FAO Ethiopia

Achievement Report

Introduction

Ethiopia is one of the original members of FAO, joining the organization in 1948. Since 1981 when FAO-Ethiopia was established, FAO has been an active development partner to the Government of Ethiopia (GoE) in implementing a wide range of programmes and projects to improve the food security and nutrition of its population as well as respond to emergencies in food and agriculture.

In line with the GoE's initiatives and policies as well as strategies in agricultural and rural development starting from the earlier Five Year Development Programmes to the current Growth and Transformation Plan, FAO has been playing a crucial role in delivering relevant and timely interventions to support the development aims and humanitarian needs of the GoE in various fields of agriculture and natural resources management. In addition, all FAO interventions are aligned with the GoE's Agricultural Investment Framework (PIF), the United Nations Development Assistance Framework (UNDAF), and the joint Rural Economic Development/Food Security (RED/FS).

FAO Ethiopia's Country Programme Framework (CPF) guides FAO's work in the country with the following focus areas: Agricultural Productivity and Competitiveness, Sustainable Natural Resources Development and Management, and Food Security and Nutrition.

Food insecurity remains a delicate issue in Ethiopia, and yet its agriculture sector has great potential to play a stronger role in development, food security and poverty reduction, as the Government has set out to do through its strategy of Agriculture Development Led Industrialization. FAO, therefore, has a key role to play in helping Ethiopia to realize its agricultural potential and help enable the country not only to attain food security but to be competitive at regional and global levels.

Table of Contents

Introduction 2

Table of Contents 3

Summary of Results-Based Achievements of FAO 4

A. Sustainable intensification of crop production 5

B. Increased Sustainable Livestock Production 5

C. Sustainable Management of Fisheries and Aquaculture Resources 5

D. Sustainable Management of Forest and Trees 5

E. Sustainable Management of Land, Water and Genetic Resources 5

F. Enabling Environment for Markets to Improve Livelihoods 5

G. Improved Food Security and Better Nutrition 6

H. Improved Preparedness for, and Effective Response to, Food and Agricultural Threats and Emergencies 6

Major Activities/Field Projects Overview 7

Crop Production and Protection 7

Livestock Production and Development 10

Fishery 10

Forestry 10

Natural Resources Management 10

Market and Value Addition 10

Improved Food Security and Better Nutrition 10

Disaster Risk Management 15

Success Stories 16

Summary of Results-Based Achievements of FAO

All in all, FAO has played a key role in building of institutions, development of human capacity, and influencing national development policies within its area of mandate in Ethiopia.

In collaboration with the Government, FAO has made several significant contributions to the crop and livestock sectors and to improved food security and nutrition for chronically and acutely vulnerable households. Participatory forest management interventions effectively contributed to the protection and rehabilitation of some of Ethiopia's last remaining forests. Capacity building within the Central Statistics Authority has substantially contributed to future improvement of the country's agricultural statistics. FAO's recent engagement with the threat of avian influenza strengthened the coordinated zoonotic disease preparedness and response capacities of GoE and international agencies.

The achievements of FAO in Ethiopia are linked to the following strategic objectives, and include the following:

A. Sustainable intensification of crop and fruit production

1. Establishment of seed producers cooperatives, enabling production of a significant amount of quality seed of different crops, resulting in improved availability to a large number of farmers.
2. Pioneered diversification of produce and income sources of farmers: promoted production of temperate and tropical fruits in three regions, which benefited more than 3 397 farmer households; introduction of onion seed and potato seed tuber production technology; ensured quality seed availability (such as improved tuber crops, cereals and vegetable seeds, as well as fruit seedlings) to vulnerable households in response to emergencies, as well as a disaster risk reduction strategy.
3. Promoted crop protection through: enhanced capacity of the federal Animal and Plant Health Regulatory Department (APHRD) locust unit and the locust prone regional states for locust survey and control, and supporting the GoE in integrated pesticide management.
4. Upgraded and rehabilitated a number of traditional irrigation schemes and organized Water Users Association (WUA).

B. Increased sustainable livestock production

1. Building institutions and capacity: establishment of the veterinary faculty of the Addis Ababa University, Animal Health Assistants School, and veterinary laboratory; supported system wide development in diagnostics, surveillance and management of zoonotics at the Federal and Regional level; strengthened the coordinated zoonotic disease preparedness and response capacities of GoE with the threat of avian influenza in 2006.
2. Improved livestock health through vaccination and animal health campaigns to control outbreaks of contagious bovine pleuro pneumonia (CBPP), contagious caprine pleuro

pneumonia (CCPP), peste des petits ruminants (PPR), trypanosomimiasis and foot and mouth disease, and through improved access to veterinary services with establishment of private veterinary pharmacies linked to the Government's Community Animal Health Workers' (CAHW) system.

3. Farm technology development supported: establishment of nine model milk collection, processing and marketing units after developing guidelines and selection criteria and model infrastructure.

A. Sustainable management and use of fisheries resources

Supported development of National Aquaculture Strategy

B. Forestry resources management and sustainable uses

Facilitated demarcation of forest and wetland resources in southern Ethiopia and supported establishment of 35 participatory forest management (PFM) sites in Kefa zone, enabling the conservation of some of Ethiopia's last remaining forests.

C. Sustainable management of land, water, and genetic resources, and improved responses to global environment challenges affecting food and agriculture

1. Through integrated watershed management and sustainable land management practices, introduced adapted technologies that reduce soil erosion and promote the rehabilitation of degraded areas;
2. Promoted soil and water conservation-based integrated watershed development activities in selected communities involving 1 108 households;
3. Supported land registration and certification with an aim to enhance land administration practices, enabling the registration of 10 000 new land holders, measurement of 32 000 hectares of land for 21 200 landholders and issuance of 11 500 landholders certificate in Kefa of Southern Nations Nationalities and Peoples Region (SNNPR).

D. Enabling environment for markets to improve livelihoods

1. Linkages formed between the different seed producers cooperatives established by FAO and regional and federal seed enterprises, research centers and regional bureau of agriculture and rural development for initial seed source and marketing of produced seeds; similarly, linkages formed between dairy union and wholesalers of milk and milk products in the country.
2. Developed capacities of seed and dairy cooperatives through trainings and provision of equipments and machineries for improving qualities and marketability of the produce.
3. Established 13 farm business schools to train farmers in agribusiness and marketing: A total of 356 farmers have graduated from the training and the second round of training for 288 farmers is ongoing.

