Food and Agricultural Organization of the United Nations

# Experience on Food Security Programs Implementation in Tigray and Amhara Regions: an Inventory of Best Practices


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**Acronyms**

| | |
|---|---|
| ADLI | Agriculture Led Industrialization |
| AMAREW | Amhara Micro-Enterprise Development, Agricultural Research, Extension and Watershed Management |
| AMSEIDB | Amhara Micro and Small Industries Development Bureau |
| ANRS | Amhara National Regional State |
| ASCI | Amhara Savings and Credit Institute |
| BoARD | Bureau of Agriculture and Rural Development |
| BoH | Bureau of Health |
| BoWRD | Bureau of Water Resources Development |
| BSF | Benign Survival Fund |
| CAP | Community Action Planning |
| CHW | Community Health Workers |
| CSA | Central Statistical Agency |
| CWMO | Community Watershed Management Organizations |
| DA | Development Agents |
| DHS, | Demography and Household Survey |
| EEOS | Extended Enhanced Outreach Services |
| EOS | Essential Outreach Services |
| EPLAUA | Environment Protection, Land Administration, and Utilization Authority |
| FAO | Food and Agricultural Organization |
| FHH | Female Head Household |
| FSC-DPPO | Food Security Coordination and Disaster Prevention Preparedness Office |
| FSS | Food Security Strategy |
| HEP | Health Extension Program |
| HEW | Health Extensions Workers |
| HH | Household |
| HSDP | Health Sector Development Program |
| IEC | Information, Education and Communication |
| MOARD | Ministry of Agriculture and Rural Development |
| OFSP | Other Food Security Program |
| PASDEP | Plan for Accelerated and Sustainable Development to End Poverty |
| PHAST | Participatory Hygiene and Sanitary Transformation project |
| PLWHA | People Living with HIV and AIDS |
| PRA | Participatory Rural Appraisal |
| PSNP | Productive Safety Net Program |
| REST | Relief Society of Tigray |
| RIT | Regional Implementation Team |
| TAMPA | Tigray Agricultural Market Promotion Agency |
| USD | United States Dollar |
| VIP | Ventilated and Improved |
| VRP | Voluntary Resettlement Program |
| WoARD | Woreda Office of Agriculture and Rural Development |
| WoE | Woreda Office of Education |
| WoH | Woreda Office of Health |
| WoWME | Woreda Office of Water Mines and Energy |

# 1 Introduction

## *1.1 Background*

Ethiopia has one of the oldest civilizations in the world and contains rich, diverse cultural, linguistic, religious and topographic assets. It is also the second most populous country in the Sub-Sahara with roughly 2.7% annual population growth. According to a Central Statistics Authority projection, the total population is estimated to reach 81.3 million by 2009/10.

Some 27 million Ethiopians are poor and vulnerable to recurrent shocks. Around 15 million people are food insecure, out of which some 8.3 million are chronically food insecure. This calls for combined efforts in which all partners take their share to alleviate the problem.

This study is commissioned to Dadimos Development Consultants PLC by FAO to identify best experiences from ongoing national food security program interventions in Amhara and Tigray regions. The study has mainly focused from household-based asset building packages perspective. In addition, the study has analyzed factors influencing the process and outcomes of the program and draw lessons for scaling-up.

## *1.2 Methodology*

This study is carried out in Tigray and Amhara regional state. Bureau of Food Security Coordination and Disaster Prevention and Preparedness Office in case of Amhara and Food Security Coordination Office in case of Tigray as well as FAO were the major players in terms of providing information and guidance in the study.

The study report largely based on data collected through interviews of different actors of food security program starting from the federal level to the households and review of literatures. Before embarking on the large interviews, literatures related to food security policy and implementation reports of different programs/projects in the country were reviewed. This review highlighted the different policies, strategies and programs currently under implementation in the country in general and in the two regions in particular. The review helped to structure the study instruments applied at field level for the collection of relevant data.

Checklists of issues were prepared to guide discussions held at various levels. While the checklists at federal and regional levels focused on overall framework of regional food security programs and projects; at woreda level, it emphasized on the implementation aspects of individual packages of programs/projects. At household level the checklist focuses on the benefits that the households got from the participation in the household package promoted by the different programs/projects. At all levels the lesson learned in implementing different programs and project was considered.

At regional level a number of institutions which are considered important in the implementation of the different food security programs were visited. In Tigray these includes Food Security Coordination Office, BoARD, REST, TAMPA, BoH, BoWRD, Agricultural Research, DPPO and Dedebit Microfinance Institute. In Amhara similarly, food security and disaster prevention and preparedness office BoARD, AMAREW,

ORDA, SUN-Amhara, BoH, BoWW were visited. In these institutions, responsible persons including heads of the institutions and experts having close link to the food security related activities were interviewed.

In both regions five woredas were visited to observe the reality at the ground for both implementation of the different projects and beneficiaries view about the packages. The woredas in Tigray include Hintalo Wajirat in Southern Zone, and Genta Afashum in Eastern Zone. In Amhara woredas visited include Kalu in South Wollo zone, Libo Kemkem in south Gonder zone and Menze Gera Midir in North Shea zone. At woreda level Woreda Office of Agriculture and Rural Development, Woreda Office of Health, Woreda Office of Rural Water Supply, and FOA/BSF Field Coordination Office were the major informants of the interviews. In addition, before visiting households discussions were made with development agents and health extension workers at kebele level assisting households to implement the packages.

## *1.3 Poverty and Food Insecurity Situation in Ethiopia*

Food insecurity emerged as a key problem and development challenge since the early 1970's and became pervasive in the subsequent decades. More importantly, since the mid 1980s the images of severe drought and large-scale starvation have become inexorably linked to Ethiopia. In the last decade an average of five million people have been receiving relief assistance. According to the results of the Welfare Monitoring Survey (2004) carried out by the Central Statistical Agency (CSA), more than three quarters of households had suffered food shortages for between 2-6 months during the preceding year. Likewise based on this study the national food poverty index was estimated at 38%.

In order to fulfil the domestic shortfalls in food production the country has received an average of 700,000 metric tons of food aid annually over the past 15 years. In spite of four consecutive years of good rains and a bumper harvest in 2006, increases in food prices during the past five years as well as recent signs of inflation have raised concerns about access to food, particularly for the urban poor and the net buyers in rural areas. The absence of off-farm income opportunities and the past unpredictable and delayed food aid assistance, led to asset depletion and increasing levels of destitution at household level.

The immediate causes of food insecurity include frequently recurring droughts and erratic rainfall patterns. Ecosystems degradation, rapid population growth, poor rural infrastructure and legacies of the past policy constraints are also considered as basic causes of food insecurity and widespread poverty on the country. During the last four decades alone the country has passed through at least five major drought and starvation episodes: 1973/74, 1984/85, 1993/94, 1999/00, 2002/03 and, more recently, 2005/06 in pastoral regions. Drought is therefore a recurring phenomenon in Ethiopia and there will always be certain locations experiencing localized drought conditions. Drought is becoming more frequent and the cycles are getting short, as a result hunger and famine have dwelt in Ethiopia. This is directly related both to climatic variability and to the rapid degradation of the ecosystems (soil erosion, deforestation, loss of vegetative cover), which in turn become less resilient to rainfall variations.

Climatic variability is high. For instance, rainfall data for the period 1967 to 2000 indicate that annual variability in rainfall across different zones in Ethiopia ranged from a low of 15 percent to a high of 81 percent – among the highest in the world. Fluctuations in rainfall are inversely related to mean incomes. The larger the coefficient of variation in rainfall, the lower is consumption (Poverty Assessment, World Bank 2006). Analysis in MoFED's long-term study shows that rainfall variability is the key variable in explaining variability in growth, as a major share of the economy depends on rain-fed agriculture (PASDEP 2006).

Thus, such recurrent shocks and ecosystems degradation, coupled with insufficient rural investments, exacerbate food insecurity which spirals into a rapid depletion of household assets, reduces productivity and hampers access to basic services. These factors deeply affect households, by further lowering their resilience to shocks and their capacity for recovery and rehabilitation.

Other factors contributing to food insecurity are the low levels of technology employed in both crop and animal production and the resulting low productivity of the agriculture sector. Despite the priority accorded to the dissemination of improved technological inputs, hardly a third of the farmers are using fertilizers. The use of improved seeds is even more limited. As a result, the average yield of the major food crops and animal produces remain one of the lowest.

The high rate of population growth is also considered one of the most important factors that entail the pressure on natural resources to exacerbating food insecurity. As a result mainly of the rapid increase in the size of the population, the average land holding per household has declined from 0.5 to 0.11 ha in the last decade. These households are too poor to leave land fallow or invest in it, leading to a progressive deterioration of their asset base. In the past moving onto new lands absorbed this additional population growth, but in many areas the limits of useable land have been reached, forcing farmers onto lower productivity, more fragile lands.

Environmental degradation, insufficient capital, limited access to credit and market facilities, limited alternative sources of income, low levels of infrastructural development, in particular the low development of irrigation and market infrastructure, are the other major factors contributing to food insecurity in the country. Moreover, efficiency of irrigation and natural resources is low as a result of limited technical knowhow and technical supports.

Although there has been trends of improvement, the country faces enormous challenges, with high malnutrition rates amongst children under-five years of age, notably with the prevalence of stunting at 47% and underweight at 38% (DHS, 2006). A combination of low intake of food in general and nutritious foods in particular, limited access to basic services and sanitary services, food habits in specific areas, and limited access to basic nutrition awareness, are amongst the main causes of nutritional problems in Ethiopia. With this respect

only about 61% of the population has access to protected water sources and about 38% have access to toilet facilities. With malnutrition very early in life affecting long-term mental and physical development, and thus limiting lifetime potential and productivity, and creating a low-income, low-consumption household in the next generation.

HIV/AIDs has also been one of food security challenges for the country. The overall HIV/AIDS prevalence is 10.5% in urban centres compared to 1.9% in rural areas, with the HIV/AIDS affected/infected constituting one of the most food insecure sections of the population.

