

# Coping with Drought and Climate Change Project, MoARD and UNDP/GEF

## Annual report, 2011



Prepared by PMU

December, 2011  
Kombolicha

## Table of Contents

	<b>Page</b>
<b>1. Basic Information</b> _____	<b>3</b>
<b>2. Executive Summary</b> _____	<b>3</b>
<b>3. Progress against planned results</b> _____	<b>4</b>
<b>4. Constraints</b> _____	<b>10</b>
<b>4.1 Strength</b> _____	<b>10</b>
<b>4.2 Weakness</b> _____	<b>10</b>
<b>4.3 Opportunities</b> _____	<b>10</b>
<b>4.4 Challenges</b> _____	<b>10</b>
<b>5. Recommendations and Lessons Learned</b> _____	<b>11</b>
<b>5.1 Lessons Learned</b> _____	<b>11</b>
<b>5.2 Recomendations</b> _____	<b>12</b>
<b>6. Narratives and Pictures</b> _____	<b>13</b>
<b>6.1 Detail progress narratives</b> _____	<b>13</b>
<b>6.2 Evidence Pictures</b> _____	<b>19-26</b>

# Annual Review Report, 2011

## I. Basic Information

Component: GEF

Lead Agencies: UNDP/GEF/MoARD

Implementing Partners: Ministry of Agriculture and Rural Development, (other partners; Water Development office, Kombolicha Metrology station, Environmental protection Authority, MoFED and Kalu Woreda administration office)

Programme Period: 2010 - 2012

Budget total (\$US): 995,000, Budget 2011; 303930 USD

Source of funds: GEF/UNDP

Development Partners: Ministry of Agriculture and Rural Development, (other partners; Water Development office, Kombolicha Metrology station, Environmental protection Authority, MoFED and Kalu Woreda administration office)

Reporting period: Jan – Dec, 2011

## II. Executive Summary

Increasing long run temperature and declining rainfall scenarios for the northern half of Ethiopia including the project pilot sites will negatively affect agricultural production, deteriorate infrastructure and worsen livelihoods of rural poor. Predicted climate change including variability will exert additional pressures on the already weakened subsistence economy of the pilot areas.

Thus, this project, coping with drought and climate change, is started and implemented as a pilot in Kalu Woreda of the South Wollo Zone in six kebeles (Kebele 04,016,017,018,031 and 032). The project will build adaptive/coping capacity of rural poor in the selected pilot sites to cope with drought and climate change and in doing so, contributes towards the reduction of the threat of climate change on livelihood opportunities. The project will also build capacities of key stakeholders at different levels to disseminate and utilize effective climate and early warning information in agricultural planning process and shared best practices to the pilot woreda and other regions/areas

The direct beneficiaries of the project are 21,991 male and 19,430 female a total of 41,421. The beneficiaries by household are 8,011 male and 1,278 female a total of 9,289. Partners for the Implementation of the Project are Kalu Woreda ARDO; Kalu Woreda Water Development office, Kombolicha Metrology station, Kalu Woreda Administration office, and Kalu Woreda Environmental Protection office,

The project has many progresses and lessons on crop production, livestock production, CBNRM, Irrigation development, inputs and marketing, early warning information communication, meteorology, potable water construction, strengthen cooperatives, environmental management and others with low project staff. Finance of the Project for the total 3 Years plus Inception is 995,000 USD and the project allocated 303930USD in this year, 2011 and utilized 318159.64 USD (around 76.82 %). The priority

Problems/Challenges for this year (2011) are Delay of purchasing at federal level and Lack of project staff.

