



## **Improving Productivity & Market Success of Ethiopian Farmers**

### **Monitoring and Evaluation Report of Year 3 (2007/2008)**



Canadian International  
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## List of Abbreviations

AI	Artificial Insemination
ARARI	Amhara Agricultural Research Institute
ATVET	Agricultural Technical and Vocational Education Training
BBM	Broad Bed Maker
BoARD	Bureau of Agriculture and Rural Development (at regional level)
BPR	Business Program Reengineering
CBO	Community-Based Organizations
CGIAR	Consultative Group on International Agricultural Research
DA	Development Agent
DVM	Doctor of Veterinary medicine
EAP	Ethiopian Agricultural Portal
EARS	Ethiopian Agricultural Research Systems
EIAR	Ethiopian Institute for Agricultural Research
FTC	Farmers' Training Center
HAPCO	HIV/AIDS Prevention and Control Office
HIV	Human Immune-Deficiency Virus
ICT	Information and Communication Technology
ILRI	International Livestock Research Institute
IPMS	Improving Productivity and Market Success
KM	Knowledge Management
M & E	Monitoring and Evaluation
MFI	Microfinance Institute
MoARD	Ministry of Agriculture and Rural Development
MUB	Molasses Urea Block
MUM	Molasses Urea Mix
NAIRC	National Agricultural Information Resource Centre
NALC	National Advisory and Learning Committee
NGO	Non-governmental Organizations
OARI	Oromiya Agricultural Research Institute
OCSSCO	Oromia Credit and Saving Share Company
OMFI	Omo Microfinance Institute
OoARD	Office of Agricultural and Rural Development
OoPRD	Office of Pastoral and Rural Development
ORARI	Oromia Agricultural Research Institute
PA	Peasant Association/also referred to as 'Kebele' or 'Tabia'
PLW	Pilot Learning Woreda
PMF	Performance Measurement Framework
RALC	Regional Advisory and Learning Committees
RARI	Regional Agricultural Research Institute
RDA	Research and Development Assistant
RDO	Research and Development Officers
SARI	Southern Agricultural Research Institute
SMS	Subject Matter Specialist
SNNPR	Southern Nation Nationalities and People's Region
TARI	Tigray Agricultural Research Institute
WALC	Woreda Advisory and Learning Committee
WKC	Woreda Knowledge Center

## Methodology

Year 3 M & E followed the Project Performance Measurement Framework (PMF) and focused on outcome and output level results (see Annex 1 for the PMF). The data collection was done by a monitoring team from IPMS and OoARD/ZoARD staff members. In Amhara and Tigray Regions, the M & E team took training on result based M & E whereas, in Oromia and SNNPR<sup>1</sup> the team got orientation about IPMS M & E procedures before the start of the actual data collection.

Both primary and secondary data was collected. At PA level four PAs were considered for data collection. From each PLW, two intervention PAs were chosen among those where considerable progress was made in IPMS intervention. Then two non-intervention PAs were picked out from the PLWs, with the selection criterion mainly considering similarity of farming systems with the selected intervention PAs and accessibility of the PAs. In evaluating the candidate non-intervention PAs, effort was also made to exclude those where an IPMS facilitated innovation is scaled out either by training of DAs, farmer to farmer knowledge sharing or OoARDs scaling out effort. However, in most conditions, it was difficult to get ‘pure’ non-intervention PAs as the innovations are scaled out. (See Table 1).

Table 1: List of PAs and priority commodities selected for quantitative analysis.

Region	PLW	Priority commodities	Intervention PAs	Non-intervention PAs
Amhara	Metema	Cattle fattening, Sesame, Banana & Cotton	Tumet Gubi Jejebit	Das Gundo Agam Wuha
	Fogera	Dairy, Apiculture, Onion and Rice	Woreta Zuria, Tiwaha Abuna	Shena A. Kokit
	Bure	Apiculture, Cattle fattening, Banana and Avocado	Arbisi Wangedem	Tiya Tiya Alefa

<sup>1</sup> Similar training will be given for the M & E team in Oromia and SNNPR.

<b>Region</b>	<b>PLW</b>	<b>Priority commodities</b>	<b>Intervention PAs</b>	<b>Non-intervention PAs</b>
Oromia	Meiso	Avocado, Cattle fattening, Dairy, onion	Tokuma Gorbu	Weltane Itisa Roro
	Goma	Avocado, Coffee, Small ruminant fattening	Beshasha Kilole	Omo Funtele Dedo Ureche
	Ada	Dairy, Fattening, Onion, Chickpea	Godino Denkaka	Keteba/Lugo Gobesay
Tigray	Astbi	Apiculture, Dairy, Onion, Pulse and fattening	Hayelom, Barka Adisubaha	Kelesha Emni Haresaw
	Alamata	Onion, Fattening, Mango and Dairy	Gerjelle Tumuga	Selen Weha Tao
SNNPR	Alaba	Apiculture, Poultry, Teff and Haricot Bean	Wanja, Gubba	Feleka Shekete
	Dale	Poultry, Avocado, Mango and Haricot Bean	D. Kege Ajawa	Wayico Awada

Then in each PA, 8-12 farmers who represent the diversity of gender, age and educational status were selected for community group interview. The group includes farmers who own various priority commodities and farmers who did and did not participate in IPMS facilitated intervention. Where possible, farmers who participated in baseline survey were called for a group interview. Then data was collected through a semi-structured questionnaire. The community group interview mainly focused on four priority commodities which were promoted by the project in different PAs (Table 1). In addition, FTCs, farmers' plots, private fruit nurseries, input shops, bull stations, paravets, cooperative shops, etc were visited and discussion was made with relevant persons to get an in-depth view of various interventions. DAs were also interviewed about the status of technological and institutional innovations promoted by the project.

Discussions also took place with WALC members and SMS working at OoARD at Woreda level, and with RALC chairpersons and researchers from the regional research centers at regional level. (See annex 2 for the list of contacted persons). Secondary data

were also used from various records of DAs/SMSs/RDOs, project data bases and various reports of the Project.

Qualitative and quantitative methods were used to analyze the data. Frequency means and percentages were calculated to show progress or differences. The Chi-Square test was run to detect systematic association between two variables.

## **1. Knowledge Management**

The expected outputs of the project knowledge management component are increased understanding and awareness of the knowledge requirement for managing the new commodities, increased availability of knowledge in various forms and establishment of enhanced knowledge sharing systems. These outputs together with the establishment of ICT networks and infrastructures as well as the establishment of NARIC within MoRAD will contribute to the expected outcome of knowledge management, which is to have functional agricultural knowledge management system, interconnected and utilized at all levels, employing innovations and appropriate technologies. This section gives highlights of the status of the knowledge management outputs and outcomes.

### **Knowledge Management Outputs:**

#### **1.1 Increased understanding and awareness of the knowledge requirements**

The project has brought about an increase in farmers' understanding and awareness of the knowledge requirement for managing the new priority commodities. There is a marked increase in farmers' need for information about production technologies; input supply options, credit and marketing issues. Farmers in intervention and non-intervention PAs were asked whether they have asked for information about different options of production and marketing for the selected priority commodities. The result showed that farmers in intervention PAs sought more information than farmers in non-intervention PAs. (Table 1.1). Person Chi-square test showed the result is significant in most PLWs.

Table 1.1: Demand for information (on technological, input-supply, credit and market)

PLW	PA Type	Did you look for information? (%)		
		No	Yes	Sig.
Metema	Non-intervention PA (n=32)	46.9	53.1	.035
	Intervention PA (n=32)	21.9	78.1	
Fogera	Non-intervention PA (n=32)	9.4	90.6	.030
	Intervention PA (n=32)	31.2	68.8	
Bure	Non-intervention PA (n=32)	53.1	46.9	.010
	Intervention PA (n=32)	21.9	78.1	
Mieso	Non-intervention PA (n=32)	62.5	37.5	.006
	Intervention PA (n=32)	28.1	71.9	
Goma	Non-intervention PA (n=32)	25.0	75.0	.768
	Intervention PA (n=32)	21.9	78.1	
Ada	Non-intervention PA (n=32)	46.9	53.1	0.007
	Intervention PA (n=32)	15.6	84.4	
Astbi	Non-intervention PA (n=32)	9.4	90.6	.302
	Intervention PA (n=32)	3.1	96.9	
Alamata	Non-intervention PA (n=32)	46.9	53.1	.035
	Intervention PA (n=32)	21.9	78.1	
Alaba	Non-intervention PA (n=32)	46.9	53.1	.121
	Intervention PA (n=32)	28.1	71.9	
Dale	Non-intervention PA (n=32)	43.8	56.2	.800
	Intervention PA (n=32)	40.6	59.4	

At the Woreda level, the understanding and awareness of the knowledge requirements among the OoARDs has also improved. The OoARD of different PLWs recognized the need to support the various knowledge management tools and approaches. For example, the OoARDs of Bure and Fogera have partially supported the construction and furnishing of new Woreda Knowledge Centers. In all PLWs except Meiso, knowledge center

coordinators have been assigned. In Bure, the OoARD also has made an improvement by providing additional electronic equipment such as photocopy machine. OoARDs of Astbi, Alamata, Dale, Alaba, Ada , Goma have shown increased awareness of knowledge requirement by providing conducive and spacious room and making available other reading materials in the WKC. Zonal offices, recognizing the gap in knowledge requirement, have allocated a room for the Knowledge Centers to be established at a Zonal level.

### **1.2 Availability of Knowledge and Knowledge Sharing System**

The project has worked with farmers and other private and public stakeholders in order to establish an enhanced knowledge sharing system and increase the availability of knowledge in different forms.

At the Federal level, a web based central repository of information called ‘Ethiopian Agricultural Portal (EAP)’ has been established. The EAP is accessible to the public and is populated with 400 documents relevant to market oriented agricultural development collected from various sources, mainly from MoRAD, EAIR, RARIs and other national and international R & D institutions. At regional BoARDS and RARIs as well as Zonal OoARD establishment of mirror sites to allow offline access to the contents of the portal is under way for 19 sites in the third year of the project.

One of the new mechanisms used for knowledge sharing to Woreda level experts and DAs is the Woreda Knowledge Centers (WKC). A WKC has been established at Woreda level within the OoARD premises in each of the PLWs. The WKC collect electronic knowledge assets in the form of CDs and printed materials such as books, manuals/guidelines both for animal and crop commodities as well as cross cutting issues of gender, HIV/AIDS and environment from different sources including international and national research institutes (mostly ILRI and other CGIAR centers, EIAR, RARIs), MoARD /BoARD and other international research, educational and development institutes. These materials are reserved at the WKC for on-the-spot reading and browsing information from CDs or internet. Except Dale, WKC also allow OoARD staff to borrow materials for a short time. Each WKC has three computers, a printer, a television,

VCD player and chair/table and shelves that support the service given. Though a connection problem is evident, all WKC except Astbi also have internet access. The number of printed material and CD/VCD available in the WKCs is indicated in Table 1.2.1.

Table 1.2.1: Number of printed and electronic knowledge assets availed at WKC

<b>PLW</b>	<b>Printed materials</b> Books/journals/ Newsletters/magazines/ manuals	<b>CDs/VHS</b>
Metema	56	13
Fogera	175	40
Bure	367	44
Meiso	120	30
Gomma	510	5
Ada	582	57
Astbi	689	15
Alamata	192	26
Alaba	110	102
Dale	91	44

At PA (kebele) level, model FTCs were selected and were supplemented with knowledge management tools and methodologies to enable them serve as ready access points to information source. The recent effort to broaden FTCs' role in knowledge sharing has equipped model FTCs with audiovisual equipment, ICT tools, access to internet where possible and generators where there is no electricity. The delivery of this equipment has only been partially completed due to security issues at some FTCs. Other physical demonstration materials, some printed materials and a few CDs/VCD are also available for use during farmers' training. In addition, plots are used as live learning sites to demonstrate various crop/forage species, improved agronomic and husbandry practices as well as innovative soil and water conservation techniques.

Beside the above mentioned mechanisms, other knowledge sharing mechanisms that promote knowledge sharing through connection of actors, most commonly via demonstrations, study tours, seminars, workshops, meetings, field visits and exhibitions (Table 1.2.2 & 1.2.3) were also organized. Usage of roadside broadcast of tape recorded market information on market days in Meiso, and market information collection and dissemination & posting of relevant materials from the internet on notice boards in Bure and Astbi are other examples of enhanced knowledge sharing mechanisms being used to share marketing information.

Table 1.2.2 Number of Knowledge Sharing Events<sup>2</sup> Organized and No. of Participants by location (up to March 2008)

Location	No of events organized	No. of participants (Government)			No. of participants (Farmers)			No. of participants (Private Sector)		
		M	F	Total	M	F	Total	M	F	Total
IPMS HQ	12	185	16	201	4	0	4	36	4	40
SNNPR	2	23	3	26	3	0	3	23	8	31
Atsbi	16	245	18	263	486	112	598	10	0	10
Alamata	29	516	104	620	1056	332	1388	20	0	20
Metema	15	246	51	297	1117	123	1240	454	74	528
Fogera	18	521	215	736	1441	481	1922	376	263	639
Bure	11	251	36	287	692	140	832	431	105	536
Ada'a	17	332	158	490	251	25	276	20	3	23
Meiso	31	213	47	260	399	209	608	15	3	18
Gomma	10	229	25	254	45	0	45	5	1	6
Alaba	71	682	123	805	13717	6412	20129	155	5	160
Dale	13	144	10	154	188	58	246	31	3	34
Total	245	3587	806	4393 (13 %)	19399	7892	27291 (81 %)	1576	469	2045 (6 %)

Source: Project Knowledge Management and Capacity Building Data Base

<sup>2</sup> These include demonstration, study tour, seminar: workshop, meeting, field visit. The number of participants of exhibitions is not included in the table.

Table 1.2.3 Number of Knowledge Sharing Events Organized and No. of Participants by type of Event (up to March 2008)

Location	Knowledge Sharing Events		No. of Total Participants		
	No.	%	M	F	Total
Demonstration	35	14	1109	331	1440
Field day	28	11	2852	321	3173
Meeting	27	11	945	118	1063
Promotion	22	9	14389	6694	21083
Seminar	43	18	1334	363	1697
Study tour	48	20	1003	199	1202
workshop	42	17	1350	241	1591
<b>Total</b>	<b>245</b>	<b>100%</b>	<b>22, 982</b> <b>(74 %)</b>	<b>8, 267</b> <b>(26 %)</b>	<b>31,249</b>

Source: Project Knowledge Management and Capacity Building Data Base

To understand to what extent the different knowledge management efforts improved farmers' access to information, farmers in both intervention and non-intervention PAs were asked whether they got the information they needed about technology, input supply, credit and marketing of the selected priority commodities. The result showed that farmers in intervention PAs got more information than those in non-intervention PAs in year 3 than in the base year. However; the improvement is insignificant in some cases (Table 1.2.4).

Table 1.2.4: Access to Information

PLW	Year	PA Type	Did you get information? (%)			Sig.
			No	Yes		
Metema	Baseline	Non-intervention PA (n=30)	80.0	20.0	.498	
		Intervention PA (n=30)	72.7	27.3		
	Year 3	Non-intervention PA (n=33)	69.7	30.3	.062	
		Intervention PA (n=32)	46.9	53.1		
Fogera	Baseline	Non-intervention PA (n=15)	33.3	66.7	.475	
		Intervention PA (n=30)	23.3	76.7		

	Year 3	Non-intervention PA (n=32)	46.9	53.1	
		Intervention PA (n=32)	25.0	75.0	.068
Bure	Baseline	Non-intervention PA (n=15)	33.3	66.7	.552
		Intervention PA (n=30)	23.3	76.7	
	Year 3	Non-intervention PA (n=32)	65.6	34.4	.006
		Intervention PA (n=32)	31.2	68.8	
Meiso	Baseline	Non-intervention PA (n=20)	90.0	10.0	.014
		Intervention PA (n=28)	57.1	42.9	
	Year 3	Non-intervention PA (n=32)	81.2	18.8	.000
		Intervention PA (n=32)	34.4	65.6	
Goma	Baseline	Non-intervention PA (n=5)	20.0	80.0	.322
		Intervention PA (n=18)	44.4	55.6	
	Year 3	Non-intervention PA (n=32)	53.1	46.9	.131
		Intervention PA (n=32)	34.4	65.6	
Ada	Baseline	Non-intervention PA (n=28)	64.3	35.7	0.021
		Intervention PA (n=32)	34.4	65.6	
	Year 3	Non-intervention PA (n=29)	62.1	37.9	.000
		Intervention PA (n=28)	14.3	85.7	
Astbi	Baseline	Non-intervention PA (n=32)	0	100	.313
		Intervention PA (n=32)	3.1	96.9	
	Year 3	Non-intervention PA (n=29)	10.3	89.7	
		Intervention PA (n=31)	9.7	90.3	.931
Alamata	Baseline	Non-intervention PA (n=32)	40.6	59.4	.800
		Intervention PA (n=32)	43.8	56.2	
	Year 3	Non-intervention PA (n=17)	41.2	58.8	
		Intervention PA (n=24)	12.5	87.5	.035
Alaba	Baseline	Non-intervention PA (n=28)	17.9	82.1	.014
		Intervention PA (n=24)	50	50	
	Year 3	Non-intervention PA (n=32)	68.8	31.2	
		Non-intervention PA (n=32)	65.6	34.4	.790
Dale	Baseline	Non-intervention PA (n=24)	83.3	16.7	.014
		Intervention PA (n=24)	50	50	
	Year 3	Non-intervention PA (n=32)	71.9	28.1	.042
		Intervention PA (n=32)	46.9	53.1	

In addition to the increased availability of information, the form in which information was delivered to farmers and DAs/SMS has also changed. Farmers both in intervention and non-intervention PAs have received information mainly through oral communication from DAs, SMS, researchers or other farmers. However, transfer of information through demonstration and to a lesser extent in printed form has also increased in intervention PAs. Farmers who are literate and took part in IPMS sponsored trainings have received training manuals and benefited from few production manuals and guidelines available in FTCs.

Increased availability of knowledge in various forms is another important output of the project. The above mentioned and other capacity building interventions have contributed to increased availability of knowledge in various forms. Quantitative analysis of year 3 M & E data showed that farmers' access to information about production, input supply, credit and marketing information of priority commodities is higher in intervention PAs than in non-intervention PAs. Not only access is improved but also quality of information is higher in PAs where IPMS works. While comparing intervention PAs with Non-intervention PAs, Improvement was also observed in terms of:

- Diversity of source of information - In all the PLWs the most important source of extension information is still DA/OoARD, but farmers in intervention PAs named additional sources such as NGOs/CBOs and research centers.
- Diversity of Information type - farmers in non-intervention PAs mainly got information on production technology, whereas farmers in intervention PAs also got information about input supply, credit and marketing of commodities.
- Diversity of form in which information is delivered/received - Even though oral/lecture remained the main form of information delivery for farmers in both intervention and non-intervention PAs, other forms of information delivery like demonstration, printed material, and audio-visual aids have become more evident in intervention PAs.

### **1.3 ICT network and infrastructure developed**

At the federal level, the National Agricultural Resource Center (NARIC) has been completed and handed over to the MoRAD, including an e-mail server, a web server for the Ethiopian Agricultural Portal, a system management server, an Internet Security and Acceleration server and window active directory server. At regional and zonal levels, establishment of the mirror sites of the portal within BoARDS and RARIs has started and progressing during year 3.

Availability of ICT infrastructure for knowledge capturing and sharing improved at Woreda level through provision three computers and a printer to each WKC as mentioned before. Similarly at PA level, two FTCs in each PLW were equipped with a computer and a printer in an effort to strengthen FTCs' role in knowledge management.

