

APPENDIX V

AGRICULTURAL SUPPORT SYSTEM

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CHAPTER I AGRICULTURAL EXTENSION

1.1 Organizations

Ministry of Agriculture (MOA) takes a full responsibility for policy making of overall agricultural support services and entrusts its Agricultural Extension Department execution of the nationwide promotion and coordination of extension services in collaboration with international agencies and donors. The organization chart of MOA is presented in Figure V.1.1.

Oromia Agricultural Development Bureau (OADB) was established in 1996 as executive organization of agricultural support services including extension services at regional level (Figure V.1.2). Under the control of the headquarters of OADB, the day-to-day operation of extension services is carried out by 12 zonal offices by deploying 180 district offices. Dugda Bora is one of 12 waredas (districts) of East Shewa Zone. Zonal capital is located at Adama and Dugda Bora district is located in a central part of East Shewa Zone. The organization charts of the OADB zonal office of East Shewa Zone and the Dugda Bora wareda office are illustrated in Figures V.1.3 and V.1.4.

Apart from the institutional extension services, NGO and private enterprises also play the important roles in various fields of agricultural support services in Ethiopia.

1.2 Extension Services at Dugda Bora Wareda (District)

1.2.1 Extension Blocks

(1) Peasant Associations

Dugda Bora Wareda (District) was recognized by consolidation of Dugda Wareda and Bora Wareda in 1996. The areas, where Gulage language was spoken, were separated from Dugda Bora Wareda. As a result, the complicated regional borders between Oromia and Western Regions are recognized in the west parts of the Wareda. Under Dugda Bora Wareda, the lowest administrative units called Peasant Associations (PA) were organized. Each of the existing 54 PAs of Dugda Bora Wareda was formulated through consolidating two or three of old 117 PAs. The existing chairman and secretaries of 54 PAs were selected among former chairmen in old PAs. The PAs are generally re-named by combining old PA names. The PA meetings are headed by PA chairman and attended by three (3) to five (5) leaders from every traditional community.

Dugda Bora Wareda is divided into 17 administrative sector blocks, which were originally based on subdivisions by co-operative associations. However, their functions are currently less important or negligible in terms of agricultural and rural development. Only two blocks, namely Aella and Dodo, are identified as co-operative associations. Both blocks consist of 10 PA in total.

(2) Traditional communities

Each PA consists of several communities among indigenous traditional villages. The average size of these communities is 40 households (HH) with a wide range from 20 HH to 70 HH. Each PA holds around 10 communities. Therefore, it is estimated that there are 500 to 600 communities within Dugda Bora Wareda. Indigenous communities are formed mainly on the basis of kinship. The demographic and agricultural conditions of communities are summarized below.

Average Size of Communities of Several Categories

Category	Dugda Bora (Rural)	Community (500)	Old Peasant Association (117)	Peasant Association (54)	DA Block (Extension) (27)	Administration Block (17)
Population	110,000	240	1,000	2,200	4,400	7,000
Farm Households	24,000	45	200	420	800	1,300
Food Crop (ha)	68,000	140	600	1,300	2,500	4,000
Cattle heads	206,000	400	1,800	3,800	7,600	12,000

Source: Population & F. households were estimated by DA answer-sheets. Food crop area and cattle heads were survey data in OADB Dugda Bora.

The Rapid Rural Appraisal (RRA) was carried out to verify the current positions and social characteristics of communities. The RRA recognized that rural community members have very few communications each other except for ceremonies in weddings or funerals. Village festivals are independently held in each community. They generally have seven (7) festivals in a year, namely five (5) national events and two (2) church events. Group funds are formed for expenses of the festivals from every household in a community. These contributions amount to Birr 20-100 per event as presented in Table V.1.1.

Every community has its own name and the leaders. The representatives of the communities are usually selected from young generations. However, elderly peoples traditionally have authorities in the community and strongly influence to decision making within the community. They also play an important role in

arbitration with other communities in case of disputes concerning land, water and other natural resources as well as social problems. There are several communication channels among the community at school, church, market places, communal wells for the drinking water, etc.

(3) Extension Blocks

The OADB offices for both woredas located at Meki (Dugda) and Alam Tena (Bora) were consolidated and combined in 1996.

The front-line agricultural extension workers are called Development Agent (DA) in Ethiopia. The numbers of DA have rapidly increased according to expansion of Extension Package Program (EPP) since 1995. Actual 80% of DA were appointed after 1996 in order to meet the operational requirement of the increasing EPP. The total DAs amount to 5,000 in 180 districts of the Oromia Region, 360 in 12 districts of East Shoa Zone with a density of every 600 HH per DA. DAs in Dugda Bora accounts for 29 (regular: 27 and trainees: 2) under three (3) Supervisors. Each DA covers two PAs with some 800 HH and 2,500 ha of crop area. Each supervisor covers every nine (9) DAs.

Apart from DAs and their Supervisors, the extension services are supported by Subject Matter Specialists (SMS), who are responsible for provision of technical advises to DAs and farmers about various subjects such as grains pulses, vegetables, livestock, soil, forestry, fishery, home economy, etc. The technical fields of SMS are subdivided into some 20 detailed subjects. For instance, the livestock subject is divided further into cattle, goats, forage crops, leather processing, etc. Around one third staff of the total 70 officers is SMS in Dugda Bora.

1.2.2 Activities of Development Agents (DAs)

The DA's activities are divided into two categories, namely Regular Extension Activity (REA) and EPP. The training and visit system (T&V system) was introduced for REA. The recommended method of DA visiting is that the old PA village (200 farm households) is divided into two sections, and DA visits every section for four days in a week, and all the sections can be visited in two weeks. Since the introduction of EPP in 1995, however, the system has been changed from group visiting to individual visiting. Around 90% of the actual visits are said to be individual ones.

The activities for EPP include program introduction, application endorsement, down-payment collection, technical instruction, yield assessment, loan collection, etc. It is little time and energy left for DAs to work in REA due to rapid expansion of

EPP in numbers. Most DA answered in questionnaire survey that EPP work occupies 80-90% in their daily activities.

As EPP work by DA is increasing, the assistant volunteer system by experienced farmers was set up in Oromia region. The volunteer is called “ Graduate Farmer”, who were trained and successful for two years in EPP. Graduate Farmers transfer their knowledge and experience in EPP other farmers in order to extend the technology of EPP with DA. As of September 2000, some 9,600 farmers or 40% of the total farmers are GF volunteers in Dugda Bora as presented in Table V.1.2.

1.2.3 Training to SMS and DA

According to the new system of SMS training, which adopted in 1998, the regional SMS train the zonal SMS twice a year, while the zonal SMS train the district SMS four times a year.

DAs have been trained monthly by district SMS at the OADB wareda office. DAs are also provided three times of seasonal training in the field every four months in a year.

CHAPTER II CREDIT SERVICES

2.1 Extension Package Program (EPP)

2.1.1 History and Progress

Extension Package Program (EPP) is the nationwide credit scheme under the control of MOA. MOA started EPP in 1995 in line with a national industrial policy with a technical help of SG 2000. Farmers get a credit package in kind to meet the farm inputs requirement for 0.5 ha of farmland. They include seeds, fertilizer and chemicals. In 1995, EPP started for 40,000 plots (0.5 ha each) of food crops of wheat and maize. The budget was shared by national revenue in 3,200 plots, by SG200 in 3,300 plots, by FAO in 1,000 plots and by NGO in others.

EPP has rapidly increased in numbers since 1998 as presented in Table V.2.1. EPP in Dugda Bora has also remarkably developed since 1998 and counts over 10,000 plots in 2000. EPP plots per DA count more than 400 plots, which seems to exceed DA capacity. Some 90% of DA answered in questionnaire survey that EPP should not be extend in numbers but in quality, especially in the enough improved seed supply.