**III. Progress against planned results** (focus on key deliverables achieved against planned/expected results).

**Table 1: Progress Report**

CP OUTPUTS	Indicators including annual targets / baselines	PLANNED ACTIVITIES <i>List all activities including M&amp;E to be undertaken during the year towards stated CP outputs</i>	PROGRESS AGAINST PLANNED ACTIVITIES	BUDGET / EXPENDITURE	
				EXPENDITURE TO DATE	BUDGET BALANCE
<b>OUTCOME 1. Livelihood strategies that enhance the resilience of vulnerable farmers to cope with drought and climate change adopted and sustained.</b>					
<b>Output 1.1 Market oriented alternative livelihood strategies that enhance resilience and income introduced and promoted</b>	1. One non-farming practices introduced  2. Five (5) farming practice introduced  3. 4283 (50% women) community members exposed for new knowledge .	Community project implementation structures established;	Community members exposed to new knowledge and 24 community structures established and trained; water users association, environmental management committee, irrigation users association, seed supply and marketing cooperatives and Integrated pest management	28414.4	-7129.34
		Introduction of various types of forage seeds, goats and sheep	New farming practices introduced and Purchased of forage seeds , 15 kg alfalfa and 13 qn pigeon pea, 20kg treeluser were purchased and 570 sheep and 760 goats were purchased and distributed to 268 farmers by kind credit	62746.7	-37727
		Urea treatment with different forages	7 qn Urea and 9 roll of plastic sheet were purchased to reduce the impacts of drought on animals and to introduce farming practices to farmers in the pilot site.	2557.2	-1007.2
		Purchase for 10 Qts of honey wax , 300 honey bee colony and 300 modern beehives	Non-farming practice introduced and 300 modern beehives ,130 bee colonies and bee equipments for honey processing were purchased and distributed to farmers	53295.2	-35156

		Provide seeds of drought resistant and early maturing varieties of cereals and pulses	New farming practice introduced and increased crop productivity; 100 Qn of improved crop varieties from Sirinika Agricultural centre and 8 qn of NERICA were purchased and distributed to farmers to enhance resilience of farmers and to increase their income to cope with drought and climate change by increasing the productivity of crops.	10144	-2262
		Support fruit nursery at Harbu site.	Purchase of fruit propagation materials, seeds and polyethylene tube for fruit seedlings to produce market oriented productive fruits to increase the income of farmers in the pilot sites	4950	+2484
		Markets and approaches for sustainable and commercial exploitation of the products by rural communities identified and developed.	Community members exposed to new knowledge and promoted value added marketing systems ; 5 traders have got trading License from ECX by the help of woreda officials/Cwd on haricot bean, moug bean and sesame crops, Identified surplus products in the pilot kebeles and distributed these products list to potential buyers.	1206.6	+416
		Strengthen the existing 6 service coop's in the impact area by under taking awareness creation on various management issues and Community structures for value addition and marketing established	Conducted awareness training on different management issues for cooperative leaders and beneficiaries to add value and to improve the marketing systems of cooperatives and Vegetable and fruit reserve techniques were completed to add values and incomes of farmers	20057.6	-13890
		Community groups livelihoods and technical training	Conducted training on; Livestock and forage development, veterinary service, fruit growing, homestead agricultural practice and water management for farmers and DA's	4296	+10032
		<b>Total output 1</b>		<b><u>187667.7</u></b>	

<b>Output 1.2 Production oriented sustainable land management practices introduced and promoted</b>	1. six dry land management practices introduced in the pilot kebeles	Introducing communal ponds for supplementary irrigation in 1 kebele for 30 farmers.	On design and study Process together with Wollo University	0	+46512
	2. 1650 ha of land covered by the different land management practices.	Developing 1 springs in order to decrease water demand.	2 springs are already completed to Improve community access to water supply	7375.9	-2500
	3. 6226 (50% women) community members introduced to sustainable land management practices	Providing 100 wing pumps, Introducing new 150 modern irrigation technology (drip) for 150 farmers and Introduce 4 gully crossing irrigation in 2 kebeles	To introduce sustainable land management practices in the Community members in the pilot kebeles 100 wing pumps were purchased and distributed to farmers by credit. Purchasing of materials for 4 gully crossings were completed such as PVC, Tonidino, nail, timber, cement, wood and sand to diversified their incomes and then increased their resilience to shock	48881.4	-9039.4
		Develop current status of community consensus on property of natural resources to enhance adaptive capacity and Develop community agreed action plan for improved natural resources management in 6 kebeles	Develop community agreed action plan for improved natural resources management in 6 kebeles, Conducted capacity need assessment of structures to support CBNRM. Conducted training for 6550 planning teams, DA's and farmers and soil physical and biological structures constructed on 3000 hectares of land on the selected watersheds	18276	-580
		strengthen the existing 6 community nurseries in six pilot kebeles and purchased various materials for CBNRM	strengthen the existing 6 community nurseries for Sustainable dry land management practices and a forestation introduced in the pilot Kebeles; 25 qn poly-bags, 4.5 qn jatrofa tree seeds, 3 qn Acacia policanta, 1.5qn gravilia, 0.7 qn saligina and treeluser tree seeds, hand tools .2166 gabions were purchased and distributed to the nurseries and watersheds.	41925.6	+3829.4

