Report of the Humidtropics Ethiopia program Jeldu field site second farmers' field day and fourth innovation platform meeting

14–15 October 2015

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Top: Field site visit; Bottom: Innovation platform meeting participants

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Farmers Field Day

1st Day (14th Oct 2015)

Site: Kolu Gelan Kebele (Melka watershed)
Purpose: Every year wereda innovation platform organizes a two day event that include farmers' field day on the first day followed by IP evaluation meeting on the next day. The timing of this event is held during the beautiful season when the crops and feeds introduced performance can be seen on farmers' field before harvest.

Field day was conducted during the first day (14th October 2015) in *Kolu Galan* kebele (Melka watershed). Jeldu wereda IP members (more than 30 participants—6 women) that represent wereda administrative office, HUNDEE-local NGO, agricultural office, livestock agency, media, women's and youth association. Cooperative office also participated on the field day. Cluster 4 project participating farmers and invited non-participating farmers from *Kolu gelan* kebele were part of this field day (women 19 and men 54) for experience sharing and triggering future scaling up from farmers to farmers. Humidtropics Cluster 4 project researchers from core-partners including IWMI, ICRAF and ILRI as well as from national partners OARI is participating in all the IP events held in the field sites.

Experiences were shared among farmers on Faba beans farm lands that demonstrated increased productivity because of improved seed, raw planting and integrated with soil bund stabilized with Desho grass. Desho grass planted on marginal lands by farmers' initiative to stop soil erosion and increase biomass production for feed was the most impressive achievements demonstrated during this field day. Introduction of legume type of fodder called Alfalfa on five farmers field was also visited for diversifying the livestock feed for nutrition and potential seed market for income while it improves the soil quality. For the last four years, farmers have somehow been able to tackle the livestock feed shortage by increasing the desho grass production and by utilizing the part mainly related to losses, while the storing and feeding was identified as a gap. For these, Ambo University with support from ILRI introduced improved feed trough on farmers' compound to improve the utilization of the produced feed for market

oriented livestock products. The other farmers and the wereda IP members also appreciated the introduced feed troughs and women farmers also expressed their appreciation in using the trough to feed their livestock in efficient manner.

In the end, general discussion was held for clarification on questions raised as well as agreeing on the way for ward mainly on linking the farmers with market opportunities. Most of the newly invited farmers were impressed by what their colleague have demonstrated on feed, crop rotation, and improved seed, raw planting and improved livestock feed trough. They agreed to closely learn from them and adapt the different technologies on their farm. See below Some pictures taken during the field day.

Humidtropics fourth IP meeting at Jeldu field site

Second day: 15th Oct 2015

Venue: Jeldu district ICT office

Duration: 10:00 am to 3:00 pm

Facilitation: Zelalem Lema (ILRI);

Photo: Desalegn Tadesse (IWMI) and Zelalem Lema (ILRI)

Rapporteur: Tilahun Geleti (OARI)

Participant from outside the field site: Tekilu Erkossa, Kinde Getnet and Desalegn Tadesse (IWMI), Zelalem Lema, Tsehay Regassa and Melkamu Dereseh (ILRI), Hadia Seid (ICRAF), Teha Mumme and Tilahun Geleti (OARI), Tamene Temesgen (Legume CHOICE – ILRI).

Agenda of the meeting:

Welcome, self-Introduction and brief introduction of the Agenda

Opening remarks by vice-Administration office of the wereda

Brief introduction of IP approach and Humidtropics program cluster 4 projects activities in Jeldu by the following core partners:

- ILRI IP approach as effective and inclusive mechanism by Zelalem Lema
- IWMI-soil and water conservation-related activities by Tekilu Erkossa
- ILRI Livestock feed and market-related activities by Melkamu Deressa
- ICRAF activities accomplished on testing of multipurpose trees by Hadia Seid
- Legume CHOICE project activities -by Tamene Temesgen
- General discussions on scaling up and market issues and the way forward

Welcome and introduction

All members of the Jeldu IP members are welcomed to the fourth regular meeting by Zelalem Lema. He recalled the previous meetings and the aim of this fourth meeting that focus on evaluation. He also reminded all the members that they have got the chance on the first day of this meeting to visit the progress of research activities accomplished on farmers' field. He emphasized the need for active participation of all based on their observation in the field to help develop the way forward for next year planning meeting scaling up activities in Jeldu. Then Zelalem invited self-introduction before the starting of the meeting. The composition the members represents men and women farmers, development agents, experts and decision makers from line ministries, media reporters and NGO workers.

