Focused group discussion outcome for ILSSI's irrigated fodder development at Kerekicho Kebele, Angacha district.

Facilitators of the group discussion

1. Mr. Zewdie Wondatir: Main facilitator, Researcher, EIAR, Holetta Research Center
2. Mr. Fekadu Tessema: Co-facilitator, Africa Rising, Lemo site assistant coordinator
3. Mr. Teshome Aberra: Co-facilitator, Kerekicho kebele Development agenet (DA)
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Background

Kerekicho kebele is one of the 28 kebeles in Angacha Woreda, Southern Nations, Nationalities and Peoples' Region (SNNPR). It is located at 07°21`47`` East and 38°51`00`` North. The area has an average elevation of 2280 masl. The main production system in the kebele is mixed crop livestock production system where *Enset* (*Ensete ventricosum*) is the major food for humans and feed for livestock (especially during the feed shortage in the dry seasons). It is estimated that close to 900 household heads are residing in the kebele.

The kebele has been selected for ILSSI's irrigated fodder development intervention and focused group discussions were conducted with a total of 24 farmers. Again the 24 farmers were sub-divided into two groups of each with 12 farmers. From the participating 24 farmers 20 were males and 4 were females. On the other hand, additional 12 more farmers were selected for the group discussion to be used as a control group (non- intervened farmers). A three day discussion was arranged for the three groups. The focused group discussion for group 1 and group II farmers was carried out separately but outputs of the discussion for both groups I and II were merged together for reporting purpose. Focused group discussion outcome for group III farmers is presented separately. The list of farmers participating in the discussion for the respective groups is attached in the last pages of the report. Moreover annexes (Annex I, II and III) presenting all transcripts of discussions for each group responses are also attached.

Outcomes of the group discussion for irrigated fodder participating farmers (group I &II)

In the past three decades, some of the farmers have been practicing irrigation with traditional methods. However, improved irrigation practice were introduced and expanded in the area

with the assistance of Food for the Hungry International (FHI) project about 5 years ago. Water sources available in the area include rivers, springs and shallow well water. Among the water sources, the predominant source of water for the small scale irrigation is shallow well water. In the past few years as a development strategy of surface water utilization for irrigation, rain water harvesting structures such as micro-dams with cement and some lined with polythene sheets were constructed by the government with community involvement in the kebele. However, the respondents in the group discussion indicated that, these structures are now malfunctioning due to poor design, provide breeding places for insects like mosquitoes causing malaria and are not fenced to keep children away.

The Irrigation schemes managed by the community are not available at all. The existing individual shallow well water is owned by each household head. Men elders have better access to use water for irrigation and followed male youths. Because of the proximity location of shallow well water to the backyard, women particularly wives make decisions on the management of water for irrigation. Moreover, the kebele's administrators also pay attention to spring water development and mobilize the communities to dig new water wells for households who do not have them. Among the household members, youths also have better access for irrigation water to use it to grow vegetables for sale. The respondents also indicated that, youths are the active working groups in the households and as a result the existing irrigation scheme can also serve as an employment opportunity for these groups.

Among the 900 household heads dwelling in the kebele, about 70% of them practiced irrigation to grow horticultural crops (cabbages, carrots, beetroots, tomato, potato, green pepper onions), fruit seedlings (avocado, apple), coffee seedlings and fodder crops (*Desho* grass). About 80 percent of the irrigated crops (vegetables) produced is meant for market while the rest is allocated for home consumption. According to the informants, the type of vegetables produced by irrigation in each household is decided by men. The group members suggested the following reasons on the type of crop to be favored for irrigation; volume of the ground water, productivity per small plot of land, market value and water requirement of the crop. Depending

on the consensus reached by the family members, household head is able to decide which crop to be grown with the help of irrigation.

Based on the information from the group informants, the kebele is well endowed with ground water resources. Water can be lifted from the ground at a depth of 12-18 m. Rivers and springs are also used for a limited dry period of the year. However shallow well water is the main water source for most households throughout the dry seasons of a year. Water can be lifted mostly using shallow wells with rope and washer pump and in some cases a jerry can fastened to a rope. Water from these sources is distributed to irrigation fields with human labour using watering can and jerry cans. Even though springs and rivers run for only a short duration, water from these sources is conveyed to crop fields by traditional canals with natural gravity and plastic hoses.