E. Improved food security and better nutrition

The results achieved under several of the other objectives directly or indirectly contributed to the achievement of this objective. However, FAO also has a wide range of projects focused on food security that have: supported chronically acute food insecure households, both directly or through household asset building; and helped develop the GoE's information systems for food security.

F. Improved preparedness for and effective response to food and agriculture threats and emergencies

1. Innovative DRM approaches and technologies have been piloted in the pastoral areas promoting animal health and livestock disease control, including establishment of private veterinary pharmacies linked to CAHW and introduction of "Multi-Nutrient Blocks" (MNBs) or survival feeding.
2. Good practices in agriculture, livestock and natural resource management have been identified and tested, including: Conservation Agriculture in crop-related interventions, the "Farmer Field School" approach (also adapted as "Pastoral Field School"), and the building/rehabilitation of water points and traditional wells in Ethiopia (benefiting 50 000 households).
3. Introduction of high yielding cereals, improved varieties of root and tuber crops, vegetables and fruits) as a risk transfer mechanism for vulnerable households. Over the last two years, FAO has been providing a range of seeds, planting materials and other agricultural inputs to food insecure households and building the necessary technical and productive capacity amongst beneficiaries, benefiting over 40 000 households through improved food security and nutrition and additional income.
4. Community-based preparedness and flood and drought mitigation has been improved in selected areas, benefiting 92 460 people who had previously been affected by flooding.

Major Activities/Field Projects

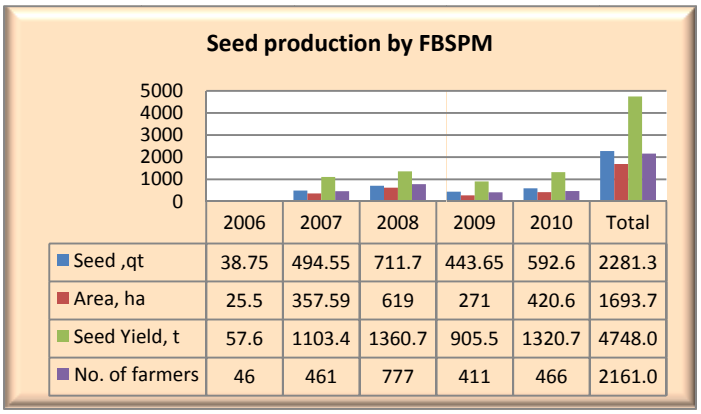
FAO-Ethiopia is supporting the GoE initiatives in agriculture and food security, particularly in the following areas: crop production and protection, livestock production and development, irrigation development, household asset building and nutrition, food security information and agricultural statistics, environment/natural resource management (including land tenure, forestry and disposal of obsolete pesticides), and support for policy and programme formulation.

At the policy level, FAO has advocated: balanced developmental interventions, accelerated production and productivity enhancement; sustainable natural resources management; enhancing public and private investment in agriculture and rural development, and seeking early and sustainable exit from persistent food aid dependence. All of these are reflected in the Government's Growth and Transformation Policy 2010-2015, which promotes a vision of agricultural modernization as a means of increasing household income and safeguarding food security. Continuing its history of building institutional capacity, FAO is now assisting the newly established GoE Agriculture Investment Support Directorate to take the necessary measures ensuring that the best practices/standards are in place to ensure sustainability of large-scale agricultural investments at all levels.

Crop Production and Protection

A major threat facing the crop sector in Ethiopia is critical seed shortage, which is mostly a supply problem. FAO has contributed significantly in ensuring the availability of high quality seed with certification services in collaboration with the regional government seed laboratories.

Sustainable supply of initial seeds (pre-basic and basic seed) is essential in developing a successful farmers-based seed production and marketing scheme (FBSPM). FAO has established 12 farmer-based seed producer's cooperatives and five cooperative community-based seed enterprises (CCBSEs), built their financial and technical capacity, and enabled production of a significant amount (23,202.7 tonnes) of quality seed of different crops, resulting in improved availability to an estimated 50,107 farmers in Oromia regional state. The contribution of the project to the seed system is also increasing (on average more than 20 percent) in the zone.



	2006	2007	2008	2009	2010	Total
Seed ,qt	38.75	494.55	711.7	443.65	592.6	2281.3
Area, ha	25.5	357.59	619	271	420.6	1693.7
Seed Yield, t	57.6	1103.4	1360.7	905.5	1320.7	4748.0
No. of farmers	46	461	777	411	466	2161.0

The seed producer cooperatives were then linked with the newly established regional seed enterprise (Oromia Seed Enterprise) and Ethiopia seed enterprise (ESE), and are now producing early generation materials on a contractual basis with the enterprises. This institutional linkage will help ensure sustainable supply of basic seeds -- a core for system effectiveness -- to the seed producer cooperatives. The seed production activity is also well integrated with the Ministry of Agriculture and Rural Development (MoARD) system, which partly contributes to sustainability. The business profitability and the current high demand for seed also contributes to sustainability of seed production activities through farmers cooperatives.

Given that monocropping has proved too risky in Ethiopia, FAO is promoting diversification of produce and income sources of farmers. For example, FAO has been promoting production of temperate and tropical fruits in Tigray, Amhara and Oromia regional states. To this end, FAO has introduced quality materials and established 18 fruits nurseries and trained farmers and experts on modern cultivation, production and protection technologies. It has benefited more than 3 397 farmers through this intervention. The introduction of onion seed and potato seed tuber production technology is also noteworthy. Several trainings and study tours have been provided by FAO to farmers and experts of MOARD in vegetables production and marketing. FAO also facilitated the establishment of potato seed tuber producer groups to meet the high demand for quality seed tuber crops in central and south western zones of Oromia region. As a result of the project's success, different local and international NGOs have committed more funds to scale up these technologies, especially in the low lands and high lands of Arsi zone of Oromia regional state.

FAO has also ensured quality seed availability (such as improved tuber crops, cereals and vegetable seeds, as well as fruit seedlings) to vulnerable households in response to emergencies, as well as a disaster risk reduction strategy. Lastly, in the pastoral region of Afar, FAO is developing the capabilities of the regional government and of farmers in date palm cultivation improvement and full utilization through the provision of modern technologies, expert advice, training, and introduction and propagation of high quality planting material.