		Preparation of watershed survey document and Monitoring & supervision cost for all 6 kebeles	6 Watershed document were Prepared for all six kebeles and monitoring of CBNRM activities carried out by experts	955.5	+2616.5
		<b>Total output 2</b>		<b>117414.4</b>	
		<b>Total Outcome 1</b>		<b>305082.1</b>	
<b>Outcome 2: Enhanced use of early warning information in Agricultural systems at the selected pilot site;</b>					
<b>Output: 2.1 Integrated drought information communication system established;</b>	1.Existence of two central EW data base at Woreda level  2.Existence of one modalities for regular and systematic drought information dissemination approved by woreda council  3.100 community institution leadership that become knowledgeable on climate information and risk management	Functional the regularity and systematic data collection, analysis feedback, dissemination modality at woreda and site level	Woreda early warning information capacity and early warning information communication among different partners for timely decision and response is developed	536.3	+644.7
		Establish central data base and proper documentation at woreda level	Experts are trained on data base processing and computers and other soft ware's are installed for data base processing and analysing. Conducted training for Woreda rural development office experts on basic computer skills and central data base processing , purchasing of computers and installation of internet were carried out	9608.6	-8483.6
		Formulate participatory and improved community drought preparedness strategy plan	Six participatory and improved community disaster/drought preparedness strategy plans were prepared in all six pilot kebeles based on communities' indigenous knowledge to reduce disaster risks.	4875	+296
		<b>Total output 1</b>		<b>15019.9</b>	

<b>Output 2.2 Capacity of community level institutions for climate information and risk management enhanced</b>	1.Availability of one Risk and vulnerability analysis and map of the impact site 2. Existence of community based drought preparedness strategic plan approved by kebele cabinet.	Conduct Capacity need assessment and training on seasonal climatic information and risk management for 4 days for woreda officials and farmers	Conducted Capacity need assessment and training on seasonal climatic information and risk management for 4 days for woreda officials and farmers,	8290.7	+898.3
		Conduct risk and vulnerability analysis and prepare vulnerability map of the pilot site	The study is already completed and it is on writing process by consultants	5588.9	+337.1
		<b>Total output 2</b>		<b>13879.6</b>	
<b>Output: 2.3 Capacity of local Meteorological Institutions Developed</b>	1. Existence of one comprehensive (RF, T0) meteorological data base at Kombolcha meteorology station. 2. six Staffs of Kombolcha meteorology office who become more knowledgeable in metrological data collection and analysis	Strengthen meteorological data base system of Kombolcha met. Station	2 staffs were trained on central data base processing together with EW experts and purchasing of computers and installation of internet were carried out 13 Experts are trained on data base processing and computers and other softwares are installed for data base processing and analysing.	5823	-3316
		Installed plastic household rain gauges	20 household plastic rain gauges were installed in all 6 pilot kebeles. This activities have a great contribution to observe the rainfall patterns and distributions to perform agricultural activities and to get EW information on time for planting at household level	61.98	-61.98
		Monitor and follow the Installed rain gauge for all 6 kebeles	Installed 6 4 <sup>th</sup> class rain gauge for all 6 kebeles to follow rainfall pattern for agricultural production and Strengthen the meteorology site at Degan (i.e upgraded from 4 <sup>th</sup> to 3 <sup>rd</sup> class)	258.3	+281.7
		<b>Total output 3</b>		<b>6143.28</b>	
		<b>Total outcome 2</b>		<b>35042.78</b>	