### **Knowledge Management Outcome:**

#### **1.4 Functional agricultural knowledge management system operationalized highlighting innovations and appropriate technologies**

While the establishment of ICT supported enhanced knowledge management system, increased understanding of knowledge requirements and increased availability of knowledge are the expected outputs, 'institutionalization of functional knowledge management system' is the outcome of the knowledge management component. Quantitative and qualitative analysis of the M & E data showed that the desired changes to institutionalize functional knowledge management system have been realized partially in all PLWs at varying degrees. The following few paragraphs discuss outcome level result achieved through the extent of utilization of knowledge based approaches.

All the established Woreda Knowledge Centers (WKC), except the ones in Meiso and Metema, were well functioning in year 3. Users of the facilities reported that the number and relevance of knowledge available in the WKC has improved in all PLWs. Information obtained from WKC attendants indicated that utilization of services of the facilities has shown significant increase in terms of the number of users, duration of stay and utilization of different services as compared to the previous year. Even though the major users of the WKC are SMS and graduate students, DAs from the nearby PAs also

reported using the facility. Computers at the WKC were mainly used to further develop IT skills of OoARD staff. However, computers are primarily being used to browse information from the available CDs. SMSs also have started using the computers to write regular office reports, which were handwritten previously. In PLWs like Astbi, Alamata, Gomma and Bure, computers in WKC are also used to store market information and basic data on the Woreda. On the contrary, the WKC in Metema and Meiso were not used by their intended users mainly due to lack of appropriate room for the WKC and inability to assign a person to look after the facility. To solve this problem the OoARD/IPMS of Metema has constructed a new room in its premises.

The use of FTC as a knowledge sharing center has shown mixed results. DAs use the printed materials especially training manuals and other reference materials. DAs and SMSs are also using the demonstration materials at the FTCs during farmers training, and also seeds/planting materials and other demonstration materials to show various crop/forage species, improved agronomic and husbandry practices as well as innovative soil and water conservation techniques. However, results related to the use of ICT and audio-visual equipment were hardly realized by year 3. Though it is worth mentioning that very few FTCs in Bure and Goma that have started using ICT tools, others were only using audio-video equipment. Low levels of computer literacy of DAs and shortage/lack of appropriate CD/VCDs have been reported as the major problems which hinder efficient use of the facilities.

Other than using WKC and FTCs for knowledge sharing, non-IT knowledge sharing mechanisms were also promoted and some degree of institutionalization of these approaches has been recorded. The problem of low level of ownership of knowledge management approaches reported in year 2 M & E report has shown improvement in year 3. All PLWs made significant progress in incorporating the different knowledge management approaches in their annual plan. OoARD staff started to organize within PA, or PA to PA study tours, field days, exhibitions. Some also started to record promising innovations on video and use audio-video tools to share knowledge. Few examples of such cases are:

- In Metema, Astbi and Ada the Woreda various innovative interventions to be used for scaling out of the innovations were captured on video.
- In Metema, Astbi, Meiso, Bure, DAs/SMS reported the use of audio-video equipment to scale out fruit, fattening, apiculture innovations.
- DAs and SMS in most PLWs reported that they have started to organized various knowledge sharing approaches such as field day, promotion of product/service, exhibition etc with their own initiation and resource.
- Collecting and disseminating of market information is slowly being adopted. For example, the role of OoARD in provision of local level market information in Bure, Fogera, Astbi, Meiso and Alaba is reported.

Another indicator which shows the outcome of the various knowledge management outputs discussed in the previous section is farmers' perception of the usefulness of information they received. In this regard quantitative analysis of year 3 M & E data showed that farmers in intervention PAs perceived the information they received for selected priority commodities is more useful than those in non-intervention PAs (Table 1.4)

Table 1.4: Usefulness of Information

PLW	PA Type	Was information Useful? (%)		
		No	Yes	Sig.
Metema	Non-intervention PA (n=10)	80	20	0.006
	Intervention PA (n=16)	25	75	
Fogera	Non-Intervention PA (n=16)	33.3	66.7	.103
	Intervention PA (n=24)	12	88	
Bure	Non-intervention PA (n=11)	63	36	.044
	Intervention PA (n=22)	27	72	
Mieso	Non-intervention PA (n=6)	67	33	.121
	Intervention PA (n=22)	32	68	
Goma	Non-intervention PA (n=15)	40	60	.473
	Intervention PA (n=21)	29	71	
Ada	Non-intervention PA (n=11)	18.2	81.8	.656

	Intervention PA (n=24)	12.5	87.5	
Astbi	Non-intervention PA (n=26)	23	77	
	Intervention PA (n=28)	18	82	.634
Alamata	Non-intervention PA (n=10)	20	80	
	Intervention PA (n=21)	14	86	.686
Alaba	Non-intervention PA (n=10)	60	40	
	Intervention PA (n=11)	27.3	72.7	.130
Dale	Non-intervention PA (n=8)	62.5	37.5	
	Intervention PA (n=14)	42.9	57.1	.375

## 2. Innovation Capacity Development

### Outputs of Innovation Capacity Development

#### 2.1 Increased knowledge, awareness, understanding and skills of staff in public organizations

Increased awareness, knowledge, understanding and skills of staff in public organizations are one of the project outputs. In addition to the previously discussed knowledge sharing mechanisms, the project organized various short term trainings and supported BSc/MSc studies to build capacity of staff in public organizations. These trainings covered technical and social subjects for crop and livestock sector, marketing, environmental studies, gender, HIV/AIDS, information and communication sciences, innovative extension, and other social and technical subjects relevant to market oriented agricultural development. In this regard, the project organized about 136 short term trainings up to the end of year 2008 in collaboration with other stakeholders. These trainings benefited 1,896 staff members (16 % female) of the public sector mainly those working at different levels in the Ministry, research & educational institutions (Table 2.1).

Table: 2.1 Short term trainings for government employees

Location	No. of Trainings	No. of Participants		
		Male	Female	Total
IPMS HQ	17	349	20	369
Atsbi	17	202	28	230
Alamata	9	75	9	84
Metema	6	67	19	86
Fogera	14	127	34	161
Bure	7	113	19	132
Ada'a	20	172	91	263
Meiso	16	169	28	197
Gomma	3	52	5	57
Alaba	21	219	44	263
Dale	6	49	5	54
<b>Total</b>	<b>136</b>	<b>1594</b>	<b>302</b>	<b>1896</b>

Source: Project's I Management and Capacity Building Database

Similarly, 97 students (24 % female) that were being supported for their BSc./DVM/MSc have graduated by the year 2008. Among these, the percentage of BSc., DVM and MSc. graduates is 35, 15 and 50% respectively. From all graduates, 56 % were sponsored for their MSc./DVM/BSc tuition and thesis research, while 45% were sponsored for financial and supervisory support for MSc. thesis and BSc/DVM attachment works. Though some of the graduates were transferred to other posts in or out of the PLW, most of the graduates went back to serve in their PLWs.

Participants of IPMS/OoARD facilitated short term trainings disclosed during interviews that the trainings contributed to improvement of knowledge and skills in various subjects. They said the lectures and the accompanying practical exercises helped them to sharpen their theoretical knowledge and develop their skills. It also helped them to know new production technologies, input supply options, and market/financial service support strategies. Other than being practical, the trainings were also appreciated by most participants for their scope beyond production technologies and covering institutional issues for input supply, credit and market support services. Moreover, WALC/RALC chairpersons described that both the short term and long term trainings addressed critical

issues and are greatly curbing the human power development need of the OoARDS/BoARDS.

These changes in knowledge and skill are reflected in the extent of utilization of acquired knowledge and skill in their daily work. Especially DAs/SMS reported using the acquired technical knowledge in training farmers/DAs in other PAs. Another indicator which shows the extent of utilization of knowledge and skill is the effort showed by SMS/DAs to incorporating some of the innovations in their work plan and scaling out innovations in new PAs. Examples of such cases are fruits/vegetable and apiculture development in Alamata, Apiculture and dairy development in Astbi, urea treatment and fruit development in Metema, fattening in Meiso, community based rice seed production in Fogera, etc. Besides applying the technical knowledge, public sector staff have also reported using some of the innovative extension approaches related to mainstreaming gender and HIV issues, participatory extension methods, market information collection and dissemination in Meiso, Fogera, Bure and Astbi, etc.

In addition to the direct benefits of participating in trainings, DAs and SMSs also reported that they have indirectly benefited from improved knowledge and skill by taking part in IPMS/OoARD facilitated innovative knowledge management and capacity development interventions. Some of the knowledge and skills reported to be developed through such mechanisms include: how to assess the knowledge requirements by conducting community diagnosis, how to conduct end of season evaluation where experience and lessons learned are discussed and used as a basis for planning future interventions, how to follow bottom up approach to extension with emphasis on addressing the critical bottleneck across the value chain etc.

## **2.2 Improved understanding and skills of farmers, staff from CBOs and from private-sector organizations**

The capacity building efforts, mainly through practical trainings on innovative technological options and institutional arrangements, have also been of use to farmers/agro-pastoralists and private sector organizations. Up to March, 2008, a total of

4,557 farmers (36 % female) have directly benefited from the 107 IPMS/OoARD facilitated short term trainings (Table 2.2).

Table2.2: Farmers' short term training (up to March 2008)

Location	No. of events	No. of Participants		
		Male	Female	Total
Atsbi	15	538	625	1163
Alamata	8	165	77	242
Metema	5	210	11	221
Fogera	12	318	57	375
Bure	5	130	10	140
Ada'a	20	416	410	826
Meiso	15	362	166	528
Gomma	5	391	61	452
Alaba	17	259	110	369
Dale	5	133	108	241
Total	107	2922	1635	4557

Source: Project's Knowledge Management and Capacity Building Database

Individual and group interviews of farmers revealed that the level of awareness, knowledge and skills of participating farmers has improved on various technical subjects. Moreover, improvement in knowledge and skill has also been reported by farmers who took part in farmer-to-farmer knowledge sharing or/and attended successive trainings given by DAs/SMSs. Though it is difficult to measure the level of knowledge and skill that has resulted due to all the interventions, the monitoring team noted an improvement in knowledge and skill by observing farmers' practices in converting knowledge into action. In general farmers involved in direct or indirect capacity building interventions were seen to apply the acquired knowledge and skill to manage their farms.

From the private sector, about 202 individuals (8.4 % female) benefited from a total of 36 trainings which involved individuals from the private sector. In general farmers and those from the private sector who benefited from direct or indirect capacity building interventions were observed applying the acquired knowledge and skill as they employ improved management of new or existing varieties/breeds of crop/livestock following

recommended husbandry practice. In this regard, improvement in knowledge and skill was observed among male and female farmers, input suppliers and cooperatives/unions that showed the change in knowledge by entering into market oriented production, input supply or marketing activities. Individual traders, private sector organizations, and other farmers' groups as well as cooperatives/unions were seen to use the acquired knowledge and skill by engaging in innovative production, input supply and marketing activities. For example members of dairy cooperatives in Ada and reported usage of improved husbandry practice. Cooperatives are also applying the knowledge and by engaging in innovative marketing activities such as milk processing in Ada, Fogera and Bure, honey processing in Alaba and Astbi etc. Similarly individual input suppliers such as paravets, private bull station owners, fruit seedling producers, pump mechanics and other agricultural input suppliers got the needed knowledge and skill which helped them to enter into business. A change in awareness and knowledge has also been reported among marketing groups, cooperatives and unions who got advisory service, which helped them to better engage either in production, input supply or marketing of a particular commodity.

### **2.3 Establishment of collaborative institutional arrangements and linkages between farmers, pastoralists, CBOs, public and private sector organizations**

Establishment of collaborative institutional arrangements and linkages between farmers, pastoralists, CBOs, public and private sector organizations is another output of the capacity development component of the project. In this regard the project facilitated the establishment of institutional arrangements such as RALC/WALC, commodity platforms and other institutional linkages which helped in promoting collaboration, coordination and learning among actors.

WALC and RALC have been established at Woreda and Region level respectively in all PLWs and the four regions. In addition to their role in promoting collaboration and coordination in planning and implementation of project interventions, these arrangements are expected to facilitate learning for scale up and out of innovative approaches and technologies (see section 2.4 for actual performance of these arrangements). Similarly

various platforms have been formed in the PLWs since the beginning of the project to promote multi-stakeholder action for commodity development (Table 2.3).

Table 2.3.1: No. of Commodity Platforms

PLW	Focus area of the platform
Fogera	Onion-seed production , safflower, fattening and fishery marketing
Bure	Dairy , Cattle fattening and Apiculture
Meiso	Small and large ruminant fattening and marketing
Gomma	Coffee marketing and apiculture
Metema	Cotton
Astbi	Apiculture, Small ruminant fattening and Skins and Hides, and irrigated agriculture
Alamata	Fattening and onion marketing
Ada	Chickpea , apiculture, dairy
Alaba	Apiculture, Sheep fattening and poultry
Dale	Coffee , Veterinary health delivery for tse-tse and Tryps control

Other partnership arrangements, mainly bilateral linkages between farmers and other input suppliers, traders, researchers and financing institutions, that promote collaboration and coordination among relevant actors in the value chain were also formed. These linkages are mainly initiated by IPMS/OoARD to facilitate knowledge sharing, and jointly test innovative production, input supply, credit and marketing activities. Most of these linkages were initiated at a particular time but continue to serve the actors involved afterwards. Examples of such linkages are: the linkage created between farmers engaged in dairy and fattening activities and input suppliers in Goma, Metema, Alamata and Dale; linkage created between vegetable producers of Fogera and Almata with trades and brokers found in major towns, linkage created between cotton seed producers in Metema with chemical suppliers in Addis, linkage between traders and honey producers in Astbi, Bure, Goma and Alaba, linkage between farmers engaged in small and large ruminant fattening in Meiso with traders and brokers, etc. Table 2.4 shows other linkages initiated between farmers/OoARD and research centers.

Table 2.3.2: linkages facilitated between OoARD/farmers & research centers

PLW	Linkage with Research Center for Knowledge Sharing/ Capacity Building or Technology Transfer
Astbi	Mekele University , Mekele Research Center, Holeta Research Center
Alamata	Werer, Mekele, Sirinka and Alamata research centers
Metema	Gonder and Andasa Research Centers
Bure	Adet , Andasa and Bahirdar Farm Mechanization Research Center
Fogera	Adet, Andasa, Bahirdar Fish Research centers
Ada	D. Zeit Research Center
Meiso	Werer, Melkasa and Adamitulu Research Centers
Goma	Jima University, Jima Research Centers
Alaba	Awasa Research Center, Holeta Research Center, Areka Research Center, Sodo & Alagae ATVET
Dale	Awasa, Awada & Melkasa Research Centers

## Outcome of Innovation Capacity Development

### 2.4 Extent of coordination, linkage, activities and/or communications between actors

Outcome level result of the capacity building component of the project is ‘strengthened innovation capacity of farmers, pastoralists, community-based and private sector organizations, and public organizations to support the development of small-holder, market-oriented agricultural production systems’. Achievement of the result is reflected by the extent of coordination, linkages, activities and/or communications between actors, level of responsiveness of the extension system to the needs of women and men farmers and by the level of satisfaction of farmers with the technical & institutional support they receive.

The previously observed problem of a low level of awareness of WALC members about the project’s objective and approach in the past year has shown significant progress. Members reported greater involvement of WALC in project planning and implementing, and also mentioned WALC’s greater planning flexibility following the decision made towards the end of year 3, which gave WALCs the opportunity to manage their own budget. The learning function of WALC has also progressed significantly from the previous year as they now meet regularly and conduct periodic field visits. On the contrary, RALCs in all four regions were weak and their role was limited to approving the annual plans of PLWs. This came about due to RALC members’ inability to conduct

the regular meeting and review project progress collectively as a result of their engagement in the extended BPR process during the year. However, chairpersons of RALC stated that they were following project progress individually with RDOs at informal settings.

The different linkage arrangements and commodity platforms that were established across the PLWs showed mixed results in playing their role in promoting coordination and learning. Some of these arrangements facilitated the joint action of stakeholders to solve specific problems along the value chain. However, most of the initial commodity platforms were weak or have ceased to exist as permanent institutional arrangements. But many agree that the experience gained from platform approach has made working with ad-hoc committees commonplace in most PLWs. These ad-hoc committees don't have permanent structures and draw as members stakeholders from different disciplines and are mostly established to solve marketing or input supply problems for a particular season.

In terms of improving the communication and linkages, the different commodity platforms mentioned earlier have also played their own role in promoting coordination and learning. For example, the Apiculture platform formed in Gomma, which incorporates different stakeholders from public and private sectors, discussed constraints and opportunities of the sector and set objectives of the platform. In Fogera the onion-seed production platforms have worked to discuss problems in areas of onion seed production and taken appropriate steps to help seed producers. Similarly, the discussion made in fish platform led to linking the fishermen with a fish marketing corporation which agreed to collect fish from them. In Bure, dairy, cattle fattening and apiculture platforms identified major bottlenecks in market oriented development of the commodities and prepared action plans. In Meiso cattle fattening platform organized a livestock fair, which facilitated market linkage. In Gomma, a coffee platform highlighted challenges and opportunities along the value chain and stakeholders agreed to work jointly. Apiculture platform in Alaba has undergone formal procedures and upgraded to a primary apiculture cooperative in the Woreda. Coffee platform in Dale brought various

actors together and discussed major problems in coffee production in the Woreda. Onion platform in Alamata and Apiculture platform in Astbi have also brought various stakeholders together to improve marketing of onion and honey respectively. In Astbi the apiculture platform brought changes in improving market linkage and synchronizing pesticide use not to be in conflict with apiculture development. However, some of the platforms were informal, weak or ceased to function. For example cotton platform in Metema, fattening platform in Fogera etc are no more conducting their regular meetings.

One of the intermediate objectives of capacity building and knowledge management interventions is to improve provision of demand driven extension service to farmers and private sector organizations by strengthening the capacity of extension service providers. The improvement in this regard is measured by the satisfaction of farmers by the extension service they get for selected priority commodities. Farmers were asked whether they are satisfied with the extension service they got with regard to the selected priority commodities. Quantitative analysis of year 3 M & E data showed that farmers' satisfaction with the extension service they get for selected priority commodities is higher in intervention PAs than non-intervention PAs.

Table 2.4 : Farmers' satisfaction with the extension service they receive

PLW	PA Type	Satisfied with the extension service? (%)		Sig
		No	Yes	
Metema	Non-intervention (n=22)	95.5	4.5	.000
	Intervention (n=26)	42.3	57.7	
Fogera	Non-intervention (n=20)	95.0	5.0	.578
	Intervention (n=21)	90.5	9.5	
Bure	Non-intervention (n=21)	85.7	14.3	.000
	Intervention (n=24)	5.0	75.0	
Meiso	Non-intervention (n=32)	91	9	0.055
	Intervention (n=32)	72	28	
Goma	Non-intervention (n=32)	62	38	0.611

	Intervention (n=32)	56	44	
Ada	Non-intervention (29)	89.7	10.3	
	Intervention (30)	80	20	.302
Astbi	Non-intervention (n=30)	63.3	36.7	
	Intervention (n=32)	40.6	59.4	.074
Alamata	Non-intervention (n=26)	46.2	53.8	
	Intervention (n=30)	30.0	70.0	.213
Alaba	Non-intervention (n=32)	71.9	28.1	
	Intervention (n=32)	43.8	56.2	.023
Dale	Non-intervention (n=32)	87.5	12.5	
	Intervention (n=32)	68.8	31.2	.070

### 3. Commodity Development

The outcome of the commodity development component of the project is the adoption of appropriate technologies, innovative input supply-output marketing and financial services in order to improve agricultural productivity and market success in the PLWs. Establishment of ten PLWs that are strategically linked to the priorities of the Woreda & Regional Development Plans; and promotion of appropriate technologies processes and institutional innovations are the two major outputs that contribute to the above mentioned outcome.