Figure 1: The regional seed quality control and certification laboratory experts while inspecting wheat basic seed production fields to ensure quality seed production by seed producer cooperatives in Hetosa, 2010

In terms of crop protection, FAO has contributed significantly to reduce the potential risk of crop damage by the desert locust outbreaks through the revitalization of strong information network and enhanced capacity of the federal Animal and Plant Health Regulatory Department (APHRD) locust unit and the locust prone regional states (Afar, Amhara, Tigray, Oromia, SNNPR, Harari, Somali, Gambella, Dire Dawa) for locust survey and control.

In an attempt to reduce large stocks of pesticides accumulation resulting in soil contamination and pesticide residues in crop products FAO is currently assisting the GoE in increasing its capacity to enforce pesticides post-registration regulations through the improvement of infrastructures, equipment, analytical methods, consumables and human resources.

Lastly, a number of traditional irrigation schemes have been upgraded and rehabilitated, covering 235 hectares of land benefiting 550 households and organized under three Water Users Association (WUA), in an effort to increase production of high value crops and diversify income sources of farmers so as to improve their livelihood situation. As a result, for instance, 500 households in Oromia are now able to produce high value vegetables twice a year on 235 hectares of land, resulting to increased income. Additionally, the rehabilitation and construction of the five schemes in Tigray and Amhara regional states also resulted in the proper harvesting and efficient use of water from the rivers for irrigated crop production on 295 hectares of irrigable area, benefiting 1 150 farmers.

Photo Caption: Quality disease free potato seed tuber production by farmers in Arsi, February 2010

Picture: Quality onion seed production and seedlings raised from seed produced by farmers in Arsi, February 2009

Livestock Production and Development

Ethiopia has the biggest livestock population in the region, but livestock production in the country is facing several challenges, including low genetic potential, poor feeding practices, poor health, water shortage and underdeveloped market infrastructures. FAO has undertaken a wide range of initiatives to address these challenges, focusing mostly on animal health and feed interventions.

FAO is widely credited in Ethiopia for playing a key role in building institutions and capacity dating back to its establishment of the veterinary faculty of the Addis Ababa University, Animal Health Assistants School and veterinary laboratory at Debrezeit. With the support of the United Nations Development Programme (UNDP) and the World Bank, FAO helped establish the formal agricultural research system in the country in the 1970s, primarily focusing on feed and feeding, breeding and animal health control. FAO recently supported system wide development in diagnostics, surveillance and management of zoonotics (such as tsetse and trypanosomiasis control) at the Federal and Regional level, including the National Veterinary Institute and Regional and National Animal Disease Research and Diagnostic Laboratories. FAO's engagement with the threat of avian influenza in 2006 further strengthened the coordinated zoonotic disease preparedness and response capacities of GoE.

FAO has played, and continues to play, a key role in building the country's capacity on livestock disease control:

- FAO had played a pioneer role in Rinderpest eradication as part of the global campaign: During the early 1990's, Ethiopia was the first country in Africa that moved away from the generally adopted blanket vaccination approach to a focused vaccination approach, based on an evolving understanding of the Rinderpest situation in the country. Consequently Rinderpest disease was eradicated in just a few years. The last outbreak of Rinderpest disease was observed in northern region of Tigray in November 1995. The verification process, however, took over a decade, due to the fact that the disease still lingered in neighbouring countries like south Sudan, Somalia and Kenya.
- FAO continues to support the Government in controling transboundary animal diseases such as contagious bovine pleura-pneumonia (CBPP), contagious caprine pleuro pneumonia (CCPP), peste des petits ruminants (PPR), trypanosomimiasis and foot and

mouth disease though vaccination campaigns and animal health interventions. Recently, FAO supported the Government in strengthening its capacity in highly pathogenic avian influenza (HPAI) preparedness and prevention, resulting in enhanced epidemio-surveillance and diagnostic capacities not only in HPAI but also in other transboundary animal diseases. There were recognized impacts in the building of laboratory capacity and inter-institutional dialogue for preparedness and response to avian influenza, and these impacts almost certainly have broader implications for other diseases.

- FAO has also established private veterinary pharmacies linked to CAHW systems in the pastoralist areas, which further helped improve control of trans-boundary animal diseases. It has contributed to better access to veterinary services (through the provision of veterinary equipment, drugs, vaccines, diagnostic materials and equipment and training of 180 CAHWs, establishment of CAHWs association and medicine shops, and improved livestock feed (through provision of planting materials for 300 hectares or 0.5 hectare for forage per household).

Through farm technology development, FAO has played an active role in disseminating knowledge and improved inputs in dairy development. In addition to the regional dairy development project, several projects are undertaking development of dairy and other animal products. For example, FAO established nine model milk collection, processing and marketing units after developing guidelines and selection criteria and model infrastructure. Development and introduction of appropriate technology on improved dairy production processing and marketing and semi intensive poultry production was also undertaken by FAO.

Efforts were also made to address trade barriers related to disease prevalence, which included bans based on fear and safety requirements of importing countries (with special reference to Rift Valley Fever). FAO studied the issue with a view to establishing disease free zones in Ethiopia to ensure implementation of biosecurity and a routine programme for monitoring disease exclusion.

Photo Caption: A female CAHW in action during a recent FAO-supported vaccination campaign in the pastoral areas.

Fishery

In Ethiopia, very little aquaculture production technique has been developed and its practice is limited to pond fish farming at farmer level and stocking of small water bodies. FAO's current involvement in fishery in Ethiopia is now limited to fresh water fish catch and aquaculture, and upgrading quality and safety of fish products. To develop and promote the traditional fish farming at farmer level and for the sustainable development of a market-responsive aquaculture industry over the medium and long term, FAO is assisting in formulating a comprehensive National Aquaculture Strategy.

Forestry

To protect the natural resources base in Kefa zone of SNNPR, FAO facilitated the demarcation of 3 1687 hectares of natural forest and 20 000 hectares of wetland areas and later on supported the establishment of 35 participatory forest management (PFM) sites in the area, enabling the conservation of some of Ethiopia's last remaining forests resources. FAO also supported building the technical capacity of the government at different levels and communities at large in having a common understanding and implementation of sustainable land management (SLM) practices through trainings, workshops and community meetings. Also, maps with information on forest/wetland coverage and deforestation levels was produced for 10 woredas in the zone. As a result of FAO's efforts, two policy documents on forest conservation, land certification and the enhancement of food security are currently being revised in support of SLM and PFM activities at national and regional levels.

Natural Resources Management

With high population growth rates resulting in growing pressure on land, FAO has been supporting agricultural development through integrated watershed management approach and implementation of sustainable land management (SLM) practices.