EPP currently covers not only food crops but also vegetable, livestock, rural technology and post-harvest technology, and natural resources (agro-forestry and soil conservation), etc. In the year 2000, the varieties of EPP count more than 30 packs as presented in Table V.2.2. Within the framework of EPP, instruction concerning natural resources conservation is provided to farmers in free of charge. Out of total EPP, 80% is in food crops and 18% in natural resources.

2.1.2 Financial Arrangement

The entire EPP loan is financed by the national budget. The government deposits in National Commercial Bank and gives the credit to the regional governments. OADB divides the credit to each zonal AD. Zonal AD sets up tenders for the package input suppliers who join the bids. Timely delivery nearest to farm gate with the lowest price gives a bid winner.

OADB makes down payment or advanced payment in the EPP loan accounting for 25% of the total cost. Then, OADB entrusts the credit management to each zone. The zonal offices of OADB also make down payment to OADB. The down payment claimed to East Shoa zone was originally 25% of the original cost and has been increased year by year, i.e. 30% in 1998, 35-40% in 1999, and 35-50% in 2000.

In Oromia region, around 10% of farmers get EPP service by cash without loan, and

about 0.5% of farmers, who are suffering from crop failure due to drought or flood, obtain EPP with 100% loan without advanced payment. Farmers are conditioned to settle the down payment for 25% of the total cost of input package at the time they receive the input. The rest is to be paid before they can apply for a second loan. Farmers also pay the commercial bank interest on their loans. An application is prepared by a group of 3-15 farmers and is endorsed by DA.

Under the OADB district office, DAs are obliged to perform collection of advanced payment and repayment. This system is a measure of the transitional period, and it should be improved by and by RAB says.

The recovery rate of EPP loan shows high records, 97% in Oromia region and 78% at Dugda Bora in 1999/00 crop year. In Dugda Bora, the recovery rates change from place to place. Lower recovery rates are observed at Malema Jere Bera (9%), Beymogusa (33%), Dongorota (33%), Dodoti Dembel (36%), Kushe Huluko (40%), Lafera Germeji (40%), Mukiye2 (42%), etc. In contrast, higher recovery rates are observed at Doyo Leman (97%), Saubi Gamo (97%), Tuchi Sumeyo (97%), Gosa Korke (97%), etc.

OADB and Oromia Co-operative Promotion Bureau (OCPB) have an idea to improve the EPP system to hand over the monetary part of EPP from DA-AO to co-operatives so that DA can work in daily activities more easily

2.1.3 Constraints of EPP

As already mentioned, annual numbers of EPP farmers are around 6,000-8,000 in food crops, and complete EPP with improved seeds are given to only 1,350 ha (2,700 farmers), which occupies only 2.25% among total crop area in 60,000 ha in Dugda Bora. Without improved seeds the yield increase shows only 20-30% even with fertilizer application, according to the report by National Fertilizer Industry Agency (NFIA). This amount of yield increase cannot enough pay for EPP credit cost.

Soil condition and drought risk should be also taken into consideration. Consequently, incomplete EPP without improved seeds cannot be recommended to farmers unless farmers have their own good seeds to use. Recovery rate of EPP credit in all the Oromia is as high as 97%, while that in Dugda Bora remains at 78%. This means that some 20% of the total credit borrowers may have reasons of lower performance. One of the reasons is probably resulted in use of incomplete farm inputs with improved seeds.

2.2 Other Credit Sources

2.2.1 Cooperatives Credit

There are two types of co-operatives in Dugda Bora Wareda. One is Meki Union co-operatives composed of Water Users Association (WUA), and another is Cooperative Association, which are organized in administrative sector blocks. Meki Union co-operatives are composed of 16 WUAs of small pump irrigation groups with 636 members. This union shop sells fertilizers, namely DAP (Di-ammonium phosphate) and Urea, vegetable seeds, and agro-chemicals to not only union members but also non-members. Members can get credit for six months with 50% of down payment.

Co-operative associations exist in two administrative blocks, Aella and Dodo, composed of 10 PA with 1,380 members. These co-operative associations are coordinated by a co-operative promotion officer working at the agricultural office. It sold 15 ton of DAP during last crop season in 2000/01 with 40% of down payment.

2.2.2 NGOs Credit

NGOs credits for farm inputs have been introduced by several NGOs including Self-help Development International (SHDI), Meki Catholic Secretariat (MCS), Christian Children's Fund (CCF), etc.

The Self-help Development International (SHDI) started in 1992 for supplying 100 ton of maize seeds (Awash511) and 124 ton of haricot beans (Mexican142) to 4,136 and 2,070 farmers, respectively. The following table presents the crop coverage under the package credit released by SHDI in recent four years from 1996 to 1999.

Crop Package by Self-help Development International (1996-1999)

Unit : ha

Year	Maize	Wheat	Teff	Haricot B.	Tomato	Onion	Chili
1996	120	89	42	-	10	3.5	8.5
1997	122	200	-	-	15	4.5	14
1998	-	134	100	333	21	-	1
1999	-	-	-	-	9	-	11

Meki Catholic Secretariat (MCS) has executed the agricultural development project since 1998 in Tuchi Sumeyan PA, which is located in a distance of 12 km from Meki town. The project provides credit services for procurement of oxen, seeds, fertilizer, chemicals, vaccination, veterinary medicine, etc. to 80 HH for three years. In 2000, the first 42 oxen were given to 42 HH after three days' training by the credit with Birr 50 of down payment and Birr 48 of insurance payment. The ox price is Birr

650-950, and the interest was to be paid every two months by around Birr 16. Other items included seeds of wheat (5.3 ton), teff (1 ton) and haricot bean (875 kg) with fertilizer (1.2 ton) and herbicide (8 lit.).

MCS has also organized women saving and credit associations in three communities as follows:

Women Saving and Credit Associations by MCS

Item	Women Saving and Credit Associations		
	Gemo	Tuchi	Edget
Members	55	44	230
Cash in Bank Accounts (Birr)	12,857	2,869	16,458
Loans Outstanding (Birr)	998	4,548	35,890

Christian Children’s Fund (CCF) has given the educational support services for children from kindergarten to junior school, and has organized the parents, 765 members, to establish a saving and credit association which gives credit services on agricultural support. In three years (1997-2000), 15 oxen, 19.6 ton of DAP fertilizer, Birr 22,000 of cash credit were given by the association.

2.2.3 Bank Credit

National Development Bank (NDB) and National Commercial Bank (NCB) also operate the agricultural credits to the very limited extent only for coffee farmers, state farms and entrepreneurs.

NCB at Meki gives a short-term loan (six months) to around 50 entrepreneur farmers, who mostly live in Meki town, by Birr 1,000-2,000 each. The bank manager pointed out that any loans for small holders cannot be introduced by NCB and EPP loan also cannot be operated through bank credit even in the future.

2.2.4 Others

According to the RRA, there are some seed credits by middlemen and grain dealers; however, these are not systemized but only by chance and occasional.

Farmer-to-farmer seed lending and/or exchange in neighborhoods are commonly practiced constantly. According to the survey¹ on indigenous social network in some districts including Dugda Bora, farmers, who produced the new variety of crop,

¹ Farmers’ Indigenous Social Networks for Local Seed Supply in Central Rift Valley

use the harvested crop for exchange by a quarter, and more than a half of exchange is used for lending to other farmers (Attachment V-1).

Consequently, seed growers or producers of new variety crop lend the produce as seeds to neighbors by around 15% of the produce. Farmers can obtain seeds from neighbors trustfully on credit without cash in hand.

CHAPTER III AGRICULTURAL RESEARCH

3.1 Organizational Set-up at National Level

3.1.1 Ethiopia Science and Technology Commission (ESTC)

The agricultural research is under the responsibility of Ethiopia Science and Technology Commission (ESTC) and further Ethiopia Agricultural Research Organization (EARO). The organization charts of ESTC and EARO are presented in Figures V.3.1 and V.3.2.