Fig1. Rope and washer pump

Contribution of Irrigation to the livelihood of the community in the kebele

The participants mentioned that they have been benefited a lot from the existing Irrigation scheme since the involvement of FHI project in the area. As a result of the project intervention, the households in the area achieved the following benefits:

- able to get better income than before
- able to send their children to school
- started new way of life style (better clothing, better home furniture)
- able to have their own cattle rather than on a share basis as previously
- reduce family's time spent on water collection from distant sources
- able to get better diet for the family
- created employment opportunities especially for the youth groups
- able to construct houses with corrugated iron sheet for the family and additional houses in the nearby towns for business purposes
- some of them able to buy motor bikes

It is obvious that small scale irrigation scheme has brought significant change in the livelihood of the community. Nevertheless, some constraints associated to it are listed by the household heads participating in the group discussion. Accordingly, the respondents raised the issue that it demands more labour force to operate the rope and washer pump and convey water with jerry cans from its location to the irrigation field. On the other hand, quality spare parts for maintenance are not easily available in the local market. For instance farmers replied that the replacement rope for rope and washer pump is available in the local market but not the genuine brand and can serve for only a limited period, which could expose farmers to extra cost. Since men are operating with the existing irrigation, challenges/constraints associated with it are the task of men. Likewise processing of *Enset* parts for family food is culturally regarded as a task of women. In general, women face extra work drudgery than the rest of the household members. The respondents indicated that there are no cultural barriers which hinder women's participation on irrigation activities.

The respondents also identified two seasons of irrigation prevailing in the kebele. The first season begins in mid October and ends in early January. In this season types of crops mainly grown are cabbage, carrot and tomato. The second irrigation season begins with January and ends in April. It is a very critical season where irrigation activity is highly practiced. Similar to the first season, cabbage, carrot, tomato, green pepper, potato and coffee seedlings are types of crops grown in this season. As was mentioned by the participants, the small scale irrigation has had no negative effects so far.

Irrigated forage potential

Regardless of the amount of land allocated, about 25% of the farmers attending the group discussion have already started growing fodder (*Desho* grass) using irrigation. Farmers were motivated to plant improved fodders as a result of some trainings and awareness provided in the past by the Woreda Agricultural office, FHI and ILRI. Among the improved fodder crops Napier grass, oats and vetch were known by farmers while *Desho* grass was known among the local ones.

The participants suggested the season from January to April as the ideal time to plant fodder crops using irrigation. All the participants including men and women had also shown common interest to plant *Desho* and Napier grasses in this season. Oats and vetch were recommended for main rainy season (June to September). Attempts have been made to explore differences between men and women with regard to feeding the intended forages to livestock for production of different types of livestock products. Accordingly, neither men nor women groups favored gender based specific products. Rather both groups primarily preferred milk and milk products followed by fattening cattle and shoats. By comparing the benefits obtained from the sale of dairy products and fattened animals, respondents favoured feeding the forage crops to be grown by irrigation to dairy animals more than for fattening animals. In addition, group participants further stated that daily income can be obtained through the sale of milk until the cow goes dry. For irrigated fodder to be produced in excess, it would need be sold to

neighboring farmers and NGOs. The potential local market niches for dairy products, fattened cattle and shoats are Angacha, Deyo Gena and Hosana towns.

Men and women had different roles with regard to marketing of livestock and livestock products. For example, milk and milk products are solely sold by women while sale of fattened cattle and shoats and equines is carried out by men. It is not a common practice for women to sell fattened cattle and shoats in the market. This is because purchasers could suspect that the animal might be stolen without the consent of the husband.

Gender dimensions about irrigation

Regarding the type of crops grown using irrigation, decisions are mainly made by male except in cases of female household heads. Hired labour is hardly available in the kebele. As a result the source of labour for different irrigation activities is family labour force. The role of the family groups for different irrigation related activities is indicated here as follows

- Land preparation – it is prepared by men
- Planting – it is performed by all the family groups (men women boys and girls)
- Watering fields- it is performed by all family members
- Harvesting, collection and packaging- accomplished by men

Other agricultural decisions such as allocation of land for different non-irrigated crops, livestock rearing, crop selling and livestock selling are primarily decided by men. Concerning the nutrition of the family, the decision is left for women while health aspects of the household are for men. Livestock are an important source of income and means of livelihood for the community in the kebele. Both men and women are involved in feeding and management of livestock. But close follow up on livestock management is carried out by women. In principle, income from livestock is generally controlled by men. However, in most cases, income obtained from the sale of milk and milk products, eggs and live chickens is exclusively controlled by women. The participants indicated that irrigated fodder activity neither increases nor decreases workload on women and men groups. They also suggested that it is rather an opportunity to get fodder for livestock in dry season. Water utilization for other uses does not compete with irrigated fodder

development activity. The group members also responded that they would set irrigation schedule for the different crops to be grown by means of irrigation.

General reflections from the group discussion

- The group members at the end of the discussion session appealed for supply of the initial forage seed materials to be grown by irrigation (Desho and Napier grasses) and as well as those for the main rainy season (Oats and vetch).
- The group members also described that they lack awareness and knowledge on forage development and utilization. In line with it, they also seek in depth training and technical backstopping on fodder development, utilization and seed production.