In addition to the previously established 8 PLWs, the two PLWs of Goma and Bure were established in Oromia and Amhara Regional States. Annual work plans in all PLWs developed in close collaboration with OoARD staff and approved by their respective WALC. According to WALC and RALC officials, the annual plans which were developed by IPMS/OoARD are in line with the overall government objective of market oriented agricultural development, but differ in approach followed to meet the objective.

The project together with its partners identified and introduced technological, organizational and institutional innovations for production, input supply, and marketing

of crop and livestock commodities. Almost all of the innovations were initially introduced in selected farmers in one or few PAs mainly in demonstration form. The level of adoption in year 3 varies across various innovations and PLWs/PAs depending on several factors. Some of the innovations were newly introduced and were still at demonstration stage during year 3. On the other hand, some of the innovations went beyond the initial stage of demonstration and adopted by a number of farmers in other PAs or other Woredas. On the contrary others were adopted only by the initial farmers or adopted by a small number of farmers or not adopted at all. The following sections present in tabular form the different technological and institutional innovations introduced across the ten PLWs. The successive tables present the type of production and input supply interventions (with or without credit), brief description of the intervention, number of producers/input suppliers involved area/no. covered by the intervention, and number of PAs covered by the interventions. Marketing interventions are presented in bullet form below each table. The tables start with intervention in crop production and marketing followed by intervention in livestock production and marketing.

### **3.1 Crop Commodities**

The major production interventions for crop commodities include introduction of farmers based seed/seedling production system, introduction of crop varieties, introduction of on farm processing/storage technologies and introduction of management practices (e.g. improved land preparation methods, improved planting method, improved weed control method, improved soil and water conservation technology, improved pest and disease control and management methods etc). Input supply interventions for crop were mainly establishment of farmer based seed/seedling supply system, facilitation of private and/or cooperative input shops. Marketing interventions were mainly related to provision of market information and facilitation of market linkage. Some of these interventions in production, input supply and marketing were with provision of credit while others were without credit.

**Table 3.1: Rain-fed Annual Crops**  
(Cereals, Pulses, Oil Crops, Cotton & Hot pepper)

**3.1.1a Production Interventions :**

Type of Intervention	PLW	Description of intervention, and whether or not credit was provided	Area or number	No of producers			No of PAs
				M	F	Total	
Farmer/community based seed production  (with introduction of new varieties or for existing varieties) + improved management practice	Fogera	Farmers based upland Rice (Nerica) seed production system established (new variety)	15ha	73	4	77	9
	Fogera	Seed production and farmer to farmer seed exchange system established for chick pea (new variety)	0.28 ha	7	-	7	3
	Bure	Marko fana, improved hot pepper variety introduced through demonstration (0.5 ha) and then farmers started seed multiplication.	2ha	4	0	4	1
	Alaba	Farmer based teff seed multiplication system which was introduced in the past continued to multiply seed for the newly introduced teff varieties (DZ cross 37 & CR-37)	122 ha	178	-	178	3
	Metema	Seed grower farmers started on farm rice seed production for three new varieties of upland rice	5.75	35	2	37	4
	Ada	Seed multiplication of teff, wheat and chickpea demonstrated on farmers field	29	41	2	43	4
	Dale	Farmers based haricot bean seed system established to bulk up seed source for the newly introduced varieties <sup>3</sup> .	22.5ha	127	10	137	10
Variety introduction – (together with improved management practice)	Bure	Seven improved bread wheat varieties <sup>4</sup> introduced through on farm demonstration and three varieties were selected for multiplication	2100m <sup>2</sup>	3	0	3	1
		Three improved Faba bean varieties introduced though demonstration ( Adet Hana, CS-20DK and Degaga) together with improved management practice	600m <sup>2</sup>	2	0	2	1
		Two varieties of hot pepper introduced.		4	-	4	1
	Metema	Deltapine, improved cotton variety dressed with a chemical (Cruiser) introduced to fight pest damage. Productivity which was lowered to 8-12 qt/ha has increased to 25-33 qt/ha with the use of chemically treated improved variety.	1235 ha	5	0	5	10
	Ada	Three varieties of teff, five varieties of wheat and four varieties of chickpea demonstrated on FTCs	720 m <sup>2</sup>			6 FT Cs	6

<sup>3</sup> Nassir,Cranscope,DRK,Ibado,Omo95,Dimtu, Awash1, Awash Melka,Awassa Dume

<sup>4</sup> HAR604 (Galema), HAR1868 (Shena), HAR1685 (Kubsa), HAR2536 (Simba), HAR3646 (Senkegna), HAR3730 (Gasaye) and HAR2562 (Densa)

	Alamata	Three improved sesame varieties (Adi, Serkamo & Tate) introduced through demonstration at FTCs and farmers field	3 ha	5	-	5	
	Alamata	Marekofana, new hot pepper variety demonstrated at FTC and farmers field.	25 kg seed	4		4 FT C	4
	Alaba	New haricot bean varieties (Awash I, Dimtu, Awash Melka and Nasir) introduced through demonstration on farmers field with ORGA fertilizer.				52	9
	Alaba	Soya bean varieties (Awassa 95, Williams, V.coker 240) were introduced		22	2 2	44	8
Management Practices	Bure	Use of recommended fertilizer rate for hot pepper demonstrated	2 ha	4	0	4	1
Improved land preparation methods (if not mentioned above)	Bure	Wheat production using minimum tillage, appropriate chemicals, composting and fertilizer use demonstrated..	2.5 ha	9	1	10	2
	Metema	Use of BBM for excess water drainage demonstrated	27.38	88	-	88	5
	Ada	Apron Star (seed dressing chemical) and inoculum for chickpea demonstrated on farmers field	4 ha	16	0	16	4
	Ada	Inoculums for faba-bean demonstrated on farmers' field.	7.5ha	30	0	30	6
	Alaba	ORGA an organic fertilizer demonstrated and promoted.	1 ha	2	-	2	2
	Astbi	Pulse production under irrigation during the dry season promoted.	The number of farmers who produce pulse under irrigation increased to 1840 (423 female) and the area increased to 234 ha				
Improved weed control technologies (if not mentioned above)	Metema	Use of Round UP chemical for minimum tillage introduced and promoted for cotton , rice and sesame.	1368 It was reported to be used in 2006 & 07 by farmers in 23 PAs.				
	Dale	The use of bio fertilizer demonstrated.	1ha	4	4	8	1
Improved pest and disease control and management	Alaba	Improved weed control and pest management promoted using bio-pesticides and chemicals through training of farmers to provide private crop protection service (see input supply below)					
Introduction on farm processing/storage technologies	Bure	Mechanical wheat thresher introduced and demonstrated for wheat					In 2 PAs
	Alaba	Mechanical Teff thresher introduced and demonstrated. Latter IPMS provided credit for a private entrepreneur (see input supply and marketing interventions below)					

### 3.1.1b Input supply /Credit Interventions

Type of Intervention	PLW	Description of intervention and credit provision	No input and service providers	Quantity inputs services sold	Unit price	PAs Covered
Farmer based seed supply systems	Fogera	Farmer-to-farmers seed supply system for upland rice established	75	125 quintal	5 birr	4
	Fogera	Farmers based seed supply system established for chick pea	7	28kg		3
	Bure	Private seed and seedling producers established for improved variety of hot pepper	15 (6 female)	Not yet sold	120 birr/kg for seed  150 birr per nursery bed (which covers half ha)	3
	Dale	Farmers' based seed production system established for improved varieties of haricot bean	137	57 qt	6 birr	10
	Metema	Farmers' based rice seed production	37	202 qt	6 birr/kg	4
	Alaba	Farmer based teff seed multiplication introduced in the past continued seed multiplication.	Agreement was signed between farmers and ESE and Menchenon Cooperative Union. A total of 353 qt was produced from 37 ha			
Input Shops – private and/or cooperative	Metema	Private input shops which provide chemicals and seeds opened	One licensed and 5 not licensed shops	1200 lt of round up chemical 16 kg of vegetable seed	123 birr /lt round up  33 birr/50 gm (tomato)	5
	Metema	Cooperative started supplying cruiser treated deltapine variety and round up chemical	1	173 qt	10 birr/kg	3 PAs
	Alaba	Input supply shop established by Menchonneon Farmers' cooperative union (with IPMS credit) <sup>5</sup> . 1093 kg fertilizer and 755 lt agro chemicals sold to farmers in 22 PAs				
	Ada	Yerer Union continued supplying chick pea seeds				

<sup>5</sup> However, the shop was hardly functional during the monitoring visit. Internal management problem was reported as a cause.

	Alaba	Private crop protection service introduced. Farmers who trained to provide crop spraying services for crop continued to give service. They also got IPMS credit for the purchase of spraying and other necessary equipment.	11		10 birr/ha (traditional crop sprayers charge 3-4 birr/ha)	22
	Alaba	Private entrepreneur supported with credit and started to give threshing service in the Woreda.	1	35 birr/hr	62	4
	Dale	Weynenata farmers Cooperative obtained credit fund to engage in collecting and marketing of haricot bean seed produced by seed procuring farmers (see farmers based seed production and supply above)				
OoARD new input supply function	Fogera	OoARD started to act as intermediary to promote farmers to farmer seed exchange system by buying upland rice seed from farmers and selling to other PAs				

### **3.1.1c Marketing Interventions:**

#### **Bure:**

- IPMS/OoARD provided weekly market price information for agricultural commodities. IPMS collects the data and distributed to all PAs through SMSs & DAs. OoARD staff has gradually started to involve in organizing market information.
- Price trend of bread wheat identified by analyzing five year market price data at Bure.
- A Cooperative Union at Bure linked with traders in Metema and sold teff and faba bean at a better price.
- Mechanical wheat thresher introduced and demonstrated in two PAs.

#### **Metema:**

- Training on store management and fumigation technique was provided for a private exporter of Sesame. Application of some of the knowledge is reported by the trainee.
- Linkage was facilitated for sesame producers and traders, but no result is yet reported due to this linkage.
- Linkage is created with cotton farmers and a ginnery in Gonder. The ginnery agreed to pay a premium to cotton farmers. Farmers also linked with Bahirdar textile, but no result is yet reported due to this linkage.
- Rice polisher is demonstrated and the polisher is given to farmers as a demonstration material.

Fogera:

- Linkage created with a German company and a domestic oil crop export agency for marketing of safflower petal. As a result of the linkage local people from 16 PAs have started collecting and selling the petal to a middle man working on behalf of the company. During year three a total of 887 kg safflower was sold at a price ranging from 15-18 birr/kilo.
- The concept of standardized grading is introduced by demonstrating the use of sieve of three sizes with one private polisher. Varieties of rice dish and graded rice promoted during exhibition and great demand is expressed by restaurant owners. However, adoption of the sieve beyond the demonstration was not reported.

Alaba:

- Weekly market information collection and dissemination for major commodities has been introduced in three main market sites (Kulito, Besheno and Guba) using billboards. Except the initial establishment of the billboards by IPMS and LIVIA, all routine activities of data collection and posting are done by OoARD staff. Speakers were also used to disseminate market information in main market sites.
- Mechanical teff thresher was demonstrated at market place. A private entrepreneur who purchased the machine using IPMS credit fund started giving threshing service to farmers at a price of 35 birr/hr. The machine improves grain quality of teff and reduces cost of post harvest processing.

Dale:

- Weynenata cooperative in Dale linked with exporters for future haricot bean marketing. The Cooperative also took credit fund to facilitate bulk production and distribution of haricot bean seed by farmers.

Ada:

Market Bill boards have been introduced in FTCs to provide weekly market information of agricultural products. However utilization of the billboards has been poor, except Dire PA.

### 3.1.2 Fruits and Vegetables

#### 3.1.2a: Production Interventions

Type of Intervention	PLW	Description of interventions and whether or not credit was provided	Area or number	No of producers			No of PAs
				M	F	Total	
Farmer/community based seed/seedling production system  (with introduction of new varieties or for existing varieties) + improved management practice.	Metema	Farmer to farmer sucker supply system established for the newly introduced two banana varieties.	-	12	0	12	4
	Bure	Two grafted Avocado varieties and solo papaya variety introduced and farmers based seedling multiplication and distribution system established for the newly introduced avocado and solo papaya varieties.	131	11	1	12	3
		Four banana varieties introduced and farmer to farmer sucker supply system introduced for the newly introduced four banana varieties <sup>6</sup> .	59 seedlings	3	3	6	3
	Fogera	Tomato seed production is demonstrated at farmers' field using new tomato variety (cylderical type tomato) and stagger production technique.	1.585	16	-	16	5
		Onion seed production at farmers' field and farmer to farmer seed exchange and quality control system established.	4.7ha	26	-	26	5
	Dale	Improved varieties of avocado and mango <sup>7</sup> introduced and farmer based improved fruit seedling production system established		6	-	6	2
	Ada	Farmers based fruit nursery established for production of the newly introduced improved fruit varieties (mango and avocado).	2				2
		Onion seed production technique demonstrated on farmers field and farmers group organized along a river and credit fund was used to purchase motor pump.					
	Gomma	Private fruit nursery for fruit established.		The system is being tested with one farmer who prepared 1000 avocado, 35 Apple			
	Meiso	Mango(Tommy), Avocado, Papaya (Solo), Banana (short & Giant Cavendish, Poyo		Four male farmers in 3 PAs prepared about 6515 <sup>8</sup> grafted and non-grafted			

<sup>6</sup> Butazo, Poyo, William-2 and cooking type

<sup>7</sup> Etinger, Hass, Baccon, Fruite and Apple mango varieties introduced

<sup>8</sup> Papaya=800, Avocado grafted 860, Avocado non-grafted=561, Mango grafted =864, Mango non-grafted 22, Banana, 315

		and Williams) fruit varieties introduced and private fruit nursery established for improved varieties of Mango, Avocado, Papaya, Banana and Guava	seedlings of Avocado and distributed to 369 farmers found in 15 PAs.				
		Adama Red and Bombe Red varieties of onion introduced and farmers based seed production system initiated for onion seed production	About 40 farmers in 11 PAs started using these varieties.				
	Alamata	Onion seed production system introduced in demonstration form	2.5 ha	4	-	4	2
	Astbi	Onion seed production demonstrated					
Variety introduction – (with improved management practice)	Bure	Two grafted Avocado varieties introduced	131	11	1	12	3
	Metema	Two varieties of banana short and Joint Cavendish introduced with management practices such as planting method, water casement structure and improve ripening method with management practice	100 ha	219	92	313	16
		Two improved varieties of mango (Kent and apple mango) and solo papaya introduced with management practice.		14	0	14	3
		Two varieties of tomato and one variety of onion is introduced through demonstration	2 ha			16	6
	Ada	Adama Red variety of onion introduced with improved management practice of double row planting and furrow irrigation among Women vegetable growers saving and credit group	2.5 ha	-	10	1	1
		Grafted fruits (three varieties of Avocado, 3 varieties of orange, two varieties of Lemon, one variety of Banana and papaya was introduced.	802 seedlings	21	2	23	1
	Alamata	Two banana varieties (William I and Poyo) and papaya varieties introduced	340 suckers			16	
	Goma	Improved varieties avocado and its propagation technique introduced	300 seedlings	3	3	6	5
Improved planting methods	Bure	Demonstrating grafted planting material and spacing for avocado		7	1	8	3
	Fogera	Staggered planting for tomato production introduced	1.585	19	-	19	5
Improved planting, weed control and soil and water	Alamata	Improved management practice promoted for onion through training and advisory service.	About 660 ha land is covered with onion production under improved management practice in six PAs				

conservation method	Alamata	Improved planting methods, weed control and soil and water conservation etc were introduced for Avocado, Mango, Papaya and Banana	For 3422 Mango, 2767 Avocado, 147 Guava, 11154 Papaya ,964 Orange and 920 bananas in 7 PAs and their FTCs
	Alamata	Improved management practice promoted through demonstration, training and follow up advisory service for tomato and pepper	About 11ha & 51 ha covered under improved management practice of tomato and pepper respectively in 3 PAs
	Astbi	Improved management practice demonstrated for garlic and other vegetables using irrigation.	OoARD reported expansion of agricultural lands under irrigation

Type of Intervention	PLW	Description of interventions and whether or not credit was provided	Area or number	No of producers			No. of PAs
				M	F	T	
Improved soil and water conservation technologies + tree management	Bure	Mulching and irrigation structure demonstrated for avocado and pruning practice demonstrated for Avocado		7	1	8	3
	Alamata	Improved agronomic practices and use of optimum deep well irrigation promoted for vegetable production					5
Improved pest and disease control and management							
Introduction on farm processing/storage technologies							

### **3.1.2b: Input supply /Credit interventions**

Type of Intervention	PLW	Description of intervention and credit provision	No of input and service providers	Quantity inputs service sold	Unit price	PAs Covered
Farmer based seed/seedling supply systems	Bure	Private grafted avocado seedlings	12	Have not started selling.	10 birr	3

		distribution system established				
		Farmer to farmer sucker supply system established for the newly introduced banana and solo type papaya varieties.	6		10	3
Metema	Farmer to farmers' sucker supply system established for newly introduced banana and solo papaya varieties.	More than 12 farmers in 4 PAs are actively sell banana suckers to other farmers. Up to year 3 about 4000 sucker were sold at an average price of 10 birr/sucker. 50 % is sold to farmers in 16 PAs and the rest to other 4 neighboring Woredas <sup>9</sup> and the Sudan. These farmers also used suckers to expand their own farms. There is also one farmer who sell seedlings of solo papaya. In year three he sold 738 solo papaya seedlings at a price of 3 birr/kg.				
Fogera	26 farmers in 5 PAs produced and sold 6.3 qt of certified onion seeds. In addition to fulfilling onion seed requirement of the Woreda, they have sold to other regions.					
Goma	Private fruit nursery established	1	Sold 16 000 gravelia seedlings, fruit seedlings were not yet ready at the time of the visit.	50 cents/seedling	1	
Meiso	Private fruit nursery established for Avocado, Papaya , Banana and Guava seedlings	4	6515 seedlings produced and distributed to 369 farmers	10-14 birr/seedling	15	
	Farmers to farmers onion seed	6	22.5 kg	150 birr/kg	2 PAs	

<sup>9</sup> Thach Armacho, Quara, East and West Belesa and Adi Arkay.

		supply system established				
	Ada	Private fruit nursery established and continued to supply grafted seedlings.	2	494	15-20 birr/seedling	
	Dale	Farmers based fruit nursery established	6	1147 seedlings	13 birr	
Input Shops – private and/or cooperative	Metema	Private input shop which provide seeds of papaya and other vegetables established	1-		160 birr/kg	In woreda town
	Ada		3			3
	Astbi	Local pump maintaining system established by training individuals	6	Though the intervention helped to some extent, farmers reported the problem in this regard has not yet fully solved. The problems are often beyond the capacity of these people.		
	Alamata	Cooperative Union strengthened and linkages facilitated to supply inputs to farmers	Provided 11 qt onion seed to farmers.			
OoARD new input supply function	Bure	OoARD nursery site started providing grafted avocado and three varieties of banana seedlings, and solo papaya				
	Alamata	OoARD with IPMS support reclaimed previously swampy area r vegetable and cereal production. About 165 ha (Gerjelle 70 ha and Tumuga 95 ha) of land reclaimed for crop production and grazing land in two PAs.				

### **3.1.2c: Marketing Interventions**

Metema:

- Two marketing cooperatives have been established in two PAs to facilitate input and output marketing for fruits and leafy vegetables. Linkage with fruit wholesalers in Gondar has been made for the sale of bananas.
- Ripening method for banana is introduced. Establishment of ripening house in Gonder facilitated and individuals in some PAs started using the ripening method.

Fogera:

- Stagger production of onion and tomato to avoid lower price due to market saturation was demonstrated. Participant farmers were able to harvest 1.5 month earlier than the normal harvest and sold tomato at a price of 3-4 birr which is 0.5 to 2 birr during normal period.
- Weekly and monthly market price information is collected by telephone and shared with producers and brokers for onion during peak harvesting season. Market linkage was facilitated with traders and brokers in major market towns for onion bulb. In order to enhance market linkage for onion bulb, traders' names and their respective addresses have already been collected and documented. Market linkage was also created with union in Almata for onion seed and farmers sold 11 qt of onion seed worth 14,000 birr.