<b>Outcome : 3 Farmers/Pastoralists outside the Pilot sites Replicated Successful Approaches to Cope with Drought &amp; climate change</b>					
<b>Output 3.1 Farmers/Agro pastoralist outside the pilot kebeles are exposed to successful approaches and practices of the pilot kebeles</b>	1. 100 farmers/ pastoralists from outside of the target kebeles participated on pilot kebele farmers day 2. 120 farmers/ pastoralists from outside of the target kebeles participated on experience exchange visit to pilot kebeles 3. one comprehensive professional standard Best Practice document produced and shared	Conduct study tour of farmers and professionals (in country exposure visit) for 120 farmers and 20 decision makers and experts	600farmers, 22 DA's and supervisors and 30 experts conducted study tour on project best practices ( homestead vegetable and fruit production and on water management) .drip irrigation and improved and productive crop varieties to replicate the successful approaches	4134.3	+7261. 7
		Conduct training to 40 farmers and 10 professionals on best practices	Conducted practical training for 600 farmers and 42 professionals on best practices; homestead agricultural practice, water management and geomembrane techniques, Drip irrigation and improved crop varieties	2962.3	-453.3
		Conduct tailor made training for 20 leadership	Conducted tailor made training for 20 leaderships on Disaster risk management & RBM		
		<b>Total output 1</b>		<b>7096.6</b>	
<b>Output 3.2 Acquired knowledge and lesson learnt shared with development actors and communities outside the pilot kebeles</b>	Eight adjustment communities/ woredas and development actors with which documented best practices shared	Sub regional Knowledge transfer	Conducted at federal level (UNDP), regional visit to Mozambique	5838.2	+2559. 8
		Project documentation and best practice adapted	Not yet	0	+7559
		<b>Total output 2</b>		<b>5838.2</b>	
		<b>Total outcome 3</b>		<b>12934.8</b>	

<b>PMU</b>		Measurement of project progress and performance indicators	Not yet	0	+11628
		Meeting of project steering committee	2 meeting of project steering committee was conducted and discussed with project implementation, progress and its challenges	87.7	+1462.3
		project's status report and field visit/monitoring/travel/salary/stationary/communication	3 Quarterly financial and physical report and 1 project implementation review were performed.	29837.4	+29364.6
		Quarterly report evaluation with DA's, supervisors and woreda officials	Regular field visit is conducted in each pilot site to monitor the project activities.	3682	+818
		Project documentation and publication	The project performance is documented in hard and soft copy by PMU but documentation and publication is not conducted by consultants	274	+1726
		Miscellaneous expenses	For Tax and bank charge	823.52	1500.5
	<b>Total PMU</b>			<b>34704.62</b>	
	<b>G/Total</b>			<b>387764.3</b>	

IV. **Constraints** (indicate also strength, weakness, opportunities and challenges).

**Strength;**

- the project has many progress on crop production, livestock production, CBNRM, Irrigation, inputs and marketing, early warning information, meteorology, potable water supply, strengthen cooperatives, environmental management and others in one year within poor procurement system and low project staff
- The project management unit has good partnership with all stalk holders
- On time flow of budget and smart monitoring and follow-up from UNDP for efficient and effective project progress

**Weakness;**

- Extended delay of procurement of goods and services at federal level
- Some government staffs do not perform their plan of action on the given project time frame

**Opportunities**

- Good government policy and good partnership with stalk holders
- Multi-disciplinary nature of the project(many components)

**Challenges**

- Delayance of purchasing/poor procurement system at federal level
- Lack of project staff ( only 1 manager and 1 driver) to implement, monitor and evaluate/manage the physical and financial activities of the project (the project has many components; crop production, livestock production, CBNRM, Irrigation, inputs and marketing, early warning, meteorology, potable water, cooperatives, environmental management and others) and low benefit

- Lack of technical/skilled manpower in Woreda agricultural offices to conduct some project activities like; pond construction and design, vulnerability and risk analysis and vulnerability mapping, etc
- High market price to purchase some materials and goods and unavailability of some products (honey wax, milk goat, bee colony, improved crops, etc ) in the market