- The group members from their past experience pointed out that market is the main constraint for their products produced at farm. It is therefore important that market linkages need to be further explored.

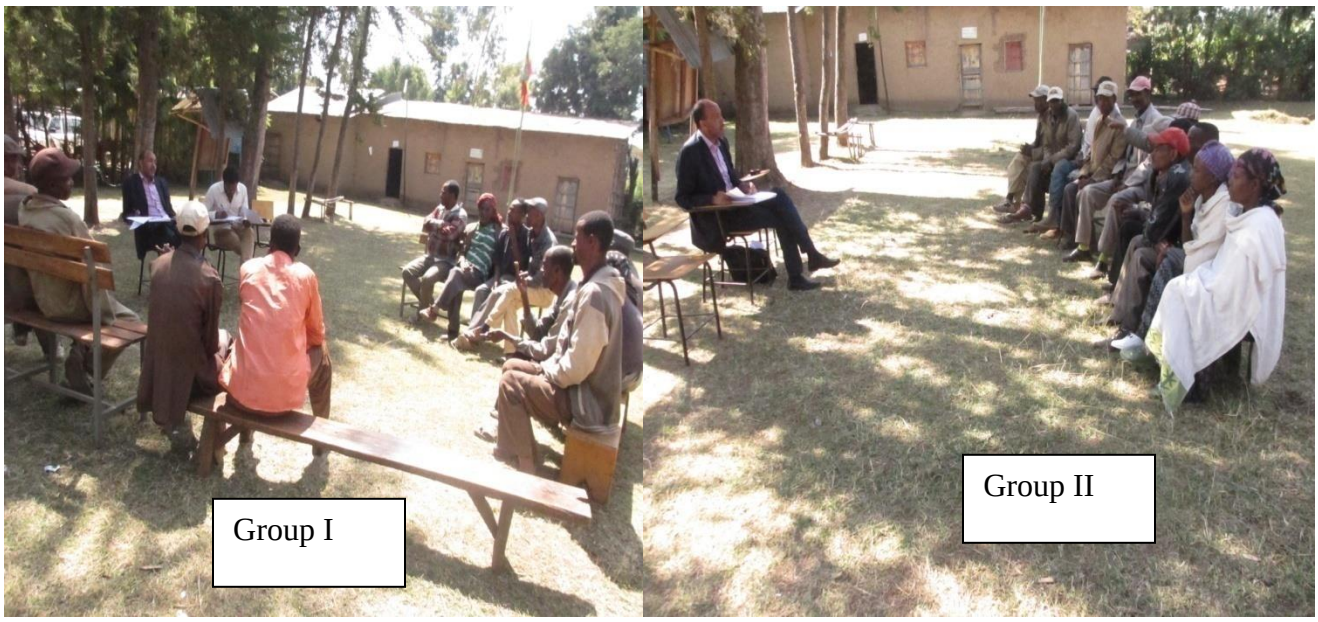

Fig 2. Participants of the focused group discussion (Participating farmers for irrigated fodder development)

Table 1 List of farmers participating in ILSSI's irrigated fodder development at Angacha in 2015

No.	Name of the farmer	Sex	Group
1	Tesfaye Mekoro	M	1
2	Yohannes Erkalo	M	1
3	Bekele Ore	M	1
4	Demekech Melore	F	1
5	Girma Abicho	M	1
6	Desalegn Boricha	M	1
7	Beyene Ayanto	M	1
8	Birtukan Kebede	F	1
9	Tesfaye Abura	M	1
10	Desalegn Anulo	M	1
11	Gizaw Liremo	M	1
12	Tadese Melketo	M	1
13	Bekele Leelago	M	2
14	Mathewos Seramo	M	2
15	Wolaemo Leelago	M	2
16	Handino Salato	M	2
17	Deginet Mekebo	M	2
18	Markos Ergicho	M	2
19	Gezahegn Heramo	M	2
20	Daniel Shanko	M	2
21	Yohannes Dutena	M	2
22	Abose Gichamo	M	2
23	Abebech Mekore	F	2
24	Kibrework Kebede	F	2

Focused group discussion outcome for non-participating farmers (Group III)

In the group discussion 11 male farmers were participated. The outcome of the group discussion for many aspects is similar to group I and group II. However, only different outcomes are treated to avoid redundancy.