Alamata:

- Fruit and vegetable producing farmers are linked with individual traders in Mekele and with Union at Humera. Onion marketing platform have been formed at Woreda and PA level to follow the market situation , provide price information and facilitate linkage. The platform coordinated marketing of onion bulb with the cooperative union, hoping farmers would get better price if they sell to the union than individual traders. However , the arrangement didn't benefit farmers as the union couldn't buy the product on time and traders/brokers were excluded from the market.

Astbi:

- Linkage was formed between vegetable farmers and traders . Traders tel. address given to farmers and DAs.

Bure:

- Sugar cane juice maker introduced and adopted by a hotel in Bure town.

### 3.1.3 Coffee

#### 3.1.3a Production Interventions

<u>Production interventions/ Credit :</u>	PLW	Description of variety or management interventions and nature of intervention and whether or not credit was provided*	Area or number	No of producers			No of PAs
				M	F	Total	
<b>Farmer/community based seed production</b>	Dale	Farmers based seed and seedling production system	2000 coffee seedling /for seed orchard and 95Kg seed of local coffee cultivar/ Angefa was distributed	31 households heads with their wives involved in 9 PAs			
	Goma	Farmer based seedling production using vegetative hybrid coffee multiplication technique introduced for Aba Buna	100 seedlings	1	-	1	1
<b>Variety introduction +Management Practices</b>	Dale	1377(Angefa) variety introduced. Farmers trained in Improved nursery and seed as well as orchards management. Improved land preparation, planting methods also demonstrated with variety introduction.		31		31	9
Introduction on farm processing/storage technologies	Gomma	The use of improved sun drying post harvest technology and community based quality control system was promoted facilitated by credit to improve the quality of coffee. Even though the effort was expected to increase farmers' income by 30 %, the result was not achieved due to lower price.	4095m poly sheet , 4095m shade net , 4095 m chicken wire , 4095m Hessian clothe and 4095m jute sacks were supplied though OoARD. 300 farmers (9 female) participated from 11 PAs.				

#### 3.1.3 b: Input Supply Interventions

Type of Intervention	PLW	Description intervention and credit provision
Farmer based seed supply systems	Dale	Farmer based seedling supply system is established for best performing local varieties with 31 farmers.
	Goma	Farmer based seedling supply system is established using vegetative hybrid coffee multiplication technique. The private person prepared 100 seedlings.
Input Shops – private and/or cooperative	Goma	Farm implements supply was facilitated for coffee production and rural farm tools shops are opened by farmer traders with credit. The five shops have sold 3300 machetes, 379 forks Zapas and 150 sickles were sold to farmers

### 3.1.3c Marketing Intervention:

#### Gomma

- Improved coffee sun drying was introduced to improve the quality of coffee and thus increase income. About 300 farmers participated and produced 94 qt of quality coffee. Linkage has also been made with market parties interested to offer a premium price for quality coffee. Auction organized, premium price (20% higher than the normal coffee) offered, but farmers finally reject the offer seeking better price.
- Community quality control committee established to control the process of preparation of quality coffee using mesh wire.

### **3.2 Livestock Commodities**

Similar to the crop, various technological, organizational and institutional interventions in production, input supply and marketing were promoted for livestock commodities. Among production interventions, genetic improvement, livestock feed and improved animal management practices were the major ones for small and large ruminants' meat and dairy development. For apiculture, introduction of modern/transitional hive, introduction of improved beekeeping methods, introduction of colony production methods, introduction of bee forage/supplementary feed were the major production interventions. While introduction of improved fishing equipments together with improved fishing practice is the major production intervention for Fishery, production of chicks from hatcheries, production of pullets, introduction of improved housing, feeding and disease control systems are the major production interventions for poultry.

In input supply, introduction of improved forage seed production system, introduction of chopping services, introduction of privatized bull service for local and exotic breeds, introduction of improved AI service, introduction of paravet for improved animal health service, community based animal health control system were the major interventions for small and large ruminants' meat and dairy development. Similarly input supply interventions for apiculture introduced farmer-to-farmer bee forage seed sale system, wax sale system and sale of colonies. For Poultry the major input supply interventions are distribution and sale of chicks and pullets, introduction of paravet service and private feed/drug suppliers were the major input supply interventions. In marketing provision of market price information, facilitation of linkages for output marketing, introduction of processing techniques, and organizing marketing groups were the major marketing interventions for livestock commodities.

### 3.2.1 Large and small ruminants' meat and dairy development

#### 3.2.1a: Production Interventions:

Type of Intervention	PLW	Description of interventions and credit provision	No. of livestock or areas	No of farmers			No of PAs
				M	F	Total	
<b>Genetic improvement</b>							
Introduction of improved (exotic and local) breeds (sheep, cattle)	Fogera	Pure Fogera breed (re) introduced through private bull service for large ruminant dairy development	4 bulls	4	-	4	2
		Holstein/Friesian breed introduced through private bull service	2	2		2	2
		A domestic sheep breed called Washera breed introduced through community ram service	Initially 3 rams were introduced , now hybrid of this breed reached over 90	3	-	3	2
	Metema	Borena bulls introduced through private bull service and AI for large ruminant meat production	4 bulls and 45 cows served with AI	4	-	4	2
	Alaba	Facilitated the introduction of Holstein Friesian breed for dairy through credit	10 cows	9	1	10	1
	Alamata	Begait breed introduced for large ruminant dairy development .	40 (now 57)	33	7	40	8
Jersey and Holstein breed introduced using AI service and with estrus synchronization prior to AI service.		29					
<b>Livestock Feed</b>							
Forage seed production system	Alaba	Forage seed multiplication was demonstrated for rural dairy group	54 cows (of which 24 are exotic)	28	2	30	1
	Meiso	Elephant grass, pigeon pea, cow pea, buck wheat, lucinea, moringa planted on farmers field to establish farmer to farmer forage seed/planting material exchange -FTCs were planted with different forage species (Sesbania, TL, Lucinia) to serve as demonstration site and serve as a source of planting materials	-			50	9
Fodder species introduction	Fogera	Napier grass for backyard forage development introduced	0.5 ha	7	1	8	4
	Bure	Seeds of Vetch, Cow pea, Oat, Napier grass and Rhodes	0.5 ha	8	0	8	4

		distributed to farmers for backyard forage development for dairy and fattening					
	Metema	Elephant grass cutting and bana grass supplied for backyard forage development	500 cuttings	3	1	3	1
	Alaba	Desho grass, lablab, oats and Rhodes grass introduced for urban dairy group, private nursery and FTC	2.5 ha	10	1	11	3
	Ada	Elephant grass supplied to farmers and FTCs	300m <sup>2</sup>	2	-	2	2
	Dale	Falaris and Desho grass introduced at FTC and farmers field	-	85	14	99	3
	Alamata	Cowpea, lablab, Alfalfa, pigeon pea and Rhodes grass and sun hemp introduced first in FTCs then seeds/cuttings distributed to farmers	100kg of cow pea, 20 kg of pigeon pea, .25 kg of Buffle grass and 600 cuttings of elephant grass. Farmers intercropped cow pea in 35 ha land			18	7
	Astbi	Demonstration of three accessions of improved Napier grass , Desmanthus virgatus, Medicago sativa, Chloris gayana, Sesbania sesban, Casia struttii, Sesbania, Sesbania sesban, Eragrosis curvula introduced in farmers field, FTCs and nursery sites. Phalaris, Rhodes, Tagasaste and sesbania have been also planted to rehabilitate sloping lands and as a source of cut and carry feed for livestock	6991 cuttings 4.5 kg, 50 poly bags, and 8 bunches	The cuttings are planted in 7 FTCs and 826 farmers have planted about 28,000 cuttings. Now the 7 FTCs have started providing planting materials to farmers.			
	Meiso	<b>Tree legumes</b> ( Sesbania, Leucena, Morenga) and <b>Herbaceous legumes</b> ( Cow pea, buck wheat, Siratro, Axillaries, Pigeon pea, stylosanthes seca, S. hamata and S. gramme, Silver leaf and Green leaf desmodiums) introduced at farmers field and FTCs in 15 PAs.					
Grazing area improvement	Fogera	Promoted eradication of Amecela weed which infested grazing lands, oversaw grazing lands with grass and legumes forage species and introduce community management of grazing land for cut and carry system.	17 ha	1138	159	1297	5
	Alaba	Grazing land improvement by planting Elephant grass strip demonstrated for women fattening group	269 sheep & goat	-	21	21	1
	Astbi	Introduce area closure with cut and carry feeding system and enrich/develop grazing area at bottomlands .the response of grazing lands to fertilizer application was also demonstrated in 4 PAs.	682 ha and 2348 TLU	4553 households			13
	Astbi	Enrich/develop degraded sloppy lands with improved grasses (Phalaris and Rhodes) and forage legumes (Tree Lucerne and Sesbania)	448 ha & 2176.8 TLU	1251 households			8
	Astbi	Establishment of Napier grass along the irrigated canals, river banks and gullies.	28,881 Napir grass cuttings	826 households			13
	Alamata	Previously swampy area reclaimed and adaptability of forage species is tested on part of the reclaimed land in two PAs					

		2					
Hay making	Bure	Baler is introduced for hay making as a demonstration material in two PAs					
	Metema	Felch for grass cutting is introduced as a demonstration material and demonstration was conducted.		120	3	123	9
	Astbi	Baler and donkey pulled cart were introduced for hay making as a demonstration material in four PAs					
	Alaba	Demonstration of hay making and urea treatment	450 goats	50	-	50	2
Chopping cereal Stover	Metema	Stover chopper is introduced as a demonstration material					
	Meiso	Stover chopper introduced as a demonstration material.				52	5
Urea treatment of straw/Stover	Bure	Urea treatment of crop residues demonstrated in 7 PAs to encourage year round fattening					
	Bure	Urea treatment is demonstrated to 16 members (2 female) of Bure –Damot dairy cooperatives in one PA					
	Fogera	Urea treatment demonstrated for dairy farmers in 7 PAs. Milk increment of 1 lit/day reported by participant farmers					
	Metema	Urea treatment of straw demonstrated to 82 farmers(13 female) in 9 PAs					
	Ada	Urea treatment of straw demonstrated.					
Introduction of supplements	Meiso	Urea treatment is demonstrated for 36 farmers (all male) in 7 PAs.					
	Metema	Rice bran as animal feed promoted					2
	Alaba	UMB production demonstrated	354 kg produced	2	-	2	1
	Meiso	MUB, ULB and MUM is introduced for dairy and fattening	About 100 farmers in 10 PAs are believed to use MUB to support fattening.				
	Gomma	Cotton seed meal from oil factory, which used to be transported to other areas previously, is introduced for small ruminant fattening group as a supplementary feed.	600 kg	34	86	120	1
<b>Improved animal management practices</b>							
Stall feeding practice	Metema	Large ruminant fattening using cut and carry system with improved housing, health and feeding system promoted through training, facilitating linkage and follow up advisory service. A group of 40 people with HIV in Woreda town also enrolled in fattening business.	404	148	3	151 + 40	13 +1
	Bure	Sheep fattening using improved feeding and handling practice with credit promoted	22	21	-	21	1
		Large ruminant fattening using improved feeding, health and management practice promoted using credit fund		5	100	105	7
	Fogera	Stall feeding, improved housing and disease control promoted for large ruminant fattening with the support of IPMS credit.	46	7	-	7	3
	Alamata	Better feed management and utilization practice promoted in 5 PAs. Farmers trained in improved fattening package and encouraged to practice fattening by providing credit.	120 farmers				2
	Gomma	Small ruminant fattening using improved feeding, housing and health promoted, using community based insurance system with	600 sheep	34	86	120	1

		credit							
	Meiso	The use of shade and stall feeding for large ruminant fattening promoted					1500		30
	Ada	Fattening using improved feeding, housing and health control promoted with credit.							6
	Alaba	Peri-urban dairy group organized to promote improved dairy management practice		30			30		1
Improved housing	Metema	Model site for improved housing established at farmers site.	11				1		1
	Ada	Improved housing promoted among women dairy farmers.	82	44	3		47		6
Disease control	Alaba	Community animal health service provision introduced with provision of credit.	The six paravets are giving service in 22 PAs						
	Meiso	Para vets were trained, certified by OoPRD / Regional Vet. Laboratory and started operating after purchasing the necessary vet. kit	But not all are effective (see input supply below)	18	-		18		9 PAs

### 3.2.1b: Input supply supply/credit interventions

Input supply supply/credit interventions	PLW	Description intervention and credit provision	No. of service/ input providers	Quantity of inputs/services sold*	Unit price**	PAs covered	No of buyers of inputs and services			
							M	F	Other	T
Forage seed distribution/sale system	Alaba	Private forage seed distribution system through forage seed shopkeeper introduced & supported with credit	1	138 kg of seed sold (April- June)		-	-	-	-	-
	Meiso	Farmers to farmers forage seed and	20	260 kg <sup>10</sup>	3-8 birr <sup>11</sup>	10 PAs	50	10	OoPRD	61

<sup>10</sup> 100 kg of cow pea, 10 kg of Pigeon pea, 30 kg of Sesbania and Lucenea, 10 kg of Moringa, 10 kg of Rhodes grass, 100 bundles of sweet potato and 100 kg of Buck Wheat

<sup>11</sup> Cow pea= 4birr/kg, Pigeon Pea=3 birr/kg, Lucenea and Sesbania = 4 birr/kg, Moringa =8birr/kg, sweet potato= 5 birr/bundle

		planting material supply system facilitated for seeds of sesbania, lucena, moringa, cowpea, buck wheat and rhodes grass									
Forage seed distribution/sale system at FTC	FTCs in Astbi, Alamata, Fogera, Bure, Ada, Meiso , Alaba and Dale provide planting materials of fodder species. (See fodder species introduction above)										
MUB/UMB sale system	Alaba	Private UMB sale system introduced	2	478 kg UMB sold	5.5 birr/kg	18 PAs	-	359-		359	
	Meiso	Private input supply system of MUB established <sup>12</sup>	3	200kg	4 birr/kg	10 PAs	10	5	-	15	
Privatized bull services (exotic and local)	Fogera	Private bull station established both for local and exotic breed	4	16	5	5	-	-	-	-	
	Fogera	Community ram service without charge , farmers reported higher birth weight of lambs (5-7 kg) than the local sheep breeds (3-4kg)					About 90 hybrids were born				
	Metema	Private bull station established	4	Haven't yet started giving service							
	Alamata	Private bull service	1	From Mar. 2007 – Sept. 2007 177 cows got bull service 1	50 birr	4					
	Ada	Private bull station established	2			2					

<sup>12</sup> At the time of the monitoring visit two of the shops were closed.

	Ada	Training and introducing private AI system	2			2	But they are not functioning as they find it difficult to get AI.			
Paravet animal health service system	Alaba	Paravet system introduced	4897 animals treated	24 252 various types of drugs supplied to users by paravets	6	6 paravets located in 6 PAs but give service to 22 other PAs	-	-	-	-
	Meiso	Paravets have started giving services to surrounding farmers. Out of the trained 18, 10 have started giving service but only two are effectively operating in 4 PAs				9 PAs	-	-	-	-
Community based drug supply system	Fogera	Community based integrated Trypanosomaiasis control system established in 6 PAs. The system involves farmers network for the use of trap net, pour-on chemical and other anti-parasitic and profilactic drugs.240 trap nets used in different villages and farmers reported decreased population of biting flies.								
Animal input supply shops (drugs, concentrates)	Bure	Three farmer-trader provide industrial byproduct (wheat bran and Nough cake) to fattening groups	1	10 qt	250	2				

### 3.2.1c: Marketing Interventions

Bure:

- IPMS/OoARD provided weekly market price information for small and large ruminant, milk and milk product and other commodities. The information is collected by IPMS and distributed to all PAs through SMSs. OoARD staff has gradually started to involve in organizing market information data.
- A fattening cooperative (Andinet animal production, fattening and marketing cooperative) was formed. The Cooperative has a total member of 105 farmers found in 7 PAs. The cooperative got credit (465,000 birr) and members participated in year round fattening. Marketing linkage was created with a military camp and a cooperative in Gonder and preliminary agreement was reached to use trade license of the Gonder cooperative to export animals to the Sudan.
- Market linkage is also formed with Birsheleko military camp and farmers have started selling their animals to the camp.
- A small ruminant fattening group of 16 female farmers were facilitated in Fetam Sentom PA. 11 got credit from office of Women's affair of the Woreda.
- 41 people ( 3 female) were organized and formed Bure- Damot milk development and marketing cooperative ; the coop got o credit for purchase of cart, horse and refrigerator to improve marketing of products

Fogera:

- Marketing of fattened animals is facilitated through one of the farmers who had contact with traders linked with Sudan's Market.
- In previous year IPMS/OoARD facilitated the establishment of two dairy cooperatives at Amedber and Woreta town. IPMS/OoARD provided training, and conducted market promotion. These cooperatives have continued collection and processing and marketing of milk and milk products. The cooperative at Woreta Town is well functioning; it constructed its own shop and increased supply of milk to 100 lt/day (from 60 lt/day previously). The cooperatives at Amedber weakened due to marketing and internal management problems.

Metema:

A fattening cooperative is under establishment in one PA (kokit).

Meiso:

- Market committee established at OoPRD used to provide market information by phone on demand. However this activity is stopped currently as it is taken up by Public Relation and Information Desk of the Woreda, which started broadcasting market information using radio broadcast.
- Animal fare is organized to promote fattening activities within the Woreda and encourage livestock traders to come to the Woreda. After this activity, farmers and DAs reported that the number of traders coming to the market has increased and it has also motivated farmers to engage in cattle fattening.
- Animal weighting service demonstrated at market place for small ruminant producers. So that they are informed about the weight of their animals and negotiate effectively with buyers.
- Market linkage is created with ELFORA and small ruminant fattening groups
- The establishment of fattening cooperatives facilitated to increase negotiation power large and small ruminant fattening farmers
  - In Tokuma PA, 14 farmers (all male) formed market group for large ruminant fattening, another market group also formed in Gode Chele and in Chacole PA two market groups with 30 members formed and strengthened.
- Market linkage is created with Modjo Abators for small ruminant fattening group in Agamsa chali PA with 22 farmers. Even though they haven't started selling animals to the abattoir, they manage to sell animals so far through local assemblers.
- Milk collection group established at Gorbu which sell 50-100 litter a day established

Ada:

- The previously formed linkage between farmers in Denkaka PA and Ada Dairy Cooperative is functioning well. Milk collection farmers' continued to supply milk on daily basis.

Alamata:

A dairy cooperative (Desta milk marketing cooperative) established by OoARD/IPMS in 2005 with initial membership of 20 individuals have continued its activity. In 2007 membership increased to 135 individuals with an average daily milk collection of 120 liters.