ESTC is an advisory body for Prime Minister, and Commissioner is the chairman of Science and Technology Council. It has six (6) departments, namely agriculture, health, industry, patent technology, etc. The main task includes policy planning in science and technology, and introduction and development in new technology. Recently it is proposed to set up a new department of biotechnology separated from agricultural department.

3.1.2 Ethiopian Agricultural Research Organization (EARO)

Ethiopian Agricultural Research Organization (EARO) was restructured from NARI (National Agricultural Research Institute) in 1997. It manages and coordinates all the agricultural research organs, promotes and develops agricultural technologies, formulates a system for effective research and extension, and disseminates the achievements of research.

EARO has five (5) departments: crops, livestock, soil & water, forestry, dry land agriculture. Each manager of department holds and coordinates all the researches in the country. Under EARO, there are 14 national research centers, 20 regional research centers, 11 universities and high learning institutes. Locations of research centers have concentrated in the center part of the country, and six new national centers are now proposed to be established in surrounding regions (Figure V.3.3).

3.2 Research Centers in East Shoa Zone

3.2.1 Melkasa Research Center

In East Shoa zone, there are three (3) research centers: Melkassa and Debre Zeit national research centers, and Adami Tulu regional research center.

Melkassa RC (Figure V.3.4) is located in the suburb of Nazareth. It has contributed to the improvement of agricultural technologies particularly in the central rift valley. It is the national center for sorghum research, and is substantially involved in

research of fruits, maize, haricot bean, etc.

3.2.2 Debre Zeit Research Center

Debre Zeit RC, being attached to Alemeya University, is situated near Addis Ababa, and had little communication with zonal agricultural office at Nazareth although it belongs to East Shoa Zone. It is a national center for teff research, and held the workshop on teff researches last year (2000). Poultry research is also significant.

3.2.3 Adami Tulu Research Center

Adami Tulu RC (Figure V.3.5), a regional research center in Oromia Region, is situated at Adami Tulu District, south of Dugda Bora. It is the livestock research center, as livestock is major production in Adami Tulu, where the drought is habitual with little rain and sandy soil. It is a national center for beef cattle production. Research on goats and forage crops are also significant.

3.3 Research & Extension Linkage Strategy

3.3.1 Outline

The report on “Research-Extension-Farmer Linkage Strategy (Draft Proposal) Aug. 1998” is handed by Research Coordination Unit (Mr. Aliye Hussein) in Oromia RAB. This report has approved already and executed as reported. The summary of the report is presented in Attachment V-2.

The communications between research centers and extension offices of zonal department and district offices including DAs are weak. Due to heavy workloads of EPP, the OADB wareda office is too busy to keep close and regular communication in technology with research centers and/or farmers. Melkassa research center has proposed to involve farmers in the program by setting up farmers research groups, field survey groups, farmers extension groups, etc. (Figure V.3.6) In order to make a sustainable works by farmers-based bodies, it is essential to give them some legal status like co-operatives.

3.3.2 Technology Transfer System

New technologies generated in research centers are verified and reviewed in National Variety Release Committee (NVRC), which is a legal status body. After the verification, pre-extension and demonstration are conducted on farm level, with training through demonstration/ field day yield study of production, seed multiplication study, etc. In this stage, farmers and seed growers participate as well as extension staff such as DA, SMS and researchers.

After a few years' of demonstrations, the new technology is adopted as the recommendations or EPP technology. Throughout these technology transfer process, "Research-extension-farmers Linkage Advisory Council" is held and reviewed on the technology transfer in federal, regional, and zonal level.

Especially the zonal level Linkage Advisory Council is called "Research Center based Linkage Advisory Council", and the research extension division in research center works as a coordinator between extension staff and farmers/ seed growers.

The zonal level advisory council holds three times meetings in a year. The first one is held before the crop season to review research programs and extension recommendations. The second one is to be a form of joint field trips to evaluate on-going research/ extension programs to the zone, and to be assessed for feedback. The third one at the end of the crop season evaluates the executed research / extension programs during the year. Farmers' participation is a centerpiece of these meetings.

On the process of technology transfer mentioned above, the system chart is shown in Figure V.3.7.

3.3.3 Remarkable Study Achievement

EARO annual report clarifies the achievements of research in all the research centers; however, the belated reports are published after three years. EARO has issued the book of all the research titles every year. The remarkable research performances are presented in Table V.3.1, of which are on-going study at Dugda Bora, and quoted from the books in 1998 and 1999.

CHAPTER IV CO-OPERATIVE PROMOTION

4.1 History

Two regulations on co-operative activities in Ethiopia can be seen in 1960's.

1960 "Farm Workers Co-operative" No.44 (1960)

1966 "Co-operative Society Proclamation" No.244 (1966)

There were 150 of co-operatives (94 multi-purpose, 19 thrift & credit, 19 consumers, 17 handcraft & small-scale industry, and others) before the beginning of 1970's. Under the previous regime in 1974-1991, the enacted proclamation, No. 138 (1978), greatly contributed to thousands of various co-operative societies to flourish across the country in line with the Soviet Union & Eastern Europe style.

The failure in this period is thought over in four major factors:

- (1) Membership refers to Peasant Associations,
- (2) Political management and leadership,
- (3) Unfair/ regulated price and high government subsidy, and
- (4) Service rendering was not directed to individual members, but to the government along to International Co-operative Alliance (ICA).

The actual co-operative activities have been restructured and strengthened by four regulations as follows:

1994 "Agricultural Co-operative Proclamation" No.85 (1994)

1997 "Oromia regional Co-operative Proclamation" No.15 (1997)

1998 "Co-operative Societies Proclamation" No.147 (1998)

1999 "Co-operative Organization Proclamation" No.27 (1999)

4.2 Present Activities

Oromia Co-operative Promotion Bureau (OCPB) is responsible for the cooperative promotion at the regional level. The organization charts of OCPB and its the zonal and the district offices are illustrated in Figures V.4.1 to V.4.2. There are 351 co-operative associations in the Region, which were restructured under the regulation in 1994. They are summarized below.

Co-operatives in Oromia Region

Co-operatives	No.
Multipurpose Agricultural Co-operatives	332
Irrigation Co-operatives	3
Dairy Co-operatives	2
Fishery Co-operatives	9
Sugarcane Producers Co-operatives	5
Total	351

The co-operative members amount to 226,739 with the capital of Birr 41,333,940, of which over 95% are owned by Multipurpose Agricultural Co-operatives. New system co-operatives, called “Union” are organized at six places, one of which has developed saving and credit co-operatives, with 4,737 members and 9,921,100 Br. of the capital.

Major activities at present in co-operatives are: (1) farm input supply, (2) production credit, (3) marketing of farm produces, (4) mill factory, (5) rental service of tractor or combine, (6) consumer credit, (7) promotion of irrigation farming, etc.

OCPB has five (5) technical departments and three (3) support services, while each of 12 zonal departments has four (4) technical teams and three service divisions. In addition, 180 co-operative promotion offices are established at the district level. Each of the district offices has three (3) technical teams and one (1) service division. In Dugda Bora, a co-operative office was already completed; however, another co-operative room is still in the agricultural office.

Out of 440 PA in East Shoa zone, 310 PA are already organized into co-operative associations. Restructured co-operatives count to 215 with 109,701 members and the capital of Birr 14,890,000 as mentioned below.

Co-operatives in East Shoa Zone

Co-operatives	No.
Multipurpose Agricultural Co-operatives	121
Irrigation Co-operatives	60
Dairy Co-operatives	15
Fishery Co-operatives	1
Sugarcane Producers Co-operatives	11
Butchery Service Co-operatives	2

Co-operatives of union system are organized at three locations with 41 total co-operatives and the capital of Birr 1,610, 000.

The report, “Overview: Past and Present Agricultural Co-operative Societies” (Study Report, Dec. 2000) was given by planning department (Mr. Lelessa Chalchisa) in OCPB. The part of Ethiopia, Oromia region, and East Shewa zone is quoted in Attachment V-3.