## **V. Recommendation and lessons learned.**

### **Lessons learned**

The Project has got a few lessons learned to be up scaled and replicated

- Introduced early maturing and high yielding new varieties are good coping mechanisms for climate change and drought compared to local varieties. Drought resistant and early maturing Chick pea, mung bean, haricot bean, Teff and other varieties, the project provided had been found in a good situation and farmers appreciated its performance, early maturity/fast growing, and rain/water logging tolerance, its canopy/tiller formation and its high productivity. The farmers have got good lessons from each crops compare to their local crops in terms of productivity. Farmers have got 20-30quintals of Teff, 25-30 quintals of sorghum and 25 quintals of chick pea per hectare which is high compared to local varieties( Teff 10Q, sorghum 15q, chick pea 15q)
- Inter and intra (outside and inside the project pilot sites) experience sharing visits of community members on best practices are a means to knowledge sharing especially on homestead agricultural practices, IPM, water management ( geomembrane techniques), high yielding and early mature crop varieties, sheep , goat, improved crops and bee colony transformation system from beneficiary farmers to new beneficiaries and watersheds
- Farmers access to safe and dependable water as a result of the spring development. This activity benefits especially to women by saving time to fetch water at least 40 mints to one hour to their homes and to dig sand to get water in the Borkena River. The women also gone to river to fetch water in the night starting from 3AM by struggling with Hayna's. Due to saving time the women can cook their husbands and children breakfast on time early in the morning and the husbands can go to their farm activities on time. The health of the farmers also becomes improved as a result of the clean water. 3056 people and 618 households were benefited from the springs.
- Forage and tree plants and gully rehabilitation by gabions and sacks on the selected watershed have good performance and are too integrated. Pigeon pea, Acacia Policanta, Jatrofa, Sasibania and lablab are found on the selected watershed on a good performance together with hill side tracing and eyebrow basins. Farmers feed their cattle by cutting the forages and the body of animals became improved. Forages and tree plants conserved water and soil in the watershed.
- The integration of watershed development activities is appreciable especially in Adamie/Kebele 04. In the watershed crops, vegetables and fruits, livestock's, water harvesting, physical and biological soil and water conservation activities were integrated.
- The adoption trail on NERICA (rice variety) has found in a good stand and farmers appreciated the rice plant performance, water logging tolerance and

early maturity. Especially farmers who have swampy/water logged lands are wanted this crop for the future agricultural season because any lands that are swampy/waterlogged were not suitable to any crops in the rainy season. But this crop, rice, needs such type of lands which are not suitable for other crops. Most of the time, these types of lands are put without crops in the rainy season. Farmers have got 40 quintals of rice per hectare in 2010.

- Increasing irrigable lands (45 hectares) by gully crossings, pedal pumps, wing pumps and drips are a means to adapt climate change and drought by increasing productivity and income of vulnerable farmers. Farmers appreciated and take it as a good lesson.
- Purchasing of sheep, goats and bee colonies and in kind returning/refunding system after six months/one year for bee/ birth is a good lesson for sustainable agricultural production and to include all poor households in the Kebele step by step. Sheep, goat, honey bee and forage productions are also a means to adapt climate change and drought by increasing productivity and income of vulnerable farmers and it is very interesting and good lesson for other NGO's and governments.
- A regular and systematic data collection, analysis, feedback, dissemination modality at woreda and site level between office of Agriculture, Metrology and communities/DA's are a good means to strengthen early warning information communication and decision (drought and climate change) at all levels to increase agricultural production systems.
- The integration of partners in every activities of the project (Environmental office, agricultural office, cooperatives, water development office, agricultural centers, universities, etc) is very strong and appreciable.
- Application of soft-wares (CPT, GIS, etc) in metrology office for seasonal climatic information forecasting is a good lesson for NMA.
- Delay in procurement of goods and services at federal level have extended negative impact in project implementation
- Jatrofa fruit and oil stoves are a good means to mitigate the impacts of climate change (by reducing deforestation and carbon mono oxide gases).
- Installations of plastic raingauges at household level are a good lesson to know the amount of rainfall for agricultural activities.
- Establishment of marketing unions, by the help of the project, in the Woreda is a good way to solve the problem of marketing and to increase farmers income

### **Recommendations**

- Recruitment of at least one casher (+ documenter + secretary) and one assistant project manager is very crucial to facilitate the project implementation on time
- The extended delay in procurement of goods and services at federal level has highly constrained the project implementation. Therefore there is a need to improve the procurement authorization ceiling to the Woreda offices; that means the purchasing process should be given to Woreda agricultural office and/or kombolicha DRMFSS logistic administration office to facilitate the purchasing process and to utilize the project budget on time.
- The project is on the right track except the delayance of purchasing process at federal level and low staff at project site. Hence, the UNDP and DRMFSS staffs should facilitate and arrange the procurement authorization ceiling and the recruitment of staffs together with the national project coordinator and other DRMFSS heads.