Irrigation practice has been there long ago. All of respondents have shallow well water whereas about 20% of them have access to rope and washer pump. Men and youths in the household have better access for irrigation water. Decisions regarding irrigation water utilization are made by men. About 70% of the household heads are using irrigation to produce horticultural crops and fruits. Type of crop to be favored by irrigation depends on volume of well water, water requirement of the crop, and high volume of productivity per small plot of land. Eighty percent of the irrigated crops grown by households supplied to market while the rest retained for family consumption. Water can be lifted from a ground at a depth of 10-15 m. Rivers and springs are also used for a limited dry period of a year. However shallow well water is the main water source for most households throughout the dry seasons of a year. Water can be lifted mostly using jerry can tied with a rope. Water from these sources is distributed to irrigation fields with human labour using a watering can and jerry cans. Even though springs and rivers run for short duration, water from these sources is conveyed to crop fields by jerry cans and plastic hoses.

Contribution of irrigation to the livelihood of the community

The respondents indicated that the existing irrigation activity has benefited the community in the following manner. The households could;

- able to earn better income
- able to buy fertilizer and improved crop seed
- able to send children to school
- able to construct houses in the nearby towns
- able to buy grain mills

However, the group participants mentioned some of the constraints related to the small scale irrigation in the kebele. The problems identified were lack of plastic hose for rope and washer pump, more labour is required to operate it, rope for rope and washer pump is short lasting. Moreover, those participants who do not possess the rope and washer pump felt that sometimes the rope may be cut while it conveys water from the shallow well water. As a result it is difficult to take out the jerry can dropped back into the well. As mentioned by respondents, these challenges are common for all families with in a given household. Women are more responsible for home and outside home activities and hence more work load is reflected in women than men.

The irrigation calendar in the area is from November to April. However the peak irrigation season in the kebele is from January to April. Negative effects of the small scale irrigation practice were not observed, though all respondents had their own shallow well water.

Irrigation potential for forage development

The respondents in this group did not yet practice the existing irrigation scheme for forage development due to knowledge gape on improved forage establishment and utilization and lack of experience. In the group discussion, the farmers also indicated that they are very much willing to grow improved forages by fulfilling the following preconditions,

- allocate land for it
- allocate water for it
- fence the plot surroundings
- apply agronomic management practices (land preparation, weeding and watering)

In addition, their expectation from the government and NGO side is training, experience sharing, and forage seed supply. Improved forages known by this group include Napier grass and Oats. Except mentioning the names of the forages, they lack experience and knowhow on how to establish and utilize them for their animals. They have also recommended Napier and *Desho* grasses to be grown by irrigation. The fodder to be produced by irrigation will primarily be fed to dairy animals followed by fattening animals. Due to the comparative daily income

obtained from the sale of milk, both men and women preferred dairy. The respondents also believed that there is market opportunity for the fodder intended to be produced excess by irrigation. The fodder produced can be sold to communities within the kebele and neighboring kebele's communities. Potential market places for dairy and dairy products, fattened cattle, shoats and irrigated forages are towns such as Hosana, Deyo Gena and Angacha. Similar to group I and II respondents, milk and milk products are sold by women while fattened cattle and shoats are by men.

Gender dimension of irrigation

For all types of crops grown by irrigation, decision is mostly made by men. Women can also make decision in the female headed households. The role of family members in different irrigation activities is described as follows:

- land preparation and planting carried out by men and boys
- planting carried out by men and boys
- watering performed by men
- weeding performed by both male and female
- harvesting and collection of the crop yield is a job of all family members.

Decision regarding other agricultural activities such crop production with main rainy season, livestock production is commonly made by men. The health aspect of the family in a household is decided by men where as nutrition is by women. Although livestock feeding and management is carried out by both men and women, close follow up is undertaken by women. Men had an overall control on the income obtained from the sale of live cattle, shoats and equines. On the other hand income generated from the sale of milk and milk products, eggs, chicken is managed by women.

Reflections from the group participants (group III)

- Request for suitable improved forage seed

- Demand training and experience sharing on improved forage establishment and utilization
- Demand for rope and washer pump.

Fig. 3 Participants of the group discussion (non participating farmers)

List of non participating farmers

No.	Name of the farmer	Sex	Group
1	Bekele Detamo	M	3
2	Melese Kenore	M	3
3	Melore Helsabo	M	3
4	Anulo Deboche	M	3
5	Worku Kenore	M	3
6	Memru Basore	M	3
7	Mishamo Beshkeda	M	3
8	Gezahegn Kebede	M	3
9	Adise Ersulo	M	3
10	Birhanu Tumiso	M	3
11	Dofe Lombebo	M	3

Annex I for group I

Focus Group Discussion (FGD) on Constraints and Opportunities for Irrigated Fodder
Site: Angacha
Kebele: Kerekicho