Integrated watershed management activities implemented by FAO through introduction of adapted technologies that reduce soil erosion and promote the rehabilitation of degraded areas have concurrently improved food security and incomes of the communities, besides having direct positive impacts on the restoration of the degraded lands. Awareness has been created on environmental impacts and mitigating factors through training and participatory programmes. Attempts and evidence of soil and water conservation-based integrated watershed development activities in Miree Shire and Mankula watersheds in the Oromia region is a case in point.

The two watershed sites were implemented involving 1 497 hectares of land benefiting 187 households in Miree Shire and 6 187 hectares of land in Mankula benefiting 921 households; a total of 1 108 households participated in watershed development work that includes soil conservation through fertility management, afforestation, area closure and supply of fuel saving stoves as an alternative energy source. The sustainability and potential environmental impact was demonstrated through the genuine participation of communities at all levels of the decision making process. The communities developed and passed community bylaws to counter serious

climatic calamities and land degradation problems caused by reckless human and animal interventions in the existing flora of the locality.

As part of SLM, FAO has also supported land registration and certification with an aim to enhance land administration practices. Accordingly, this activity has enabled the registration of 10 000 new land holders, measurement of 32 000 hectares of land for 21 200 landholders and the issuance of 11 500 landholders certificate in Kefa of SNNPR.

Food Security and Nutrition

In addition to interventions that support chronically and acutely food insecure households (through direct support, household asset building, development of models of good practice and support for improved coordination), FAO is also helping to develop GoE's information systems for food security (through institutional capacity development, technical assistance and provision of tools and methods).

FAO helped develop GoE capacity (i.e., Central Statistics Authority and MoARD) to collect, analyze and interpret food security information to better inform policies and programmes, FAO has also supported the collection and dissemination of information on both the food security situation and the responses to them, foremost amongst which is the Annual FAO/WFP Crop and Food Security Assessment Missions, data from which are reportedly used as a basis for GoE programming and for emergency resource allocations. Lastly, FAO introduced tools such as GPS technology to estimate area under cultivation and the use of GIS, small area estimation techniques, area based sampling frames, etc.

Amongst interventions that support chronically food insecure households is a long-term comprehensive household asset building pilot project in northern Ethiopia that seeks to improve food availability, household income and access to public services, and to support environmental rehabilitation at the same time. To date, the project has benefited 26 000 households (with women comprising 60-70 percent of current beneficiaries) in four woredas through a number of education, health and nutrition related activities, ranging from the promotion of iodized salt, construction of latrines and drinking water points, school feeding, and good child care practices, to cite just a few examples. The intervention has made a positive impact on: increasing community capacity to plan and manage their own development processes, promoting the participation of marginalized groups (female headed households, youth, disabled, people living with HIV/AIDS) and on household level skills and productive assets. Agricultural activities undertaken through this intervention included home gardening, small ruminant rearing, beekeeping, livestock and feed development, small-scale irrigation, rainwater harvesting, river diversions, access to farm implements, and others. Beneficiary assessments have shown considerable improvements in food security, including increased incomes, reduced periods of food shortage, reduced seasonal migration, increased meal frequency and greater dietary diversification.

A number of activities also involved supporting households facing acute insecurity resulting from shocks such as drought, floods, and price shocks, covering several regions and multiple types of interventions such as distribution of planting materials, provision of vaccines and medicines for animal health responses, rehabilitation of animal water points and grazing lands, reforestation and watershed management and conservation agriculture.

Altogether, FAO interventions have directly and indirectly contributed to increased production, agricultural diversification and the protection of productive assets.

Photo Caption: School feeding is one of the wide range of activities undertaken by FAO under its long-term food security and nutrition programme.

Cross-Cutting Issues (Gender, HIV/AIDS, Environment)

FAO facilitated training on gender mainstreaming to different woreda sector office representatives, including the Women Affairs Office. In addition, a four-day training on gender mainstreaming for FAO and MOARD selected staff was jointly organized by FAO and IFAD in September 2010. Under the household asset building intervention, FAO has demonstrated an increased focus on gender, with women comprising 60-70 percent of beneficiaries. The intervention also started a pilot activity on female education support at targeted woredas through school feeding tutorial program and provision of nutrition books.

The multifaceted impact of HIV/AIDS aggravates the already existing nutritional problems. HIV/AIDS affects the food availability, accessibility, and utilization components of food security. FAO supported people living with HIV/AIDS from two woredas of southern Tigray with training, income-generating activities, and provision of startup capital (as credit) to address their food security and nutritional needs, enabling the members of the group to be engaged in home gardening, poultry production and petty trading activities.

Prior to FAO's introduction of fuel-efficient stoves in selected woredas, considerable quantities of animal manure and crop residues were used for cooking purposes to deal with the shortage of firewood. This has adversely affected soil fertility. The fumes produced by the traditional stoves also adversely affected the health of women. The fuel-efficient stoves introduced by FAO to beneficiary households are now produced and sold locally by trained women beneficiaries. The improved stove is 50 percent more energy efficient than the traditional one and does not have the problem of fumes polluting the air in the house. The production and promotion of improved fuel-efficient stoves has been seen as relieving stress on the environment, as well as saving time for women.

Market and Value Addition

FAO has been helping to create an enabling environment for producer organizations and co-operatives in the supply of inputs and marketing of products. Linkages have been formed between the different seed producers cooperatives established by FAO and regional and federal seed enterprises, research centers and Oromia bureau of agriculture and rural development for initial seed source and marketing of produced seeds; the same is true with the Arsi dairy union and wholesellers of milk and milk products in big Ethiopian cities. The activities also involved building capacities of the different cooperatives through trainings and provision of equipments and machineries for improving qualities and marketability of the produce.

FAO is currently working to improve the marketing efficiency of selected value chains and commodities (in addition to seed and dairy production, this includes vegetables, fruits products and of late, edible oil) through value additions. For example, through a small holder dairy development project, FAO had identified two sites where backyard forage development and market interventions could be initiated as a model to be replicated to other potential areas. In line with this, financial assistance was enlisted from the World Food Programme (WFP) for the construction of milk processing and breed improvement activities, with FAO providing complete small scale milk processing units for assisting value addition and marketing of dairy products. The FAO-WFP collaboration made possible the establishment of two units of small scale milk processing units.