OCPB looks back over the past five years for the first phase, and now it is making a second five-year plan for 2000-2004. A concept for coming five years includes co-operative associations in all the PAs in 180 districts of 12 zones, credit system for EPP, employment opportunity, etc.

In Dugda Bora, organized co-operative associations show only 10 PA, and 44 PA out of total 54 PA are not organized yet. This means that the ratio of 33% out of non-organized 132 PA in East Shoa zone is covered by Dugda Bora, and that Dugda Bora has been in low level in co-operative organization. Now with a new co-operative office and enough staff, the development of co-operative organization in future is expected.

When the co-operative associations are well organized in all the area, EPP credit can be dealt by OCPB. Then, it will be necessary for the communities, which will be centralized in a village, to equip warehouses for marketing.

4.3 Marketing Support and Co-operatives

Agricultural Input Supply Enterprise (AISE) and Ethiopian Seed Enterprise (ESE) have a centralized way of management, then we could not obtain data and information on the area concerning East Shoa / Dugda Bora. In those companies, the dealing amount and the monetary data by zones/ districts seem to be in secret under the desk. The marketing share of AISE in fertilizer has been decreasing due to other six private dealers that developed in EPP. While, ESE, having no rivals, is making a new plan for seeds shortage to expand seed processing centers with seed growers farmers throughout the country. In order to make a good management in the new seed processing centers; it is more necessary than ever for ESE to have good communications with research centers, zonal agricultural department, co-operative department, and district offices of AO/CO. The centralized management should be changed into the area based one. The co-operatives will be also developed along the five-year plan aiming at rural credit system and farmers organizations. It will be one of key points in farmers’ organization for co-operatives to establish a system to

supply improved seeds for farmers in cheap price.

4.4 Promotion of Community Development (Cooperative Model Community)

It is noticed that the farmers' identity cannot be seen in PA, but in the small traditional communities, communications in mutual communities are poor due to gullies and/or road conditions, and there are no ideas of a center or a model among the communities.

In order to create the awareness on their own community, and to develop the village in each PA unit, it is necessary to set up a model community or a central community in each PA. In addition, it is also important to design road networks and an open square so as to make some mutual communications like market, school, clinic etc and to demonstrate the development to other communities.

CHAPTER V NON-GOVERNMENT ORGANIZATION (NGO)

5.1 Non-Governmental Organization

Disaster Prevention Preparedness Commission (DPPC) is an institutional relief organization against the natural disaster such as drought, flood, etc and against the disorders by war. They arrange and provide relief foods to the suffering areas. Disaster Prevention Preparedness Bureau (DPPB) and Disaster Prevention Preparedness Commission (DPPD) executes the pre-harvest and post-harvest yield survey in corporation with the Economy and Planning Department and OADB at the regional and zonal levels, respectively. The organization charts of DPPC and DPPB are presented in Figures V.5.1 to V.5.2.

NGOs are registered by DPPC/DPPB, and receive the coordination in project implementation to relevant government organizations.

NGOs' activities are various aspects of development including social infrastructures, natural conservation, agricultural development, rural development, etc. The activities extend to the credit services for improved seed and fertilizer, pump machine, pond construction, etc.

The major NGOs and their activities are listed in Table V.5.1.

5.2 NGOs Activities in Dugda Bora

5.2.1 Self Help Development International before 1999

Meki Development Project by Self-help Development International (SHDI) is "the conservation based rural development project". It had executed with an integrated approach by eight components mentioned below for eight years in 1992-1999.

- 1) Crop production : Certificate seeds supply(800 t), package program
- 2) Livestock : Forage crop(Vetch), forage tree (Sesbania), vaccination, medicine
- 3) Soil conservation : Meki nursery, seedlings supply(Eucalyptus, Acacia, Jacaranda)
- 4) Health : 2 clinics, and 2 health posts
- 5) Rural water supply : Small pond construction, pump, windmill well

- 6) Women association : Saving and credit bank, co-operative market
- 7) Education : 1 school
- 8) Farmers' training : Technical instruction to vegetable farmers using credit pumps

Recent activities in livestock development are:

Livestock Development by SHDI

1996	1) Forestation in home yard (Lucenea, Sesbania)	280 HH
	2) Inter-crop of Vetch with Maize (50ha)	42 HH
	3) Seed production of forage: Vetch 10 t, Cowpea 14 t	82 HH
	4) Sale of veterinary drug: 10,493 Br.; 9,700 heads	2,757 HH
1997	1) Cattle crash construction: 9 crashes at 9 PA、	100,000heads
	2) Vaccination: 45,730 heads;	
	3) Sale of veterinary drug: 9,282 Br./ 4,472 heads	
1998	1) Cattle crash construction: 7 PA、 7 crasher;	84,000 heads
	2) Vaccination: 48,010 heads;	
	3) Sale of veterinary drug: 8,789 Br./ 4,394 heads	

Seedling supply of forestation for soil conservation was carried out by Meki nursery farm.

Seedling Supply by SHDI

Year	Seedling Prod. No.	Major Tree Species	Seedling Supply No.	Beneficiary HH
1996	1,425,732	Eucalyptus:52%; Acacia:14%	1,301,740	8,502
1997	998,321	Eucaly:51%; Acacia/Lasaena:20%	955,831	5,907
1998	1,272,530	Eucalyptus:52%; Papaya:8%	1,151,482	6,703
1999	337,277	Eucaly:28%; Millea:11%; Acacia:7%	329,170	3,433

Small ponds construction was major subject in the beginning stage in Meki Project. 13 ponds were constructed for five years from 1992 to 1996, and mainly used for drinking water with boiling. Well digging was executed at seven places for five years, to be 24,000 beneficiary. Beneficiary has organized a committee and collected 30 Br./month for the maintenance.

According to the 1996 annual report, the most impressive result on the water program is the capacity of the community to manage the water schemes without the involvement of project and government staff. Probably, the results of good management for the water program might have arisen from the felt needs of the community for water before the commencement of the program.

Well digging also continued afterward as follows:

Well Digging by SHDI

Year	Locations	Beneficiaries	Remarks
1997	6	13,347	Average depth : 150 m
1998	5	10,823	
1999	3	8,530	With a pump and pipe lines

Women organization were set up into saving and credit associations (1996-), livestock management by credit (1996-), vegetable production by irrigation pumps (1994-), etc. However, National Bank of Ethiopia (NBE) proclamation prohibits NGO to undertake saving and credit schemes without obtaining a license, which takes quite a long time to obtain it, in 1998. Then, as a result, no credit was provided in 1998 for women organization. Annual report in 1998 says, "For the time being, the project has decided like any other NGO temporarily to halt the micro-finance till the cloud is clear and the dust settled."

Some of the saving and credit associations and the WUA only by women at Oda Bokota PA are still in good condition now in 2000.

5.2.2 Meki Catholic Secretariat

Meki Catholic Secretariat (MCS) started relief activities in the drought year of 1984, and the programs were assessed in 1992, then the recent activities since 1997 are summarized in three programs:

- (1) Tuchi Sumeyan Agricultural Development Project (1997- 2000),
- (2) Micro-finance, Women Saving and Credit Bank (1998-), and
- (3) Mother & Child Health/ Food Assisted Child Survival Program (1998-).

As mentioned, Tuchi Sumeyan Agricultural Development Project (1997-2000) includes the credit supply for oxen and farm input materials to 80 farmers in three years.

Mother & Child Health Program holds 3,000 beneficiaries in 18 PA. Until Sep. 1998, Mothers with children had to come to Meki center from each community, but since 1999, the program has made a shift to visit and meet mothers in each community (Community Based Health Care). The activities includes health education (1,000 mothers), growth monitoring (1,000 babies), food supplementation (2,000 mothers and babies), home visit (100 houses), etc. The food supply such as wheat flour, edible oil, etc amounts to 213 t (1999-2000).