## Vi. Narratives and pictures

### 1. Implementation of activities and achievement of results

#### Outcome 1, output 1

##### 1.1 Five Community project implementation structures were established and strengthen in six pilot project sites

- 6 safe water users associations, 7 members in each association, were established and trained in four kebeles. Among the members 40% are female (male 12 and female 9)
  - Contents of the training; How to manage and sustain the spring, Maintenance and usage, responsibilities of water committee
  - The project provided maintenance tools and training for each spring
- 6 community environmental committee were established and trained in all six kebeles, 10 members in each association, Among the members 27% are female
  - ❖ Participants; Male 44, Female 16, Total 60
  - Contents of the training
    - Concepts of Climate, climate change and its variability, Drought and Desertification
    - Cause of climate change, Drought and Desertification
    - Observed climate change/ Drought/ Desertification and its impact
    - Projected climate change and its impact
    - Climate change/Drought/Desertification and its impact on agricultural development and MDG
    - Solid waste management and removal
    - How to manage the Environment
    - Need for Adaptation and Mitigation
    - Detail Project (CwDCC) 3 years Plan to Adapt and Mitigate Drought, desertification and Climate Change in Pilot Sites
    - Discussion with participants how to implement the plan (questions, comments, suggestions, etc )
    - How to sustain the committee and their roles
  - Conducted awareness training for 7 environmental protection club school students and teachers (male 15 female 22 total 37) for 2 days on causes and control of desertification and deforestation, waste management, forest seedling production, environmental education, etc.
- Strengthen and trained 6 (24) members IPM groups, 40% of the members are female (144 members) for 4 days.
  - Participants Male 86 Female 58 Total 144
  - Contents of training
    - Causes of climate change and drought
    - Concepts of IPM
    - Concepts of FFS
    - Practice of IPM and its advantage
    - Concept and practice of natural pest control

- Responsibility and role of IPM groups
- Material support for chemical preparation, Provision of safety protection materials and equipments and office furniture's were purchased and distributed to IPM groups at Kebele level
- Established and trained 4 irrigation users association and/or 2 seed supply and marketing coop's; 1 Degan zuria irrigation users association and 1 Harbu zuria irrigation users association for 2 days.
  - ❖ The four irrigation users associations are; Weraba irrigation association, 28 members, Male 23 female 5 (Kebele 32), Ashe irrigation association, 17 members, male 17 female 0 (kebele 31), Migire irrigation users association, 20 members, male 18 female 2 (Kebele 17) and Resa irrigation users association, 10 members, male 10 (kebele 16). Total irrigation users association 75 male 68 female 7 (10%)
  - ❖ Training participants; Male 113 female 27 Total 140 beneficiaries (from farmers and experts).
  - ❖ Contents of the training;
    - Concepts and principles of association
    - Input supply and distribution
    - Water management
    - Market oriented Crop husbandry/production system
    - Marketing and value chain
    - Problems and solutions of the irrigation associations
  - ❖ Two seed supply and marketing coop's; 1 Degan zuria irrigation users association and 1 Harbu zuria irrigation users association were established and trained to design and promote value chain marketing approaches at pilot sites .
  - ❖ 50kg vegetable seeds (30 kg onion, 6kg tomato, 4kg lettuce, 6kg cabbage and 4 kg carrot seed) for this association to promote value chain systems.

### **1.3 Introduction of various types of forage seeds**

- ❖ Purchased of forage seeds , 15 kg alfalfa and 13 qn pigeon pea, 20kg treeluser were purchased and distributed to WoARD and then to farmers
- ❖ Now the forages are found on good performance at farmer fields and in the selected 6 watersheds

### **1.4 Urea treatment with different forages**

7 qn Urea and 9 roll of plastic sheet were purchased to reduce the impacts of drought on animals and to introduce farming practices to farmers in the pilot site.

**1.5. Purchased 2.55 Qts of honey wax and distributed to farmers to increase the productivity of honey at household level**

- ❖ . This activity may increase the productivity of beehives and in turn increase the income of farmers to cope with drought and climate change

**1.6. Purchasing of 570 sheep and 760 goats were purchased and distributed to 268 farmers by kind credit to increase farmers income.**

1.7 300 modern beehives and 130 bee colonies and bee equipments for honey processing were purchased and distributed to farmers to increase the productivity of beehives and in turn increase the income of farmers to cope with drought and climate change and to introduced non farming practice

1.8 Provided 100 qn seeds of drought resistant, productive and early maturing varieties of cereals and pulses to farmers to increase their incomes (Teff, sorghum, moug bean , haricot bean, rice, chick pea, etc).