Moreover, in efforts to enhance market oriented production and sustainable growth FAO has established 13 farm business schools (FBS) to train farmers in agribusiness and marketing. A total of 356 farmers have been graduated from the training and the second round of training for 288 farmers is ongoing in eight woredas of Arsi zone of Oromia regional state. The training has enhanced farmers' understanding of business aspect of farming and increased their skills in farm management and marketing. FBS graduates have started forming cooperatives around selected enterprises. The impact has been commended by the regional government and upscaling the methodology is currently under consideration.

Disaster Risk Management/Reduction

Since the establishment of FAO's Emergency and Rehabilitation Coordination Unit (ERCU) in 1999, FAO has been assisting national and local authorities to coordinate the agriculture-related emergency assistance. FAO is currently co-chairing the Agriculture Task Force with the Disaster Risk Management and Food Security Sector (DRMFSS) of MoARD In May 2010, FAO renamed its emergency unit Disaster Response and Rehabilitation Unit (DRRU) to better reflect its disaster risk management (DRM) focus. Undertaking interventions that strengthen communities' coping mechanisms and household resilience can provide lasting solutions to repetitive problems; hence, FAO emphasizes improving various communities' capacity and infrastructure to mitigate the severity of damage caused by disasters. Furthermore, DRRU is developing the capacity of the governments of disaster affected areas to manage disaster risk management programmes with a view to moving beyond the emergency phase towards recovery and rehabilitation.

Since 2003, FAO's DRRU has implemented 52 projects in Ethiopia targeting the disaster-affected communities in different regions, working closely with MoARD and other partners.

Recent achievements include the following:

Innovative DRM approaches and technologies have been piloted, such as: (a) Establishment of private veterinary pharmacies linked to Community Animal Health Worker (CAHW) systems in the Somali Region, Borena Zone (Oromiya) and Gambella, resulting to increased access to veterinary services. These pharmacies helped improve control of trans-boundary animal diseases such as Peste des Petits Ruminants (PPR); (b) in 2009 "Multi-Nutrient Blocks" (MNBs) were introduced in 2009 to the pastoral Afar Region. So far, 199 088 blocks, have been produced and distributed in entire Afar, southern Tigray and Eastern Amhara regions. One MNB is sufficient for survival feeding of five goats for two days or survival feeding of a mature cow for two weeks. Four MNB producer groups have been established in Afar and are now commercially producing 600-1 000 blocks of MNBs each per day.

Good practices in agriculture, livestock and natural resources management have been identified and tested, including: Conservation Agriculture in crop-related interventions, the "Farmer Field School" approach (also adapted as "Pastoral Field School"), and the building/rehabilitation of water points and traditional wells in Ethiopia. A Farmer Field School is a "school without walls" that uses a group-based, practical learning process to improve farmers' agro-ecology and management skills that build on their traditional and indigenous knowledge. FAO, with labour provided by the beneficiaries themselves, also rehabilitated many traditional wells and built large cattle-watering ponds, improving the water capacity of 50 000 households.

Introduction of high yielding cereals, improved varieties of root and tuber crops, vegetables and fruits) as a risk transfer mechanism for vulnerable households : Over the last two years, FAO has been providing a range of seeds, planting materials and other agricultural inputs to food insecure households and building the necessary technical and productive capacity amongst beneficiaries. The latest such project covered 12 woredas of SNNP, Oromia, Amhara and Tigray. The project introduced five high-yielding root crops -- potato, sweet potato, taro, enset and cassava -- benefiting about 21 000 households through improved food security, nutrition and additional income. Nurseries have been established and crop multiplication is underway for both demonstration and distribution. DRRU also introduced fruit trees in four regions of Ethiopia side by side with staple food crops productivity enhancement and homestead gardening packages. About 22 869 households who received these packages subsequently benefited from improved technologies and trainings as well. According to the estimates the project beneficiary farmers have secured food for their family (food grains and vegetable yields, as the fruit trees will generally take three years to bear fruits) at least for one year and still have some surplus produce for sale.

Community-based preparedness and flood and drought mitigation has been improved: In 2007, a total of 19,391 households or about 92,460 people in the Amhara region were affected by flooding from the rivers. In 2009, a joint FAO, CARE and Food for the Hungry International project successfully piloted preventative measures to protect local communities from the

increasing incidence of floods. Activities included: de-silting and raising of river embankments; strengthening of embankments through locally transported soil and vegetation; construction of river crossings to allow easy access from one side of the river to the other during and after the peak flow season of the rivers; training and awareness creation on flood mitigation and protection. The flood mitigation measures have been effective: the beneficiary communities did not suffer serious damages from flooding in 2009 and 2010 that had affected the Amhara and Afar regions.

Success Stories

Success Story 1: Let's Hear It from the "Singing Wells" of Borena!

The "singing wells of Borena" earned this title because the Borena people water the well through a human ladder, passing buckets from the bottom of the well all the way to the top, singing as they do so to pass the time and reassure the cattle.

With labour provided by the beneficiaries themselves, FAO helped rehabilitate many traditional wells (Elas) in the country, including the "singing wells of Borena".

About 50,000 households have benefited from the rehabilitation of Elas and building of large cattle-watering ponds.

The local officials and community leaders were also trained in rehabilitation and natural resource management, including: soil and water conservation measures; using maps and contour analysis for the planning and identification of water points collection channels; watershed hydrology; practical measurements of slopes, graded and contour canals, among others.

Emphasis was given on community participation in the whole process, from the planning and design up to the rehabilitation of the water points.

The rehabilitation of water wells focused on selected drought-affected areas, including Gambella, Tigray, Amhara, SNNP, Oromiya (Borena Zone) and Somali regions, where people's lives and livelihoods were at stake.

Success Story 2: Popular Farmer Field School Adapted for Herders

A self-discovery learning method popular with farmers worldwide has been adapted to livestock keepers and is now being introduced in Ethiopia.

Called the Pastoralist Field School, the approach builds self confidence and community spirit among the herders so they find locally appropriate solutions to their animal problems. "Even an illiterate herder can learn from the pastoralist field school because they learn using pictorial guides. They participate in practical demonstrations. They learn by discovery," explains Francis Anno, a Kenyan trainer who helped adapt the method to pastoralists in East Africa in 2006, where there are now 160 schools.

Project manager Tarekegn Tola believes one of the first problems herders will want to solve is how to better prepare themselves for drought. "The pastoralists need to learn that they must plan ahead and store hay and straw for times of drought, for their key breeding stock."

Herder Jaldesa Golicha, herder with 30 cattle, seems ready for school: "I use modern medicine, not traditional anymore. I learn about these things from NGOs or the government. And I want to learn a lot more."