5.2.3 Christian Children's Fund (CCF)

Christian Children's Fund (CCF) has given the financial support to 972 children, 391 children in kindergarten, 580 in elementary school, one in junior school, and 765 parents of those children are organized to a Saving & Credit Association. The member of the association pays Birr 8 for the membership, and CCF support Birr 30 to each member, and then 38 Br. becomes the original fund of each member. CCF has executed agricultural support and consumers' credit as well as health education, latrine construction, capacity building for farmers and government staff, etc. According to the NGO list given by Oromia DPPB, there are 37 NGO projects in East Shoa zone: 16 at Adama district, 6 at Shashamen, 6 at Ada'aa, 3 at Dugda Bora, etc.

CCF head officer at Meki town says that there is some remainder budget for agricultural development, then some proposal can be accepted to use the budget in future, and even joint activities with other project in agriculture will be also desirable.

5.2.4 Oromo Self Help Organization (OSHO)

OSHO is a regional NGO, which is founded in 1991. OSHO concentrates the effort to focus on poverty alleviation with development programs in rural water supply, environmental protection, and small- scale irrigation and relief activities. OSHO has executed Water Development Project and Integrated Food Security Program at Ziway Dugda Wareda in Arsi zone. Area manager says that Dugda Bora also has a possibility for the project in future.

CHAPTER VI FARM INPUT SUPPLY

6.1 Farm Input Supply

The governmental organizations in the supply of fertilizers and seeds are National Fertilizer Industry Agency (NFIA), Agricultural Input Supply Enterprise (AISE), National Seed Industry Agency (NSIA) and Ethiopian Seed Enterprise (ESE). Their organization charts are presented in Figures V.6.1 to V.6.4.

NFIA and NSIA are the government agencies in the same building without regional or zonal offices. World Bank supports both. NFIA extends their activities to capacity building, workshop, biotechnology, etc as well as fertilizer marketing. NSIA has planned and executed seed-grower farmers' training through the seed multiplication program or "farmers based seed production and marketing scheme" in collaboration with agricultural research centers and ESE.

6.2 Seed Marketing

Until 1990, Ethiopian Seed Enterprise (SES) was the only institution charged with responsibility for seed production, while the private sector was not permitted to produce and sell seeds. Following the new free-market economy policy of the early 1990's, the government encouraged participation of the private sector in seed production, processing and marketing.

In 1993, National Seed Industry Agency (NSIA) was established with a loan from World Bank (US\$ 31.8 million), and initiated Seed System Development Project, which is a five-year plan and called "Farmers Based Seed Production and Marketing Scheme (FBSPMS)" or Secondary Seed Multiplication Scheme in accordance with EPP.

This scheme is a national-wise program including farmers training, capacity building, seed production & marketing, and seed distribution. With three years in 1997-2000, the 27,447 farmers have participated with 12,542 ha of farmers' plots in seven regional agricultural bureaus, and have produced 23,000 ton of improved seeds as presented in Tables V.6.1 to V.6.3.

Seed production of improved seeds by SES is dominated in two crops: Wheat and Maize. These two crops do not exceed 42% area-wise and 47% production-wise, but the share of the seed production occupies 98% in 1997. FBSPMS also shows high rate (73%) in these two crops.

The extension of improved seeds in Dugda Bora shows only one third (2,698 plots) among total food crops (7,823 plots) in EPP, 2000/2001 crop year. 2,511(93%) was wheat and 187(7%) was maize. As for teff and Haricot bean, which are important cash crops for farmers, there was no supply of improved seed. The 2,698 plot or 1,349 ha means 2.25% of total food crop area.

The shortage of improved seed is brought about by some reasons itemized below:

- (1) No good communication in seed related organizations such as ESE, RC, AD, AO etc.
- (2) Shortage of warehouses and transportation facilities.
- (3) Lack of arrangement and supply of Breeder and Basic seeds from research centers.
- (4) Uncertainty in seeds requirement, distribution, and marketing channel.
- (5) Private sector is only one foreign company, which produce only Hybrid maize seed with little amount. etc.

Seed shortage causes the high price of improved seeds as presented in Table V.6.4. According to the questionnaire survey throughout the country, the top of the reasons for not using improved seeds is the high seed price.

The main constraints against usage of improved seed are the high price. In most of the regions, more than half of farmers answer seed price is high².

An important point of view is that EPP effect is spoiled by the shortage of improved seed.

The report by NFIA says that local seeds cannot rise up the yield even with fertilizer compared with improved seed packages as shown in Table V.6.5. The yield average in local seed decreases 50% in Maize, 40% in Wheat, and 10% in teff, compared with improved seed packages.

As for seed shortage in teff and maize, Debre Zeit, and Melkassa research centers sell basic seeds, which can produce certified seeds. The project can be designed to select an excellent community and to produce improved seeds (certified seed without registration) in order to use them for EPP.

Among the teff varieties, DZ-01-196 and Cross37, which are the most popular and called “magna type” with white shining in surface, are recommended. There are a lot

² “Improved seed marketing in Ethiopia”; by Dr. Wolday Amha; Ethiopian Journal of Agricultural Economics (3)-1; Jan.1999

of improved varieties in Maize of short term ones, such as Melkassa-1 (85 days), Katmani (105 days), Awash line of AcV-3 (110 days) and AcV-6 (115 days), which can be purchased in Melkassa RC. Those Basic seeds are dealt at the price of 140 –160 Br/100kg. The produced Maize from those Basic seeds can be certified for Certified seed, however, it had better directly be used in the community or sold with 100 Br./ 100kg of farm gate price due to economical reason, says the head of Melkassa RC. Basic seeds of Haricot bean also can be got in Melkassa RC at prices of 200 Br/100kg: Awash and 120 Br/100kg: Roba-1.

6.3 Fertilizer Marketing

National fertilizer consumption by small holder farmers has shown increasing trend of 40,000 t/ year on the average in 1976-85, 130,000 t/ year in 1986-1994, 240,000 t/ year in 1995-1998, and 270,000 t/ year in 1999-2000. The application rate per ha counts 5kg, 16kg, 30kg, and 34kg respectively, in 8,000,000 ha of national total crop area.

There are two types of fertilizer: DAP and Urea. Urea consumption showed only 10% of share at the beginning of 1990s, became over 20% in the latter half of 1990s, and occupies 34% now in 2000.

The trend of fertilizer consumption in Oromia in recent six years shows yearly 130,000 ton on an average with a little increasing except for the drought year in 1997 (100,000 ton). The consumption in the year of drought decreases by 20-40% even in the national average (1985, 1993, and 1997).

With 3,500,000 ha of crop area in total Oromia, per ha fertilizer consumption in 1999 counts 37 kg, which means a little higher than national average but less in the annual increasing rate.

Among 12 zones in Oromia region, three zones (Arsi, East Shoa, and West Shoa) are agricultural advanced areas, occupying 1,500,000 ha (42%) of crop area out of total 3,500,000 ha. The consumption share in fertilizer by the three zones showed 70% in 1995, but decreased to 54% in 2000. In spite of rather cheaper prices of fertilizer than other zones, these three zones have shown the trend of stagnation or decrease. Particularly in East Shoa zone, a big depression in fertilizer consumption is recorded (37,800 ton in 1995 and 22,250 ton in 2000).

Decrease of fertilizer consumption in East Shoa zone caused by inadequate supply system, not by low demand of fertilizer. Data shows only 62% of demand could be distributed in East Shoa zone in 2000, while average rate of demand-supply shows

84% in Oromia region.

The controlled distribution system by EPP cannot correspond to demand and marketing channels in fertilizer consumption. Demand of fertilizer in the above three zones for EPP in 2001 is forecast only 44% of total demand in Oromia along with the rate of crop area, that is, free market system cannot be established due to an equal quota system.