### 3.2.2 Apiculture:

#### 3.2.2a Production interventions

Type of intervention	PLW	Description of the intervention and provision of credit	no, areas	No of farmers			No of PAs
				M	F	T	
Introduction of modern hive/beekeeping methods	Alaba	Use of modern beehive and nuclei box promoted using credit fund for 15 individuals (7 female) in 2 PAs for the purchase of 45 beehives and nuclei boxes. However due to the wider effort to promote modern apiculture in the Woreda the number of modern beehives in the Woreda has increased.					
	Astbi	Modern apiculture promoted among 38 landless youth (4 female) for the purchase of 114 colonies. Promotion of modern beehive, bee forage development, and other modern apiculture methods was conducted together with training and follow-up services. The effort believed to improve productivity by 100% and increase the number of modern beehives significantly.					
Introduction of transitional hive/beekeeping methods	Bure	Transitional beehive is demonstrated	3	2	-	2	2
	Ada	Transitional beehive is supplied to farmers with credit	21	9	2	11	3
Introduction of bee feed (fodder, sugar, other)	Alaba	Lenorous , year round flowering bee forage and Trelucerne, Pahacelia and local bee forages introduced at farmers field and also planted in two FTCs. A number of farmers in 5 PAs reported that they planted this forage on their backyard.					
	Astbi	Bee forage enrichment at 1129 ha of grazing area and 3.4 ha of homestead land promoted. Farmers reported allocating plot for bee forage is new practice in the PLW					
Production of colonies	Fogera	Farmers trained the technique of colony splitting and trained farmers started colony production using the technique of queen splitting		18	3	21	4
	Bure	farmers trained and started colony production using the technique of queen splitting	6 colonies	3	-	3	2
	Astbi	Techniques of colony splitting demonstrated and farmers started practicing it.	Splits 126 colony to 126			66	6
	Alaba	Technique of colony production introduced using nuclei box, which is purchased by credit and trained farmers started practicing.	8	7	15		

#### 3.2.2b: Input Supply Interventions

Type of intervention	PLW	Description of the intervention and provision of credit
Private input supply system.	Goma	One private apiculture input supplier was strengthened in Agro town by providing credit.
Wax sale system	Alaba	Farmer to farmer wax sales system started and about 500 sheets of wax reported to be sold through such

		mechanism.
Farmer to farmer bee forage seed sale system	Alaba	Farmer to farmer bee forage sale system promoted and farmers started selling bee forage seed to other farmers and OoARD at a price of 50 birr/kilo
	Astbi	Bee forage species planted at FTCs are being distributed to farmers in 15 PAs
New input supply service function of OoARD for production and processing	Alaba	3 Wax printer machine and 3 honey extractor introduced as a demonstration material.
	Fogera	Honey extractor provided as a demonstration material

### 3.2.2c: Marketing Interventions:

#### Bure:

- IPMS/OoARD provided weekly market price information for honey. The information is collected by IPMS and distributed to all PAs through SMSs. OoARD staff has gradually started to involve in organizing market information data.
- Previously dysfunctional beekeepers cooperative (Kokeb bee product marketing cooperative), with 48 members (all men), became operational after advisory and training services were given for its members and officials. The cooperative collected 400 kg of honey (@ 20 birr/kg) and sold (@ 23 birr/kg) from members.
  - As a result of the market linkages created with Bersheleko Military Camp and Bure ATVET College, the cooperative sold about 253 kg honey in one season.
  - It is linked with Zembaba Union which is found in Bahirdar. The union is agreed to buy honey form the cooperative at higher price. Negotiation is also underway to consider the cooperative as member of the Union.
  - The cooperative is also linked with a private honey exporter; sample of honey is given to assess the quality. If quality is assured, the honey will be exported to Saudi Arabia.

#### Astbi:

- Market linkage was created with farmers in Astbi and honey traders and processors in major towns. Telephone number of traders collected and shared with producers. Experts and farmers reported this intervention contributed to increased price of honey.
- Linkage was created with Dima, a private company with mobile honey processing centrifuge

#### Alaba:

- Price information on honey is collected and disseminated in three main market sites (Kulito, Besheno and Guba) using billboards.
- 3 wax printer and honey extractors operated by OoARD
- Linkage was created with honey processors, but since the price is lower than the local market farmers are selling locally.



### **3.2.3 Fish**

- Improved fishing practice promoted through training and organizing farmers in to fishing groups for fishermen in two PAs. 49 fishermen grouped in to seven groups and provided with modern boat and fishing equipment for each group with credit. Two of the groups also got additional credit for the purchase of outboard engine. In terms of marketing intervention, market linkage was made with Bahirdar fishery production and Marketing Corporation. The cooperation signed agreement with farmers on transportation and payment issues and farmers have started supplying fish to the cooperation. Market linkage was also made with private traders in Gonder, who latter opened branch collection center in Woreta Town.

### 3.2.4 Poultry

#### 3.2.4 a: Production Interventions

<u>Production/credit interventions</u>	PLW	Description of the interventions and provision of credit	No. of birds	No of farmers			No of PAs
				M	F	T	
Production of chicks from hatcheries	Bure	Demonstration of local incubator		3	0	3	1
	Alaba	Water and charcoal hatcheries demonstrated	100	18	1	19	2
Production of pullets	Dale	Farmers based pullet production system demonstrated among a women group of 79 (and one male)in 5 PAs with credit. The group trained about modern apiculture development including feeding, health and housing issues. Hay box brooder and runner introduced. Women got 4000 day old chicken and sold the pullets at 3-5 months of age. The group also linked with poultry feed suppliers					
Improved housing system	Alaba	Demonstration of improved housing using a model house constructed	100 pullets and cockerels	9	1	10	1
Improved feeding system for egg and meat production	Alaba	Improved poultry feed production method introduced	247 pullets and cockerels and 135 chicken	23	1	24	3
Improved disease control	Alaba	The paravets also give service for poultry					

#### 3.2.4 b: Input supply Interventions

<u>Input supply supply/credit interventions</u>		Description intervention and credit provision	No. of service/ input providers	Quantity of inputs/services sold	Unit price	PAs covered
Distribution and sales of chicks and pullets	Dale	Farmers' based pullet production and distribution system established with credit	80	Raised 3584 pullets and sold to egg producers in urban & peri-urban areas.	50	17 PAs and Yirgalem and Awasa towns. 496 individuals (105 female) and one Ngo purchased the pullets.
Para vet service provision	Bure	Three youth organized for modern poultry production,	1			

		facilitated supply of improved breeds and are in preparation stage to provide day old chickens for the community in Bure				
Feed/drug input suppliers		Improved feed/supplement introduced through two private shop owners.	2	23.5 kg	4 birr/kg	29 farmers in 6 PAs purchased the feed.

#### 3.2.4c: Marketing interventions

- 16 women in one PA organized for local chicken rearing and marketing in Bure
- 80 individuals (79 women) organized as pullet producers. Pullet marketing was advertised through FM and Sidama radio. Linkage with potential buyers /governmental and nongovernmental organizations /was facilitated through direct contact.

## 4. Research

The expected outcome of the research component are strategies, policy and technology options and institutional innovations developed both from research and lessons learned, documented and promoted in order to enhance market-oriented agricultural development. Approaches, methods, tools and processes developed, documented and promoted for knowledge management, capacity building, commodity development, gender, HIV/AIDS and environment are the expected outputs of the research component.

The project conducted/sponsored studies on various subjects since its inception. These studies were conducted by the project staff, consultants and researchers from EARS on topics related to priority commodities and cross cutting issues. In addition, graduate and attachment students have also contributed by conducting studies across the ten PLWs. To improve the involvement of RARIs, a MoU was signed with regional research institutes that provided collaborating research institutions a framework for conducting participatory community based action research. all in all, 156 studies have been finalized by the project staff, consultants, researchers and students by the end of 2008. (Table 4:1)

Table 4:1 Number of Completed Studies (up to end of 2008)

PLW	No. of Completed studies
Ada	18
Alaba	19
Alamata	15
Astbi	17
Bure	5
Dale	20
Fogera	19
Goma	3
Meiso	13
Metema	20

Other	7
Total	156

The completed studies covered various topics in areas of production, marketing, extension, innovation, gender, HIV/AIDS, environment and knowledge management. 65% of these studies cover production and marketing of priority commodities, while gender and HIV/AIDS related studies make up 16 %.

In an effort made to disseminate research findings, the project published and distributed 13 of the completed studies as working paper of the project to libraries and WKC's of RARIs, BoARDs and OoARDS. Similarly reports on 23 completed studies have been presented on national and international conferences and submitted to be published as part of conference proceedings. Graduate students who have been sponsored by the project have presented major findings of their research to PLW staff. Copies of research reports of consultants, attachment and graduate students were also made available at WKC's.

However, interviewed BoARD/OoARD stated that, even though they believe in the relevance of topics of IPMS facilitated studies to solve local problems feedback they get on research results concerning their PLW's/region was minimal. Apart from students' presentations of their findings to a small number of audience at PLW level and occasional project staff/consultant presentations of research reports during workshops, local staff do not have other opportunities to get summaries of main findings. There is also no other mechanism to provide an abridged version of major research results tailored to PLW staff.

In general unlike the previous year involvement of regional research institutes has improved after the MoU was signed. The MoU have influenced research teams to modify their approaches to include other partners (mainly OoARD staff) for participatory community based action researches. However failure to implement research proposals according to agreed time table and procedure were reported for some studies.

Researchers' engagement in the BPR process and logistic bottlenecks were mentioned as the main problems by researchers. However, limited experience of researchers in conducting community based action research could also have contributed for the reported delay.

## **5. Summary and Conclusion**

The project has achieved various levels of results in four of its components: knowledge management, capacity building, commodity development and research. In knowledge management, the project undertook activities to identify knowledge gaps, capture knowledge, develop and enhanced knowledge sharing mechanism and establish ICT network and infrastructures.

The expected outputs of the project knowledge management component are increased understanding and awareness of the knowledge requirement for managing the new commodities, establishment of enhanced (IT based or non-IT based) knowledge sharing system and increased availability of knowledge in various forms. These outputs have and will contribute to the expected outcome of knowledge management, which is to have functional agricultural knowledge management system, interconnected and utilized at all levels, employing innovations and appropriate technologies. These outputs are discussed in detail below.

As a primary output of the knowledge management project, enhanced IT based and non-IT based knowledge sharing systems were established at different levels. At the Federal level, a web based central repository of information called 'Ethiopian Agricultural Portal (EAP)' has been established. The EAP is accessible to the public and is populated with relevant documents collected from various sources. At regional BoARDS and RARIs as well as Zonal OoARD establishment of mirror sites to allow offline access to the contents of the portal is under way in the third year of the project. The Woreda Knowledge centers that were established previously are functioning in all PLWs, except Meiso and Metema where lack of conducive room and personnel to look after WKC were identified to be deterrents.

At PA level, model FTCs were selected and were supplemented with knowledge management tools and methodologies to convert them into knowledge centers. The effort to broaden FTCs' role in knowledge sharing has equipped model FTCs with audiovisual

equipment, ICT tools, access to internet where possible and generators where there is no electricity. The delivery of these equipment has only been partially completed due to security issues at some FTCs. Other physical demonstration materials, printed materials and a few CDs/VCD are also available. In addition, plots are used as live learning sites to demonstrate various crop/forage species, improved agronomic and husbandry practices as well as innovative soil and water conservation techniques. Up to September 2008, 625 non-IT innovative knowledge sharing approaches which promote linkage among partners through connection of actors were conducted across the PLWs in the form of demonstration, study tours, seminars, workshops, platform meetings, field visits and exhibitions. These events have brought together a total of 31,249 male and female farmers and staff from the private and public sectors. Even though IPMS took the lead in most of these events, OoARDs initiation and participation was reported in most of the PLWs. Some have even started to take the initiative to organize such events with their own resources. It should be noted that these mechanisms are not totally new to PLWs, but the approaches they were conducted in terms of frequency, focus, source of knowledge, etc made them different from the previous times.

Increased availability of knowledge in various forms is another important output of the project. The above mentioned and other capacity building interventions have contributed to increased availability of knowledge in various forms. Quantitative analysis of year 3 M & E data showed that farmers' access to information about production, input supply, credit and marketing information of priority commodities is higher in intervention PAs than in non-intervention PAs. Not only access is improved but also quality of information was found to be higher in PAs where IPMS works. While comparing intervention PAs with Non-intervention PAs, Improvement was also observed in terms of:

- Diversity of source of information - In all the PLWs the most important source of extension information is still DA/OoARD, but farmers in intervention PAs named additional sources such as NGOs/CBOs and research centers.
- Diversity of Information type - farmers in non-intervention PAs mainly got information on production technology, whereas farmers in intervention

PAs also got more information about input supply, credit and marketing of commodities.

- Diversity of form in which information is delivered/received - Even though oral/lecture remained the main form of information delivery for farmers in both intervention and non-intervention PAs, other forms of information delivery like demonstration, printed material, and audio-visual aids have become more evident in intervention PAs.

The third important output of the project is increased understanding and awareness of the knowledge requirement for managing the new commodities. Farmers now have increased awareness regarding the need of information about production technologies, input supply options, credit and marketing issues. Results of the M & E data showed that farmers in intervention PAs asked for more information than those farmers in non-intervention PAs. Officials of OoARD in different PLWs have also recognized the need to support the various knowledge management tools and approaches and have supported the project's knowledge management efforts.

The expected outcome of the outputs of knowledge management mentioned above is the institutionalization of functional knowledge management system established at PLW level. Quantitative and qualitative analysis of the M & E data showed that the desired changes to institutionalize functional knowledge management system have been realized in part in all PLW in various degrees.

The M & E findings indicated that the utilization of the various enhanced knowledge management systems at different levels. The EAP and the MoARAD e-mail system have become operational at the federal level, with EAP now accessible to any one with internet connection. Staff of the federal MoARD has also started using the e-mail system for communication. Similarly, improved use of the services of the WKC is recorded at Woreda level. OoARD staff use WKC as a center for self development by reading/borrowing materials, browsing internet/CDs, and organizing other knowledge sharing events such as seminars and workshops. To a lesser extent, computers are also

used to write office reports and to store some basic data relating to the Woreda, indicating the beginning of a shift from reporting and keeping data on paper to a computerized database. However, the use of FTCs as a center of knowledge sharing within PA by using ICT and audio-video tools has hardly begun during year three at PA level. The main reasons for this are identified as delay in delivery of the facilities to PAs, lack electric power at the FTCs, and low level of DAs' IT literacy. However, FTCs have started using other demonstration materials provided by the project during farmers' training. They also use their plots to demonstrate various crop/forage species, improved agronomic and husbandry practices as well as innovative soil and water conservation structures as mentioned previously.

Usefulness of the other non-IT knowledge sharing approaches is also reported by participating farmers, DAs and experts. As indicated in the main report the various knowledge sharing events influenced participating farmers, DAs and experts to test production, input supply and marketing innovations to their own settings. Aside from appreciating the benefits of such knowledge sharing mechanisms, some level of institutionalization is observed in terms of the OoARDs supporting knowledge sharing mechanisms and also organizing knowledge sharing events with their own resources.

All in all, the knowledge management component of the project has registered the outputs and outcomes stated above. However, one should note that these achievements are not at the same level in all PLWs or even in all PAs of the same PLW. Moreover, the problems mentioned are not equally important in all PLWs. However, the following are common problems that need attention of the concerned.

Despite improved utilization of WKC facilities, shortage of relevant printed and electronic materials (especially in national or local languages), frequent failure of computers in the WKC and lack of local capacity to maintain them and weak linkage with domestic and foreign knowledge generating institutions are some of the problems observed. Both IPMS and OoARD need to strengthen the effort to solve these problems. Linking WKC with research centers, universities and subscribing to free newsletters and

magazines related to market oriented agricultural development should be considered. Most of the Woredas have assigned individuals to look after the WKC, but they lack the training required.

The use of FTCs as a hub for knowledge sharing is at an early stage and the recorded achievements are not consistent across all PAs. Although availability of printed materials is on the rise, it still falls far short of the needed amount in language and relevance at DA levels. Delivery of ICT and audio-video equipment is delayed in most PAs and utilization of the facilities hardly began in those who have received the equipments. Low level of computer literacy of DAs and shortage/lack of appropriate CD/VCDs are the major problems which hinder efficient use of the facilities. Priority should be given to training DAs on how to use ICT, promote the use of TV/DVDs by providing CD/VCDs appropriate for farmers, including finding a means for providing maintenance for computers and other ICT equipment. As pointed above OoARD staff participation in using and organizing knowledge sharing events is encouraging, but their involvement in knowledge gap assessment and capturing is low. Skill development in areas of data collection and analysis and preparation of data entry forms are two areas that deserve attention.

The major outputs of the capacity building component of the project are development of collaborative network arrangements among actors and increased awareness, knowledge and skill of farmers, individuals from the private sector, and public sector staff. In this regard the project organized various short term trainings in specific technical and social subjects which benefited 4557 farmers, 202 individuals from community based or private organizations, and 1896 public sector staff. Similarly 97 public sector staff members that have been sponsored for their MSc./DVM/BSc. have graduated by 2008.

As a result of these capacity building efforts and other knowledge management efforts, increased knowledge and skill was recorded among farmers, private sector and public sector staff. Farmers who directly participated in IPMS facilitated intervention and those who took part in farmer-to-farmer knowledge sharing or attended successive trainings

given by DAs/SMSs showed significant improvement in knowledge and skill in production, input supply and marketing of crop or livestock enterprise. Though it is difficult to measure the level of knowledge and skill that has resulted due to all the interventions, the monitoring team noted an improvement in knowledge and skill by observing farmers' practices in translating knowledge into action. Farmers involved in direct or indirect capacity building interventions were seen applying the acquired knowledge and skill to managing their farms. Improvement in the private sector was evident in input suppliers and cooperatives/unions that have used the incremental knowledge by entering into market-oriented production, input supply and marketing activities.

Likewise, public sector staff members have reported that the various knowledge management and capacity building activities have helped them to improve their knowledge and skills, which they are using in two ways. DAs/SMS reported that they have started using the acquired technical knowledge to train farmers/DAs in non-intervention PAs, and are now incorporating the various innovations promoted by IPMS in their annual plans and have started to scale out innovations in new PAs.

The report also discussed linkages and collaborative institutional arrangement that were formed to promote collaboration and coordination among actors. In this regard WALC and RALC were established at Woreda and Region levels respectively, and partner linkages and commodity platforms that prompted multi-stakeholders action formed for various commodities across the PLWs. Other partnership arrangements, mainly bilateral linkages between farmers and other input suppliers, traders, researchers and financing institutions, that promote collaboration and coordination among relevant actors in the value chain were also formed. These linkages are mainly initiated by IPMS/OoARD to facilitate knowledge sharing, and jointly test innovative production, input supply, credit and marketing activities.

While the establishment of these institutional arrangements is reported as an output level result, the extent of linkage and coordination among actors and farmers' satisfaction of the extension service were seen as indicators of outcome of capacity development, which is strengthened innovative capacity of farmers, private and public sector organizations.

The established WALCs and RALCs are functioning well in all PLWs and Regions except Meiso, where problems of working together were reported by members of WALC. The previously observed problem of a low level of awareness of WALC members about the project's objective and approach in the past year has shown significant progress. Members reported greater involvement of WALC in project planning and implementing. They also reported about the greater planning flexibility WALC got following the decision made towards the end of year 3, which gave WALCs the opportunity to manage their own budget. The learning function of WALC has also progressed significantly from the previous year as they now meet regularly and conduct periodic field visits. In the contrary, RALCs in all four regions were weak and their role is limited to approving the annual plans of PLWs. This came about due to RALC members' inability to conduct the regular meeting and review project progress collectively because of their engagement in the extended BPR process during the year. However, chairpersons of RALC stated that they were following project progress individually with RDOs through informal settings.

The different linkage arrangements and commodity platforms that were established across the PLWs showed mixed results in playing their role in promoting coordination and learning. Some of these arrangements facilitated the joint action of stakeholders to solve specific problems along the value chain. However, most of the initial commodity platforms were weak or have ceased to exist as permanent institutional arrangements. But many agree that the experience gained from platform approach has made working with ad-hoc committee commonplace in most PLWs. These ad-hoc committees don't have permanent structures and draw as stakeholders from different disciplines and are mostly established to solve marketing or input supply problems for a particular season.