Opening remarks was made by the wereda administration head who appreciated what he has seen on the farmers' field days and called up on the platform members to actively participate and contribute to the meeting. Following his opening remarks, the presentations made by CGIAR partners in cluster 4 project are summarized and noted as follows:

IP approach as effective and inclusive mechanism (Zelalem Lema)

Zelalem presented innovation concepts and its applications in the Humidtropics field sites in Ethiopia. The presentation is summarized as follows:

What is innovation?

- **Innovation** is defined as a 'process of producing, accessing, diffusing, and most importantly, putting in to use knowledge in socio-economically useful way.
- It can be technological, organizational, institutional, managerial, and related to service delivery or policy.
- It is knowledge or technology–doesn't become an innovation unless it is used.

An innovation system is the cluster of individuals and organizations involved in knowledge generation, diffusion, and use (researcher, private sector firms, universities, extension agents, technical experts from line ministries etc.) together with the processes required to turn knowledge in to useful socio-economic benefits.

Innovation system in agriculture – system intensification – is very important as agricultural problems are becoming more and more complex. Engaging different actors in the research processes is very important.

Innovation platform (IP) is a space for learning and change. It is a group of individuals, who often represent organizations, with different backgrounds and interests. Local IPs have been established in Diga and Jeldu since 2011 (NBDC project) by ILRI and both IPs are imbedded in Humidtropics activities since 2014.

The main challenges facing the farming communities in Jeldu and Diga is identified during the diagnosis phase during NBDC project and these challenges include:

- Severe soil erosion and land degradation (NRM issue) – Nile basin;
- Low productivity;
- Collaboration issue (institutional issue);
- Top down approach—less inclusive.

Humidtropics continue to work in these two weredas with existing and functioning IPs capitalizing on NBDC feed intervention achievements:

- These IPs have technical group members—university, research centre, wereda line departments and NGOs to support implementation on the ground.
- Members are men and women farmers, local government line departments, researchers, NGOs, University (research and community service), students;
- Type of IP is not commodity based. It is an IP that deals with the whole system (tree-crop-livestock);
- A year (January–December) snapshot research activities of Humidtropics in western Ethiopia is considered in a step by step manner.

Regular IP meetings and activities are divided in to three seasons each year

1. January – April - Planning meeting and R4D platform planning meeting
2. May – August - IP –planting, training and follow-up meeting
3. September – December - Farmers field day and evaluation meeting and R4D platform field visit and evaluation meeting

1. Innovation platform planning meetings and activities (January to April)

- Facilitate sharing of last year's achievements and challenges
- Lessons learnt from last year and incorporating in the planning
- Men and women farmers are empowered to take the lead on planning (decide on which crop for rotation, time plan, proffered feeds etc.)
- All partners contribute their inputs and own the plan
- Role of farmers, research centre, university, government, local NGO and CGIAR centres shared
- Detail plan will be developed for each research theme

How is the dialogue facilitated during the regular IP meetings? The following principles are used for effective facilitation for creating an environment the best suits for learning and sharing

- All ideas are treated equally (women and men farmers, local experts, development agents, scientist, local decision makers
- Language: All members are encouraged to talk in any language they are comfortable with including local languages
- Photo-based PowerPoint presentation with few texts mainly for farmers to understand well
- Flip chart: For sketching and taking notes and group presentations on plenary
- Research theme based group discussion based on expertise and interest
- Plenary discussion for joint decision on each plan
- Energizer: Tea-coffee and lunch together to create more team sprits

For example the following activities were planned during the planning meetings by innovation platforms in both sites (Tables 1 and 2).