Fertilizer sector constraints, especially in marketing, are pointed out by NFIA as follows:

- (1) Delayed delivery due to transport facilities and poor road conditions
- (2) Demand forecast system and Bidding system
- (3) High fertilizer price, and much difference between Belg and Meher season
- (4) Monopoly nature of fertilizer market without genuine competition among suppliers
- (5) Erratic weather condition, lack of rainfall in Belg season, and crop failure
- (6) Over burdening of Development Agents (DA)
- (7) Lack of sustainable rural credit institutions

There are Agricultural Input Supply Enterprise (AISE) and six private companies, who import and sell fertilizer, under National Fertilizer Industry Agency (NFIA), which makes policy, national planning and supervises fertilizer industry with support of World Bank.

AISE was handed over 21 fertilizer warehouses from MOA in Oromia region, however, the activities are centralized in the management and not much developed to decline in the share (29 % in 2000) of fertilizer sale. DAP import is occupied of 43% by AISE, but Urea import is of 96% by other six private companies.

The trend of prices (Table V.6.6) in retail of fertilizer shows the raising with the increased marketing cost since 1999. Although the import prices (DAP) are going down, the sale prices are going up.

On the history of fertilizer administration, “Fertilizer in Ethiopia; Oct. 1998” by SG2000 was studied. The summary of the report is shown Attachment V-4. After this report, the Government enacted “Fertilizer Trade and Manufacturing Proclamation; No. 137/1998” in Nov. 1998, with detail regulations on import, processing, packing, wholesale, retail etc in order to meet the stable distribution of

fertilizer to farmers.

As for fertilizer affairs in Oromia region, “Fertilizer in Oromia ; By NFIA, Nov. 2000” provides us with useful information. This report was given by economic statistics and information system specialist (Mr. Yemenu Tirfe) in NFIA. The summary of this report is shown in Attachment V-5.

6.4 Agro-chemicals

According to the plant protection department (Dr. Samuel Assefa), Oromia RAB, agro-chemicals in Ethiopia are consumed in state farms and entrepreneur farms by 90%, and the chemical application by small holder farmers can be seen only a little, fungicide and/or pesticide in vegetable farmers, and herbicide in grain crop farmers.

Fungicide and pesticide cost 80-100 Br. per liter/kg, but herbicide is rather cheaper by 40-50 Br. per liter/kg. Then the latter is popular and requested much, however, the marketing channel has not prepared yet without registered chemical stores even at large town though the veterinary store already exists. Herbicide (U46) is included in teff extension package (EPP), and co-operatives are selling fungicide and pesticide also mainly to vegetable farmers.

As for insects on the farm, there is a kind of ants named “termite”, which builds anthills in the field. This is not a crop pest, but gives damage all over the country without countermeasures.

6.5 Prospects

Concerning the shortage of improved seeds, ESE has a plan to set up Seed Processing Center at Mojo in 2001. This plan extends to 27 new processing centers throughout the country in three years by the World Bank support in order to increase improvement seed production. The Mojo center, which is situated at 30 km from Dugda Bora, is included in the nine centers of the first year plan. New seed centers has been planning to bring up seed growers around the center and to meet the seeds demand in the area with a plan of seed production by farmers and distribution to farmers. ESE has already made plans on seed growers in East Shoa zone including Dugda Bora area. Concerning the institutional credit system, NFIA, RAB, RCB, etc have a common concept to build up a rural credit system by co-operatives. It is expected for co-operatives to set up all the PA co-operative associations and to restructure a new system with mutual monitoring and evaluation, learning a lesson from failures in the past.

As for the improvement in input marketing channels, zonal warehouses by private fertilizer companies are now expanding rapidly, and co-operative offices and warehouses are also increasing in each district. Then, model or pilot communities in each PA will need to have co-operative store facilities in major areas.

APPENDIX V
AGRICULTURAL SUPPORT SYSTEM

Tables

Table V.1.1 Interview Survey on Rural Community

	PA No.	Community Interviewed	Size (FHH)	Festival (Money collection)		Inter-Comm. Activity
				National *	Church	
1.	39	Derara	60	1. 80 Br. 2. 80 3. 30 4. 50 5. 50	Aug.22 Feb.23 50Br each	1. Burying 2. Wedding 3. Funeral
2.	11	Wodesn	40	1. 100 Br. 2. 100 3. 50 4. 40 5. 50	Nov. 30 Jan. 29 30 Br each	1. Burying 2. Wedding 3. Funeral
3.	33	Adda Deggaga	40	1. 80 Br. 2. 80 3. 50 4. 40 5. 80	Dec. 2 Aug. 30 30 Br each	1. Burying 2. Wedding
4.	33	Melka Aba Godana	50	1. 50 Br. 2. 50 3. 30 4. 40 5. 50	Dec. 2 Aug. 30 40 Br each	1. Burying 2. Wedding
5.	31	Jarso	80	1. 40 Br. 2. 50 3. 30 4. 50 5. 100	Nov. 25 Jun. 19 20 Br each	1. Burying 2. Wedding
6.	35	Birka	40	1. 30 Br. 2. 50 3. 30 4. – 5. 50	Aug. 22 Feb.23 30 Br. each	1. Burying 2. Wedding
7.	31	Aba Mera	20	1. 60 Br. 2. 60 3. 40 4. 50 5. 40	Catholic Church 50 Br.	1. Burying 2. Wedding 3. Funeral
8.	32	Wolda Cheffe	50	1. 50 Br. 2. 60 3. 60 4. 50 5. 50		1. Burying 2. Wedding
9.	33	Zero And	50	1. 50 Br. 2. 50 3. 100 4. 40 5. 100	Nov. 30 Jan. 29 60 Br. each	1. Burying 2. Wedding 3. Funeral

Note : Main festivals

- | | | |
|-----------------------|---|--------------|
| 1. New Year | : | September 11 |
| 2. Meskel | : | September 27 |
| 3. Christmas | : | January 7 |
| 4. Ethiopian Epiphany | : | January 19 |
| 5. Easter | : | April 27 |

Table V.1.2 Increased Nos. of Graduate Farmers* at Dugda Bora

Year	New Graduates	Total Graduate Farmers	Participants of EPP
1995/96	-	-	412
1996/97	412	412	574
1997/98	212	624	821
1998/99	639	1,263	4,721
1999/00	4,082	5,345	9,371 (Defaulters : 20%)
2000/01	4,239	9,584	10,238
Total	9,584	-	26,137

Note: Graduate farmer means more than two years continuous participants.

Source : OADB Dugda Bora.

Table V.2.1 Increase of EPP and DA in 1995-2000

Year	Extension Package Program (EPP)			Development Agents (DA) in East Shoa
	National	East Shoa	Dugda Bora	
1995/96	40,000	-	412	72
1996/97	350,000	11,109	578	99
1997/98	650,000	17,272	821	188
1998/99	2,500,000	60,117	4,721	225
1999/00	4,000,000	111,315	9,371	339
2000/01	5,000,000	130,523	10,238	359

Source: NFIA report; East Shoa Agricultural Department (Nazareth); OADB Dugda Bora (Meki)

Table V.2.2 Components and Conditions of EPP in Dugda Bora (2000/2001)

1. Food Crop

- (1) Maize: short term variety (Aw-511): three months, max yield=7 t/ha
Components : Seeds: 12.5 kg + DAP: 50 kg + Urea: 50 kg
Credit Amount : Down payment: 79.3 Birr + Credit: 147.2 Birr
Credit Period : April - December
Interest (8 months) : 9.52 Birr
- (2) Maize: long term variety (BH660): six months, max yield=8-12 t/ha
Components : Seeds: 12.5 kg + DAP: 50 kg + Urea: 50 kg
Credit Amount : Down payment: 79.3 Birr + Credit: 189.45 Birr
Credit Period : April - December
Interest (6 months) : 13.23 Birr
- (3) Wheat: short term variety (PAVAN): three months, max yield=4-5 t/ha
Components : Seeds: 75 kg + DAP: 50 kg + Urea: 25 kg
Credit Amount : Down payment: 140 Birr + Credit: 245.5 Birr
Credit Period : July - November
Interest (6 months) : 9.0 Birr
- (4) Wheat: local variety: six months
Components : Seeds: 75 kg + DAP: 50 kg + Urea: 25 kg
Credit Amount : Down payment: 75 Birr + Credit: 128.75 Birr
Credit Period : April - December
Interest (6 months) : 8.84 Birr
- (5) No seeds credit for Teff
Components : DAP: 50 kg + Urea: 25 kg + Herbicide (U46): 0.5 liter
Credit Amount : Down payment: 75 Birr + Credit: 126.75 Birr
Credit Period : July - November
Interest (6 months) : 4.72 Birr
- (6) No seeds credit for Teff
Components : DAP: 25 kg/0.25ha
Credit Amount : Down payment: 25 Birr + Credit: 40.75 Birr
Credit Period : July - November
Interest (6 months) : 1.52 Birr