The existing irrigation initiative
Is there any irrigation practice in the area and for how long now? Yes, irrigation practice has been there 30 years ago. Improved irrigation started since 5 years ago with FHI/Ethiopia project.
What are the current sources of water for irrigation? What are the other ***possible sources*** of irrigation water available in the kebele?
Current sources of water include rivers, springs and shallow well water. Other possible sources were micro-dams but not functional now.
Is there any irrigation scheme in kebele? If it is there, how is it managed?
Irrigation scheme is not at all available in the kebele
Who, within the kebele, has access to the different water sources? Who makes decisions on water usage/management – for the collective scheme? Men and youths of male sex had access to the water sources mentioned above. Shallow well water usage is managed by women. Spring development is mainly organized by Kebele administrators.
What differences do you observe for women, men and youth with regard to their access to water for irrigation? The group participants indicated that water for irrigation is mostly accessed by youths as a means of employment opportunity for this group.
What proportion households in the kebele practice irrigation?
About 70% of the household heads are practicing irrigation.
What are the crops grown by irrigation?
Major crops grown by irrigation include: Cabbages carrots, beetroots, tomato, potato, pepper, onions, avocado seedlings, coffee seedlings and Desho grass.
How do you decide which crops to favor for irrigation? Who is involved in decision making?

The respondents from their experience described that the type of crop to be favoured for irrigation is decided based volume of the water in the shallow well, water requirement of the crop, ability of the crop to withstand pests and damage by wild animals and productivity per small plot of land. Decision on the type of crop to be grown by irrigation is decided by men in a male headed household whereas by women in a female headed household

How do the irrigated crops differ between men and women and may be youth? Why?

The family have common consensus.

Among the households growing irrigated crops, what proportion of the irrigated crop is used for family food/for market on average?
Eighty percent of the product produced supplied to market while the rest is retained for family consumption

Water lifting and conveyance options

What are the water lifting options used for irrigation?

.Rope and washer pump and jerry can tied with rope for shallow well water, plastic hoses and natural gravity for springs and rivers. Water conveying options include: jerry can, watering can and plastic hoses.

Contributions of irrigated crop production to livelihoods and income

How does irrigation contribute to household income /livelihood more generally?

With the existing irrigation households achieved the following benefits:

- able to send children to school
- obtained better income
- constructed better houses in the kebele and nearby town for business purpose
- able to rear their own cattle while it was on share basis previously
- able to grow some fodder (Desho grass)
- able to use vegetable by-products for livestock feed
- created employment opportunity for youth groups
- able to better food for humans

What are the main constraints to the use of small scale irrigation?

- It is difficult to convey water from rope and washer location to irrigation field (demands more labor)
- The rope used to drive out water in the rope and washer pump is not durable and genuine brand not available in the local market

Do women, men and youth face the constraints/challenges equally? Why? (Problems relating to conflicts with women's existing workloads can be discussed and norms or culture that limits women's participation in irrigation)

All family members face challenges related to irrigation. However more workload is still there on women. Women are responsible for inside and outside home activities. For example processing of *enset* parts for human food is culturally considered as women's job. There is no culture that restricts women participation on irrigation activity.

Do you have an irrigation calendar along the year? Who does it favor most? Do men and women have equal opportunities to irrigate their crops?

Yes, Season from November to April is the main irrigation season. Since females are mostly engaged in home related activities as a result males have greater opportunity to irrigate crops.

When is the critical time to use irrigation for crop production?

The peak time to use irrigation is season from January to April

Does irrigation have any disadvantage /negative consequence?

So far no negative consequence observed

More specific questions on irrigated forage potential

Do you use irrigation for growing feed for livestock currently?

If not, why not?

Yes, some of us used it to grow Desho grass

If yes,What motivates you to grow irrigated fodder in addition/instead of other crops?

Training and awareness made by the Woreda agricultural office, FHI and ILRI

If you don't use irrigation currently, do you want to consider using irrigation to grow forages in the future? If yes,

What pre-conditions (things need to change) for you to consider using irrigation for forage?

Who would make the decision to allocate water to forage (i.e. If the water resource is communal)? - this would help us explore men and women's participation in decision-making on water management.

There is no communal water resources use in the kebele. Within the household the existing shallow well water allocation is mostly decided by men

In which season/situation, would growing forage using irrigation make most sense?

December to April is the ideal season to grow forages using irrigation.

Do you know of any improved forages being grown in the area? if yes, please give examples.

Yes, Oats, Napier, Vetch among the improved ones and *Desho* from the local one

What forages/feeds would you target for irrigation? (Explore difference between men and women).

Both women and men recommended to plant Napier and Desho grass with irrigation

What marketable (profitable) livestock products would you use the irrigated forage for? (Milk, Butter, Ayib, Fattened animal (cattle, shoats),(also explore differences been men and women)?
Both men and women preferred the irrigated forage to feed to dairy cattle to get milk and milk products followed by fattening animals
To which animals (Dairy cows, fattening cattle, fattening shoats) would you feed the material and why? (Explore differences between men and women)
By comparing the economic advantages the group participants suggested to provide the feeds primarily to dairy animals

Would there be an opportunity to trade in the irrigated fodder? Explain
Yes, it can be sold to community in the kebele and neighboring kebele communities. The seeds can also be sold to NGOs, and in the local markets

Where would be your potential market/s for dairy products, fattened cattle, fattened shoats, irrigated forages? (Explore differences between men and women)
The potential markets for these products are Angacha, Hosana, Deyo Gena towns.
Milk and milk products, eggs, live chicken are sold by women while fattened cattle and shoats are by men.