Table: 1: Jeldu wereda participating farmers in 2014 and 2015

Wheat based mixed farming system	Barley based mixed farming system
• 20 farmers participated • IWMI led activities planted wheat in 2014 and faba bean in 2015 • Improved seed, improved management practices, capacity building • Soil bund integrated with improved feed and multi-purpose trees • Feed utilization linked with market (diary processing)	• 20 farmer households participated • IWMI led activities planted wheat in 2014 on 20 farmers plots and Legume CHOICE project took over the activities and planted faba bean in 2015 on 30 farmers plots • Improved seed, improved management practices, capacity building • Soil bund integrated with improved feed and multi-purpose trees • Feed utilization linked with market (diary processing)

Table 2: Diga wereda direct participating farmers in 2014 and 2015

Maize based mixed farming system	*Teff* based mixed farming system	Grazing land management integrated with SWC
• 30 farmers participated • Planted maize (2014) and groundnut (2015) • Improved seed, improved management practices, capacity building • Soil bund integrated with improved feed and multi-purpose trees • Feed utilization linked with market (diary processing)	• 20 farmer households participated • Planted *teff* (2014) and faba bean (2015) and potato (2016) • Improved seed, improved management practices, capacity building • Soil bund integrated with improved feed and multi-purpose trees • Re-introduction of potato (2015 seed multiplication and DLS construction)	• 40 farmers are participating in improving their free grazing land – Rhodes, Chomo, desho and Elephant grasses for feed and seed • Silage making • Improved feeding trough and hay storage facilities

2. Innovation platform follow up meetings and activities (May-August)
   Before the IP follow up meeting the following will be done jointly
   - Mobilizing resources and input from IP members as per the role identified
   - Provide practical trainings for farmers on planting (land preparation, raw planting of crops, weeding and soil)
   - Organize follow up meeting by checking if the implementation is according to the joint plan developed

3. Innovation platform evaluation meetings and farmers field days (September December)
    - Every year during this season all IP members will go to farmers field during farmers field day to visit the progress of each research activities accomplished on farmers field during the first day and hold their regular IP meeting on the next day
    - The IPs are expected to evaluate activities accomplished in the year and take lessons for next year planning through sharing of roles and responsibilities
    - New farmers are also invited to the farmers field day to promote learning and scaling up through creating farmers to farmers linkage
    - Media is also invited for wider sharing of the activities accomplished through the IP approaches mainly from Oromia Radio and TV

General outcomes of the innovation platform activities

- Managed to bring effective joint work among the core-CGIAR partners (IWMI, CIP, ILRI and ICRAF) and national partner (OARI) to integrate their specialization and expertise in the same farmers' field
- Resource utilization was efficient with shared roles among farmers, local partners and core partners and input supplies (improved seed, transport, technical knowledge, community mobilization and empowering farmers)
- Hundreds of farmers increased their crop and livestock productivity while maintaining their soil by selling seed and seedling for feed to government projects like AGP and SLM. Jeldu farmers sold desho grass seedling worth ETB 1.5 million.
- Six MSc students have been supported to do their research in the field sites. (IWMI employed staff for four months in the field to collect soil sample and other agronomic and economic data

IWMI integrated soil and water conservation activities on crop lands (Ebisa Ararsa)