A Farmer Field is a "school without walls" that uses a group-based, practical learning process to improve farmers' agro-ecology and management skills that build on their traditional and indigenous knowledge.

Success Story 3: What Happens When You Give a Single Mother a Sewing Machine, Skills and Support

W/ro Genet Moges, 28, is a female head of household (divorced) with two young daughters (aged 6 and 8). She lives in the village town of Meleya just along the junction that splits the main highway from Addis to Mehal-Meda and Molale towns. She is a beneficiary of the household asset building intervention, through which she received skills training on tailoring (sewing), and the group sheep rearing and support through the saving and credit cooperatives.

She joined the project in 2005 as amongst the poorest of the poor. She first went through a three month intensive training on tailoring (sewing) at the Amba-Wuha Skill Training Centre in Molale town. Soon after she graduated, she bought (on cash loan basis) the sewing machine she used for her training and started her own business. The project also gave her 700 Ethiopian birr loan as a startup capital for the purchase of clothing materials. She first promoted herself for about three months and started running a profitable business. She now earns 100 birr/month (both from tailoring and ironing) in addition to what she spends daily for her household.

An active community member, she is one of the five elected members of the woreda level political cabinet (2 ♀ & 3 ♂). She is also a Secretary of the two Committees for the Group Sheep Rearing and Saving and Credit Cooperatives in her kebele. She has a two "Timad" (0.5 hectare) farmland from which she gets a 50 percent share of the produce with a farmer-tenant who is doing the actual cultivation.

Because she is living in a rented house, she did not have enough space to raise her own sheep and chickens at home. Instead, she joined the Sheep Rearing Cooperative as one of the 17 female members (out of a total of 80 members).

In 2008, the project gave her a three-month contract as an assistant trainer in sewing at the Amba-Wuha Skill Training Centre, from which she earned 3 000 birr. In the same year, she was also employed for three months at the Wogere Skill Training Centre as a senior trainer, earning another 4 500 birr.

As a member of the Woreda Cabinet, she managed to convince the administration to open a Kindergarten at the kebele centre.

She was one of the model beneficiaries selected by the project for the exposure and experience sharing visit to the intervention woredas in Tigray as well as other key areas such as the Melkasa and Holleta Agriculture Research Centers, Genesis Farm at Debrezeit, and the Selam Vocation Technical School in Addis Ababa. Inspired by what she saw at the Saving and Credit Cooperative in the intervention woreda of Hintalo-Wajerat (Tigray), she initiated organizing a similar cooperative in her kebele. She now has a saving of 10 000 at the bank. She had recently sold two heifers and one ox to supplement her expenses for the standard house she is building at the village town of Yigem, which will be completed in about three months.

She is grateful to the project for these results. Now, she has a radio with tape recorder, a modern bed, and a cupboard with all other necessary household utensils. She is determined to take care of her daughters until they go to the University. She has come a long way from the days when she had felt like a hopeless invalid after her husband abandoned her and their children.

Success Story 4: How to Keep Girl Students in School

The primary aim of the program is to support the education performance of grades 1- 4 young girl students aged seven to 11 years. The program started in February 2009 and has 157 beneficiary female students who receive basic tutorial classes (mainly on English, Maths, and Amharic/Environmental Education, personal hygiene, and civic and gender related education), tutorial snacks, and school materials (exercise books, ballpoint pens, pencils, and erasers).

Tutorial classes are given daily on school days supported with practical educational facilities (mini-media). There are two relatively experienced and literate female cooks selected by the village community and paid 300 birr/month. Snacks are served just before tutorial classes, depending on the school shift, and usually consist of bread (50 kg/day/157 students), tea and marmalade.

A committee -- composed of two science teachers, one community female parent, one community elderly person, and one representative from the kebele women affairs committee -- oversees both the tutorial and meal programmes. Eight teachers and a coordinator collaborate in the tutorial programme. The programme committee meets with parents of students every month and discuss issues, including the students' progress. According to the school Principal, the programme resulted in improved attendance and overall academic performance of girl students.

Also through the FAO intervention, one separate latrine for female students and one water harvesting pond are also under construction: the project is covering the costs of industrial materials (cement, iron sheet and nails), sand and skilled labour, and the community is contributing free labour and necessary local materials (except sand which is not available in close proximity). The water harvesting structure was meant for the School Gardening and Nutrition Club, for which the project also provided hand tools and vegetable seeds along with practical training.

Success Story 5: Integrated Watershed Management Scheme

Also part of the food security intervention is integrated management of the watershed, which covers an area of about 154 hectares serving about 1 680 people in 280 households.

The scheme integrates almost all kind of activities -- normal trench, deep trench, soil and stone bands, half-moon micro-basin, eyebrow basin, area closure and planting, terracing, check-dam, cut-off drain, infiltration pond, spate canal, rock- fill dam, and gully stabilization through gabion mesh and stone check structures. The FAO project is currently the main financer of all the costs incurred for the development of the pilot scheme (i.e. wages for people working in the scheme, purchase of industrial materials like gabion meshes and hand tools, etc.). The community also contributes about 10 percent of free labour (up to 10 days/month). The Woreda Agriculture Office, through its Natural Resource Management Unit, is technically leading the implementation of the scheme. The area is now fully rehabilitated after three years of work.

The community hires a guard whom they pay in kind (grain) during the harvesting season.

Success Story 6: Vulnerable Farmers Get Big Returns from Wonder Seeds

Photo Caption: "I don't want to lose the seeds. These are very good seeds," Fatuma Seid says of the improved variety of potato seeds she got from FAO that she has recently sprouted for replanting. With her in the photo are the development agents who have actively supported her.

For the longest time, Fatuma Seid, 27, mother of three, planted green maize in her small plot of land in Dessie Zuria woreda in South Wollo zone, getting just enough yield for cattle fodder and household consumption. Her husband works as a farm hand whenever there is such an opportunity: sometimes, in exchange for his labour, they get to use their neighbour's ox. Over two years ago, Fatima got in debt for buying a small water pump with seven other neighbors that the group then shared for irrigation.

Things turned around for Fatuma recently. She obtained 14.5 quintals of potato tuber from the same plot of land (with a plot size of about 300 square meters, her yield is equivalent to 480 quintals per hectare), which translated to a considerable unexpected income for her. According to Fatuma: "I have just paid the 400 birr I owe for the water pump and I'm now free from debt. I also bought a mattress -- we used to sleep without one – as well as blankets, and school uniforms and exercise books for my children. If I get good money next harvest, I will buy an ox."