Gender dimension of irrigation

Who decides on the type of crops to grow using irrigation? Does decision role vary with crop types? Decision on the type of crop to be grown with irrigation is made by men and in some cases by women in female headed households. Decisional role did not vary with the type of crop.

Who does the irrigation activities (spell out the different irrigation activities and explore if there is role differences among the different community groups by activity? (Men, Women, Boys, Girls, Hired labor)

- land preparation performed by men

- Planting carried out by all family members (Men, girls and boys)

- Watering carried out by all family members

- weeding performed by men and boys

-Harvesting and collection performed men

How are the other agricultural decisions made between Men and Women?

Other agricultural decisions such as rain fed crop production, livestock rearing selling of crop and livestock are decided mostly by men.

How are household decisions regarding health and nutrition made between Men and Women?

Decision regarding health of the household is made by men while nutrition of the household by women

Who does the livestock feeding and management between Men and Women?

- Livestock feeding and management is the task of men but close follow up carried out by women

Who controls the income from livestock between Men and Women?

Income from livestock is basically controlled by men, however income from the sale of milk and milk products is managed by women

Does irrigated fodder increase/decrease women's and men's workload?

As far as benefit is there it does not increase or decrease workload on both men and women

Does irrigated fodder take water away from other uses? If yes, from what other uses?

If so, are men, women or children most affected? And how?

No, they have described that they have been using irrigation schedule for different types of crops grown

Annex II for group II

Focus Group Discussion (FGD) on Constraints and Opportunities for Irrigated Fodder
Site: Angacha
Kebele: Kerekicho

The existing irrigation initiative

Is there any irrigation practice in the area and for how long now? Yes, irrigation practice has been there 27 years ago. Improved irrigation started since 5 years ago with FHI/Ethiopia project.

What are the current sources of water for irrigation? What are the other ***possible sources*** of irrigation water available in the kebele?

Current sources of water include springs and shallow well water. Other possible sources are rivers and micro-dams but micro-dams are not functional now.

Is there any irrigation scheme in kebele? If it is there, how is it managed?

Irrigation scheme is not at all available in the kebele

Who, within the kebele, has access to the different water sources? Who makes decisions on water usage/management – for the collective scheme? Men and youths of male sex had access to the water sources mentioned above. Shallow well water usage is mostly managed by women.

What differences do you observe for women, men and youth with regard to their access to water for irrigation? The group participants indicated that water for irrigation is mostly accessed by youths as a means of employment opportunity for this group. No difference with regard to water access for irrigation.

What proportion households in the kebele practice irrigation?

About 80% of the household heads are practicing irrigation.

What are the crops grown by irrigation?

Major crops grown by irrigation include: Cabbages carrots, beetroots, tomato, potato, pepper, onions, apple, avocado seedlings, coffee seedlings and Desho grass.

How do you decide which crops to favor for irrigation? Who is involved in decision making?

The respondents described that the type of crop to be favored for irrigation is decided based volume of the water in the shallow well, water requirement of the crop, market value of the crop and time of maturity. Decision on the type of crop to be grown by irrigation is decided by men in a male headed household whereas by women in a female headed household

How do the irrigated crops differ between men and women and may be youth? Why?

All family members have discussed for the type of crop to be grown by irrigation. Then men would take the responsibility.

Among the households growing irrigated crops, what proportion of the irrigated crop is used for family food/for market on average?

Ninety percent of the product produced supplied to market while the rest is retained for family consumption

Water lifting and conveyance options

What are the water lifting options used for irrigation?

.Rope and washer pump and jerry can tied with rope for shallow well water, plastic hoses and natural gravity for springs. Water conveying options include: jerry can, watering can and plastic hoses.

Contributions of irrigated crop production to livelihoods and income

How does irrigation contribute to household income /livelihood more generally?

With the existing irrigation households achieved the following benefits:

- able to send children to school
- obtained better income
- able to have better clothes
- some of them able to buy crossbred animals
- constructed better houses in the kebele and nearby town for business purpose
- some of them able to buy motorbike.

What are the main constraints to the use of small scale irrigation?