Finally, quantitative analysis of year 3 M & E data showed that farmers' satisfaction with the extension service they got for the selected priority commodities was higher in intervention PAs than non-intervention PAs. The following are some observations regarding capacity development interventions:

- Except in Tigray region, DAs were frequently transferred to other PAs, a fact which has both a positive and negative impact on the project's objective. DAs who have limited exposure to a particular innovation from non-intervention PAs are transferred to intervention PAs or vice versa. Even though such cases positively contributed to the scaling out of innovation into non-intervention PAs, it also hampered continuity and expansion of some innovations in the intervention PAs. In this regard, interventions whose capacity building efforts included other DAs from potential PAs beyond the immediate intervention PAs were not so much affected since the newly assigned DAs would have the necessary exposure. Similarly, even though the horizontal and vertical transfer of SMSs who benefited from short term and long term capacity building efforts may hamper the realization of their contribution in their PLW, they will contribute to the scaling out and up process of project approaches.
- Platforms are mostly initiated by IPMS staff and the involvement of actors other than IPMS and OoARD is low. Nurturing the participation of other stakeholders especially from the private sector and building their capacities to effectively participate in these arrangements should be considered.
- Capacity building efforts, which increased knowledge and skill of participants, were now better linked with commodity development efforts, which facilitated conducive conditions to transform knowledge into action, which is an improvement as compared to the findings in the previous year's M & E report. According to SMSs, proper targeting of training participants and preparation of action plans at the end of trainings were reasons to this improvement.

- Capacity development interventions provided to cooperatives/unions is shallow and mostly limited to technical matters, giving advisory service and promoting linkage with relevant actors. However, OoARD and CBO officials pointed out the need of capacitating CBOs' officials in issues of leadership, organizational and business management. Similar problems, though to a lesser extent, are also seen in the capacity building efforts towards private input suppliers.

The outcome of the commodity development component of the project is the adoption of appropriate technologies, innovative input supply, output marketing and financial services in order to improve agricultural productivity and market success in the PLWs. Establishment of ten PLWs that are strategically linked to the priorities of the Woreda & Regional Development Plans; and promotion of appropriate technologies, processes and institutional innovations are the two major outputs that contribute to the above mentioned outcome.

In addition to the previously established 8 PLWs, Goma and Bure PLWs were established in Oromia and Amhara Regional States. Annual work plans of the PLWs were developed in close collaboration with OoARD staff and approved by the respective WALC & RALC. According to WALC and RALC officials, the annual plans are in line with the overall government objective of market oriented agricultural development. However, IPMS/OoARD plan differs from the regular OoARD plan in the approach they employ to meet objectives. According OoARD/BoARD officials IPMS/OoARD plans employ participatory, value chain approach to develop few marketable commodities. Moreover, the plan emphasizes to knowledge management and capacity building interventions to support development of selected commodities. It was also reported that, in addition to using the inputs of various stakeholders, the IPMS/OoARD approach gave a room for various production, input supply and marketing innovations.

The project together with its partners identified and introduced technological, organizational and institutional innovations for production, input supply, and marketing

of crop and livestock commodities. Some of these interventions in production, input supply and marketing were with provision of credit while others were without credit.

The major production interventions for crop commodities include introduction of farmers' based seed/seedling production system, introduction of crop varieties, introduction of on farm processing/storage technologies and introduction of improved management practices.<sup>13</sup> Input supply interventions for crop commodities were mainly focused on establishment of farmer based seed/seedling supply system, facilitation of private and/or cooperative input shops. Marketing interventions were mainly related to provision of market information and facilitation of market linkage.

Similarly, innovative interventions were promoted for livestock commodities. Among production interventions, genetic improvement, livestock feed improvement and improved animal management practices were the major production interventions reported for small and large ruminants' meat and dairy development. Production interventions for apiculture include introduction of modern/transitional hive, introduction of improved beekeeping methods, introduction of colony production technique, introduction of bee forage and supplementary bee feed. While introduction of improved fishing equipments together with improved fishing practice was the major production intervention for Fishery development, production of chicks from hatcheries, production of pullets, introduction of improved housing, feeding and disease control systems were the major production interventions for poultry development.

In input supply, introduction of improved forage seed production system, introduction of chopping services, introduction of privatized bull service for local and exotic breeds, introduction of improved AI service, introduction of paravet system for improved animal health service and community based animal health control system were the major interventions for small and large ruminants' meat and dairy development. Similarly input supply interventions for apiculture development focused on the establishment of farmer-

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<sup>13</sup> e.g improved land preparation methods, improved planting method, improved weed control method, improved soil and water conservation technology, improved pest and disease control and management methods etc

to-farmer bee forage seed sale system, wax and bee colony sale system. For Poultry the major input supply interventions were distribution and sale of chicks and pullets, introduction of paravet service and private feed/drug suppliers were the major input supply interventions. Marketing interventions for livestock focused on provision of market price information, facilitation of linkages for output marketing, introduction of processing techniques, and organizing marketing groups.

Almost all of the innovations were initially introduced in selected farmers in one or few PAs mainly in demonstration form. The level of adoption in year 3 varies across various innovations and PLWs/PAs depending on several factors. Some of the innovations were newly introduced and were still at demonstration stage during year 3. Some of the innovations went beyond the initial stage of demonstration and adopted by a number of farmers in other PAs or other Woredas. On the contrary others were adopted only by the initial farmers or adopted by a small number of farmers or not adopted at all.

The project has conducted studies on various topics by the project staff, consultants, researchers, attachment and graduate students. A total of 156 studies have been finalized by 2008. 65% of these relate to production and marketing of priority commodities, while gender and HIV/AIDS make up 16 % of the completed studies. To disseminate result of the studies, 13 of these completed studies have been published as working paper of the project and 23 submitted to conference proceedings. Graduate students presented major findings of their research to PLW staff and copies of research reports of consultants, attachment and graduate students were also made available at WKC.

The report noted increased involvement of RARIs in conducting action research as compared to the past year. The MoU which was signed between IPMS and RARIs influenced researchers to include other partners in the research process for participatory community based action research. However, delay in implementation and finalization of research reports according to standard were reported due to the extended BPR process which kept researchers busy, logistic problems (especially vehicle) and possibly limited experience of researchers on community based action research.

Even though BoARD/OoARD staff believes that studies conducted/sponsored by IPMS have dealt on topics that are relevant to local situations, they reported limited awareness about findings of the completed studies and therefore; their relevance to solve local problems. Absence of other mechanisms (other than students' presentations to PLW staff and project staff/consultants' presentations during occasional workshops) that provide summaries of main findings and implications for local development is missing. Therefore designing of mechanisms that would help to provide an abridged version of major research results tailored to PLW staff needs to be considered.

IPMS being a learning project, from the research component perspective information should be generated and synthesized about the innovations tested in the PLWs and shared across sites and with others through different means to allow learning from experience. Even though there were some instances of recording innovation history in some PLWs, studies on efficiency and effectiveness of innovations are limited. Tracking and documenting processes of innovation, synthesizing lessons learned and sharing within and outside PLWs should be key focus areas in the future.



## Annex 1: Performance Measurement Framework

Result Expectations	Performance Indicators	Data Sources	Methods & Techniques of Data Collection	Frequency of Data Collection	Roles and Responsibility	
<p><b>Impact:</b></p> <p>Improved agricultural productivity and production within functional market-oriented agricultural production systems in and beyond the PLWs.</p> <p><i>On the Right are Possible Performance Indicators for Post-Project Impact Assessment by External Evaluators:</i></p>	<p>[Baseline; End-of-Project (EoP) targets; Fiscal Year (FY) targets; Six-month targets]</p>	<p>(individuals or organizations from which the data is obtained)</p>	<p>(what methods &amp; techniques will be used to collect data)</p>	<p>(how often does data have to be collected for management &amp; reporting purposes)</p>	<p>C – who collects data A – who analyzes data R – who reports on analyses D – who makes decisions if decisions are required</p>	
						1. % of cultivated area under cash crops.
						2. % increase in volume of each priority commodity, crop and/or livestock, which is sold.
						3. % increase in volume of produce moving outside of the 10 PLWs and/or Woredas.
						4. % increase of women’s share of commercial sales within households and/or communities.
						5. Presence of soil and water conservation measures adopted by households.
						6. % of crops grown with commercial varieties.
						7. Presence of a reduction in risky behavior with respect to HIV/AIDS.
						8. % increase in yield per hectare or milk per unit produced.
						9. % increase of women in valued- added activities involving priority commodities.
						10. Extent to which gender, HIV/AIDS and environment are integrated into the DAs’ activities and/or Annual Work Plans.
<p><b>Outcome # 1:</b></p> <p>Functional agricultural knowledge management system operationalized at Woreda &amp; Federal levels,</p>	<p>1. Extent of utilization of knowledge-based approaches to developing marketable commodities.</p> <p>Baseline: Targets: EoP &amp; FYs</p>	<p>- Communities (of farmers and/or pastoralists in PLWs. The same structure as used in the baseline survey will be used to establish group interviews)</p>	<p>- Group Interviews</p>	<p>- Project Year (PY) 3  - PY 5 (before Project completion)</p>	<p>- Under the management of the IPMS Performance Measurement Officer (PMO), PM Assistants (PMAs) prepare data collection instruments in collaboration with RDOs, RDAs, and FAs. PMAs, under the PMO, will be responsible for the collection, analyzes and reports on data collected. - IPMS management and/or Steering Committee (SC) make decisions as required.</p>	

<p>highlighting innovations and appropriate technologies.</p>	<p>2. Frequency of information exchange among Stakeholder institutions and organizations (including the private sector) at Woreda, Regional &amp; Federal levels.</p> <p>Baseline: Targets: EoP &amp; FYs</p>	<p>- Woreda level: OoARD, WALC, &amp; NGOs</p> <p>- Regional level: BoARD &amp; RALC Chairperson</p> <p>- Federal level: NALC</p> <p>- Private sector</p>	<p>- Interviews</p>	<p>- PY 3</p> <p>- PY 5</p>	<p>- PMAs (PMAs will supervise and participate in data collection, analyzes and reports on data collected)</p>
	<p>3. Usefulness of information received by farmers, institutions and organizations.</p> <p>Baseline: Targets: EoP &amp; FYs</p>	<p>- Communities</p> <p>- Woreda level: OoARD &amp; NGOs</p> <p>- Regional level: BoARD &amp; RALC Chairperson</p> <p>- Federal level: NALC &amp; MoARD</p>	<p>- Group Interviews</p> <p>- Interviews</p> <p><i>(Interview questions need to define “usefulness”)</i></p>	<p>- PY 3</p> <p>- PY 5</p>	<p>- PMAs</p>
<p><b>Outputs that contribute primarily to Outcome #1.</b></p> <p><b>Output # 1.1:</b></p> <p>Increased understanding and awareness of the knowledge requirements for managing the new commodities of farming systems in the PLWs.</p>	<p>1. Number of new types of inquiries by women and men farmers about different options for production and marketing of the new commodities.</p> <p>Baseline: Targets: EoP &amp; FYs</p>	<p>- Communities</p> <p>- DAs</p>	<p>- Group interviews</p> <p>- Interviews (and possible review of records or activity logs)</p>	<p>- Annually, beginning in PY 2.</p>	<p>- PMAs</p>
	<p>2. Frequency of interface between Woreda OARD, Regional BoARD, MoARD, Regional &amp; National Agriculture Research Institutions (RARIs and NARIs) &amp; private sector.</p> <p>Baseline: Targets: EoP &amp; FYs</p>	<p>- Office of Agriculture and Rural Development (OoARD) at Woreda level</p> <p>- Regional BoARD</p> <p>- Federal MoARD</p> <p>-Regional &amp; National Agriculture Research Institutions (RARIs and NARIs)</p> <p>-Private sector</p>	<p>- Interviews and/or document review for all data sources</p>	<p>- Annually, beginning in PY 2.</p>	<p>- PMAs</p>

<b>Output # 1.2:</b>  Increased availability of knowledge in various forms.	1. Number of knowledge assets (e.g., best practices, improved varieties and institutional innovations) made available to women and men farmers and to Woreda level organizations.  Baseline: Targets: EoP & FYs	- Communities  - DAs  - Woreda OoARD	- Group Interviews  - Interviews and review of documents  - Interviews	- Annually, beginning in PY 2.	- PMAs
	2. Presence of ready access points (persons or tools) to information sources.  Baseline: Targets: EoP & FYs	- FTCs - OoARD - BoARD or Planning Officer - MoARD  - IPMS Office	- Interviews - Interviews - Interviews  - Interviews  - Review Project records	- Annually, beginning in PY 2.	- PMAs
<b>Output # 1.3:</b>  Enhanced knowledge sharing systems established.	1. Extent of dissemination of available knowledge.  Baseline: Targets: EoP & FYs	- Communities  - Woreda OoARD  - Woreda Knowledge Centre (WKC)  - DAs	- Group Interviews  - Interviews  - Interviews  - Interviews and review of documents	- Annually, beginning in PY 2.	- PMAs
	2. Frequency of knowledge sharing [e.g., at meetings, farmers' days, FTCs, Communities of Practices, exhibitions, conferences as well as amongst various Stakeholder organizations (e.g., NALCs, RALCs, WALCs and private sector organizations)].  Baseline: Targets: EoP & FYs	- FTCs  - OoARD and/or WALC  - BoARD and/or RALC  - MoARD and/or NALC  - Ethiopian Agricultural Research System (EARS)	- Interview DAs  - Interviews  - Interviews and/or review records of WALC & RALC meetings  - Interviews  - Interviews and/or surveys	- Annually, beginning in PY 2.	- PMAs

<b>Output # 1.4:</b>  National Agricultural Information Resource Centre (NAIRC) established & operationalized within MoARD.	1. Presence of a central repository of information on priority commodities that is easily accessible by Stakeholders.  Baseline: Targets: EoP & FYs	- MoARD  - BoARD  - OoARD	- Interviews and/or physical inspection  - Interviews and/or physical inspection  - Interviews and/or physical inspection	PY 3  PY 5	- PMAs
	2. Extent to which information available on priority commodities addresses issues of technology, extension services, credit information & services, marketing, & input supply.  Baseline: Targets: EoP & FYs	- MoARD  - BoARD  - OoARD	- Interviews  - Interviews  - Interviews	PY 3  PY 5	- PMAs
<b>Output # 1.5:</b>  ICT networks and infrastructure established & operationalized.	1. Presence of ICT network & infrastructure established and operationalized at different levels.  Baseline: Targets: EoP & FYs	- MoARD  - BoARD  - OoARD  - IPMS Office	- Interviews for all levels - Document reviews for all levels - Physical inspection for all levels  - Document reviews	- PY 3  - PY 5	- PMAs
	2. Extent to which Woreda office personnel, women and men, are able to search for desired information at the NAIRC and from other relevant sources.  Baseline: Targets: EoP & FYs	- MoARD  - BoARD  - OoARD  - WKC	- Interviews for all levels - Document reviews for all levels - Physical inspection for all levels	- PY 3  - PY 5	- PMAs

<p><b>Outcome # 2:</b></p> <p>Strengthened innovation capacity of farmers, pastoralists, community-based and private sector organizations, and agriculture and natural resource management public organizations to support the development of small-holder, market-oriented agricultural production systems.</p>	<p>1. Extent of coordination, linkages, activities and/or communications between actors.</p> <p>Baseline: Targets: EoP &amp; FYs</p>	<ul style="list-style-type: none"> <li>- OoARD</li> <li>- IPMS Office</li> <li>- CBOs</li> <li>- Private sector organizations</li> <li>- EARS</li> <li>- NGOs</li> </ul>	<ul style="list-style-type: none"> <li>- Interviews and/or review reports</li> <li>- Review 6 month activity reports</li> <li>- Interviews</li> <li>- Interviews</li> <li>- Review reports</li> <li>- Interviews</li> </ul>	<ul style="list-style-type: none"> <li>- PY 3</li> <li>- PY 5</li> </ul>	<ul style="list-style-type: none"> <li>- PMAs</li> </ul>
	<p>2. Level of responsiveness of the extension system, including FTCs, to the needs of women and men farmers.</p> <p>Baseline: Targets: EoP &amp; FYs</p>	<ul style="list-style-type: none"> <li>- Communities</li> <li>- DAs</li> <li>- OoARD</li> </ul>	<ul style="list-style-type: none"> <li>- Group Interviews</li> <li>- Interviews &amp; review Annual Work Plans</li> <li>- Interviews &amp; review planning documents and reports</li> </ul>	<ul style="list-style-type: none"> <li>- PY 3</li> <li>- PY 5</li> </ul>	<ul style="list-style-type: none"> <li>- PMAs</li> </ul>
	<p>3. Level of satisfaction of women and men farmers with the technical &amp; institutional support they receive.</p> <p>Baseline: Targets: EoP &amp; FYs</p>	<ul style="list-style-type: none"> <li>- Communities</li> </ul>	<ul style="list-style-type: none"> <li>- Group Interviews</li> </ul>	<ul style="list-style-type: none"> <li>- PY 3</li> <li>- PY 5</li> </ul>	<ul style="list-style-type: none"> <li>- PMAs</li> </ul>
<p><b>Outputs that contribute primarily to Outcome #2.</b></p> <p><b>Output # 2.1:</b></p> <p>Increased knowledge, awareness, understanding and skills of staff in public organizations, in the Ministry, and in Research &amp; Educational institutions (including possible post-</p>	<p>1. Extent to which training courses incorporate participatory technology development skills, dissemination methods and cross-cutting themes of gender equality, environment and HIV/AIDS.</p> <p>Baseline: Targets: EoP &amp; FYs</p>	<ul style="list-style-type: none"> <li>- TVETs instructors who were trained by the IPMS Project and who are now teaching.</li> <li>- DAs</li> </ul>	<ul style="list-style-type: none"> <li>- Group and/or individual interviews</li> <li>- Interviews</li> </ul>	<ul style="list-style-type: none"> <li>- Annually, beginning in PY 3.</li> </ul>	<ul style="list-style-type: none"> <li>- PMAs</li> </ul>

<p>graduate candidates) to enhance their capacity to better respond to the needs of farmers (training in specific technical and social subjects such as: environmental studies, gender equality, HIV / AIDS, information and communication sciences, innovative extension, agronomy, marketing, and crops and animal production).</p>	<p>2. Extent to which staff in public organizations incorporate innovative methods in the provision of services to women and men farmers.</p> <p>Baseline: Targets: EoP &amp; FYs</p>	<p>Staff, men and women, in public organizations, such as:</p> <ul style="list-style-type: none"> <li>- OoARD</li> <li>- BoARD</li> <li>- MoARD</li> <li>- NARI (EARS)</li> <li>- DAs (TVET)</li> <li>- IPMS Office</li> </ul>	<p>- Interviews and/or review of Work Plans and reports of public organizations.</p>	<p>- Annually, beginning in PY 3.</p>	<p>- PMAs</p>
	<p>3. Level of satisfaction of women and men farmers &amp; pastoralists with the services delivered to them by CBOs, public &amp; private sector organizations.</p> <p>Baseline: Targets: EoP &amp; FYs</p>	<p>- Communities</p>	<p>- Group Interviews</p>	<p>- Annually, beginning in PY 3.</p>	<p>- PMAs</p>