## *1.4 National Policy Environment*

In the last one and half decades the Government has given a foremost priority to combat food insecurity and poverty in the country. It considers agriculture as the necessary starting point for initiating structural transformation of the economy. Therefore, the Agricultural Development Led Industrialization (ADLI) has been pursued as the major policy framework for development since 1991. ADLI forms the basis of the Food Security Strategy (FSS), as well as the Poverty Reduction Strategy Program (PRSP) and is viewed as the engine for poverty reduction in Ethiopia. ADLI focuses on the development of the rural sector. The adoption of ADLI presupposes productivity enhancement of smallholder agriculture and industrialization based on utilization of domestic raw materials via adopting labour-intensive technology. The strategy also focuses on the development of large-scale private commercial farms.

The central elements of ADLI are enshrined in the government's Rural Development Strategy of 2001. The essential elements of the strategy framework include development and optimal use of both labour and land as a primary source for economic development. Market-led agricultural development i.e. demand led agricultural development as opposed to supply oriented agricultural development, is integral to this goal.

Furthermore, the Government has taken bold measures such as the devolution of power to the Regions and, from the Regions, to the *woredas.* Government also launched a major civil service reform and capacity building programme. The latter includes building the capacity of rural producers and the private sector to ensure their active participation in the development process. Likewise there is tremendous effort in strengthening local structures to bring services and lower level decisions making processes nearby the communities through kebele administrations. These changes along with the necessary legislative reforms are designed to create an enabling environment for the growth of the economy, tackle hunger and eliminate poverty in the shortest possible period of time.

The second phase of PRSP which is known as Plan for Accelerated and Sustainable Development to End Poverty (PASDEP) is the current Ethiopia's guiding strategic framework for the five-year period 2005/6-2009/10. The PASDEP builds over an encouraging trend with an average GDP increase of 5 % from 1992/93-2003/04, compared to the average growth for Africa of 4.5%. During the same period the per capita income of the population grew by 2.3 % per annum. In the period 2004/05 and 2005/06 GDP even increased by over 10% per annum. This rapid economic growth is accompanied by clear improvements in terms of poverty and food insecurity: the proportion of the population that lived below the poverty line declined from 44.2 % in

1999/00 to 38.7% in 2004/05. Likewise the national food poverty index also declined from 42% in 1999/00 to 38% in 2004/05. This growth and financial sector expansion has also helped to foster an expansion in industry and services.

## *1.5 The Federal Food Security Strategy*

The Federal Food Security Strategy (FSS) was first issued in November 1996 and updated in 2002. The updated strategy is targeted mainly to chronically food insecure moisture deficit and pastoral areas. The overall objective of the FSS is to insure food security at household level, while ALDI will focus on creating the conditions for national food self-sufficiency. The strategy recognizes high population growth rates and HIV/AIDS as formidable challenges to the pursuit of food insecurity in Ethiopia. It also give due emphasis on empowerment of women, environmental sustainability and capacity building aspects of program implementation. It also has a clearer focus on environmental rehabilitation as linked to the need to reverse level of environmental degradation and creating opportunity for income generation opportunities for chronically food insecure households.

The FFS has the following essential elements:

- Rapid expansion of agricultural production, marketing and credit
- Due emphasis to pastoral areas
- Promotion of micro and small-scale enterprises

Intervention wise it gave due attention to the promotion of water harvesting, the introduction of high value crops, livestock and agro-forestry development.

The strategy rests on three pillars, which are: (1) Increase supply or availability of food; (2) Improve access/entitlement to food; (3) Strengthening emergency response capabilities.

The New Coalition for Food Security Program document is the first comprehensive document that provided guidance and commitment of stakeholders for implementing the Federal Food Security Strategy in to a program framework. The Coalition idea reflected a new partnership among government, development partners (donors, UN, NGOs, etc.), civil society, private sector and with maximum social mobilization of the people themselves. This document presents the national food security program into three components:

- Productive Safety Net Program (PSNP),
- Other Food Security Program (OFSP) and
- Voluntary Resettlement Program (VRP)

**Productive Safety Net Program**

The objectives of the PSNP are to provide transfers to the food insecure population in chronically food insecure woredas in a way that prevents asset

depletion at the household level and creates assets at the community level. The Program will thus address immediate human needs while simultaneously (i) supporting the rural transformation process, (ii) preventing long-term consequences of short-term consumption shortages, (iii) encouraging households to engage in production and investment, and (iv) promoting market development by increasing household purchasing power. PSNP is a unified multi donor program implemented by woredas.

**Other food security program**

Other food security programs are programs that are complementary to PSNP for enabling households to sustainably overcome chronic food insecurity. The OFSP component contains many different activities implemented through woredas, including market promotion, livestock production, small-scale irrigation, water harvesting, nutrition and health, water supply and sanitation, soil and water conservation, cash crop production and capacity building for effective health and agricultural extension services. OFSPs are different programs funded by Government of Ethiopia and other bilateral and multilateral donors. They also appear to be having the same target, i.e., chronically food insecure households having access to PSNP resources. However there are some difference in terms of resource channeling and implementation approaches.

**Voluntary Resettlement Program**

The main objective of the program is to enable up to 440,000 chronically food insecure households attain food security through improved access to land/voluntary resettlement. The VRP is targeting chronically food insecure households that have no land to cultivate or other productive assets and businesses to support themselves. The program provides people with access to land for cultivation and develops essential infrastructures.

# 2 Program Inventory

## *2.1 Program inventory for Tigray Region*

In Tigray Region there are different food security programs being implemented by woredas. The major programs which the study team analysed include the Federal Food Security Budget Support, the World Bank Food Security Project, SUN-Tigray, FAO/BSF and REST. In addition to these other donor supported projects are also being implemented by NGOs in support of the federal food security program. For instance the Land O'Lakes dairy project supplements the dairy package of the government in terms of feed and organization of dairy cooperatives. Likewise, Helvetas is also having activities on cactus development project. The following section of this report describes the major food security programs/project in the region.

### 2.1.1 The Federal Food Security Budget Support Program

The Federal Food Security Budget Support Program (FSBS) is one of the largest programs which involves a number of institutions at regional and woreda levels. In Tigray 31 out of 34 woredas are foods insecure. Thus the FSBS is available for all the woredas affected by food insecurity. As a result of this almost all agricultural extension activities in the region are geared towards alleviating food insecurity at household level.

Among others the implementers of this program are BoARD, BoH, Food Security Coordination Office, Tigray Agricultural Research Institute, Dedebi Microfinance Institute. Likewise at woreda level the program is mainly orchestrated by WoARD. Development agents are mainly responsible for implementing the household package component of this program which is mainly focussed on creation of asset through provision of credits, technologies and technical supports. The FSBS targets chronically food insecure households benefiting from PSNP.

This support is meant for the implementation of the household package program in the region. The package is implemented at household level though provision of business or agricultural loan, appropriate technologies and technical advices. It is designed in such a way that households are able attaining certain level of asset that enables them to generate 18,250 Birr per annum per household in three years time. This is the level of threshold that a household would graduate from any of food security programs (PSNP and OFSP). In this program households are supported to choose an investment venture from menu the regional household package. A household may choose one or more of the package options suitable for the locality based on its experience, labour capacity and interest areas.

### 2.1.2 World Bank food security program

The program has three major components: community grant, child growth promotion, and information, education and communication (IEC). The

program started with 2 woredas and currently has covered 20 woredas (5 being included just this year). The program has so far covered only 278 (50%) out of a total of 549 chronically food insecure kebeles in the region.

The community grant has two sub components, i.e., community investment and loans for household asset building. The community investment is a program budget allocated for building community assets such as small bridges, small scale irrigation schemes, community water supply schemes, etc. on the basis of the choice of the community. Every year USD 18,000 is allocated for a target community (at kebele level). The woreda staff together with DAs facilitate communities to identify their needs to be met using this budget. In this process PRA techniques[1] are applied for identifying needs and developing action plans. The action plans from the different target kebeles are reviewed by woreda food security taskforce and finally approved by woreda council.

The community could use this money either for household asset building (through credit) or for investment on communal asset that has direct contribution to HH asset building. The money allocated for household asset building targets the poorest of the poor. In this case targeted households get a maximum 1,500 birr per household in the form of credit to engage in household asset building activities. It is up to the individual households to decide on the amount of loan below the maximum level mentioned above.

Once the credit is approved by the community training will be given for nominated households before the disbursement of the loan. This credit scheme basically aims to improve the asset base of poor of the poor who had no confidence to take hard loans from other sources such as micro finance or cooperative. This credit is facilitated through cooperatives with 9% interest rate to finance their management cost and make some profit. The credit scheme has one year grace period. Upon repayment the loan the money will continue to be used as revolving fund for sustaining credit mechanisms until the community decides to use it for community asset building.

The average loan repayment rate for Tigray is 89%. According to a quarterly report of August 2007 except 2 woredas all have recorded a repayment rate of more than 85%, which is the minimum level required to be attained.

Under the child growth promotion of this project, children below 2 years are regularly monitored for their growth by kebele health extension workers. If a child is found to be under weight for his or her age the extension workers identify the causes and plan corrective action with the child care givers and community. For problems related to knowledge of child care and feeding practices child care givers are adequately counselled for improved practices. If the problem is related lack of access to food by the household the care givers are allowed to access supplementary food ration available through

[1] According to the project documents this approach is formally known as community driven development (CDD) approach.

WFP. If the problem of malnutrition is widespread at community level, corrective actions will be taken at the scale it prevailed.

The project uses IEC to promote the project and its approaches among program beneficiary communities. The project use posters, brochures, radio programs. The radio program airs woreda experiences.

### 2.1.3 FAO/BSF Project

The FAO/BSF project has been funded by Belgium Survival Fund (BSF) and operational in the region since 2002. It has concluded its first phase in 2006. Currently the project is at its exit-phase which will be implemented from 2007 to 2011 in two woredas (Enderta and Hintalo Wajirat).

The project focuses on the poorest of the poor including FHH, oxenless and landless youth, disabled and PLWHA. These people are also chronically food insecure and assisted by PSNP. In Enderta Woreda about 50% of beneficiaries are female headed households.