- It is difficult to convey water from rope and washer location to irrigation field (demands more labor)
- The rope used to drive out water in the rope and washer pump is not durable and genuine brand not available in the local market
- Lack of irrigation equipments

Do women, men and youth face the constraints/challenges equally? Why? (Problems relating to conflicts with women's existing workloads can be discussed and norms or culture that limits women's participation in irrigation)

All family members face challenges related to irrigation. However more workload is still there on women. Women are responsible for inside and outside home activities. There is no culture that restricts women participation on irrigation activity

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Do you have an irrigation calendar along the year? Who does it favor most? Do men and women have equal opportunities to irrigate their crops?

Yes, Season from October to April is the main irrigation season. Since females are mostly engaged in home related activities as a result males have greater opportunity to irrigate crops.

When is the critical time to use irrigation for crop production?

The peak time to use irrigation is season from January to April

Does irrigation have any disadvantage /negative consequence?

So far no negative consequence observed

More specific questions on irrigated forage potential

Do you use irrigation for growing feed for livestock currently?

If not, why not?

Yes, some of us used it to grow Desho grass

If yes,What motivates you to grow irrigated fodder in addition/instead of other crops?

Training and awareness made by ILRI

If you don't use irrigation currently, do you want to consider using irrigation to grow forages in the future? If yes,

What pre-conditions (things need to change) for you to consider using irrigation for forage?

Who would make the decision to allocate water to forage (i.e. If the water resource is communal)? - this would help us explore men and women's participation in decision-making on water management.

There is no communal water resources use in the kebele. Within the household the existing shallow well water allocation is mostly decided by men

In which season/situation, would growing forage using irrigation make most sense?

December to April is the ideal season to grow forages using irrigation.

Do you know of any improved forages being grown in the area? if yes, please give examples.

Yes, Oats, Napier, Vetch among the improved ones and *Desho* from the local one

What forages/feeds would you target for irrigation? (Explore difference between men and women).

Both women and men recommended to establish Napier and Desho grass with irrigation

What marketable (profitable) livestock products would you use the irrigated forage for? (Milk, Butter, Ayib, Fattened animal (cattle, shoats),(also explore differences been men and women)?
Both men and women preferred the irrigated forage to feed to dairy cattle to get milk and milk products followed by fattening animals
To which animals (Dairy cows, fattening cattle, fattening shoats) would you feed the material and why? (Explore differences between men and women)
By comparing the economic advantages the group participants suggested to provide the feeds primarily to dairy animals

Would there be an opportunity to trade in the irrigated fodder? Explain
Yes, it can be sold to community in the kebele and neighboring kebele communities. The seeds can also be sold to NGOs, and in the local markets

Where would be your potential market/s for dairy products, fattened cattle, fattened shoats, irrigated forages? (Explore differences between men and women)
The potential markets for these products are Angacha, Hosana, Deyo Gena towns.
Milk and milk products, eggs, live chicken are sold by women while fattened cattle and shoats are by men.

Gender dimension of irrigation

Who decides on the type of crops to grow using irrigation? Does decision role vary with crop types? Decision on the type of crop to be grown with irrigation is made by men and in some cases by women in female headed households. Decisional role did not vary with the type of crop.

Who does the irrigation activities (spell out the different irrigation activities and explore if there is role differences among the different community groups by activity? (Men, Women, Boys, Girls, Hired labor)

- land preparation performed by men

- Planting carried out by all family members (Men, Women and boys)

- Watering carried out by all family members (men women, girls and boys)

- weeding performed by men

-Harvesting and collection performed by men

How are the other agricultural decisions made between Men and Women?

Other agricultural decisions such as rain fed crop production, livestock rearing selling of crop and livestock are decided by men and by female in the female headed household.

How are household decisions regarding health and nutrition made between Men and Women?

Decision regarding health of the household is made by men while nutrition of the household by women

Who does the livestock feeding and management between Men and Women?

- Livestock feeding and management is the task of both men and women

Who controls the income from livestock between Men and Women?

Income from livestock is basically controlled by men, however income from the sale of milk and milk products is managed by women

Does irrigated fodder increase/decrease women's and men's workload?

As far as benefit is there it does not increase or decrease workload on both men and women

Does irrigated fodder take water away from other uses? If yes, from what other uses?

If so, are men, women or children most affected? And how?

No, they have set irrigation schedule for different crops to be planted

Annex III for group III

Focus Group Discussion (FGD) on Constraints and Opportunities for Irrigated Fodder
Site: Angacha
Kebele: Kerekicho

The existing irrigation initiative

Is there any irrigation practice in the area and for how long now? Yes, irrigation practice has been there 30 years ago. Improved irrigation started since 5 years ago with FHI/Ethiopia project.

What are the current sources of water for irrigation? What are the other ***possible sources*** of irrigation water available in the kebele?

Current sources of water include rivers, springs and shallow well water. Other possible sources were micro-dams but not functional now.

Is there any irrigation scheme in kebele? If it is there, how is it managed?