Fatuma is one of the over 31,500 small landholder farmers across the country who, since the beginning of 2010, have started planting good varieties of root and tuber crops, such as Irish potato, sweet potato, cassava and taro under the FAO project, "Food security support to vulnerable households affected by drought and soaring food prices in SNNPR,

Oromiya, Amhara and Tigray regions of Ethiopia," funded by the Office for U.S. Foreign Disaster Assistance (OFDA). Under the project, Fatuma and the other beneficiaries received seeds, fertilizers and training (DAs from the regional, zonal and woreda offices of the Ministry of Agriculture and Rural Development received Training of Trainers as well).

Each of the farmer beneficiaries got 50 kg potato seed from FAO, just enough to plant 250-300 square metres of land. As the experience of Fatuma showed, the farmers were surprised to get a yield of 10-16 quintals from a very small piece of land. At this rate, if a farmer plants 1,000 square meters (one tenth of a hectare), it means the production could be four times higher.

"It's my first time to plant potatoes. I got one bag or 50 kilograms of sprouted seed in January from the woreda development agent (DA). Following the advice of the DA, I cultivated the seeds I planted by earthing up, using wider spacing, enriching my soil with organic matter (farmyard manure), and later, I also tried crop rotation by alternating wheat and potato. The potato yield I got turned out to be very healthy and of very good quality. The field was very green. There was no weed at all," Fatuma said.

"She is a good student, listening to advice and adopting best practices. She is becoming a model farmer and other farmers are learning from her how to plant good potatoes and get a good income as a result," said Tekle Haimanot G/Tsadik, the woreda agronomist.

She has since returned to the DA 50 kilograms of seed to redistribute to other farmers, kept 50 kilograms to sprout and plant, and sold 10.5 quintals of her harvest last May for 2,615 birr. She decided to sell as soon as she harvested because the rainy season was coming and there was no good storage facility that could help her wait out the low market. The current price is 450 birr per quintal; she sold her potatoes for 230 birr per quintal.

Although she made good use of the unexpected income from potatoes, she is understandably not very happy with the market price she got. "Now I have learned the importance of marketing," Fatuma said. Hopefully, things will change soon for Fatuma and the other farmers of the woreda. Under the project, FAO has donated materials to start construction of diffuse light storage facilities.

The FAO project manager and the concerned agricultural extension workers are also discussing the need for a post-harvest management training and nutritional education so that farmers can make the best use of root and tuber crops as a part of their diet.

"The South Wollo zone wants this project to continue and expand next year. This project's mission is very important to our daily life and food security. We want to cooperate with FAO to make our zone the center of root and tuber crops," said Assefa Zegeye, the Zone's agronomist.

"We got a good yield with this improved seed, which is resistant to disease and matures early. There is very high demand in the market for our potatoes. Traders from Mekelle were coming to the farms and buying the potatoes straight from the farmers," added Tekle Haimanot G/Tsadik, the woreda agronomist.

Sidebar Story: Breaking the Cycle of Dependency

Just before he started planting the improved variety of potato from FAO, Mohammed Hassen, 28, father of two children, was receiving food aid through the government's Productive Safety Net Program (PSNP) covering chronically food insecure areas in the country. Like many other farmers in Dessie zuria woreda of South Wollo zone, he relied on monocropping of cereals – planting only wheat, he was producing barely enough for his family's consumption and was extremely vulnerable to disaster shocks.

After planting the improved variety of potato, he now feels optimistic that food aid dependency is behind him for good.

"There's a big difference between wheat and potato. When I was planting wheat, I got the maximum yield of 2 quintals from about 300 square metres of land, for which I earned 900-1 000 birr; with potato, I harvested 13.5 quintals from the same piece of land (0.03 hectare), and got 4 000 birr for 10 quintals after returning the 50 kilograms of seed to the woreda agriculture office and keeping three quintals of seed to sprout and plant," Hassen said.

The first thing he did with his unexpected income was to have a proper house constructed for his family. He also bought an ox which he planned to fatten and eventually sell for a handsome profit.

"We distributed 123 quintals of root crops to 247 farmers in our kebele in early 2010. The original beneficiaries have returned the seeds, and these have in turn been redistributed to other farmers (secondary beneficiaries). Moreover, the second generation of these improved seeds have already been planted by some of our original beneficiaries, and we are seeing very good results, further proving the quality and purity of the original seeds," said Ayele Yimar, kebele DA.

Success Story 7: How Ethiopia's National Animal Health Diagnostic and Investigation Centre Got Its Groove

"Urgent Intervention for the Early Detection, Prevention, and Control of Avian Influenza in Ethiopia" was a one year project with the overall objective of undertaking urgent short and medium-term actions to strengthen Government's capacity to rapidly detect any introduction of HPAI into the country and stop its spread in the case of its occurrence. The project involved four different components: Strengthening capacity and undertaking disease surveillance and laboratory diagnosis, Communication and public awareness, Emergency outbreak containment and Socio-economic assessment.

During the duration of the project all the components were effectively implemented both at Federal and regional levels. The capacity building under this project addressed all the three dimensions of the individual, institutional and the policy environment, and was developed through the interaction of these dimensions with the overall country, regional and global context.

The diagnostic capacity of the National Animal Health Diagnostic and Investigation Centre (NAHDIC) has been upgraded into a bio-safety level 3 laboratory that can be used for the diagnosis of highly contagious disease such as avian influenza, rift valley fever, foot and mouth disease etc. NAHDIC is currently considered as one of the best laboratories in eastern Africa with a bio-safety level 3 facilities. Training programs were arranged for staff members of NAHDIC and Regional Veterinary Laboratories, NAHDIC's technical staff in particular were trained in a number of international laboratories on current techniques on the identification and typing of influenza viruses. Currently the nation has acquired the capacity to rapidly diagnosis avian as well as swine influenza.

The project was, and remains, an important and valid intervention in reducing the risk of HPAI entering and establishing itself in Ethiopia, and of the subsequent national and international consequences of that. Ethiopia is now better placed to prevent, detect and control avian and swine influenza.

Success Story 8: Farmer's Hard Work Pays Off with Onion Seeds

Ato Kedir Shuge, 32, of Sheled peasant association (PA) of z/Dugda woreda, discontinued education from ninth grade and married early. He has two wives and nine children (one month to 12 years of age). He was provided 0.25 hectare of irrigation land in 2006.