The program works at HH level except for the community asset building components. Targeting of HH and activity selection/planning is done on the basis of community action planning (CAP). CAP teams are established at woreda and kebele levels.

At higher level this project is implemented by the Ministry of Agriculture and Rural Development (MoARD) and the Food Security Offices at Regional. FAO is responsible for providing technical supports to the implementing bodies at woreda and kebele levels. At woreda level the stakeholders involved in direct implementation of this project include WoARD, WoH, WoE, WoWME[2], Woreda Social Affairs, Women's Affairs, Youth Affairs, elders and religious leaders. Unlike other donor funded food security programs FAO/BSF project funds flow and reporting links are mainly between project implementation unit under MoARD and relevant woreda offices. In each implementation woreda the project has a field coordinator responsible for promoting project implementation using community action planning approach and monitoring financial and physical accomplishments.

The objective of the program is improving household food and nutritional security. Program components:

1. Health, nutrition and water
2. Capacity building
3. Promotion of markets and micro enterprises
4. Environmental management and agricultural development

**Health, nutrition and water**

Community health and nutrition education is provided for the poorest of the poor by woreda home-economist, health office environmental sanitation and hygiene workers and kebele health extensions workers (HEW). The education

[2] Woreda Office of Water, Mines and Energy.

on health, nutrition and water is planned and implemented by WOH, WOARD and WOWEM.

Community establishes its water committee and contributes up to 10% of activity cost for potable water development. The kebele CAP Team facilitates participatory planning and identification of sites for construction of water supply points.

Under health related interventions the project supports:

- Training of TBAs and providing of delivery kits and
- Training of health extension workers (HEW) and community health workers (CHW) on health issues

Child growth promotion is also an essential part of the project. Child growth monitoring, and promotion of vegetable production are key activities under nutrition in addition to the education mentioned above. It promotes awareness on use of nutritional diets. The project also provides vegetable seeds to target households to encourage dietary diversity by the poor.

FAO/BSF project promotes the use of VIP latrines. It provides poor (target) households with toilet slabs with the size of 1m X 1m. Unlike from this, hygiene education is given for all community members.

**Market and micro-enterprise development**

Milk production and processing is promoted by the project. The project provides cows to individuals through cooperatives. In this regard cooperatives are used for loan channelling and marketing of milk. It constructs milk collection shops for dairy cooperatives. The project connects the cooperatives with major consumer centres such as factories and urban centres.

**Capacity Building**

As part of capacity building the project provides training on technical areas of agriculture, health and nutrition to the woreda staff, development agents and health extension workers. It also capacitates these staff to apply participatory development approaches (mainly CAP) in planning and implementation of community development activity.

### 2.1.4 Water, Sanitation and Hygiene Program

Water, sanitation and hygiene (WASH) program is one of the top priorities for the region as it has low potable water and sanitation coverage. It is also a national strategy to reduce disease burden in the country and meet millennium development goal on universal access halving the proportion of people without access to safe drinking water and adequate sanitation. The Regional Government of Tigrary has planned to ensure universal access to potable water and sanitation coverage in the next five years. The WASH program first started in 2005 through the financial support from the Wold Bank and African Development Bank. Currently additional resources are being allocated by various donors including DFID and UNICEF.

The WB WSP program works in 18 woredas while ADB supported program is implemented in 9 woredas. Currently the government and other donor programs through food security program are also covering some of this and the rest of woredas through WASH interventions.

The regional government is also adopting WASH strategy that strongly link water supply with promotion of use of sanitation facilities and hygiene practices.

### 2.1.5 Improving Productivity and Market Success

Improving Productivity and Market Success (IPMS) is another interesting ongoing project funded by Canadian Government and implemented by International Livestock Research Institute (ILRI) and relevant regional and woreda level government offices. IPMS is being implemented in selected woredas of Tigray, Amhara, SNNPR and Oromiya regions. In Tigray Region it operates in two woredas. The project makes marketable products and markets as centre of planning to develop commodity. In this project commodities are selected based on comparative advantage in the local farming system and agro-ecology. With the identification of potential product, IPMS has intervened in areas where there is loose links in the value chain from input to output marketing. ILRI's multidisciplinary staffs at a national level are providing strong technical backstopping in bringing technologies from research centres and conducting various operational researches that would support the programme planning and implementation. This programme is already showing impacts in the household income and food security by bringing about strong linkage between research and extension as well as between production and marketing.

## *2.2 Program inventory in Amhara*

In Amhara region there are 64 woredas identified as chronically food insecure and covered through PSNP and other food security programs. According to the Regional FSC-DPP Office about 2,519,890 people are chronically food insecure and obtaining PSNP supports. From these people about 89% (2,247,890) obtaining this support through participation in public works. They are also considered as households with labour to involve not only in public works but also in other household asset creation schemes to sustainably overcome food insecurity.

In Amhara Region there are various food security program/projects for addressing chronic food insecurity. These programs/projects include the FSBS, The World Bank Food Security Project, AMAREW, Sun-Amhara and FAO-BSF are the major ones implemented through Regional FSC-DPP Office and woredas. There are also small NGO activities in the region that in one way or another support the food security of the food insecure households in the region. In this regard, ORDA is also one of the largest NGO implementing various donor supported food security project.

### 2.2.1 Federal Food Security Budget Support

The federal food security budget support program is one of the largest programs in the Region which is solely financed from federal treasury. The budgetary support is mainly used for household asset creation. Some portion of the budget is also applied for regional resettlement program. For instance, during 2007 about Birr 6 million is allocated out of which about 2 million used for resettlement program. FSBS involves a number of government institutions at different levels. The key actors in this program at regional level include BoARD, BoH, Food Security Coordination and Disaster Prevention and Preparedness Office (FSC-DPP), Amhara Agricultural Research Institute, AMAREW, Bureau of Water Resources Development (BoWRD). At woreda level WoARD, Office of Health and Office of Rural Water Supply are intensively involved in this program. WoARD has the overall mandate for managing and coordinating the program at woreda level. At community level Development agents and kebele/community food security taskforces have greater role in planning and implementation. Specifically community food security taskforces are responsible for targeting households to have access to household package loans disbursed through cooperative.

Since 2006 the region has made a decision to target only chronically food insecure households benefiting from PSNP through FSBS. At the same time the interest rate has been lowered to 7.5%. The program is designed in such a way that households are able attaining certain level of asset that enables them to generate 18,000 Birr per annum per household in three years time. This is the level of thresh hold that a household would graduate from any of food security programs (PSNP and OFSP). In this program households are supported to choose an investment venture from menu the regional household package. In this program technologies are provided through credit. Eligible households applied for credit passes through orientation on business planning processes and household package. A household may choose one or more of the package options suitable for the locality based on its experience, labour capacity and interest areas.

Cooperatives are chosen by the government to manage disbursement and collection of loans. In places where there are no active cooperatives the program works through Amhara Savings and Credit Institute (ASCI). In the past the loan repayment rate was as high as 98%. Since this money is considered as government resources often people are serious to pack back their loans.

Every year the loan collected from target households is transferred to woreda food security account that is managed by woreda office of finance. This money is planned to revolve at woreda level for the purpose of meeting financial needs to reach food insecure households with credit for asset building.

### 2.2.2 SUN-Amhara

The SUN project is watershed based intervention supported by three German partners including kfw, GTZ and DED. Kfw provides financial support, GTZ involves in training and technical backstopping, while DED is responsible for project implementation. The project is aimed at rehabilitating natural environment while promoting sustainable utilization of natural resources. It also builds capacity of woredas to plan and implement watershed development activities.

The SUN-Amhara project started implementation of activities in mid 2006. Currently the project is operational in 10 watersheds (in eight woredas) with a planned to expand into 25 watersheds by 2008.

Given the short period of implementation, and program of watershed rehabilitation, so far the outcome of watershed development is not visible. However, considering government priority for watershed development approach and the need for capturing process level lessons it is very important to look into implementation procedures of SUN-Amhara.

In this respect, the regional FSC-DPP office approves the final budget allocated by watershed and woreda. Then donor transfers budget to the woredas through MoFED/BoFED. The woredas are ultimately responsible for the planning and implementation watershed activities. The planning is very intensively and rigorously conducted at watershed, woreda and community levels.

SUN-Amhara project replaces the PSNP operations and assistances to food insecure households in the watershed. The project is designed in such a way that there is strong technical backstopping including a series of trainings on watershed development planning and management. The Debretbor GTZ Training Centre is used by the project to train all participants in watershed development including farmers and DAs.

There are community-based watershed management committees are established at different levels of watershed to promote the ownership of development outcomes of the project. Under a watershed the project has also activities that support household asset creation. For instance it supports household to plant fruit trees that are used for income generation eventually contributing to the rehabilitation of the watershed. The project promotes private nurseries as business enterprises in the rural areas at the same time ensuring production of tree seedling for rehabilitation of the watershed. The project also supports rural infrastructure development activities such as roads, water supply and irrigation.

The project has limited scope to support household package program. Thus, it expects full coordination and collaboration with other stakeholders for the implementation of complementary household package activities in the watershed.

### 2.2.3 World Bank Food Security Project

The World Bank Food Security Project in Amhara Region is undertaken in 33 woredas out of 64 chronically food insecure woredas. The region classifies the project into three components including the community grant, the child growth promotion and Information Communication support.

***Community grants***: In this program 15 kebeles from each identified food insecure woredas will be selected. In each kebele about 104 poorest of the poor HH will be selected by woreda facilitation team member which include the different offices and they form groups and prepare projects. Then the team with DAs and community identify projects. Then they facilitate so that the target community members could get loan. Each household will get 1,500 birr and training is given their specific project. They have one year grace period for repaying the loan. The kebele development committee decides on the interest rate and repayment period. Interest rate is for the cooperative (usually from 2.5% to 3%) service expenses and some income for the kebele development works. Often the sum of the two rates is ranging between 5% and 7.5%. Now in many places the loan has matured and people have started to repay. However repayment rate is low in some woredas such as Menz Gera Mider (58%). Based on the program principle a woreda has to attain a minimum of 85% of repayment rate from matured loans. If this level is not reach the program does not release the consecutive grants to woredas. According to the program beneficiaries and DAs the low repayment rate is mainly associated to poor efforts by cooperatives to promote regular collection of outstanding loans. Often this is also associated to personal interests of cooperative leaders who have taken similar loans from the program. In addition cooperatives also lack capacity and human resources fully dedicated for collection of the loans. Limited woreda capacity to support cooperatives in this regard has its own contributions.