<p><b>Output #2.2:</b></p> <p>Increased knowledge, awareness, understanding and skills of women and men farmers, pastoralists, and staff from Community-Based Organizations (CBOs) and from private-sector organizations serving the PLWs.</p>	<p>1. Level of awareness, knowledge and skills of farmers and pastoralists on specific technical and social subjects.</p> <p>Baseline: Targets: EoP &amp; FYs</p>	<ul style="list-style-type: none"> <li>- Communities</li> <li>- CBOs</li> <li>- Private sector organizations</li> </ul>	<ul style="list-style-type: none"> <li>- Group Interviews</li> <li>- Interviews</li> <li>- Interviews</li> </ul>	<p>- Annually, beginning in PY 3.</p>	<p>- PMAs</p>
<p><b>Output # 2.3:</b></p> <p>Collaborative network arrangements between farmers, pastoralists, CBOs, public and private sector organizations developed to better respond to market demands on the use of demand-driven agricultural technologies and services.</p>	<p>1. Presence of functional institutional arrangements that promote collaboration and coordination amongst various actors.</p> <p>Baseline: Targets: EoP &amp; FYs</p>	<p>Heads of Bureaus and Sector Experts at:</p> <ul style="list-style-type: none"> <li>- OoARD</li> <li>- BoARD</li> <li>- MoARD</li> <li>- IPMS Office</li> </ul>	<ul style="list-style-type: none"> <li>- Interviews at the Woreda, Regional and Federal levels.</li> <li>- Review of planning documents</li> <li>- Review reports</li> </ul>	<p>- Annually, beginning in PY2.</p>	<p>- PMAs</p>
	<p>2. Extent to which these functional institutional arrangements promote collaboration and coordination amongst various actors in order to respond to and learn from market-oriented agricultural development.</p> <p>Baseline: Targets: EoP &amp; FYs</p>	<ul style="list-style-type: none"> <li>- OoARD</li> <li>- BoARD</li> <li>- MoARD</li> <li>- Private sector organizations</li> <li>- RARIs</li> </ul>	<ul style="list-style-type: none"> <li>- Document reviews focusing on, e.g., shared plans and activities</li> <li>- Interviews</li> <li>- Interviews &amp; review documents</li> </ul>	<p>- Annually, beginning in PY2.</p>	<p>- PMAs</p>

<p><b>Outcome # 3:</b></p> <p>Appropriate technologies, innovative input supply – output marketing, and financial services adopted in order to improve agricultural productivity and market success in the PLWs.</p>	<p>1. Level of farmers’ adoption of technologies (products, methods and processes).</p> <p>Baseline: Targets: EoP &amp; FYs</p>	<ul style="list-style-type: none"> <li>- Communities</li> <li>- OoARD</li> <li>- PA Administration including DAs</li> </ul>	<ul style="list-style-type: none"> <li>- Group Interviews</li> <li>- Interviews &amp; review reports</li> <li>- Interviews</li> </ul>	<ul style="list-style-type: none"> <li>- PY 3</li> <li>- PY 5</li> </ul>	<ul style="list-style-type: none"> <li>- PMAs</li> </ul>
	<p>2. Number of institutions providing innovative new agricultural support systems (e.g., extension, input supply, credit and marketing)</p> <p>Baseline: Targets: EoP &amp; FYs</p>	<ul style="list-style-type: none"> <li>- Communities</li> <li>- OoARD</li> <li>- PA Administration including DAs</li> </ul>	<ul style="list-style-type: none"> <li>- Group Interviews</li> <li>- Interviews &amp; review reports</li> <li>- Interviews</li> </ul>	<ul style="list-style-type: none"> <li>- PY 3</li> <li>- PY 5</li> </ul>	<ul style="list-style-type: none"> <li>- PMAs</li> </ul>
	<p>3. Extent to which technologies are sensitive to gender, HIV/AIDS, environment and sustainability issues.</p> <p>Baseline: Targets: EoP &amp; FYs</p>	<ul style="list-style-type: none"> <li>- Communities</li> <li>- OoARD</li> <li>- PA Administration including DAs</li> </ul>	<ul style="list-style-type: none"> <li>- Group Interviews</li> <li>- Interviews &amp; review reports</li> <li>- Interviews</li> </ul>	<ul style="list-style-type: none"> <li>- PY 3</li> <li>- PY 5</li> </ul>	<ul style="list-style-type: none"> <li>- PMAs</li> </ul>
<p><b>Outputs that contribute primarily to Outcome #3.</b></p> <p><b>Output # 3.1:</b></p> <p>Ten PLWs established in four (4) regions that are strategically linked to the priorities of the Woreda &amp; Regional Development Plans.</p>	<p>1. Ten PLWs with analyses or diagnoses and Annual Work Plans completed.</p> <p>Baseline: 0 PLWs Targets: EoP-10 &amp; FYs</p>	<ul style="list-style-type: none"> <li>- IPMS Office</li> </ul>	<ul style="list-style-type: none"> <li>- Review completed Annual Work Plans</li> </ul>	<ul style="list-style-type: none"> <li>Annually, beginning in PY 2.</li> </ul>	<ul style="list-style-type: none"> <li>- PMAs</li> </ul>
	<p>2. Extent to which PLWs’ Annual Work Plans are integrated with the priorities of the Woreda and Regional Development Plans.</p> <p>Baseline: Targets: EoP &amp; FYs</p>	<ul style="list-style-type: none"> <li>- WALC Chairperson</li> <li>- RALC Chairperson</li> <li>- NALC Chairperson</li> <li>- IPMS office</li> </ul>	<ul style="list-style-type: none"> <li>- Interviews and review Annual Work Plans of WALC, RALC &amp; NALC</li> <li>- Review completed Annual Work Plans</li> </ul>	<ul style="list-style-type: none"> <li>Annually, beginning in PY 2.</li> </ul>	<ul style="list-style-type: none"> <li>- PMAs</li> </ul>

<b>Output # 3.2:</b>  Appropriate technologies, processes and institutional innovations identified & promoted.	1. Number of appropriate technologies and processes identified & promoted.  Baseline: Targets: EoP & FYs	- IPMS office	- Document review	- Annually, beginning in PY3.	- PMAs
	2. Number of institutional innovations identified & promoted (e.g., extension, input supply, credit, marketing)  Baseline: Targets: EoP & FYs	- IPMS office	- Document review	- Annually, beginning in PY3.	- PMAs
<b>Outcome # 4:</b>  Strategies, policy & technology options, and institutional innovations developed (from both research and lessons learned), documented and promoted in order to enhance market-oriented agricultural development.	1. Number of priority commodities for which technology options are developed, documented and promoted.  Baseline: Targets: EoP & FYs	- IPMS Office  - Woreda OoARD  - BoARD	- Review Project documents and reports to capture scaling-up and out.  - Interviews  - Interviews	- PY 3  - PY 5	- PMAs
	2. Number of strategies, policy options and institutional innovations for knowledge management, capacity building, input/output marketing or services, developed, documented and promoted for market-oriented agricultural development.  Baseline: Targets: EoP & FYs	- IPMS Office  - Woreda OoARD  - BoARD  - MoARD  - EARS	- Review Project documents and reports to capture scaling-up and out.  - Interviews  - Interviews  - Interviews  - Interviews	- PY 3  - PY 5	- PMAs

	3. Number of all kinds of publications, media coverage or other outlets that promote IPMS strategies, policies & technology options, and institutional innovations.  Baseline: Targets: EoP & FYs	- IPMS Office	- Review Project documents, studies and reports	- PY 3  - PY 5	- PMAs
	4. Extent to which IPMS publications are found relevant to Stakeholders.  Baseline: Targets: EoP & FYs	- IPMS Office  - Woreda OoARD  - BoARD  - MoARD  - EARS	- Review Project documents and reports  - Interviews  - Interviews  - Interviews  -Interviews	- PY 3  - PY 5	- PMAs
<b>Outputs that contribute primarily to Outcome #4.</b>  <b>Output # 4.1:</b>  Approaches, methods, tools and processes for knowledge management developed, documented and promoted.	1. Number of completed studies on approaches, methods, tools and processes for knowledge management.  Baseline: Targets: EoP & FYs	- IPMS office	- Review Project documents, studies and reports	-Annually, beginning in PY 2.	- PMAs
	2. Number of promotional events on knowledge management.  Baseline: Targets: EoP & FYs	- IPMS office	- Review Project documents, studies and reports	- Annually, beginning in PY 2.	- PMAs

	<p>3. Extent to which approaches, methods, tools and processes for knowledge management are relevant to Stakeholders.</p> <p>Baseline: Targets: EoP &amp; FYs</p>	<ul style="list-style-type: none"> <li>- Communities</li> <li>- OoARD</li> <li>- RARIs</li> <li>- MoARD</li> <li>- EIAR</li> <li>- Private sector</li> <li>- IPMS office</li> </ul>	<ul style="list-style-type: none"> <li>- Group Interviews</li> <li>- Interviews &amp; review documents</li> <li>- Interviews &amp; review documents</li> <li>- Interviews &amp; review documents</li> <li>- Interviews &amp; review documents</li> <li>- Interviews</li> <li>- Review Project documents, studies and reports</li> </ul>	<p>- Annually, beginning in PY 2.</p>	<p>- PMAs</p>
<p><b>Output # 4.2:</b></p> <p>Approaches, methods, tools and processes for capacity building developed, documented and promoted.</p>	<p>1. Number of completed studies on approaches, methods, tools and processes for capacity building.</p> <p>Baseline: Targets: EoP &amp; FYs</p>	<ul style="list-style-type: none"> <li>- IPMS office</li> </ul>	<ul style="list-style-type: none"> <li>- Review Project documents, studies and reports</li> </ul>	<p>- Annually, beginning in PY 2.</p>	<p>- PMAs</p>
	<p>2. Number of promotional events on capacity building.</p> <p>Baseline: Targets: EoP &amp; FYs</p>	<ul style="list-style-type: none"> <li>- IPMS office</li> </ul>	<ul style="list-style-type: none"> <li>- Review Project documents, studies and reports</li> </ul>	<p>- Annually, beginning in PY 2.</p>	<p>- PMAs</p>
	<p>3. Extent to which approaches, methods, tools and processes for capacity building are relevant to Stakeholders.</p> <p>Baseline: Targets: EoP &amp; FYs</p>	<ul style="list-style-type: none"> <li>- Communities</li> <li>- PA including DAs</li> <li>- OoARD</li> <li>- Private sector</li> <li>- BoARD</li> <li>- MoARD</li> <li>- IPMS office</li> </ul>	<ul style="list-style-type: none"> <li>- Group Interviews</li> <li>- Interviews &amp; review documents</li> <li>- Interviews</li> <li>- Interviews</li> <li>- Interviews</li> <li>- Interviews</li> <li>- Review Project documents, studies and reports</li> </ul>	<p>- Annually, beginning in PY 2.</p>	<p>- PMAs</p>

<b>Output #4.3:</b>  Approaches, methods and processes for market-oriented priority commodities including technologies and institutional arrangements developed, documented and promoted.	1. Number of completed studies on selected priority commodities.  Baseline: Targets: EoP & FYs	1. IPMS office	- Review Project documents, studies and reports	-Annually, beginning in PY 2.	- PMAs
	2. Number of promotional events on priority commodities.  Baseline: Targets: EoP & FYs	- IPMS office	- Review Project documents, studies and reports	- Annually, beginning in PY 2.	- PMAs
	3. Extent to which completed studies on priority commodities are characterized for application outside of the PLWs.  Baseline: Targets: EoP & FYs	- IPMS office  - OoARD  - BoARD	- Review Project documents, studies and reports  - Interviews and review reports  - Interviews and review reports	- Annually, beginning in PY 2.	- PMAs
<b>Output # 4.4:</b>  The inter-relationships between the environment and agricultural productivity and	1. Number of completed studies on the inter-relationships between the environment and agricultural productivity and production.  Baseline: Targets: EoP & FYs	- IPMS Project	- Review Project documents, studies and reports	- Annually, beginning in PY 2.	- PMAs
	2. Number of promotional events on the environment.  Baseline: Targets: EoP & FYs	- IPMS office	- Review Project documents, studies and reports	- Annually, beginning in PY 2.	- PMAs

production understood, documented and promoted.	3. Extent to which documented agri-ecological relationships are relevant to PLWs, TVETs and to FTCs  Baseline: Targets: EoP & FYs	- PA including DAs  - OoARD  - FTCs  - TVETs	- Interviews  - Interviews  - Interviews with Development Agents at FTCs and review curriculum  - Interview TVET Department of Natural Resources Instructors	- Annually, beginning in PY 2.	- PMAs
Output # 4.5:  The inter-relationships between gender equality and/or HIV/AIDS and agricultural productivity and production understood, documented and promoted.	1. Number of completed studies on the inter-relationships between gender equality and/or HIV/AIDS and agricultural productivity and production.  Baseline: Targets: EoP & FYs	- IPMS office	- Review Project documents, studies and reports	- Annually, beginning in PY 2.	- PMAs
	2. Number of promotional events on gender equality and/or HIV/AIDS. Baseline: Targets: EoP & FYs	- IPMS office	- Review Project documents, studies and reports	- Annually, beginning in PY 2.	- PMAs
	3. Extent to which documented gender equality and/or HIV/AIDS and Woreda or local level agricultural productivity and production relationships are relevant to PLWs and incorporated into the curriculum at TVETs and at FTCs.  Baseline: Targets: EoP & FYs	- PA including DAs  - OoARD  - FTCs  - TVETs	- Interviews  - Interviews  - Interviews with Development Agents at FTCs and review curriculum  - Interview TVET Department of Natural Resources Instructors	- Annually, beginning in PY 2.	- PMAs



## Annex 2: List of Contacted Persons

Name	Sex	PA
<b>Bure: Farmers</b>		
KtemaYitaye	F	Alefa
Genet Endlaew	F	Alefa
Woyinitu Yayentesfa	M	Alefa
Alehenge Wondim	M	Alefa
Tadele Kasi	M	Alefa
Wondei Ayanew	M	Alefa
Engida Balew	M	Alefa
Getnet Molla	M	Alefa
Alemtsehay Mulu	F	Arbisi
Shite Migbaru	M	Arbisi
Getaneh Hunege	M	Arbisi
Berhanu Mengiste	M	Arbisi
Meberate Asmare (kes)	M	Arbisi
Simachew Yalew	M	Arbisi
Melesew Demel	M	Arbisi
Asmamaw Bitew	M	Arbisi
Fente Berihun	M	Arbisi
Yeshialem Wude	F	Wangedem
Feleke Musie	F	Wangedem
Kasaye Afework	F	Wangedem
Getenet Engida	M	Wangedem
Shitu Tsema	M	Wangedem
Sinke Kibebew	M	Wangedem
Getachew Ayalew	M	Wangedem
Tilahun Tafere	M	Wangedem
Degu Meshesa	M	Wangedem
Simachew Alamrew	M	Wangedem
Tisfahun Grem	M	Wangedem
Yibel Dange	M	Wangedem
Minlargeh Ante	M	Wangedem
Ashibir Alemu (fruit nursery)	M	Wangedem
Mosit Bekele	F	Tiya Tiya
Asrat Admas	M	Tiya Tiya
Belachew Asfaw	M	Tiya Tiya
Mantegbosh Worku	F	Tiya Tiya
Zewde Alamerew	M	Tiya Tiya
<b>Fogera: Farmers</b>		
Eritban Atloge	M	Shina
Belete Addis	M	Shina
Amlaku Wondoch	M	Shina
Getaneh Berhane	M	Shina
Dejen Zeleke	M	Shina
Misganaw Derso	M	Shina
Abera Tesema	M	Shina

Babu Tegege	M	Abua Kokit
Tadese Mitku	M	Abua Kokit
Zenebe Mare	M	Abua Kokit
Nigat Teshome	M	Abua Kokit
Abebe Teshager	M	Abua Kokit
Melaku Addis	M	Abua Kokit
Bosena Adis	F	Abua Kokit
Derso Teshale	M	Abua Kokit
Bizaw Mekonnen	M	Abua Kokit
Desi Ejigu	M	Abua Kokit
Endeshaw Yitay	M	Abua Kokit
Andualem Melak	M	Tiwha
Gebre Mersha	M	Tiwha
Eshete Assefa	M	Tiwha
Asrat Takele	M	Tiwha
Debre Dejen	F	Tiwha
Asfaw Alemneh	M	Tiwha
Asebew Kase	M	Tiwha
Amon Alemayhu	F	Tiwha
Melkeneh Anteneh	M	Tiwha
Tsegaw Get	M	Tiwha
Teje Yalew	F	Tiwha
Ajebush Mersha	F	Tiwha
Binaym Ayele	M	Woreta Town, Fish trader
Melkam Marie	M	Amed Ber , Washera Ram owner
Ayele Tarko	M	Woreta Zuria
Desta Mengistu	M	Woreta Zuria
Awoke Taye	M	Woreta Zuria
Muche Birhan	M	Woreta Zuria
Musie Dagneu	M	Woreta Zuria
Mesele Asmare	M	Woreta Zuria
Anberber Miheret	M	Woreta Zuria
Kelemu Tarekege	M	Woreta Zuria
Destaw Asmare	M	Woreta Zuria
Aragaw Adugna	M	Woreta Zuria
Tensae Gashaw	M	Woreta Zuria
Geta Mesele		Woreta Zuria
Guadehe Dubale	M	Woreta Zuria
Tazeb Balew	F	Woreta Zuria
Abrara Jegene		Woreta Zuria
Zewdu Wendemalem	M	Alembor, Chairperson Abebal Dairy cooperative

<b>Metema: Farmers</b>		
Shibmera Worku	F	Agam Woha
Kasaye Zewdu	F	Agam Woha
Mola Mekonnen	M	Agam Woha
Ali Yesuf	M	Agam Woha
Seble Tadese	F	Agam Woha
Aregash Bogale	F	Agam Woha
Ashagre Ayecheu	M	Agam Woha
Adem Yibre	M	Agam Woha

Asamere Belay	M	Agam WoHa
Shikur Gedeb	M	Agam WoHa
Adem Yasin	M	Agam WoHa
Zemet Werku	F	Gubai
Enana Desalege	M	Gubai
Fentahun Adane	M	Gubai
Melese Berhanu	M	Gubai
Takele Mola	M	Gubai
Guade Belete	M	Gubai
Azanu Dereje	F	Gubai
Wube Atale	M	Gubai
Tsegaye Zemene	M	Tumet
Zenebe Melese	M	Tumet
Anteneh Alemu	M	Tumet
Aschalew G/anania	M	Tumet
Mamo Aboneh	M	Tumet
Amsalu Baye	M	Tumet
Tebeje Adane	M	Tumet
Desalege Tegege	M	Tumet
Enana Terefe	F	Tumet
Asefa Negatu	M	Tumet
Awoke Abera	M	Tumet
Dagnet Chekol	M	Tumet
Nega Getahun	M	Tumet

<b>Ada: Farmers</b>		
Tilahun Chirenet	M	Gobesay
Teshome Ayano	M	Gobesay
Tadelu Feleke	F	Gobesay
Beredu Feleke	F	Gobesay
Woyinешet Abebe	F	Gobesay
Tsehay Kibebew	F	Gobesay
Bekele Eshetu	M	Gobesay
Yirdaw Balcha	M	Gobesay
Mesfin Bekele	M	Gobesay
Adnew Negash	M	Keteba/Lugo
Wosenu Kebede	M	Keteba/Lugo
Bekele Wodajo	M	Keteba/Lugo
Zenebech Workeneh	F	Keteba/Lugo
Alemayhu Arega	M	Keteba/Lugo
Feleke Kebede	M	Keteba/Lugo
Legese Akalu	M	Keteba/Lugo
Game Tulu	M	Keteba/Lugo
Abate Zegeye	M	Keteba/Lugo
Mose Terefe	M	Keteba/Lugo
Getachew H/Wold	M	Godino
Getachew Alemu	M	Godino
Medenek Chefe	F	Godino
Nigatu merega	M	Godino

Tigist Fikru	F	Godino
Solomon Mulugeta	M	Godino
Begashaw Worku	M	Godino
Sinafekesh Yigeletu	F	Godino
Teshome Mulugeta	M	Godino
Shumi Deyas	M	Denkaka
Gadisa Feyesa	M	Denkaka
Embet Tesema	F	Denkaka
Atenafu Kidane	M	Denkaka
Lema Alemu	M	Denkaka
Berhane Alemayhu	F	Denkaka
Alemu Tesema	M	Denkaka
Amare Asrat	M	Fruit farmer and private bull owner, Godino
Sisay Megersa	M	Water pump owner , Kaliti
Degefa Kasa	M	Water pump owner, Kaliti