**1.9 Support fruit and vegetable nursery at Harbu site to diversified farmers income source by producing market oriented fruits and vegetables**

- ❖ Purchased of fruit propagation materials and seeds.
- ❖ 10,000 cassava cuttings, 85 kg fruit seeds and 50 kg vegetable seeds were purchased and fruit propagation materials, seeds and 5 qn polyethylene tube were also purchased for fruit seedlings to produce market oriented productive fruits to increase the income of farmers in the pilot sites. farmers produced vegetables in the homestead and thier farms by using irrigation materials (drip, wing pump, gully crossing irrigation)
- ❖ Purchased nursery tools; 20 metal hand cart, 30 shovel, 40 pickaxe and 80 zabiya, 60 scissors and distributed for harbu fruit nursery

**1.10**

**1.10 Community groups livelihoods and technical training**

- Trained 120 farmers and 22 DA's and Supervisors on improved forage development and grazing land management, .on local breed goat and sheep rearing practices. Participants; male 10 female 110 total 120 farmers and 22 male DA's and supervisors. Contents of the training; Modern sheep and goat production and husbandry, forage development, sheep and goat feeding, sheep and goat shelter construction,
- Conducted training and experience sharing for 600 households, and 22 DA's on homestead agricultural practice and water management practices within/outside the impact kebeles.
  - ✓ Participants male 560 female 40 total 600
  - ✓ During the training farmers and DA's have visited water management practices (geomembrane techniques), homestead Papaya production package, homestead fruit production package, drip irrigation and others.

### **1.11 Markets and approaches for sustainable and commercial exploitation of the products by rural communities identified and developed.**

- ❖ Improve the marketing strategy for selected vegetable products by introducing modern produce reserve techniques for value addition. Vegetable and fruit storage construction are completed.
- ❖ Markets and approaches for sustainable and commercial exploitation of the products by rural communities identified and developed. White Haricot bean, sesame and mungbean market were identified and functional in Harbu and Degan site for sustainable and commercial exploitation of the products, and 5 traders have got trading license and started to collect the products from producers/farmers. Established one vegetable and fruit marketing union to facilitate marketing.
- ❖ Community structures for value addition and marketing established -- Strengthen the existing 6 service cooperatives in the impact area by under taking awareness creation on various management issues for 3 days. Conducted training for 3 cooperatives in 6 pilot kebeles on various management issues and purchased office equipments for these cooperatives. Training participants male 63 female 1 total 64.
- ❖ Facilitate/ create access to markets for agricultural products by local partners, conduct forum for 60 participants. Conducted forum for 130 partners including merchants, super market owners, government staffs, producers, purchasers, etc for 3 days in two groups to facilitate and create access to markets for agricultural products. Participants; male 115 female 15 total 130.

### **Outcome 1, output 2**

#### **1.12 Better water use system introduced & implemented**

- Introducing one communal pond for supplementary irrigation in 1 kebele (Kebele 04, Adamie), design and study process is completed together with Wollo University. Construction is not yet finished.
- ✓ Developing 2 springs in order to decrease water demand, 1 completed and functional, 1 on process.
  - Selections of spring sites/ working places were completed
  - study and design work was completed
  - purchasing of spring materials and equipments were completed
  - Now the farmers have got clear water
- 100 wing pumps purchased and distributed to WoARD and farmers
- Introduced 4 gully crossing irrigation in 2 kebeles, 4 on construction. Purchasing of materials for 4 gully crossings were completed such as PVC, Tonidino, nail, timber, Qn cement, wood and sand



- Introducing new modern irrigation technology (drip) for 150 farmers, 150 drip irrigation were purchased and 75 could irrigate 200 m<sup>3</sup> and 75 irrigated 500m<sup>3</sup>.

**1.13 Implement Community based natural resource management** to bring sustainable land management on property of natural resources to enhance adaptive capacity in all 6 kebeles to mitigate and cope with drought and climate change

- ❖ Undertook community consensus survey work for CBNRM in all 6 kebeds, Implement mapping of the project selected watershed sites in all 6 kebeds, Conduct capacity need assessment of structures to support CBNRM ,
- ❖ Organized materials and guidelines for community based natural resource management.
- ❖ 17 DA's, 4 supervisors and 186 male kebele natural resource planning teams were trained on CBNRM to Organized materials and guidelines for community based natural resource management and for community consensus survey work.
- ❖ Conducted training for 66 farmers to serve as soil and water conservation technicians. Participants male 63 and female 3 total 66
- ❖ strengthen the existing 6 community nurseries by;
  - 25 qn poly-bags, 4.5 qn jatropa tree seeds, 3 qn Acacia policanta, 1.5qn gravilia, 0.7 qn saligina and treeluser tree seeds, hand tools .2166 gabions were purchased and distributed to WoARD and nursery sites
- ❖ Prepared 6 watershed survey documents for all 6 kebeles and implemented natural resource management activities/eyebrow, trench, micro basin, hill tracing, etc in the watershed to attain sustainable land management in the pilot kebeles