***Community investment:*** Community can be support when they present community infrastructure works such as small irrigation dams, water supply, bridges, etc. The amount of resource is allocated based on the type and size of the project. Usually the community asks road-fords and springs and the like small activities.

***Child growth promotion:*** Community based child growth promotion is also another component of the program. It is intended to detect and support malnourished children within the target kebele. Once the children are identified community is facilitated to discus the cause for malnutrition. Then the program allocates from Birr 21,000 to 22,000 to support community initiatives to address cause of malnutrition. This can be used to support the parents to grow vegetable or construct water supply on the bases of identified causes of child malnutrition.

***IEC component:*** This component is to promote the project and its approaches among program beneficiary communities. To this end, the project uses posters, brochures and local radio programs (15 minute/week). Usually the radio program airs woreda experiences and best practices. Project

activities and best practices are also filmed and documented every year and distributed to others woredas for experience sharing.

From the total project budget, in 2007, the major part (87%) goes to woredas for community grant and community investment undertakings. Only about 13% is held at the region level for administrative, monitoring, evaluation and IEC material production purposes.

### 2.2.4 FAO/BSF

The FAO/BSF project has been funded by Belgium Survival Fund (BSF) and operational in the region since 2002. It has concluded its first phase in 2006. Currently the project is at its exit-phase which will be implemented from 2007 to 2011 in four woredas. These woredas were two during the start of the program and recently they were reclassified into four woredas.

The objective of the project is improving household food and nutritional security. The project focuses on the poorest of the poor including female headed household, oxen less and landless youth, disabled and PLWHA. These people are also chronically food insecure and assisted by PSNP. The program works at HH level except for the community asset building components. Targeting of HH and activity selection/planning are done on the basis of community action planning (CAP). At higher level this project is implemented by the Ministry of Agriculture and Rural Development (MOARD) and the Food Security Offices at Regional. FAO is responsible for providing technical supports to the implementing bodies at woreda and kebele levels At woreda level the stakeholders involved in direct implementation of this project include WoARD, WoH, WoE, WoWME[3], Woreda Social Affairs, Women's Affairs and Youth Affairs. Unlike other donor funded food security programs FAO/BSF project funds flow and reporting links are mainly between project implementation unit under MoARD and relevant woreda offices. In each implementation woreda the project has a field coordinator responsible for promoting project implementation using community action planning approach, and monitoring financial and physical accomplishments. The project components are:

- Health, nutrition and water
- Capacity building
- Promotion of markets and micro enterprises
- Environmental management and agricultural development

Detail description of this components are indicated under Section 2.1

### 2.2.5 AMAREW

**A**mhara **M**icro-Enterprise Development, **A**gricultural **R**esearch, **E**xtension and **W**atershed Management (AMAREW) project is the USAID/Ethiopia Mission funded initiative established in July 2002. The main goal of the project is to provide technical assistances in integrated agricultural development in the Amhara

[3] Woreda Office of Water, Mines and Energy.

National Regional State (ANRS). The Project works to strengthen agricultural research, extension, watershed management, capacity building, and micro-enterprise development collaborating with its ANRS partners in strategically selected two pilot watershed sites within five pilot food-insecure woredas. Primary Partners consisting of the Regional Food Security Coordination and Disaster Prevention Office (FSCDPO), Amhara Regional Agricultural Research Institute (ARARI), Bureau of Agriculture and Rural Development (BoARD), Environment Protection, Land Administration, and Utilization Authority (EPLAUA), Amhara Micro and Small Industries Development Bureau (AMSEIDB), and Amhara Credit and Saving Institution (ACSI). FSCDPO has the overall role of coordinating Project activities; ARARI is responsible for the planning and implementation of researches; BoARD plans and implements agricultural extension and watershed management activities; EPLAUA has the responsibility for guiding land use and certification in the pilot watersheds; AMSEIDB and ACSI share responsibilities for micro-enterprise and micro-finance issues in the target areas of the project.

The project has highly qualified technical advisors that closely work with the respective line department experts at regional and woreda throughout the different stages of project activities. The overall AMAREW is being coordinated and overseen by a Regional Implementation Team (RIT), chaired by the Head of the Food Security Coordination and Disaster Prevention Office (FSCDPO).

The integration of AMAREW project activities is assured through joint planning and implementation by all partners. The pre-extension trials and popularization of improved technologies at five pilot extension woredas, seed multiplication at the center sites and farmers' fields, as well as integrated activities at the two pilot watersheds are all planned and implemented by all stakeholders actively involved in the project.

Community Watershed Management Organizations (CWMOs) established in the two watersheds (Yeku and Lenche Dima) have already begun playing lead roles in influencing the direction of research and extension in the watershed areas. As a result, implementation of community planned soil and water conservation and other watershed development activities are underway.

The project has the intention of promoting technology selection with the full participation of local communities. Such an approach has put the farmers first, as they are participating in choosing technologies they need. This is because, without meaningful participatory involvement of farmers at all stages, watershed activities can neither be embraced by farmers nor be sustainable. In this regard, the farmers-research-extension groups (FREG) established in the pilot watersheds has been found to be very effective tools.

### 2.2.6 Health Sector Development Program

The regional health sector management structure is organized at region, zone and woreda level. Regional Health Bureau provide technical and financial support to woreda health offices (WoHO). Zonal health departments also provide technical material and administrative support for WoHO. Zonal Health Departments are also involved in some technical and administrative support for those hospitals which are found in their catchments areas.

The region uses the Health Sector Development Program (HSDP) as a comprehensive guide to execute the various health interventions that aims to strengthen traditional, and curative aspects of health care mainly through proper implementation of the Health Extension Program (HEP) and improving referral mechanisms and quality of care at health center and hospital level.

The regional HEP aims to improve access to basic health services in severely under-served rural and remote communities, with the goal of achieving universal primary health care access by 2008. In the region, the health interventions are delivered in three Health Extension Program Implementing models; Model Family Oriented Community Based services, population Oriented / Outreach services and clinical Based services.

In the Region, HEP, is placed under the Family Health Department. Mainly, nutrition related activities are carried out through the EOS component. This is done in biannual campaigns and encompasses vitamin A supplementation, de-worming and screening for either therapeutic or supplementary feeding of children, mainly done in settlement areas. The EEOS (Extended Enhanced Outreach Services) consists of only vitamin A supplementation and de-worming whereas EOS, consisting of vitamin A supplementation, de-worming as well as screening and feeding is carried out in food insecure areas.

To support the health extension program the regional government is assigning health extension workers with a number ranging from two to three per kebele. Although these workers are performing well they still have limited experience and logistic supports (e.g. transport).

### 2.2.7 UNICEF-Health Promotion Programs

UNICEF runs five health programs in the Amhara Region. These include:

- community based maternal and child care,
- quality referral (strengthening linkage of health post and health centers),
- malaria prevention and control,
- extended program for immunization and
- policy and system development support.

UNICEF supports the regional EOS in 76 woredas. In this regard, UNICEF promotes two modalities that vary in the composition of the services delivered. The first modality is Extended-EOS (EEOS) which consisting of vitamin A supplementation, de-worming. The EEOS covers food insecure woredas only. The EOS covers 21 woredas in North Gondar. The second EOS modality includes vitamin A supplementation, de-worming and screening of 6-59 months children and pregnant and lactating mothers for acute malnutrition.

Currently, UNICEF is lobbying for the EOS campaign to be changed to regular community based nutrition program by nutrition promoters from the community. Apparently UNICEF has reached in to consensus with the MoH.

Family health card has already been prepared in which the Essential Nutrition Action has been easily communicated. For the growth monitoring component UNICEF is making materials available (scales, cards etc.) at kebele and health facility levels. Furthermore, UNICEF is advocating for therapeutic feeding and policy in collaboration with the Regional FSCDPO.

### 2.2.8 Improving Productivity and Market Success

Improving Productivity and Market Success (IPMS) is another interesting ongoing project funded by Canadian Government and implemented by International Livestock Research Institute (ILRI) and relevant regional and woreda level government offices. IPMS is being implemented in selected woredas of Tigray, Amhara, SNNPR and Oromiya regions. In Amhara Region it operates in three woredas. The project makes marketable products and markets as centre of planning to develop commodity. In this project commodities are selected based on comparative advantages in the local farming system and agro-ecology. With the identification of potential product, IPMS has intervened in areas where there is loose links in the value chain from input to output marketing. ILRI's multidisciplinary staffs at a national level are providing strong technical backstopping in bringing technologies from research centres and conducting various operational researches that would support the programme planning and implementation. This programme is already showing impacts in the household income and food security by bringing about strong linkage between research and extension as well as between production and marketing.

### 2.2.9 The Learning by Doing Approach to At-Scale Implementation of the National Hygiene and Sanitation Strategy in Amhara

The Learning by Doing Approach to At-Scale Implementation of the National Hygiene and Sanitation Strategy in Amhara is a program supported by USAID and Wold Bank. It is technically backed by Academy for Educational Development (AED) and World Bank' Water and Sanitation Program (WSP). USAID's support is under Hygiene Improvement Project (HIP).

In Ethiopia, WSP and USAID/HIP are helping to implement the Government of Ethiopia's National Hygiene and Sanitation Strategy. Through a "learning by doing" approach in the Amhara Region, WSP-USAID/HIP build capacity within the regional, district, NGO and private commercial sector to improve planning, budgeting, and implementation of hygiene and seven sanitation improvement to support national commitments to achieve universal sanitation coverage by 2012. WSP-USAID/HIP is supporting a small but important initiative to integrate hand washing, sanitation and safe water practices into home-based and palliative care for people living with HIV and AIDS (PLWHA). This initiative will help build the evidence base and provide concrete programming guidance at a global level. In addition, WSP/HIP is supporting the development of a WASH resource center in the Amhara Regional Health Bureau to foster information and experience sharing among the many partners working in sanitation and hygiene in the region and elsewhere.

