected contribution from Africa RISING project	Contribution of the development partners
	Region	Zone	Woreda	Kebele/ watershed	Yr1	Yr2	Yr3	Yr4	Yr5		
Post-harvest feed management (feed trough and Feed shed)											
Sweet lupin-feed and food crop											
Oat-vetch mixture											
Tree Lucerne-fodder and fertilizer tree											
Forage/faba bean intercropping											
Desho and Napier grasses											

Annex 2: Training of Trainers Workshop Agenda

Training of Trainers (ToT)

For scaling of technologies and best practices of the Africa RISING project in the Ethiopian highlands

4-6 April 2017, Wachemo University, Hossana, SNNPR

Objectives of the workshop

- To introduce and familiarize the already tested scaling technologies and best practices to development partners
- To equip the technical staff of the partners with skills and knowledge of the management of each technology
- To jointly plan the implementation process

Day One

Schedule	Activities	Responsible person/s	Facilitator
8:30	Registration	Organizers	
9:00	Welcoming and opening remarks	Zonal administration	Simret Yasabu
9:10	Ice Breaker and process introduction	Simret Yasabu /Aberra Adie	
9:30	Objectives of the training, updates on Africa RISING moves from Phase I to Phase II	Kindu Mekonnen	Simret Yasabu
9:45	Gender integration in Africa RISING innovations scaling	Annet Mulema	
10:00	Q&A	Simret Yasabu	
10:15	Break and Group photo	Organizers	
10:30	Development partners engagement	-Inter Aide Ethiopia -Wachemo University -Send a cow	Simret Yasabu
11:00	Q&A	Simret Y.	
11:10	Development partners engagement cont.	- Catholic Church development commission , Hossana -Lemo Woreda Livestock and Fisheries Development office -Lemo Woreda Agri and NRM Development office	
12:00	Q&A	Simret Yasabu	
12:15	Guidance on the afternoon session	Melkamu Derseh & Aberra Adie	
Lunch Break (12:30-1:30)			
1:30	Group session (Livestock , NRM and Crops)	Technology promoters <ul style="list-style-type: none"> • Livestock (ILRI) • Crops (ICARDA,CIP) • NRM(CIAT,IWMI,ICRAF) 	
4:30	Reflection of the day – Guided plenary	Simret Yasabu	
5:00	Reception	Organizers	

Day Two

Schedule	Activities	Responsible person/s	Facilitator
8:30	Process introduction	Volunteer Technology promoters	Simret Yasabu
9:00	Training in Groups Continues (Livestock , NRM and Crops)	Technology promoters <ul style="list-style-type: none"> • Livestock (ILRI) • Crops (CIMMYT, ICRISAT, Areka Res Center) • NRM(CIAT,IWMI,ICRAF) 	
10:30	Break	Organizers	
11:00	Training in Groups Continues (Livestock , NRM and Crops)	Technology promoters <ul style="list-style-type: none"> • Livestock (ILRI) • Crops(CIMMYT,ICRISAT,Areka Res. Center) • NRM(CIAT,IWMI,ICRAF) 	
Lunch Break (12:30-13:30)			
1:30	Panel discussion on Development partners preparedness (how will this training be cascaded to lower levels , mobilizing DAs and farmers, Challenges, Monitoring, how to share and learn success stories)	Inter Aide Ethiopia Wachemo University Send a cow Lemo Woreda Livestock and Fisheries Lemo Woreda and NRM office Catholic Church development commission , Hossana	Aberra Adie
3:00	Break	Organizers	
3:30	Reflection of the day-Guided plenary	Simret Yasabu	
4:00	Discussions on field day arrangements	Workneh Dubale	

Day three

Field day