## **Outcome 2**

**1.16 Enhanced use of early warning information in Agricultural systems at the selected pilot sites and Integrated drought information communication system established**

- Identified indigenous drought coping mechanisms in all six Kebeles and prepare disaster preparedness community strategic plan;
- Created a regular and systematic data collection, analysis feedback, dissemination modality at woreda and site level. The modality and the

guideline between office of Agriculture, Metrology, education office, health office and communities were already prepared and it was functional. Conducted discussion forum between partners including DA's and farmers how to implement the modality and roles and responsibilities of each partner. Participants; male 72 female 18 total 90. The modality was approved by Woreda cabinet, experts and DA's

- Established central data base and proper documentation at woreda level. To Strengthen the woreda EW data base office different materials and equipments were purchased, like computers, internet facilities, and other machines.
- Conducted training on seasonal climatic information and risk management for 4 days. Participant; male 112 female 18 total 130 from kebele administration (DA's, supervisors, health extension, kebele managers), Woreda leaders and experts, metrology, South Wollo Zone food security and agriculture department. Contents of the training; Meaning and concepts of climatic information and risk, climatic indicators and variables, climatic decisions, types of risk and risk managements, risk management activities in the community.
- Strengthen meteorological data base system of Kombolcha meteorology Station to strengthen the data base system and the EW information communication of the station. To fill the capacity gap of the station various materials and equipments were purchased like 7 computers, other machines and internet facilities. Established good central data base system in the station and in MoARD was too important to facilitate Early warning information communication among different partners, WoARD, Kombolicha Meteorological station and the farmers/community for timely decision and practice of agricultural activities to enhance agricultural productivity.
- Installed 20 plastic rain gauge for all 6 kebeles for 20 farmers to implement agricultural activities on time.

### **Outcome 3**

#### **1.17 Farmers/Pastoralists outside the Pilot sites Replicated Successful Approaches to Cope with Drought & climate change**

- Conducted study tour for 600 farmers and 52 professionals on best practices; homestead agricultural practice (papaya and fruit package), water management and geomembrane techniques, spring development,

gully crossings for irrigation and improved and productive crop varieties.

- Conducted practical training for 600 farmers and 42 professionals on best practices; homestead agricultural practice, water management and geomembrane techniques, spring development, gully crossings for irrigation and improved crop varieties
- Conducted tailor made training for 20 leaderships (male 15 female 5) on Disaster risk management and RBM for 3 days
- Conducted regional visit to Mozambique at federal level (UNDP)

### 1. 18. Project Management Unit

- Two meeting of project steering committee was conducted and discussed with project implementation progress and its challenges
- Conducted one Project implementation review together with UNDP
- Periodic project's status reports (both physical and financial) are conducted. 4 Quarterly financial and physical reports were performed.
- Field visit/ Monitoring of project activities; Regular field visit is ongoing in each pilot sites to monitor the project activities
- Awareness workshops for 280 woreda leadership/cabinee/senior experts for 2 days were conducted in Kombolicha;
- Conducted implementation of project activities together with partners/implementers

### Pictures for evidences



Sheep and goat (ready for transformation) Gully crossing irrigation (27 hectares irrigated)



Plastic rain-guage at household level

Experience sharing and project evaluation



Project watershed



sheep and goat ear tag for sustainability



Project watershed with biological and physical structures



Project watershed with biological and physical structures



Homestead vegetable and fruit production by using wing pump, drip irrigation and geomembrane water harvesting



Modern beehives with bee colony



Drip irrigation



Integrated pest management on farmers field school



Forest nursery supported by the project

Felana river flood control by gabions



Felana river flood control by sacks & vetiver grass in kebele 31 &32

Check dam construction in kebele 18/Aba-hilimie



Soil and water conservation technicians training at Harbu site



Internet and computer access for metrology and EW



Vegetable & Fruit store, mung bean & haricot bean production for value addition



Cassava production



Harbu fruit multiplication nursery



The new born goat



Water development/spring development in the pilot kebeles