This program will be implemented in 150 woredas of the region. The project is managed by Regional level Steering Committee consisting of various stakeholders including the private sector. At the community level main activities are expected to be carried out by HEWs and the DAs in collaboration of with local communities. Mainly, education will be used to mobilize communities to build their own sanitation facilities using their own resources.

# 3 Intervention packages

The study team has investigated different interventions and household packages undertaken through various food security programs in Tigray and Amhara regions. The interventions and packages identified through this assessment include: agricultural packages, income generating activities, as well as nutrition and health related interventions. Information on these interventions were obtained through discussions with regional and woreda level officials and experts; interviews with community opinion leaders and various program beneficiaries; discussions with Das and HEWs; observations field activities; and review of different documents.

## *3.1 Intervention Packages in Tigray*

### 3.1.1 Dairy Development Package

Raya, Tselemt and Medelo are traditionally high milk production areas in Tigray Region. In Raya there is high population of livestock. The *Harmo* breed in this area has better milk yield. Similarly in the western Tigray (Tselemt and Medelo) there high population of livestock and dairy type breed called *Begayit*. Although these areas have high production of milk, it is not effectively channelled to markets for the benefit of producers and consumers. On the other hand, in most other part of the region milk production is still very much less than the demand. Thus, there are various efforts that are underway to improve household livelihoods through dairy package which include promotion of the milk production and marketing. BoARD, WoARD, Land O'Lakes, FAO/BSF and dairy cooperatives.

Through this package organized households are provided with dairy cows of *Holstein* crossbred or productive local breed (*Begayt)* on credit bases. The crossbred dairy cows are bought from the central part of the Ethiopia while the local breed cows are from northwester part of Tigray. However such strategy is not in opposition to meet the increasing demand for dairy cows. This is because of high price and scarcity of cows in the local market.

According to dairy cooperative members in Enderta a crossbred cow provides from 10 to 15 litre of milk per day. The price of a litre of milk varies from 2 to 3.5 birr over the last one year. The lowest price appears during Orthodox Christians Fasting Seasons.

There is clear strategy for supplying crossbred heifers in the region that would meet short term demands. In addition the artificial insemination (AI) services in different woredas are inefficient. This is mainly because of a problem with the nitrogen plant in Mekele, information gap between the farmers and the AI technician and shortage of transport to provide the service on time. To overcome this problem some woredas have arranged bull services through various food security programs and have showed positive result.

On top of the challenges to promote crossbred cows the region is also encountered with problem of genetic erosions of *Begayit* breed. Because of high cross border trade and local demand for meet *Begayit* male animals excessively off-taken from herds. This is creating a ground for other inferior breed to remain in herds. As the result, there is crossing of *Bagayt* breed with other inferior breed which is seriously affecting the productivity of this productive local breed. Thus, this calls conservation and multiplication of the *Begayit* breed for future sustainable use.

In most part of the region there is shortage of feed for animal. Moreover, there is a tradition of giving priority to oxen than cows in feeding. Farmers are supported through household extension package and regular extension activities to plant forage species and efficiently use available pasture land. In the north eastern part of Tigray where there is serious degradation of natural resources relative to the western part, zero grazing is more common. In some parts of central Tigray, people have started to link forage production with area closure. In addition through Land O' Lakes project in the region, efforts are underway to advise farmers to adopt improved feed production such as planting Napier grass, using urea-molasses block and treating straw with urea.

In general, animal health is not widespread problem for Tigray. Every 3-4 kebeles will have one vet technician by next year. However, people lack experience of vaccinating animals. Often they wait until animals get sick to seek vet services. Therefore, it is essential to promote community awareness in management of their animals. In areas with high population of animals and for dairy cooperatives it is also recommended to train a representative number of community animal health works to bring essential animal health services to the needy people.

Milk collection centres are established in different areas to link milk production to the market. In this regard, the contribution of Land O'Lakes is important. The approach is by using the contact farmer to form cooperative. Two dependable contact farmers will be identified in a kebele and oriented on dairy cooperative and they are expected to have 20-30 followers. Once they have the followers they are encouraged to form cooperatives. So far twenty dairy cooperatives were formed in the region.

One major challenge of milk marketing is the extended fasting seasons among the Orthodox Christians in the Region particularly for those areas far from major consumer centres. To overcome this and other milk marketing problems the Regional Government is establishing milk processing plants in Mekele and Humara.

The existing market cooperatives have capacity gaps in indentifying and transporting milk products. For these some still require financial capital to purchase for processing equipment and market collection and sales shops. They also require support in terms of linkage with major consumers such as factories, universities and other market centres.

In most parts of Tigray milk supply has seasonal characteristics. It drastically reduces during dry season due to shortage of feed and water. Therefore attempts to promote milk production need to develop a mechanise that smoothens both consumption and supply of milk to ensure sustainable income for households that prefer to engage in dairy package.

### 3.1.2 Fattening

The objective of fattening under household package program in Tigray is to increase household income and there by enhance the supply of quality meat for local consumers and export markets in the long run. This package promotes fattening of small ruminates and oxen through credit arrangement.

In the western part of Tigray oxen fattening is becoming a tradition as there is high demand for beef animal from Sudan as well as the local market (where there is high military presence). In most other part of the region, however, farmers are reluctant to fatten not only because they use the oxen for ploughing, but they also consider stall feeding is very laborious activity. As the result they keep the animals to be fattened on open grazing land mixing with other herds. Thus animals can not gain the required body weight during the planned three month. Thus the package as per the initial intention is not meeting the target.

In case of small ruminates, farmers tend to go for rearing to have more animals than fattening. This practice creates more pressure on land given the low carrying capacity of the environment. The intension of the household package is for fattening by promoting stall feeding. Unfortunately, the extension system for the implementation o the household package could not justify financial profitability of fattening limited number of animals over rearing. However, this intervention has helped many households to build assets in the form of animals to strengthen their capacity to meet food needs and capacity to respond to shocks as they occur.

### 3.1.3 Irrigation

Expansion of irrigation is high priority for Tigray Region to overcome poverty and food insecurity. The region has 300,000 potentially irrigable area. In the last five years the region has developed about 35,000 hectares of irrigated land. This has made the total irrigated area in the region to be about 40,000 hectares per year. In the five years to come it is expected to reach 150,000 ha including the dams in the Tekaze and Raya valley.

Small-scale irrigation and household level irrigation scheme plays an important role in the household package program. Small-scale irrigation is the most successful package in the region as households in this package are attaining level of food security faster than others. The small-scale irrigation include schemes can be developed using dams or diversions with a command areas of less than 100 ha.

Irrigation cooperatives or (irrigation water users) associations are established for every small-scale irrigation schemes as an entry to serve the community in managing irrigation infrastructure, schedule irrigation water rationing, coordinate scheme maintenance, provide input loans and identify markets for farm products. These services are fundamental for the irrigation farmers at group or individual levels. However, because of some policy constraints and capacity gaps the services are not available to the required levels.

In the case of dams and diversion the downstream effects of irrigation development were not seen in the previous works. Thus there is a need to revisit this gap in the future considering the whole watershed as a development unit.

As widely noted in Ethiopia such irrigation infrastructures are considered to common property of irrigation users administrated by cooperatives. Although cooperatives have by-laws to coordinate members to contribute and participate in maintenance and rehabilitation works the practice is not as expected in most place.

Many irrigation schemes operate under their design capacity because of the problems with the structures or socioeconomic constraints. The structural problems are rapid rate of siltation, salination, poor maintenance of water conveyances and gates. However, these problems should be studied and rectified case by case. Although a tendency of improvement, cascaded rest days as religious obligation associated to saints and angles days are also considered as challenges to get best out of irrigation schemes. Lack complete ownership of irrigation schemes and financial constrains for operation and maintenances are factors hindering beneficiary household from exploiting full potential of already developed schemes.

FAO works on strengthening three water users cooperatives where dams are there. As a result of this people have been trained and be able to improve their productivity. Thus this is an area to be considered for scalling-up into other irrigation schemes.

The common household level irrigation practices include use of shallow wells, ponds and underground tankers. The conservation activities over the last 15 years have helped the recharge of ground water which now is becoming potential for shallow well-based irrigation. As the result many farmers are currently using shallow wells to irrigate their crops.

The rate of extraction of underground water resources through these shallow wells in some areas is reported to be very high as there are many of cascaded wells using the water pumps. Some of the pumps are motorized and there are treadle driven by human power.

In the past annually more than 1000 motor pumps have been supplied to the farmer by the government. This year the regional government has approved the procurement of more than 2000 motor pumps. Still the demand is high and there is shortage of supply of motor pump mainly because of shortage the

budget allocated. Many of these pumps are expected to be used at shallow wells.

As some community members in Genta Afeshum Woreda and experts from BoARD reported that the water in the wells finishes earlier before the maturity of crop in the field. Thus this can be considered as an early indicator for regulating such a practice for sustainable ecological balance and appropriate utilization of underground water resource being replenished after many years of efforts and huge financial investment.

Besides the water pumps usually supplied by the government, seeds of vegetables are purchased by regional government and supplied to farmers on credit basis. Extension service is provided on the production practices and marketing of crops. For some irrigation cooperatives, temporary vegetable storages were constructed. These have helped the farmers to sell their vegetable at relatively better price. Such structures may need to be expanded so that farmers will not be affected by market fluctuation.

As part of household level irrigation package drip irrigation is widely promoted in every woreda. Trainings are provided to the users by WoARD. Experience from this areas shows that an overflow treadle pups combined with drip irrigation kit can irrigate up to 500 $m^2$ per household.

### 3.1.4 Poultry

The demand for poultry package is very high because of the high return rate of return. It also requires less initial investment as compared to other packages. Poultry production is very manageable for landless households and youth group as it does not require extended land. Specially eastern, south-eastern and central Tigray areas are reported to be very convenient for poultry production.