Ebisa Ararsa, an MSc student from Ambo University currently collecting data for his thesis under supervision of Teklu Erkossa made a short presentation in which he summarized the challenges the integrated land and crop management research at the site addressing the objectives of his current work. Land degradation due to improper land use and land management that led to unproductive loss of water and plant nutrients including fertilizers that are applied to compensate for the loss of nutrient due to erosion are washed away leading to low crop and livestock feed productivity. He underscored that efforts to reverse land degradation should be accompanied by an immediate benefit to the land users. He is evaluating the effects of soil bund stabilized by desho grass and row planting of Faba bean instead of the traditional broadcast on crop and livestock feed productivity and soil quality. He has presented the preliminary result showing positive effects of soil bund on soil moisture content, plant height. Row planting increased number of tillers per plant and plant height. Row planted faba bean seems taller and denser due to the saved nutrient that was otherwise could have been lost with runoff and its appropriate placement unlike the case with broadcast, where both the seeds and fertilizers are evenly spread on the plots. This implies that both seeding and fertilizer application rates need to be reduced when soil bund and row planting is used. It was also noted that farmers are harvesting additional benefits from the desho grass planted on the soil bunds, which they sell as seedlings and livestock feed or feed to their livestock.

Activities done by Legume CHOICE in Jeldu- ILRI Project (Tamene Temesgen)

Lack of access to improved legume seeds, soil fertility degradation, and sever fungal disease incidence on legumes were the major problems identified up on discussion with farmers. To solve these: The project has started cluster highland legume seed production. A total of 30 farmers in *Chilanko* kebele and another 30 farmers in *Kolu-Gelan* kebeles of Jeldu wereda participated in cluster highland legumes (faba bean and field pea) seed production. Half of the participant farmers in *Kolu-Galan* were those who participated in barley based farming system of IWMI. For this activity 21 quintals of field pea and faba bean seeds have been distributed to participant farmers. Adequate trainings on legume production and management (land preparation, planting methods, weeding and harvesting) were given two times in the field, before planting and after planting, to participant farmers. Each farmer cultivated legume on 0.25 hectares.

Table 3: Summary of Legume CHOICE interventions at Jeldu

Field site	Implementation site	Improved crop varieties given	Intervention package	No. of participated farmers	Area planted
Jeldu	*Kolu-Galan*	Faba bean (Gebelcho)	Improved seed, training, bio-fertilizer	15	0.25 ha each
		Field pea (Burkitu and Billalo)	Improved seed, training, bio-fertilizer	15	0.25 ha each
	Chillanko	Faba bean (Gebelcho)	Improved seed, training, bio-fertilizer	15	0.25 ha each
		Field pea (Burkitu and Billalo)	Improved seed, training, bio-fertilizer	15	0.25 ha each
Total				60	15 ha

ILRI Livestock feed and marketing research activities (Melkamu Derseh)

During the Jeldu IP planning meeting it was found necessary to capitalize on improving the income of farmers from cultivated fodders, both through the sale of the forage and feeding to dairy or fattening animals and selling livestock products.

Towards that end, the following were planned and implemented:

1. Introducing another high value forage that can supplement the existing desho grass based feed supply for livestock production. As alfalfa is a protein rich legume forage, its integration with desho grass cultivation will optimize livestock nutrition and productivity in the area. The seed of the legume has high market price and it is planned to equip farmers with the necessary skills to produce seeds and generate income.

2. Feeding trough and feed storage construction: Farmers have been briefed about the importance of improving the feed utilization practice, and the role of feeding troughs and storage sheds. Interested farmers availed locally available woods, and with technical support from ILRI the troughs were constructed. The aim is to minimize wastage of feed and labour costs during feeding to pave the way for a sustainable cut-and carry system of feeding. Farmers have become highly enthusiastic about the troughs and scaling activities will continue with a close support from wereda experts and Ambo University.

   Side-by-side data will be collected about the economic feasibility of such investments and the overall contribution of this technology. Trainings have been planned on feed conservation practices, formulating mixed rations and feeding dairy or beef animals for market.

3. Market linkages: It has been planned to create market for dairy producers by providing training, material support and organizing the producers in groups (cooperative). Interested dairy producers have been identified and further work will be done by the wereda sector offices, Ambo University and ILRI.

ICRAF's Research activities to integrate multi-purpose trees in Jeldu (Hidia Seid)

ICRAF's ongoing research activities progress update was presented to IP members which includes planting of integrating multipurpose tree seedlings on 10 farmer's plots who planted faba bean on soil bund. Most of the seedlings were established well. Planned activities such as data collection and training will be performed next. Challenge encountered was presented as free grazing. After holding an open discussion on key challenges pre and post IP technical committees were established to be responsible to all management and supervision of planted seedlings. For smooth coordination, ICRAF will submit its upcoming activity check list to national partners in advance.