2. Vegetable (not including Seeds and Chemical)

- (1) Tomato: (20m x 30m= 0.06 ha)
Components : Seeds: 20g/ 0.06ha (10.4 Br.) + DAP: 12 kg + Urea: 12 kg
Credit Amount : Down payment: 19.72 Birr + Credit: 36.65 Birr
Interest (4 months) : 1.37 Birr
- (2) Hot Pepper: (30m x 40m= 0.12ha)
Components : Seeds: 72g/ 0.12ha (0.7 Br.) + DAP: 12 kg + Urea: 12 kg
Credit Amount : Down payment: 19.72 Birr + Credit: 36.65 Birr
Interest (4 months) : 1.37 Birr
- (3) Onion: (30m x 40m= 0.12ha)
Components : Seeds: 500g/ 0.12ha (0.7 Br.) + DAP: 36 kg
Credit Amount : Down payment: 33.39 Birr + Credit: 62.01 Birr
Interest (4 months) : 2.32 Birr

- (4) Carrot: (10m x 12m= 0.012ha)
 Components : Seeds: 720g/ 0.012ha (180 Br.) + DAP: 8.4 kg
 Credit Amount : Down payment: 7.80 Birr + Credit: 14.50 Birr
 Interest (4 months) : 0.55 Birr
- (5) Beet Root: (30m x 40m= 0.12ha)
 Components : DAP: 8.4 kg + Urea: 4.2 kg
 Credit Amount : Down payment: 11.68 Birr + Credit: 21.71 Birr
 Interest (4 months) : 0.82 Birr

3. Livestock

- (1) Calf:
 Components : 4-6 months pregnant cattle
 Fee : 2,000 Birr in cash
- (2) Poultry :
 Components : 1 month aged 5 hens and 1 cock (1- 1.5 months later, eggs can be laid)
 Fee : 60 Birr in cash
- (3) Artificial Insemination (AI) : 50% of cross-mixed (7 AI centers are located in Dugda Bora)
 Components : 1 month aged 5 hens and 1 cock (1- 1.5 months later, eggs can be laid)
 Fee : 2 Birr in cash
- (4) Fattening program :
 Components : Only instruction
 Fee : Free of charge
- (5) Seeds/Seedlings distribution of legume/forage trees :
 Components : Cow pea, Vetch, Blackyaria, Susbenia, Lusynia, etc.
 Fee : Free of charge

4. Rural Technology and Post Harvest Technology

- (1) Horse cart : 1,178.24 Br. (25% Down payment: 294.56 Br)
 (2) Storage : 129.50 Br. (25% Down payment: 32.40 Br)
 (3) Thresher : 4,360.70 Br. without motor (8,000Br./ motor) (25% Down pay.: 1,091.17 Br)

5. Natural Resources

- (1) Agro-Forestry: (5months seedlings supply)
 1) Wood lot: Fire wood seedlings (80 seedlings; Eucalyptus) : 8 Br.
 2) Farm boundary plantation (80 seedlings; Acacia, Graberia, etc.) : 8 Br.
 3) Home side plantation (80 seedlings; Neem, Leuceanea, Sesbania, etc.) : 8 Br.
 4) Wind breaker plantation (80 seedlings; Jacaranda, Spatoda, etc.) : 8 Br.
- (2) Soil Conservation Technology
 1) Inter- crop system : only instruction (Free of charge)
 2) Contour cropping system : only instruction (Free of charge)
 3) Grass planting : only instruction (Free of charge)
 4) Enclosure (Fencing of cropland) : only instruction (Free of charge)
 5) Cut of drain system : only instruction (Free of charge)
 6) Bund system (Faya Ju) : only instruction (Free of charge)
 7) Manure method (cow-dung use) : only instruction (Free of charge)
 8) Contour plowing system : only instruction (Free of charge)

Table V.3.1 Recent Remarkable Researches concerning Meki Area

- 1) Dr. Aberra Deressa, Melkassa RC, “Validating indigenous social network for local seed supply in Central Rift Valley: a Case Study”, 1995 & 96, reported in “Journal of Agricultural Education and Extension; Vol. 6; No. 4” (Apr. 2000)
- 2) Research extension division, Melkassa RC, “Pre-extension package demonstration of improved Haricot bean varieties on farmers field in Meki-Ziway”, 1998 –
- 3) A. Bekele, T. Tesfaye & W. Nigatu, Debre Zeit RC, “Demonstration of improved Tef production packages in some selected weredas of shoa zones” , 1998 –
- 4) Tilahun Mulatu, Melkassa RC, “Analysis of rural labor market in Tef based farming system, identify the strength and weakness of the system in Nazareth & Meki-Ziway” , 1998 –
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- 10) Dr.AsfawHailemariam, National Soil Research Laboratory, “Azotobactor and PSB (Photosynthesis Bacteria) application to Tef”, 1998-

Table V.5.1 NGOs Operating in East Shoa Zone (by DPPB, Oromia)

NGO / Projects	Duration	Budget (Birr)	Beneficiary
CARE Inter- Ethiopia	Mar. 1996- Mar. 2001		
(1) Family Planning & HIV Project		10,964,186	264,000
(2) Health Extension, Water & Agricultural Project		16,826,000	25,920
(3) CARE-Ethiopia Food Information System		4,747,032	2,500
World Vision- Ethiopia	Apr. 1998- Apr.2002		
(1) Adama Area Development Programme		18,820,081	144,600
African Muslim Agency (AMA)	Aug. 1995- Aug. 2000		
(1) Najashi Social Development Center		10,000,000	1,800
Farm Africa	Jun. 1997- Mar. 2000		
(1) Forest Management Pilot Project		5,914,618	-
Finnish Mission- Ethiopia	Nov. 1997- Nov. 2000		
(1) Bethelehem Children's House		2,760,400	343
(2) School Operation & Free Time Program		1,992,160	661
LVIA	Apr. 1997- Apr. 2000		
(1) Water Supply Development Project		1,531,740	123,000
Christian Children Fund (CCF)	Apr. 1997- Mar. 2000		
(1) Meki Children and Family Development Project		2,760,400	343
(2) Golan & Alge Children and Family Development Project		2,456,000	2,400
(3) Hate Graba Children and Family Development Project		2,236,000	3,000
(4) Faji Service Co-operative Area Children and Family Development Project		12,004,532	11,980
Self Help Development Inter. (SHDI)	Jul. 1997- Jan. 2000		
(1) Meki Conservation Based RDP		4,486,066	58,200
Marie Stopes Inter. (MSIE)	Sep. 1997- Sep. 2000		
(1) Reproductive Health Clinic		1,365,941	95,000
Swedish Philadelphia Church Mission (SPCM)	Feb. 1997- Feb. 2000		
(1) Ziway Technical Training Center		2,270,000	200
VOCA-ETH	Nov.1999- Nov. 2002		
(1) Agricultural Co-operatives in Oromia Region		5,507,439	100,000
(2) Training for Agricultural Input Suppliers		927,290	245
Africa Humanitarian Action (AHA)	Jul. 1999- Jul. 2001		
(1) Family Planning & Aids Prevention		1,586,563	27,000
ACORD	Dec.1999- Dec. 2004		
(1) Shashamane Urban Development Program		7,501,468	21,690
HUNDEE	Mar. 1998- Mar.2003		
(1) Kolba Saving, Credit & forestation Project		731,041	-
(2) Lume & Ada'aa Cereal Bank & Forestation		1,657,543	-
NGO / Projects	Duration	Budget (Birr)	Beneficiary