The market demand for poultry products in both towns and rural areas is high. It is also a good source of protein for the household. If available at home, it is common practice to provide eggs to young children.

As part of the package WoARD is used to supply pullets and currently a day old chick are provided with hay box broader. In the region ten chicks, with two Birr each, are given per household. The distribution chicks has increased in recent years and yet this is very much less than the demand. Two different chicken types, both exotic are distributed to the farmer and both performed very well. The survival rate of the chicks reaches up to 80%.

The major problem of poultry package is related with the availability of the chicken. There is only one poultry multiplication centre in the region with limited capacity and efficiency of production. Its efficiency is very much affected by the bureaucracy of the government management system. This centre is under bureau of agriculture and rural development and decision

making processes are too slow and budget allocation does not consider the capacity of the centre and the demand for chicks.

At household level, provision of vaccination services is the major problem mainly because of the size of the vaccine container. Once the container is opened, 500 chickens have to be vaccinated immediately. Unfortunately, unless this number is met, the technicians do not start vaccination.

### 3.1.5 Beekeeping

Beekeeping is a traditional household activity in the region. Beekeeping is given exceptionally high emphasis by the regional government through its household package program. In the current regional development strategic plan BoARD/WoARD are expected to aggressively promote beekeeping in potential areas for the next three to four years. In this plan the region expects household in high potential areas to own seven or more beehives. As part the action stapes in 1999 FY 38,000 beehives were distributed. In first two quarters of 2000 FY about 14,000 beehives were distributed and at least in 11,000 of these beehives there are already bee colonies.

The beekeeping package mainly consists distribution of beehives at individual farmer level, distribution of moulding cast and honey extractor at group level. Improving the management of the local beehives is also taken as part of the package. This is mainly because the honey productivity from traditional beehives is already high and as this could help facilitate the transition to modern beehive.

In the package, farmers are encouraged to develop bee forage. However, the idea is new to the farmers and it takes time for them to adopt the idea. Moreover, bee colony marketing is already a tradition in the region and there is a move towards supporting this with scientific queen raring techniques by BoARD. For those farmers with a few beehives, this initiative is an opportunity to have more bee colony. For those households with already many beehives, it opens opportunity to generate additional income from colony rearing. Currently in the different parts of Tigray a bee colony costs about Birr 400-500.

Currently at average 40 kg of honey can be harvested from a hive with ten frames per year from two production cycles. This productivity can be further enhanced through promotion of bee forage development and management. For instance in some places farmers have recorded honey yield of 100 kg/hives/year. Specially, it is recommended to scale-up linking beekeeping with area closure as part of watershed management, which is already practiced in some woredas.

The price of honey in Tigray is already high although farmers complain about it. There are some indications that the price is already more than double of the international price. In the short run honey has no price problem. However, quality control remains to be a concern to maintain the current level of price.

Despite the emphasis and the potential of beekeeping in the region, the service provision is still far from the expected level. This is mainly because of the gap in technical capacity of woreda and PA level experts. Moreover, the experts have no minimum facilities (both transport and equipment) required to provide the services.

### 3.1.6 Health, Nutrition, Water and sanitation

**Rural Water Supply By FAO/BSF**
WOWME is responsible for implementing the water supply activities which includes shallow wells, springs and hand dug well. The planning is done by kebele CAP team. IN very kebele the CAP team prepares list of priority areas for water development. Then water committee is established by the CAP team at the place where the water supply development is decided. WOWME provides technical support to the kebele CAP team and the water committee. Specially it provides trainings on water scheme management and sanitation. Water committee members are trained for 10 days. They are paid 10 Birr per day per person during the training. Community contribution is 10% of the total cost. This contribution is in the form of labour.

**Hygiene and Sanitation by Regional Bureau of Health**
Hygiene sanitation education is given to the community using HEWs. Latrine use is promoted through demonstration latrines built on selected model voluntary households. Locally available materials and/or concrete slabs are used for the demonstrations. Hand wash facilities are made out of available materials such as jerry cans and plastic bottles. Separating barn from human dwelling is promoted by constructing cheaper barns outside the residence. Hygienic kitchen culture is also promoted by constructing shelf made of clay or rocks and clay.

**School Health Activities**
The Regional Bureau of Health (BoH) promotes school health interventions focuses on improving latrine and water availability for students. In this approach girls and boys will have separate toilet rooms. School sanitation clubs are formed and supported to educate peers on sanitation and hygiene. The BoH allocates 1500 Birr school club when there is application from schools. The clubs also receive technical support from the health centres and woreda health offices.

**Rural Water Supply by Woredas**
The quality of water is tested when water borne epidemics or small problems are reported. Bacteriological tests are done at Woreda level using portable test kits. Health workers are trained on how to use the kits to determine the nature of the problem. Water and sanitation committee have been organized at kebele level as WATSAN. PHAST training that includes water and sanitation is given to CHA and volunteers under a Participatory Hygiene and Sanitary Transformation project (PHAST), a UNICEF promoted program. 10 Woredas (4/Woreda) TOT trainings have been carried out until now. These are expected to train community mobilizes in each kebele.

### 3.1.7 BoH - Essential Outreach Services

Essential Outreach Services (EOS) is a form of package that focuses to improve child survival through reduction of mortality and morbidity in children under five. Under this package of vitamin A supplementation, de-worming, screening for acute malnutrition and referral to the nearest therapeutic feeding centre, social mobilization for immunization, and malaria prevention. In addition, information education and communication (IEC) activities are included in relation to infant and young child feeding, promotion of hand washing and HIV/AIDS prevention. The service provided reaches the targets through 2-3 Health Extension Workers (HEW) per rural kebele. DAs and school teachers are also expected to participate in activities that concern their sector.

### 3.1.8 Nutrition Promotion through BoARD/WoARD

In Tigray, WoARD provides technical and material supports to households regardless of their food security status to enhance production and consumption of nutritious food. This is considered as a regular extension activities of WoARD with the aim of improving dietary diversity among rural communities.

The Regional BoARD has programs that are related to improving nutrition through promotion of new food crops. A women's affairs extension expert in BoARD is mainly responsible to coordinate the household level nutrition related agricultural technologies at regional level. The activity at the woreda level is coordinated by woreda Food security technical committee consisting of (WoH, Woreda Women's Affairs, WoARD). The WoARD plays a lead role with this respect to extension activities.

DAs and HEWs are supposed to collaboratively work at kebele level for promotion of production and consumption of nutritious foods. Women mobilizer groups are formed at kebele to promote activities.

The main activities carried out by the section are promoting new food resources, energy saving stoves, facilitating and training on poultry production. Seeds for home garden are also given for households and different vegetables are grown. Cactus and sweet potato have until now been promoted successfully. A manual of cactus based recipes have already been prepared and is awaiting printing.

## *3.2 Intervention Packages in Amhara*

In Amhara regional state, watershed is used as development unit. In the regional government development strategy, it is clearly indicated that the development is based on the watershed. Thus all food security programs including the federal budget support, World Bank, AMAREW and SUN-Amhara consider the technology that works within the watershed. Since the major livelihood of these households is on agriculture, bureau of agriculture

and rural development is responsible in providing the technology (packages) for the household and also technical support.

In the region, the household package for food insecure woreda mainly focuses on livestock, beekeeping and irrigation based horticultural crop production. Additional package is off-farm income generating activities. These packages are described in the following sections.

### 3.2.1 Small ruminant rearing

Supply of small ruminant for re-stocking through credit has started long time back by BoARD with regular extension program. This experience is used in the food security program. It was found that management of small ruminants is relatively easy since there is no new technology brought in to the households except advising farmers to have enough feed for the sheep or goat.

Households are given credit to buy sheep or goat from market and this practice helped household to build asset in the form of livestock which help them to withstand the shocks. Moreover, this is the package most liked by the households as it also helps to repay their loan as planned. For instance one a female farmer in Menze Gera Mider Woreda a landless women who had Birr 500 loan from FAO/BSF has now a herd of 42 sheep within five years. She is fully covering her family food, education and other expenses mainly from this business. She reported to the study team that the trainings coupled with the credit service helped her to progressively build asset.

Likewise in Libo Kemkem Woreda of South Gonder a farmer had bought one young bull and one goat a few months back using a credit facility of World Bank Food Security Project. At the time of this study the young bull did not start ploughing and there was no return from this investment although the value might have increased. Contrary to this, the goat already gave twin offspring and the farmer is hoping that by the time the loan matures, he would repay his loan from sales of the goats that would continue to multiply themselves. This person has realized that small ruminants have quick return from the investment he made. Thus, he has a plan is to sell the bull and buy more goats so that he can easily repay the outstanding loan and continue rearing these animals.

### 3.2.2 Oxen fattening

Oxen fattening is the part of household package considered by the region. For oxen fattening a credit level of up to Birr 5,000 is given to the target households. Necessary trainings (animal feeding and health) are also given to these household before the disbursement of loan. However, practically limited number of households are successful. For instance in Kalu some farmers have followed the package as per the recommendation and they get good results. They have been organized as cooperative and are identifying market for their animals. While in many other areas farmers buy oxen for ploughing instead of fattening.

Oxen fattening seems not done as per the package descriptions. This may partly is due to weak planning and follow-up of the package. The fattening would be more effective under stall feeding. However, farmers doe not store enough feed for this kind of animal management. Rather they practice open field grazing with minor supplementary feeding.

### 3.2.3 Dairy

Dairy package is undertaken in many of the food insecure woredas. In some areas, farmer buy local animal while in other areas crossbred cows are also distributed. In both cases the package is implemented though credits. The effectiveness of dairy package in the food insecure woredas is mixed depending on access to market for milk. In areas where farmers have access to milk market, they are happy with the package. For instance in Kalu, it was observed that households owning dairy cows are organized into cooperatives and established milk collection centres to sale their product.