General discussion and question and answer sessions

Question 1. Most of the time researches collected soil sample but, the results and recommendations of that research were not announced back to us. Why?

Answer (Taklu):- 'As the farmer asked, it is the right question. We have been collecting soil sample from each farmer's field site but we haven't shown the results to the farmers. This will be considered in the future'.

Question 2. Can Alfalfa be used in highland area and is it possible to use irrigation?

Answer (Melkamu):- **'**Yes, you can use Alfalfa in the highland area and use of irrigation but it needs to be `1` `fenced and used around homestead.

Question 3. Is there any proposed solution to solve problem of faba bean disease from research points of view?

Answer. (Tamane):- **'**Use of chemicals like Mancosium and Redomin is the short term solution but, the investigation is ongoing and results will forwarded to farmers.

Question 4: How can we manage free grazing for the safety of agro forestry seedlings in the land of farmers?

Answer (Farmers):- To protect their land from free grazing, farmers in the PA signed in order not to release their cattle to others soil bunds and farm lands. It is also said that farmers have the responsibility to protect all soil bunds and desho grasses as if it is their own resources.

Question 5. Is it possible to handle livestock at farmers' backyard at this time?

Answer (Melkamu):- Some group said no because there is no enough feeds to feed cattle at backyard throughout the year. Others said it must be practiced as farmers must confine their cattle at their backyard because the issue of protecting the cattle from others land, desho grass and soil bund must be taken into consideration. For the yearly coverage of the grass, it was agreed that Development Agent (DAs) need to plant desho grass at Farmers Training Centre (FTC) and distribute to farmers for free to cover the needs.

Comment 1: Don't exaggerate the disease of faba bean in front of farmers and hence it may create fear among farmers that may hinder faba bean production.

Reply**:** (Tamane):- The intention is not to create fear among farmers but in order to give them awareness on the disease to be conscious about it.

Regarding way forward on scaling up and market issues, committees were established.

Table 4: Members of technical committee

No	Name	Organization	Role and Responsibility	Roles within the committee
1	Meskaram Bedada	Jeldu wereda women's affairs office	Expert	Member
2	Girma Dibaba	Jeldu wereda administration	Head (Agricultural office lead the team)	Member
3	Girma	Jeldu wereda agronomist	Agronomist	Member
4	Ashanafi Birhanu	Jeldu wereda youth league	Expert	Member
5	Aberu Beka	Jeldu wereda women's and children's league	Expert	Member
6	Gadafa Adugna	Jeldu wereda livestock agency	Expert	Member
7	Jonse Negewo	Jeldu wereda natural resource	Expert	Chair
8	Belete Alemu	Jeldu wereda irrigation	Expert	Member

Table 5: Members of post-harvest and marketing committee

No	Name	Organization	Roles and responsibility	Roles within the committee
1	Guddisa Nagasa	Jeldu wereda small and micro enterprise office	Expert	
2	Getu Haile	Jeldu wereda trade and marketing development office	Expert	
3	Mangistu Abdata	Jeldu wereda cooperatives promotion office	Expert	
4	Bayissa Abara	Jeldu wereda communication and media office	Expert (Lead the team)	
5	Gaddisa Kumsa	Jeldu wereda agricultural office	Expert	
6	Gadafa Adugna	Jeldu wereda livestock agency	Expert	
7	Aberu Beka	Jeldu wereda women's and children's league	Expert	
8	Tolasa Guta	Jeldu wereda youth and sport office	Expert	

The agreed roles by each committee were:

- Farmer's products must be linked with market. For this the cooperative office takes responsibility to organize farmers' cooperative. The proposed name of cooperative is: *Farmers improved seed producer cooperative.*
- Technical committee was strengthened. The committee works on different technical aspects of the research activities including the issues of soil bund and desho grass management. It also gives due attention to different varieties of disease. . The team was intentionally selected from different offices in order to pool different knowledge from different experts.