In the first year, he produced tomato and managed to get 300 birr. In 2007, he was one of the 27 farmers selected to get credit amounting to 564 birr each (from the Government) to produce

vegetables. With the money, he bought two kg of onion seeds and produced 21 qt onion bulbs and sold it for 3 000 birr. From the proceed, he bought two oxen, one of which he fattened and sold after some months with profit. He also bought two sheep and necessary grains for home consumption. He is the only farmer who has repaid the credit. Despite this, however, prior to his involvement in the project, he was struggling to make enough from the farm to meet basic family needs.

In 2007, he was selected along with other farmers in the PA to visit project onion seed production demonstration conducted for the first time in 2007 on three farmers' field in neighbouring Arata PA in the woreda. Motivated by the field day, he decided to participate in the training on seed production technology. He was later selected as best farmer and took part in a week-long study tour to Kenya and Uganda in February 2010.

After the training, he received from FAO three qt of onion bulb, fertilizer and insecticides to produce seed with 500 square metres of land. He followed all the recommendations and harvested 110 kg of onion seed, which he sold at 17,000 birr after leaving some amount for his own use. In 2009/10, he again produced onion seed with similar plot of land and managed to get 90 kg of seed, selling 85 kg of it for 21 250 birr and leaving five kg seed for his own use.

With the improved incomes, he bought oxen, different shoats, rented lands (1.5 ha) and built a house of corrugated iron sheet roofing. These days, his livelihood is much improved and he is also sending all his children to school. He also has 8 000 birr in the bank. He continued onion seed production with 2 000 square metres of land in 2010/11.

Impact of intervention on a farmer income and livelihood

Items	*Pre-intervention*	*Post -intervention*
Oxen	*1*	*6*
Cows	*1*	*2*
Sheep	*2*	*14*
Goats	-	*6*
steers	-	*2*
House	*Grass thatch*	*CI sheet roofing*

Success Story 9 -Seed and Business Skills Go a Long Way

Ato Tadesse Regassa, 40, father of six children (three daughters and three sons) with ages 6-23, of Boru Chilalo PA in Hetosa woreda, started seed production for the first time in 2005. He used to produce seed on 0.5 out of 3.5 hectares of land in 2005 and 2006, using the rest for grain production. He started seed production with FAO in 2007 after being selected as member of the Boru Chilalo seed producer groups. Through FAO's FBSPM project, he received trainings on seed production principles and doing business plans, and enough seed to produce on 0.5 ha of land. Since 2008, he has increased the area under seed production to 1.5 hectares.

The changes after FAO intervention in 2007 included:

- Improved knowledge and skills in seed production

- Adoption of improved production technologies
- Increased land allocation to seed production and increased yields
- Improved income and livelihoods

Besides increase in yield, his income is continuously increasing and his sources diversifying. Before 2007 when he participated in the project, the income he obtained from crop production and other activities covered only his household consumption. According to his calculation (he started computing all his costs and benefits after he received training on business planning through the project in 2008), the revenue he is getting from seed is about 40 percent of his total income (potato, sale of other crops, livestock fattening, and eucalyptus trees). After he started keeping records, his actual income rose from 40 000 birr in 2008 to 56 000 birr in 2009; and is estimated to increase to 70 000 birr in 2010/11 crop season.

With the income from seed sale, he built a house in his PA and bought two oxen, a milking cow and 40 pieces of corrugated iron sheet to build a new house in the town of Boru Chilalo. From 2010 season income, he is hoping to finish the construction works of the new house.

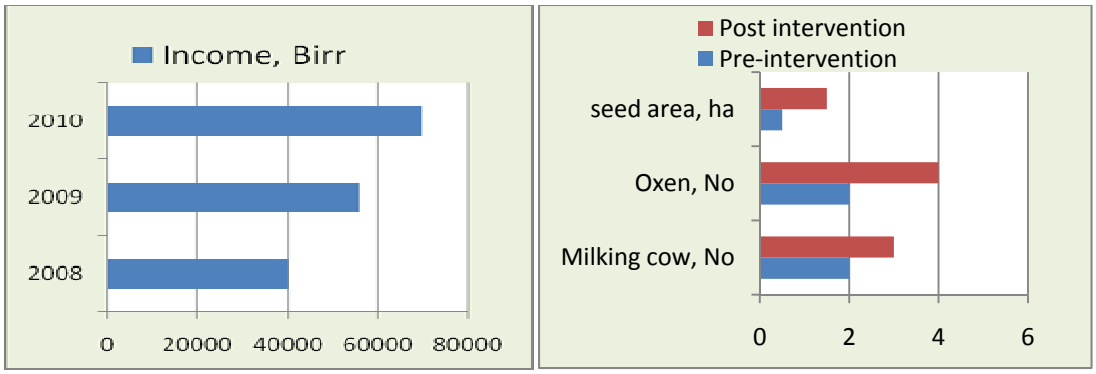


Figure showing the impacts of intervention in seed production on the income of a farmer since 2007. Data covers the years the farmer started recording his revenue.

Success Story 10: "With Artificial Insemination, It Is Now Possible to Produce a Crossbred Heifer for Less than a Dollar"

After FAO trained 15 farmers to be Farmers Artificial Insemination Technicians for one month, the inseminators have performed a total of 2088 inseminations from September 2009 until August 2010.

The majority of animals inseminated are local cows. Based on the report obtained from respective woredas, a total of 276 calves were born until December 2010. All the newborn calves were registered by the project and provided unique identification number with ear tags. Also, certificates with all the basic information were given to the calves' owners. As to reproduction efficiency, the data was collected and analyzed from the six project woredas for 359 cows (17

percent of total), 254 of which were found pregnant. The average conception rate was found to be 1.6 and that of pregnancy to be 71 percent. Out of these inseminated cows, 1 009 calves are projected to be produced, with 504 of them expected to be female calves.

These 2 088 inseminated cows reside in areas which are otherwise inaccessible for artificial insemination service provided from the woreda capital. The regular cost of one crossbred heifer is more than 10 000 Ethiopian birr, which is unaffordable to the majority of smallholder farmers; but with artificial insemination, it is now possible to produce crossbred heifers for 12 Ethiopian birr only.

The introduction of Farmers Artificial Insemination Technicians is playing an important role in alleviating the existing shortage of crossbred heifers, increasing milk production, and improving the livelihood of smallholder farmers. The Oromia regional state government has applauded the technology and the impact of services, and intends to scale up the practice, with training to be provided to 180 farmers selected from the different zones of the region.