In areas where the villages are far from towns or major roads, households use the milk only for home consumption. For instance, one woman in Libo Kemkem woreda in South Gonder bought a local breed cow and had milk. Unfortunately, there was no market for the milk and she used the milk only for household consumption. Moreover, she has to pay the loan and yet she is not generating income from the milk she is producing. As the result, she decided to sale the cow with its calf. Although she sold at more than double of the price she initially bought, that was not her intension as well as the intention of the program. This shows that the business plan preparation at lower level only considered the supply side of milk production than the demand as well as how to repay the loan. Dairy package should not be limited to the provision of credit to buy the cows. It should also include feed production and marketing of the milk.

### 3.2.4 Beekeeping

The other livestock package considered in the food insecure woredas is beekeeping. Under the traditional production system many farmers generate income from honey production in the region. In the areas where the crop production is not suitable and there is relatively better coverage of forest, farmers generate good income from the traditional honey production system.

Although this is a strategic package in the food insecure areas, beekeeping as a package is relatively a recent activity. In this package beehives are provided to households on credit bases, while honey extractors and casting moulds are kept at woreda level or at kebele farmers training centres (FTC) for common use. The experience of those households who have taken the beehives in Libo Kemkem woreda for instance is encouraging. They have just started harvesting honey and good yield is being observed. Other neighbours who have witnessed this yield are enthusiastic to go into the business.

Watershed is the development unit for planning and implementation of food security programs. Beekeeping have no negative impact on the watershed. However, much attention was not given so far in using this environmentally

friendly business venture. In particular, landless households and youth groups could take the ownership role to rehabilitate part of a watershed at the same time use for bee keeping. In some areas for instance, Libo Kemkem, and Menz Gera Mider there are community reserve and forest areas that could be used for bee keeping by food insecure households while protecting the natural resource bases. Such opportunities have to be used to assist household income generation and asset creation.

### 3.2.5 Irrigation

In the region irrigation is considered as best option for food security. River diversion is the most common approach for irrigation in the region. Water harvesting is only to supplement if rainfall cuts short. Moreover, water harvesting at household level was found difficult because of high initial investment and subsequent high maintenance cost. With river diversion, there are many irrigation activities in different areas including expansion of the existing diversions. For instance, the kfw project by reducing the seepage could accommodate more farmers and they are anticipating that if the upland area is rehabilitated, which they have already started, more farmers could be included. In the region motor pumps are provided with credit for group of farmers and treadle pumps are also distributed individually. It was observed that some farmers rent out their treadle pump to other farmer indicating not only the level of acceptance of the technology but also the benefit of irrigation. Awareness in terms of using irrigation is now increasing in the region as farmers have also started to do on some religious holidays, which was a serious problem in the region.

In some areas where there is more production of horticultural crops, the market linkage activities done have benefited farmers more. ORDA for instance has good experience in linking the producers who have faced market problem to the central market. The major problem was the brokers who decide the price of vegetable at very low level. As the result of market linkage analysis and efforts to link directly the producers to the major vegetable traders, farmers get significantly higher income.

### 3.2.6 Introduction of Fruits

In different parts of the region, highland fruits including apple and pearl were introduced. FAO, GTZ and ORDA together with WoARDs have role in the promotion of these crops. This is found promising both in terms of production as well as marketing. Some farmers who produced the fruits started selling at about Birr 10 to 15 per kg. Although it is relatively medium term investment, the plantation of the fruits in relation to household level irrigation technologies is complementary and promising. The introduction of such fruits needs to be encouraged as it has multiple uses (income, nutrition and conservation) in a watershed system.

### 3.2.7 Introduction of cassava

Introduction of cassava production in some drought prone areas of the Amhara Region is to found successful. Cassava is well adaptive in low

moisture areas and poorly fertile soils. In North Wollo it was observed that cassava adapted to the environment with good yield. Women were trained on how to prepare cassava dishes and now many people are using it for bread, porridge and stew making. The regional government appreciates the production of cassava and its role in reducing food insecurity. As a result has plan to expand this technology to mitigate food insecurity in drought prone areas.

### 3.2.8 Off-farm income generating activities

In Amhara regional state, besides the agricultural related household packages described above, off-farm small businesses are also considered as strategy for food security particularly for landless households and youth group. The Micro and Small Industry Bureau organize landless households and provide them with credit for business they want to engage in. In few cases, this was found successful, but in most cases the household are not very good in making the business. This is also to some related extent to lack of analysis of the situation and provision of business and entrepreneurial skills development. For instance one participant observed in Libo Kemkem was not performing to her full capacity because the market potential for her business was very low. She was trying to diversify the business and observed that there is more demand for certain commodity than the other.

Saving and credit schemes which could be linked to off-farm income generating activity was found best not only in creating an opportunity for farmers to save money but also to change some cultural setting that affected household asset creation. ORDA has a good experience in Laygint, for instance, by providing technical assistances and promoting encourage group saving households are supported to run business on individual basis. While encouraging saving, ORDA is working strongly on the cultural aspects that discourage saving and change the mindset of the members.

### 3.2.9 Health Extension Service

The health extension package implemented by woredas is focusing on preventive measures. In the health extension system every year a health extension worker follows 100 to 150 households in a model family based service delivery mode. They promote behavioural changes through informing, educating, training and visiting the model families. They also recognize and encourage those who performed the doable actions in front of the public at the end of the year. Then they graduate these families and attract other voluntary families for the following year. In this way the health care knowledge and practices will likely to be diffused to other households.

According to regional BoH, in 2006 about 45,400 households were graduated at regional level by meeting more than three-fourth of the set indicators of practices on health care. The practices include separation of animal barn from human inhabitation and kitchen from living room were the most difficult to implement. The reasons for the failure were lack of knowledge, low level of skills and dedication of the HEWs to negotiate and persuade model families.

### 3.2.10 Periodic outreach health service

Immunization, antenatal care, vitamin A supplementation, de-worming, family planning, DOT for TB, VCT, population based health talks and sanitation campaigns are the main ones under periodic outreach health services. Two to three outreaches per kebele are opened to render periodic services particularly for EPI, family planning and counselling on ANC. EPI service is extended to more than 5000 outreach sites in the region. However, did not perform as expected because of lack of motivation of health workers, low service in type and quality and other competing priorities of beneficiaries.

### 3.2.11 The World Bank - Community-Based Child Growth Promotion

Community-Based Child Growth Promotion (CBCGP) is carried out in 19 weredas (287 kebeles) and includes registration, weighing of children and counselling. The CBCGP, targeting children 0-24 months and lactating and pregnant mothers, is carried out with community health animators linked with HEWs that continually receive trainings. The animators regularly receive technical advice from HEWs. The program provides community level assistance to improve the situation of the target groups. Each kebele is entitled a grant of USD 2,500 per year. The interventions included construction of communal latrines, improved stoves, spring development and mosquito net distribution. This resource also can be used to support the parents to grow vegetable identified causes of child malnutrition.

### 3.2.12 Nutrition promotion through BoARD/WoARD

The MoRAD has an extension package that is related to nutrition. The regional bureau has an expert dealing with nutrition and gender. At the woreda level a home economist coordinates the gender and nutrition activities. One of the tasks of the home economist is promoting new food crops to improve household dietary diversity. Promotional work by extension program helps the community to get acquainted with production and consumption of new food resources.

In Kalu Woreda visited by the study team, for instance, recipes of cassava have been formulated, along with introduction of its production technology. Cassava is currently among the favourite dish in some kebeles of Kalu woreda. It is a best choice to fill the calorie gap (cassava flour 357 kcal/100g ; teff 367 kcal ; sorghum white 342 kcal).

However, caution has to be made to reduce sole dependence on cassava as a staple food. Dwelling on cassava starch solely, like communities do with the cereals, is risky especially for the vulnerable women (pregnant and lactating) and children. Therefore, recipes promoted should be able to provide the other nutrients as well. It should be mixed with legumes and other ingredients. Cassava leaves are also potentially very good sources of vitamin A, vitamin

C, iron and calcium, like most dark green leafy vegetables. The leaves are eaten as vegetables in many cassava growing African countries. Therefore, promotion of cassava leaves as food may be one step forward to enrich the cassava dish. Studies could be devised with the concerned organizations. Cassava, probably in association with mungbean may be a good food-to-food fortification approach.

The mungbean has been brought to Kalu from the Shewa Robit area by a staff who took a personal initiative. Some people agreed to plant it on small plots and since then it is being expanded by the farmers themselves. The mungbean has high productivity/hectare and is a fast maturing legume, 3 months. As food crop, the farmers use it in sauces replacing *shiro* or serving in place of lentils. It also has been adopted into best soup by the locals and is eaten by children and adults too. It is milled and used with sorghum flour for porridge for children and proved very tasty.

Preliminary literature review indicates that mungbean has a high potential to replace/complement or provide alternative to the current need for lentils and peas. Its energy, protein, fat, carbohydrate and iron content is comparable with lentils. It has higher energy, protein, fat and calcium, phosphorus, potassium and vitamin B6 and folic acid content compared to peas. There is also a food diversity dimension that necessitates its adoption as a food crop, besides the nutritional values. Furthermore, it is a fairly drought resistant making it a relevant for moisture deficit and drought-prone areas.

# 4 Best Practices

## 4.1 Effective packages

**Dairy**

In Tigray dairy package was found successful if not in all areas at least in limited part of the region which is mainly because of the complementarities between the federal budget support program and the Land of Lakes project. While farmers get credit from the federal budget support program for the purchase dairy cows, the Land of Lakes project technically supports them in terms of feed and market linkage. This experience shows distribution of dairy cows alone will not guarantee increase in household income. Creating market for the product is found important to ensure smooth income generation through the year.

**Horticulture**

In both Tigray and Amhara, production of horticultural crops using small-scale and household level irrigation is effective in increasing income and rapidly changing the life of households. Tigray Region is currently moving very strongly towards enabling farmers to use irrigation through provision of credit for purchase of water pump of different types. In some part of Amhara, ORDA has made effort to link the vegetable producers to the market and was very successful. Similar to the dairy, project in Tigray, the linkage made by ORDA in Amhara has benefited farmers more and magnified the effectiveness of the irrigation package. Thus promotion of traditional irrigation farming in Amhara and enhancing effectiveness of existing small-scale irrigation in Tigray could considered as future strategies. In congress with promotion of production strengthening irrigations cooperatives for effective water application, marketing and financial services is a reasonable approach for irrigation farmers.