Annex 1: List of Jeldu wereda fourth IP meeting participants

NO	Name	Gender	Organization	Role and Responsibility
1	Tibebu Seifu	M	Jeldu wereda livestock agency	Head
2	Turunesh Regassa	F	Jeldu wereda women's affairs office	Head
3	Jonse Negewo	M	Jeldu wereda natural resource office	Expert
4	Tolesa Debela	M	Jeldu wereda agriculture office	expert
5	Chala Megresa	M	Jeldu sustainable land management project	Focal person
6	Hirpa Soboka	M	Jeldu wereda agricultural office, *Kolu Gelan* Kebele	Development Agent
7	Gemeda Bedada	M	Jeldu wereda water and energy office	Expert
8	Aberra Birhanu	M	*Kolu Gelan* kebele	Participating Farmer
9	Hayilu Wondimu	M	*Kolu Gelan* kebele	Participating Farmer
10	Belete Alemu	M	Jeldu wereda irrigation office	Expert
11	Gaddisa Bayu	M	Jeldu wereda agricultural office	Expert
12	Dejene Tilahun	M	Jeldu wereda water mine and energy	Expert
13	Abera Ajema	M	*Kolu Gelan* Kebele	Participating Farmer
14	Bayisa Fana	M	Jeldu wereda agricultural extension office	Head
15	Alemeneh Daba	F	Jeldu wereda livestock agency	expert
16	Kebebe Feyissa	M	Jeldu wereda agricultural office, *Kolu Gelan* Kebele	Development Agent
17	Kassa Negera	M	Jeldu wereda agricultural office, *Kolu Gelan* Kebele	Development Agent
18	Biyansa Abera	M	Jeldu wereda communication and media office	Expert
19	Birhanu Begi	M	Jeldu wereda land administration office	Head
20	Birhane Ararssa	F	Jeldu wereda communication and media office	Head
21	Naol Erenso	F	Jeldu wereda women's league	Expert
22	Ararsa Hirpha	M	Jeldu wereda youth league	Head
23	Ebisa Ararsa	M	IWMI sponsored MSc student	Research on crops
24	Diriba Dabasa	M	*Kolu Gelan* kebele	Participating Farmer
25	Birki Fayisa	F	*Kolu Gelan* kebele	Participating Farmer
26	Dejene Bekele	M	Jeldu wereda livestock health	Expert
27	Girma Dibaba	M	Jeldu wereda administration	Head
28	Mulisa Ajema	M	*Kolu Gelan* kebele	Farmer

NO	Name	Gender	Organization	Role and Responsibility
29	Dheressa Abetu	M	Jeldu wereda agricultural office	Expert
30	Getachew Belachew	M	Jeldu wereda cooperatives promotion office	Head
31	Ajema Hunde	F	*Kolu Gelan* kebele	Participating Farmer
32	Temesgen Assefa	M	HUNDEE- local NGO	Expert
33	Dereje Ararsa	M	*Kolu Gelan* kebele	Development Agent
34	Buzayo Belete	M	Jeldu wereda livestock agency	Expert
35	Dinka Delesa	M	*Kolu Gelan* kebele	Participating Farmer
36	Teklu Erkossa	M	IWMI	Researcher
37	Kindie Getnet	M	IWMI	Researcher
38	Zelalem Lema	M	ILRI- Innovation System in Agriculture	Research Officer
39	Melkamu Derseh	M	ILRI-livestock feed	Post Doc Researcher
40	Tsehay Regassa	F	ILRI	Consultant
41	Tamene Temesgen	M	ILRI Legume Choice project	Coordinator & Researcher
42	Hadia Seid	F	ICRAF	Agro-forestry Researcher
43	Tilahun Geleti	M	Oromia Agricultural Research Institute	Socio-economic & extension researcher
44	Desalegn Tadesse	M	IWMI	Communication Officer