<b>Alaba: Farmers</b>		
Haji Awol Mencha	M	Feleka
Bergena Mohammed	M	Feleka
Kurkur Beres	M	Feleka
Kesema Edoa	M	Feleka
Mohammed Adem	M	Feleka
Kemeru Ahemed	M	Feleka
Aberash Munate	F	Feleka
Analech Tena	F	Feleka
Mohamed Nur Adem	M	Feleka
Mugero Gontro	M	Feleka
Abderheman Ibrahim	M	Feleka
Muhamed Sule	M	Guba
Bedru Hamid	M	Guba
Beras Meshehe	M	Guba
Ryeto Shonash	M	Guba
Abdela Adem	M	Guba
Dilbago Alebe	M	Guba
Jemal Muktar	M	Guba
Kedir Alish	M	Guba
Abredo Sekano	M	Guba
Adem Mohamed	M	Guba
Morkato Esale	M	Guba
Bamuna Abdo	M	Shekete
Daru Asemo	M	Shekete
Mohamed Nur	M	Shekete
Jemal Ahemed	M	Shekete
Keyru Hadsu	M	Shekete
Eshetu Eman Mohamed	M	Shekete
Begegana Aman	M	Shekete
Tenebo Aman	M	Shekete
Mama Jido	M	Shekete
Shemsu Munduno	M	Shekete

Hady Negash	F	Shekete
Workite beshat	F	Shekete
Mebaza Berasa	F	Shekete
Nunu Adem	F	Shekete
Mohamed Gobena	M	Wanja
Dameto Kemal	M	Wanja
Hasen Gatea	M	Wanja
Awel Hamet	M	Wanja
Husien Gboena	M	Wanja
Abiyu Hasen	M	Wanja
Somona Missa	F	Wanja
Keyriga Mohamed	F	Wanja
Rodino Ahemed	F	Wanja
Rukia Abdo	F	Wanja
Abyo Hassen	M	Wanja
Zemezema Edris	F	Wanja
Bergena Basero	M	Alaba Town
Haile Shumeye	M	Alaba Town (dairy group, member)
Abdela Abdere	M	Paravet

<b>Dale: Farmers</b>		
Tshay Tena	F	Ajwa
Abebech Argeta	F	Ajwa
Alemetu Harqua	F	Ajwa
Tadelech Burqa	F	Ajwa
Senbete Uagamo	F	Ajwa
Tirunesh Kambe	F	Ajwa
Kuni Geremew	F	Ajwa
Askale Arusi	F	Ajwa
Yohannes Borsemo	M	Ajwa
Woldemedhin Inibora	M	Ajwa
Wude Guye	M	Ajwa
Sana Kabiso	M	Ajwa
Huriso Humiso	M	Wayicho
Sermiso Kebede	M	
Degefe Bushade	M	
Getachew Gebaba	M	Wayicho
Tirunesh Yumura	F	Wayicho
Yimegushal Demesie	F	Wayicho
Hayato Horiso	F	Wayicho
Aster chasa	F	Wayicho
Zinash Kebede	F	Debub Kege
Tsehaynesh Mekuria	F	Debub Kege
Anchacha Halamo	M	Debub Kege
Habte Markos	M	Debub Kege
Abate Amelo	M	Debub Kege

Kebede Kelifo	M	Debub Kege
Paulos Aemecha	M	Debub Kege
Abera Ueke	M	Debub Kege
Bizunesh Hayato	F	Debub Kege
Geremew Getesi	M	Debub Kege
Adisu Sorisa	M	Debub Kege
Eyob Ashengo	M	Debub Kege
Almaz Uriso	M	Megera
Kebede Godon	M	Megera
Asefaw urgesso	M	Megera
Zewditu Berasa	M	Megera
Almaz Abiyu	F	Megera
Fanaye Muftu	F	Megera
Danse Dalecha	M	Megera
Tirfesh Kebede	F	Megera
Abaynesh Amelo	F	Megera
Addisu Wuoe	M	Gane
Zelege Deremo	M	Gane
Danchelo Kabeto	F	Gane
Dorgemo Tura	M	Gane
Lamiso Kabeto	M	Gane

Farmers : Alamata		
Name	Sex	PAs
Kubi Jemene	M	Selenwuha
Asefu Sefa	F	Selenwuha
Amare Debech	M	Selenwuha
Abate Kumsa	M	Selenwuha
Kubi Tewodaje	M	Selenwuha
Ergo Ejigu	M	Selenwuha
Tedros Getahun	M	Selenwuha
Shambel Getaye	M	Selenwuha
Derebew W/gebriel	M	Selenwuha
Tesfa Bimerew	M	Selenwuha
Baye Haftu	M	Tao
Terefe Gebre	M	Tao
Ale Mekonnen	M	Tao
Kubi Mohammed	M	Tao
W/Senbet Hagos	M	Tao
Chekol Adane	M	Tao
Asgedom Berhane	M	Gerjele
Ahemed Siraj	M	Gerjele
Tafte Abraha	M	Gerjele
Barmntoy Tuemaye	M	Gerjele
Darge Shumey	M	Gerjele
Halefom Gidey	M	Gerjele
Huluf Terefe	M	Gerjele
Fenta Huluf	M	Tumuga

Alemu Abate	M	Tumuga
Yimam Ahemed	M	Tumuga
Tadese Mola	M	Tumuga
Arage Meherete	M	Tumuga
Ahemed Rebso	M	Tumuga
Abraha Mebrehatu	M	Tumuga
Gilay Hayelom	M	Alamata Town
Kidanu Hagos	M	Haresaw
Kahsa Hadush	F	Haresaw
Hiwot Gidey	F	Haresaw
Maekelch Asefa	F	Haresaw
Abrehet Hagos	F	Haresaw
Mulu Kahsay	M	Haresaw
Desaleg Gebru	M	Haresaw
Deshi Abraham	M	Haresaw
Desta Gebremariam	M	Haresaw
Desta Gebreselase	M	Haresaw
Mitslal Mehari	F	Barkaadisebha
Desta Aregaw	M	Barkaadisebha
Yehane Mehari	M	Barkaadisebha
Haleka Berhane Asefa	M	Barkaadisebha
Reda Berhane	M	Barkaadisebha
Hansa Gebre	F	Barkaadisebha
Gergin Berhe	F	Barkaadisebha
Hidag Brhan	F	Barkaadisebha
Lemlem Redaee	F	Barkaadisebha
Tesfay Gebre	M	Barkaadisebha
Burak Damoz	M	Barkaadisebha
Kiros Kahsay	M	Barkaadisebha
Medhin Teare	F	Hayelom
Birhan Worede	F	Hayelom
Demeketch Berhe	F	Hayelom
Abraha Hagos	M	Hayelom
Mahamud Tahir	M	Hayelom
Selemon G/yesus	M	Hayelom
Yilma G/selasie	M	Hayelom
G/medihin Teare	M	Hayelom
Mehari Aleayo	M	Hayelom
Keshi Tsiuy Alemayo	M	Hayelom
Hishe Bitu	F	Keleshaemni
Tsegay Abraha	M	Keleshaemni
G/mariam Abraha	M	Keleshaemni
Sndayo G/hiwot	F	Keleshaemni
Zeru Nigus	M	Keleshaemni
Desta G/hiwot	F	Keleshaemni
Kahsu Kindeya	M	Keleshaemni
Keshi G/zher G/hiwot	M	Keleshaemni
Kasa Gebre	M	Keleshaemni

Gidey Yohannes	F	Golgelaele
Kiros Kidane	M	Barkahadishaba
Kes W/Giorgis	F	Barkahadishaba

<b>Meiso: Farmers</b>		
Jemal Juya	M	Husie Adami
Ahemed Jemal	M	Husie Adami
Oumer Ali	M	Gorbu
Fatuma Mwato	F	Gorbu
Adem Usu	M	Gorbu
Mhamed Amin	M	Gorbu
Damtew Awulachew	M	Gorbu
Hasen Usu	M	Gorbu
Abedela Siraj	M	Gorbu
Abdela Umer	M	Gorbu
Ali Amin	M	Gorbu
Meka Mohamed	F	Gorbu
Temshi Baja	F	Gorbu
Juhar Oumer	M	Gorbu
Mohammed Oumer	M	Gorbu
Ousman Adem	M	Gorbu
Kemer Abdo	M	Itisaroro
Abdulrahman Eibro	M	Itisaroro
Abdi Mekonnen	M	Itisaroro
Seido Ali	M	Itisaroro
Asha Ahemed	F	Itisaroro
Ersiya Ousman	F	Itisaroro
Momina Eibrona	F	Itisaroro
Wube Yimer	F	Itisaroro

<b>Dale: DAs</b>		
Tadese Latemo	M	Ajewa
Tesema Geteamo	M	Ajewa
Tigist Asefa	F	Ajewa
Gizachew Tadesse	M	Gane
Adungna Ademe	M	Debub Kege
Wodimagne Yohannes	M	Debub Kege
Tesfaye Lensamo	M	Megera
Wubante Tesfaye	M	Megera
Manhos Geda	M	Megera
Zelalem Hayeso	M	Megera (PA Manager)
Melese Mathios	M	Debub Kege
Gizachew	M	Gane
<b>Dale: SMS</b>		
Belete Dejene	M	Planning, monitoring evaluation and feedback coordinator, OoARD

Mekdes Ferew	F	Planning, monitoring evaluation and feedback expert, OoARD
Tilahun Negash	M	Extension communication expert, OoARD
Semere Tamirat	M	Cooperatives expert, OoARD
Asefa Adela	M	Animal Husbandry expert, OoARD
Lema G/meskel Seyola	M	Seed multiplication and distribution and quality control expert, OoARD
Tegege Maruru	M	Food security expert, OoARD
Daniel Dawit	M	Natural Resource expert, OoARD

Dale (Region, Zone and Reseach)		
Ato Desta Gebre	M	Extension, Regional OoARD, RALC member
Sani	M	Head, SNNPR OoARD, RALC Chairperson
Mulugeta Fetene	M	Cooperative Division, Regional OoARD & Former RALC Chairperson
Berhanu Solomon	M	Former Sidama Zone OoARD Head
Daniel Dawro (Dr.)	M	Director, SARI
Gebeyehu Ganga ( Dr.)	M	Livestock Research Director, SARI
Agedew Bekele	M	Director, Awasa Research Center
Experts/monitors Alaba		
Legese Hailu	M	Crop production and protection expert, OoARD
Jemal Mohamed	M	Forage and Animal Husbandry expert, OoARD
Hailu Alemu	M	Planning Officer, OoARD
Mesay Tegne	M	Planning Officer, OoARD
Abebaw Mekonen	M	Extension Communication expert, OoARD
Muleye Tafese	M	DA( Guba)

<b>DAs: Ada</b>		
Zemenay Aseseffa	F	Denkaka
Almaz Wdede	F	Denkaka
Berhanu Demesie	M	Denkaka
Elsabet Gemeda	Female	Ude
Hailu Demesi	Male	Gobesay
Meaza Abay	Male	Gobesay
Guta Asefa	Male	Keteba/Lugo

Meseret Edosa	Male	Keteba/Lugo
Belaynehs Hordofa	Female	Godino
Addis Munday	Female	Godino
Admasu Abera	Male	Godino
Hailu Merga	M	Head OoARD, WALC Chairperson, OoARD, ADa
Seble Negash	F	SMS, Horticulture, OoARD
Sori Chalisa	M	Planning and Monitoring Expert, Woreda Admin
Addisu Menkir	M	SMS, Natural Resource, OoARD
Sisay Woyecha	M	Planning and Monitoring Expert, OoARD
Kebede Tulu	M	SMS, Agronomy, OoARD
Motuma Tolosa	M	Planning and Monitoring Expert, ZoARD, Adama
Meheretab	M	Knowledge Center Attendant
Ayele Bedane	M	Representative, Head ZoARD, Adam

<b>Bure: SMS/WALC members</b>		
Yigzaw Zelalame	M	Deputy Head, OoARD
Worku Demelew	M	Women's Affair, Woreda Admin.
Ayaleneh Dange	M	Extension team leader, OoARD
Enanu Tesfaw	F	Cooperative team leader, OoARD
Yonas Wondem	M	HAPCO, Woreda Admin.
Hiruy Geremw	M	AISCO-Marketing Division
Hailu Asefa	M	Marketing and input supply team leader, OoARD
Shiferaw Tefere	M	ACSI, Woreda level manager
Adis Enemayehu	F	Head, Women's affair, Woreda Admin

<b>Fogera: SMS and WALC members</b>		
Worku Mulat	M	WALC, Chairperson, OoARD head, Woreda
Andargachew Gashaw	M	Animal Production, OoARD
Habte W/Selasie	M	Animal Production, OoARD
Tesema Hailu	M	Agroforestry, OoARD
Anteneh Belay	M	Extension, Team Leader, OoARD
Lakew Mitiku	M	Head, ACSI Branch Office, Fogera
Fogera DAs		
Alelege Kefe	M	DA, Amed Ber
Mekonent Guesh	M	DA, Ambed Ber
Tilahun Yirdaw	M	DA, W.zuria

<b>Bure: DAs</b>		
Mululaem Delele	Male	Arbisi
Atnafu Shiferaw	Male	Wangedem
Enchalew Zeleke	Male	Wangedem
Yenehun Ayechew	Male	Wangedem

Tigist Melesew	Female	Alefa
Tadese Mola	Male	Alefa
Mulusew Tsegaye	Male	Alefa
Getenet Mule	Male	Zewyeshun
Amanu Bitew	Male	Zewyeshun
Abera Ayenew	Male	Zewyeshun
Ambaye Desalege	Male	Zalema
Debebe Muleye	Male	Zalema
Almaz Yingal	Female	Zalema
<b>Goma: DA</b>		
Mohammed Nure	M	Bulbulo
Amelework Weljira	F	Bulbulo
Delil Abafita	M	PA offiial
Tofik Raya	M	Beshasa
Hayat Aba biya	M	Beshasha
Temam Edri	M	Beshasha
Goma: Input supplier		
Awol A/fita	M	Input shop owner, Yachi Ureche

DAs: Alamata		
Gidey Hibu	M	Selenwuha
Degefaw Kasahun	M	Selenwuha
Tadese Bezabeh	M	Selenwuha
Tikuye Niguse	M	Tumuga
Yilma Sisay	M	Tumuga
Desu Wedaje	M	Gerjele
Almaz Afework	F	Gerjele
Gufi Alem	F	Gerjele
Darge Berhe	M	Gerjele (PA manager)
Efrem Asfaw	M	WKC attendant
Azeb Admasu	F	Tao
DAs Astbi		
Germay Niguse	M	Hayelom
Haftu G/hiwot	M	Hayelom
Yemane G/egziabher	M	Hayelom
Kiflom Kasa	M	Kelesha
Mezgebe Girmay	M	Kelesha
Asmerom Kebede	M	Kelesha
Kahsay Entehabo	M	Barkaadisebha
Desta Fikre	M	Barkaadisebha
Tsgabu Atsbeha	M	Barkaadisebha
Habtamu Getachew	M	Harsaw
T/mariam Kahsay	M	Harsaw
Hailu Tsegay	M	Harsaw
Tesfalem G/kidan	M	Golgeinaele
Abraha Kefay	M	Golgeinaele

Gidey Yohannes	M	Golgelnaele
Betel Lukas	F	Regional Knowledge Center attendant, BoARD, Mekele
G/Egziabher G/yohannes		Director, Livestock Research, TARI
<b>Alamata: WALC &amp; SMS</b>		
Mebrahtom Gebrselassie	M	Deputy OoARD Head
Yirgalem Zemenfeskiduse	M	Abergele, WALC Member
Redde Berhane	M	Cooperative, WALC Member
G/Eyesus Meles	M	OoARD, WALC Member
G/Selama G/Slassie	M	Women's Affair, WALC Member
Lemlem Eyasu	M	Union, WALC Member
Tesfaye Berh	M	Woreda Chairman, WALC Member
Afeworki G/mariam	M	Irrigation developmet team
Tesfa G/egziabher	M	Fruti developmet team
Berhen Tafere	M	Amimal production and feed experr
Guesh Tekele	M	Vegetable prodution and feed expert
Hayle Kasa	M	Agriculutre Advisor of Zonal Administeration, South Tigray Zone, Maychew
<b>Astbi: WALC and SMS</b>		
Mulugeta G/Mariam	M	Livestock, Team Leader, OoARD
Goytoem G/Egziabeher	M	Natural Resource Sector, OoARD
Tesfay Hailemelelot	M	Forestery Developmet, Team Leader, OoARD
G/reab G/michael	M	Agricultural Sector Coordinator, OoARD
Yonas Gebru	M	Extension Service, Head, OoARD
Kestla Fissaha	M	Deputy Head, OoARD
Hiwot G/Tsion	F	Input Supply Team Leader, OoARD
Almaz Hiluf	F	Cooperative Expert, OoARD
Issa Mohammed	M	Coopereative Expert, OoARD
Geburu Kirus	M	Cooperative Sector coordinator, OoARD
Teklay Gebru	M	OoARD Head
Goitom Gebryesus	M	Crop development expert
Atsede Hregawi	F	Personnel, OoARD
Birhan Teshome	M	Irrigation Team Leader, OoARD
Amahara Region (Zone, Region BoARD and Research)		
Wondimagene Mengesah	M	AI, Andasa
Woudi Tsega	F	Nutrition, Andasa
Mulugeta Alemahyhu	M	Forage, Andasa
Adisu Bitew	M	Animal Production, Andasa
Habtam Asefa	M	Socio-economics, Andasa

Tekeba	M	Cener Manager, Andasa
Sewagne	M	Rice research, Adet Research Center
Eshete Dejen	M	Director, Livestock Research, ARARI, Bahirdar
Aynalem	M	RALC Chairperson, Amhara BoARD, Bahirdar
Getenet Mukria	M	Andasa research center
Metema (OoARD)		
Getasew Agneche	M	OoARD head- Meteama
Beewuket Amare	M	SMS, Livestock production
Gizat	M	SMS, Cooperative
Solomon Abegaz	M	Center Manager, Gonder Research Center, Gonder
Yeshambel Tefera	M	Livestock Research, Gonder Research Center, Gonder
Ali Abdulahi	M	Pulse Research, Gonder Research Center, Gonder
Habtamu Yesegat	M	Socio-economics Research, Gonder Research Center, Gonder
Meiso (OoPRD)		
Kebede Gebena	M	Planning Officer, Zonal OoARD, Meiso
Shibru Fekadu	M	Planning Officer, Zonal OoPRD, Meiso
Shiferaw Workeneh	M	Expert, Input Supply Desk, OoPRD, Meiso
Moges Gahsaw	M	Expert, Coperative Desk, OoPRD, Meiso
Yohannes Legesse	M	Expert, Animal Production, OoPRD, Meiso
Mekbeb Zigeju	M	Expert, Marketing Desk, OoPRD, Meiso
Kedir Yasin	M	Expert, Animal Health, OoPRD, Meiso
Serkalem...	F	Representative, Women's Affair, Woreda Administration, Meiso
Eyob Alemayhu	M	Expert, livestock, OoPRD
Wondwosen Woldeyes	M	Representative of, Zone OoARD Head, Astbe Teferi
Meiso DAs		
Zerihun Naheya	M	Tokuma
Derje Regasa	M	Tokuma
Abenet Ketema	M	Gorbu
Yodit Abebe	F	Gorbu
<b>Goma: SMS</b>		
Sileshi Delelege	M	Plan and program, Zone OoARD, Jima
Tefera Beyene	M	Plan and program, Zone OoARD, Jima
Mergia Feyeisa	M	SMS, Marketing, OoARD
Ferdisa Olfira	M	Cooperative Office, Agaro
Bogale Guta	M	SMS, Horticulture, OoARD

Serawit H/Mariam	M	SMS, Coffee Agronomy, OoARD
Melaku Ayalew	M	SMS, Landuse, OoARD
Haile Abe	M	Horticulture, Researcher, Jima Reseach Center