Irrigation scheme is not at all available in the kebele

Who, within the kebele, has access to the different water sources? Who makes decisions on water usage/management – for the collective scheme? Men and youths of male sex had access to the water sources mentioned above. Shallow well water usage is managed by men.

What differences do you observe for women, men and youth with regard to their access to water for irrigation? The group participants indicated that water for irrigation is mostly accessed by youths as a means of employment opportunity for this group.

What proportion households in the kebele practice irrigation?

About 70% of the household heads are practicing irrigation.

What are the crops grown by irrigation?

Major crops grown by irrigation include: Cabbages carrots, beetroots, tomato, potato, pepper, onions, avocado seedlings, coffee seedlings and Desho grass.

How do you decide which crops to favor for irrigation? Who is involved in decision making?

The respondents mentioned that the type of crop to be favored for irrigation is decided based volume of the water in the shallow well, water requirement of the crop and high productivity per small plot of land. Decision on the type of crop to be grown by irrigation is decided by men in a male headed household whereas by women in a female headed household

How do the irrigated crops differ between men and women and may be youth? Why?

The family have primarily common consensus for the type of crop to be grown by irrigation.

Among the households growing irrigated crops, what proportion of the irrigated crop is used for family food/for market on average?
80 percent of the product produced supplied to market while the rest is retained for family consumption

Water lifting and conveyance options

What are the water lifting options used for irrigation?

.Rope and washer pump and jerry can tied with rope for shallow well water, plastic hoses and natural gravity for springs and rivers. Water conveying options include: jerry can, watering can and plastic hoses.

Contributions of irrigated crop production to livelihoods and income

How does irrigation contribute to household income /livelihood more generally?

With the existing irrigation households achieved the following benefits:

- able to send children to school
- able to buy fertilizer and improved seed
- constructed better houses in the kebele and nearby town for business purpose
- able to get better income
- able to buy grain mill

What are the main constraints to the use of small scale irrigation?

- It demands more labor to bring water from the shallow well
- Lack of irrigation equipments eg. plastic hoses
- Rope and washer pump is not affordable to us

Do women, men and youth face the constraints/challenges equally? Why? (Problems relating to conflicts with women's existing workloads can be discussed and norms or culture that limits women's participation in irrigation)

All family members face challenges related to irrigation. However more workload is still there on women. Women are responsible for inside and outside home activities. For example processing of *enset* parts for human food is culturally considered as women's job. There is no culture that restricts women participation on irrigation activity.

Do you have an irrigation calendar along the year? Who does it favor most? Do men and women have equal opportunities to irrigate their crops?

Yes, season from November to April is the main irrigation season. Since females are mostly engaged in home related activities as a result males have greater opportunity to irrigate crops.

When is the critical time to use irrigation for crop production?

The peak time to use irrigation is season from January to April

Does irrigation have any disadvantage /negative consequence?

So far no negative consequence observed

More specific questions on irrigated forage potential

Do you use irrigation for growing feed for livestock currently?
No.

If not, why not?
We do not have knowledge and awareness on how to establish and utilize it.

If yes, What motivates you to grow irrigated fodder in addition/instead of other crops?

If you don't use irrigation currently, do you want to consider using irrigation to grow forages in the future? If yes,
The participating farmers have shown interest to;
- allocate land for improved forage establishment
- fence the forage plot
- allocate water for it
- mange it (weeding, watering etc.)

What pre-conditions (things need to change) for you to consider using irrigation for forage?
The farmers need the following support/service from government and NGO side;

- Training on how to establish and utilize improved forages
- Improved forage seed supply
- Experience sharing

Who would make the decision to allocate water to forage (i.e. If the water resource is communal)? - this would help us explore men and women's participation in decision-making on water management.
There is no communal water resources use in the kebele. Within the household the existing shallow well water allocation is mostly decided by men
In which season/situation, would growing forage using irrigation make most sense?
December to April is the ideal season to grow forages using irrigation.

Do you know of any improved forages being grown in the area? if yes, please give examples.
Yes, Oats and Napier are among the improved ones and *Desho* from the local one
What forages/feeds would you target for irrigation? (Explore difference between men and women).
Both women and men recommended to plant Napier and Desho grass with irrigation

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- Planting carried out by men and boys

- Watering carried out by men

- weeding performed by men, boys girls and women

-Harvesting and collection performed by all family members

How are the other agricultural decisions made between Men and Women?

Other agricultural decisions such as rain fed crop production, livestock rearing selling of crop and livestock are decided mostly by men.

How are household decisions regarding health and nutrition made between Men and Women?

Decision regarding health of the household is made by men while nutrition of the household by women

Who does the livestock feeding and management between Men and Women?

- Livestock feeding and management is the task of men but close follow up carried out by women

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