KCADO	Nov. 1995- Nov. 2000		
(1) Child Centered IR & UD Program		866,957	1,564
KHCDP	Aug. 1997- Aug. 2002		
(1) Children's & Integrated Development Kurruftu		15,168,478	60,000
ODIA	Aug. 1997- Aug. 2000		
(1) Adama Women Training Project		124,701	-
MKC- RDA	Sep. 1996- Dec. 2002		
(1) Cheka Meserete Kiristos Church Clinic Project		221,381	15,000
(2) Six Child Sponsor Ship Project		4,416,919	15,000
ODA	Sep. 1995-		
(1) Integrated Rural Development Project (Sep. 1995- Sep. 2001)		8,339,273	3,000
(2) Rural Development Project (Mar. 1999-)		79,625,015	27,000
NACID	Apr. 1997- Apr. 2002		
(1) Agricultural & Natural Resources IDP		1,666,836	4,200
(2) Integrated Health Service Project		2,666,047	32,855
GTF	Mar. 1997- Mar. 2002		
(1) Fanttalle IRD Programme		6,276,531	10,000
OSRA	Feb.1999- Feb. 2002		
(1) Odaa Nabee IRDP		5,621,550	6,000
JACH	Mar. 1996- Mar. 2001		
(1) Jerusalem Association Children's Home Project		5,264,616	373
En.Pr. & Assistance Organization	Nov. 1999- Nov. 2002		
(1) Women Managed Agro-forestry & Environmental Protection		783,078	250
Forum on Street Children Ethiopia	Jan. 1998- Jan. 2001		
(1) Preventive Street Children Project		870,854	6,000
ADRA	May 1998- May 2000		
(1) Rain Water Roof Catchment		1,364,047	-
Center for Dev't Initiative (CDI)	Jul. 1998- May 2004		
(1) Primary Education		937,042	1,269
(2) House Hold Food Security		4,976,153	2,700
Vision	Sep.98- Sep.2001		
(1) Adama Community DP		4,976,153	2,700
Berhan Women and Youth Social Welfare	Oct.98- Sep.2003		
(1) Vocational Training Center Project		3,168,545	1,000
ACS	Oct.1996- Apr. 2003		
(1) Community Based Dev't Program Medical Mission Sisters		1,334,939	95,000
(2) St. Francis Health Center Project		2,645,840	25,000
(3) Maternal & Children Health Services		2,098,112	100,374
Vision of Hope	Dec. 1998- Dec. 2003		
(1) Family Helper Project		875,701	395
NGO / Projects	Duration	Budget (Birr)	Beneficiary
HCS	Jun. 1998- Jun. 2003		

(1) Integrated Health Project-Matahara	1,815,924	20,000
MCS (Meki Catholic Secretariat)	Mar. 1997- Mar. 2002	
(1) Comprehensive Development Program	39,931,315	1,002,600
Women & Child Tracer (WACT)	Jun. 1999- Jun. 2002	
(1) Nazareth Community Based Rehabilitation Project	610,900	250
(2) Basic Education	663,600	2,370
Ethio-Swedish Children & Youth Rehabilitation & Prevention Project	Aug. 1999- Aug. 2002	
(1) Retraining of Young Girl Prostitutes	853,573	90
FCE	Jul.99- Jul.2003	
(1) Community Development Project	1,770,000	600
SEDA	Apr. 1995- Apr. 2000	
(1) Adami Tulu Community Forest Dev't & Nursery Establishment	1,269,429	4,450

Source: NGO list given by Oromia DPPD

Table V.6.1 FBSPMS achievements in 1977-2000

Year	Participants (farmers)			Acreage (ha)			Seed Production (qts:100kg)		
	Oromia	Others*	Total	Oromia	Others*	Total	Oromia	Others*	Total
1997/98	276	1,176	1,452	244	497	741	4,209	6,656	10,865
1998/99	1,336	8,148	9,754	626	3,975	4,601	12,689	45,430	58,119
1999/00	2,300	13,941	16,241	1,087	6,113	7,200	25,650	135,790	161,440
Total	3,899	23,548	27,447	1,895	10,647	12,542	42,548	187,876	230,424

Note : *6 regions; Amhara, SNNPR, Tigray, Gambella, Benshangul, and Harari.

Source: NSIA Report; Aug. 2000

Table V.6.2 FBSPMS Seed Production in Each Food Crop

Crop	Seed Production (ton)				Seed Rate (kg/ha)	Cropped Area (ha)*
	97/98	98/99	99/00	Total		
Wheat	562	3,920	11,454	15,936	150	106,240
Teff	288	1,550	2,792	4,630	30	154,333
Barley	73	128	293	494	125	3,952
Maize	155	125	499	779	30	25,967
Others	8	91	1,106	1,205	-	-
Total	1,087	5,812	16,144	23,042	-	290,492

Note : * estimated 3-years total cropped area

Source: ESE, Annual Planning Report, 2000

Table V.6.3 Seed Distribution by Respective Producers

Crop	Seed Distribution Channel							
	ESE		FBSPMS		Private Sector*		Total	
	Q'ty	%	Q'ty	%	Q'ty	%	Q'ty	%
1995/96	12,260	94	-	-	730	6	12,990	100
1996/97	10,490	94	-	-	630	6	11,120	100
1997/98	15,600	91	1,090	6	470	3	17,160	100
1998/99	10,930	60	5,810	32	1,450	8	18,190	100
1999/2000	22,430	56	16,140	41	1,250	3	39,820	100
Total	71,710	72	23,040	23	4,530	3	99,280	100

Note : *Ethiopian Hybrid Seed Incorporated (only hybrid maize)

Source: EARO; Seed Research & Multiplication Strategy; July, 2000

Table V.6.4 Improved Seed Selling Prices by ESE

Year	Seed Proce (Birr/100kg)				
	Wheat	Maize	Hybrid Maize	Teff	Haricot Bean
1995/96	214	203	500	360	353
1996/97	211	202	485	327	322
2000/01	223*	140**	470*	n.d.	200**

Remarks: *Seed price in EPP-2000/01, **Melkassa RC (basic seed)

Source: EARO; Seed Research & Multiplication Strategy; July, 2000

Table V.6.5 Yield Difference by Local Seed and Improved Seed

Crop	Unit Yields (ton/ha)							
	Traditional Practice with Local Seeds		Improved Practices with Improved Seeds and Fertilizers					
	Without fertilizer	With fertilizer	1995	1996	1997	1998	1999	Average
Maize	1.7	2.1	4.9	4.4	3.4	4.6	4.4	4.3
Wheat	1.2	1.6	2.7	2.4	2.2	3.1	2.5	2.6
Teff	0.7	1.1	1.1	1.4	0.9	1.4	1.3	1.2
Barley	1.0	1.5	-	2.9	1.8	2.1	2.0	2.2
Sorghum	1.2	1.5	3.1	2.7	1.8	2.5	2.4	2.5

Source: Fertilizer in Oromia ; By NFIA, Nov. 2000

Table V.6.6 Improved Seed Selling Prices by ESE

Year	Import Price (CIF: US\$/ ton)		Sale Price (Birr/ton)			
	DAP	Urea	Oromia Region Average		East Shoa (Nazareth)	
			DAP	Urea	DAP	Urea
1996	275	244	2,488	2,341	2,371	2,224
1997	248	148	2,433	1,851	2,110	1,515
1998	236	98	2,536	1,620	2,240	1,330
1999	208	110	2,827	1,920	2,563	1,800

Source: NFIA, Oromia report 2000 & Report of 5th Annual Fertilizer Workshop, Oct.2000