**Poultry**

In Tigray poultry farming is one of successful packages for the household income generation particularly for landless farmers. No significant market proble was reported both for eggs and live chickens. As the result, the demand for poultry package is very high. However, the package coverage is limited due poor service provision of the government including number of chicks provided per household and the health services. Improving supply of chicks and ensuring vaccination services would help to benefit landless and women headed household as well as youth groups. In addition considering organizing youth groups in and around small towns could help to promote poultry production and multiplication at medium scale. In this regard the Mekele Poultry Multiplication Centre should be capacitated to supply eggs and mother stocks to such cooperatives that would eventually hatch and supply a day old chicks to farmers. If problem of service provisioning is

adequate, poultry was found promising technology to create household asset particularly for landless farmers and women.

Poultry farming is not as such widely promoted in Amhara Region. Alike Tigray this business could be considered for Amhara to insure income for landless and female headed household. However, this type of package should be linked to supply of parent stock and chicks.

**Honey**

In some cases, honey production generate high income, but the implementation of the program was found in adequate hence the service providers are not well equipped in terms of material including transport and protective devices. In areas were the service is given and where the experience of the farmer is already high, farmers generated good amount of income from honey production. The current complain by farmers for lack of market is mainly due to low level of market orientation of the beekeepers, as local price of honey is already high and they seldom compare with production cost.

**Small Ruminants Fattening ad Rearing**

Small ruminant re-stocking is a package that is benefiting farmers in terms of building their asset compared to many others. Farmers are very interested with small ruminant package because of their fast multiplication rate and growing potential market (domestic and export market) which enables them to pay their credit as planned and also reserve some stock behind. Nevertheless, the carrying capacity of the resources bases should be given due consideration and farmers need to adopt better feeding system before embarking on the extended re-stocking package. Likewise, hides and skins market improvement should be considered specially, in North Shoa where slaughtering of sheep is very common. In addition, promotion of mat making and other embroidery technology out of sheep fur would be promising.

**Introduction of cassava**

Introduction of cassava in degraded areas and where there is no possibility of irrigation would for improve food availability at household level. Currently it is included in the diet of people in the some parts of Amhara which was not there before. However, alongside with cassava production, it is important to incorporate in the extension system about consumption of cassava by mixing with other complementary food types.

**On-farm seed multiplication**

The AMAREW project has good experience in multiplying seeds on farmers' field to increase the adaptation of technologies. This activity, besides supporting dissemination of technology, it contributes for household income generation. Such an arrangement of multiplication of improved seeds on farmers' fields is one of the successful practices to be promoted in Tigray. Especially production and multiplication of vegetable seeds is a wise strategy for technology diffusion and creating income generation opportunities for seed producers. On similar vein, SUN-Amhara program used selected farmers to grow seedling of different trees including fruits creating entrepreneurship

within the community. Such activity helps both the program objective as well as generating income for the farmers on sustainable bases.

**Temporary vegetable storage**
Since most vegetables are rapidly perishing, appropriate storage technology is necessary for certain period until producers get market. In Tigray such storage structure was constructed for some irrigation cooperatives and it was found effective as farmers will have time to identify market. This has increased farmers' negotiation power and also increased cooperation among the farmer to join hand on the marketing.

**Promotion of nutritious food production**
The contribution of the agricultural extension program towards improvement of nutrition is significant as the findings suggested. Nutrition intervention by WoARD is one of the best practise that has be scaled up through enabling household to produce nutritious food crops such as cassava, mungbean on other pulse crops that are adaptive to moisture stress and marginal lands.

Likewise, the poultry package, if successful, can provide readily available protein to children and women. However, there is a tendency by households to sell eggs rather than using them for consumption. Nutrition education should be instituted to fill this gap at the household level. Experiences of FAO/BSF indicates that school based gardening will have positive outcome to promote the culture of vegetable gardening and consumption. Scarcity of seeds and gardening equipment has been reported by in some woreda staff that may constitute intervention points.

**Childe growth promotion**
Child growth promotion interventions in both regions are supported by various food security programs/projects and other health and nutrient interventions has shown great advantage for acutely malnourished children. Child growth monitoring coupled with feeding and care practice counselling has contributions for motivating child care givers practical guidance for child care givers to enhance the wellbeing of their children. In addition provision of nutritious foods has an immediate impact on children from the poorest of the poor families. Some programs such the World Bank Food Security Project and FAO/BSF Project approach for address through participatory identification of immediate and underlying cause malnutrition one the best practices to be promoted. Further works could be done by taping existing program resources such development of potable water and sanitation infrastructures and provision of opportunities for households to have access to package loans to enhance their income and food consumption level.

## *4.2 Best Strategies*

The AMAREW project used the PSNP budget for rehabilitation of the watershed and introduced technologies that improved the community asset as well as the household asset. There is more integration of the institutions in the system leading to more effective planning and implementation. The project clearly demonstrated the result of effective institutional linkage on the two pilot

watersheds. This clearly shows the need of strong linkage and integration of PSNP and food security activities as well as bringing all stakeholders into the system. Moreover, the experience from this project clearly demonstrates the importance of technical assistance and coordination of the whole system to reach the intended goal often overlooked.

The World Bank Food Security Project is running in many of food insecure woredas in both regions. The major advantage of this program is the Community Driven Approach (CDD) which give power to the community to solve their problem. Individual borrower decides on what to on than the menu based credit of the household package program. The loan is complimented by trainings given prior to disbursement. This freedom and empowering gave the society to utilize the credit effectively. This credit scheme helps to start building asset for the very poor farmers who do not have the capacity or fear risk to take the credit for the household package program. It has contributed in terms of bringing many households on board in the process of attaining food security. However loan collection rate are low in some parts of Amhara as a result of week follow-up and personal interest of cooperative leaders who themselves have an outstanding debt.

The business planning process at individual household level is a best strategy widely observed in Amhara Region through Federal Food Security Budget Support. Each and every household planned to get loan through the program should have a business plan and reach in to a consensus with the rest of a family members on the amount of loan and the type of business package that they want to engage in. The household also receive training on the package they choose before the disbursement of the loan.

The FAO/BSF project targeting focus on poorest of the poor is the best model for addressing chronic food insecurity among often neglected segment of food insecure households. Moreover the community action planning process has give a chance for the development workers (DA and HEW) to promote participatory extension approaches. The letter of agreements (LoA) with the woredas have created some level of capacity to manage contracts and preparation of micro-project proposals at woreda level.

The first is strengthening the EOS with appropriate capacity building (resources and training) to promote health and appropriate dietary practices. In this program, there is a need to reinforce micronutrient supplementation. The health extension package lacks iron-folate supplements for pregnant women, although this is supported by the countries health strategy and nutrition strategy. Reinforcing the nutrition communication component (CBC) is also critical. There is also a need to expand Community-based Growth Monitoring and Promote/support nutrition training for the health staff. There appears to be lack of awareness among decision makers as to the relevance of nutrition. It is therefore, recommended that awareness campaigns should be promoted for decision makers at different levels.

By and large most current programs are attempting to strongly link water and sanitation with the adoption of hygienic practice at individual levels. With

respect the health extension works (HEW) plays a great role together with community health workers. However, the HEW need capacity building in mobilizing communities for fulfilling their jobs. Thus regular training and coaching is essential for these workers. Participatory Hygiene and Sanitary Transformation (PHAST) approach could be considered as one of the training areas for the HEW. Arranging incentive mechanisms for the community health workers would have positive role in easing the work load on the HEW and expand health related educational and communication activities.

The commodity development approach supported by operational research initiatives is also one of the programmes showing sign of success in enhancing household income through linking production efforts with markets. This approach identifies locally suitable commodities for further promotion through a participatory way by involving target communities, DAs, woreda offices and other market actors.

# 5 Program Gaps

## *5.1 Coverage Gaps*

Most of the food security programs except the federal budget support and to some extent the World Bank programs are limited in their geographic coverage. The federal budget support covers all food insecure woredas. However the number of beneficiaries it has covered so far is low. The World Bank program only covers slightly more than half of the woredas in both regions. Likewise the coverage of kebeles within woreda is not full for both cases. In Amhara for instance only 15 PAs in a woreda and only 104 HH in a kebele are covered though Wold Bank Food Security Project. Similarly in Tigray, only 50% of the kebeles in the region were covered so far.

Thus, expansion of Wold Bank supported type of project is very vital to reach the poorest of the poor in rural kebele through credits. In addition enhancing effectiveness of loan collection would enhance the rate of revolve of funds in the forms of loan would ensure coverage of larger number of households.

Most other programs are very much location specific. For instance, the AMAREW program in Amhara regional state is limited into five woredas has made very good effort in two watersheds. This project has more technical inputs and it makes use of the credit facilities to households from other food security programs and public labor from PSNP to promote technologies and watershed development approach.

FAO/BSF project is also limited to six woredas and 80 communities in the two regions. Similarly, GTZ-SUN project is also operating in limited watersheds for instance 10 in Amhara Region. These all indicate the gaps in terms of geographical and household coverage in both Regions to scale up best practices that would support alleviation of chronic food insecurity.

## *5.2 Capacity Gaps*

In both regions watershed is considered as a development unit which demands more and better integration in planning and implementation of interventions with purpose of securing household livelihoods and environmental rehabilitation. For instance, the watershed planning exercise is completed in Tigray. However, many agree that current woreda development plan implementation is not in line with the watershed plans. This is mainly reported to be due to lack of coordination and technical capacity at woreda level. Regions and zones also have limited capacity to support woredas in implementing out watershed plans. Thus, more has to be done in the coordination and technical capacity building at woreda level to ensure application of watershed approach using existing program resources such as PSNP and other food security programs. The AMAREW Project case is a best practice to scale-up watershed development.

The support to some of the household packages is below the demand because of low implementation capacity at various levels. For instance, in Tigray, the support to honey production is limited because of the technical and facility gaps at woreda and kebele levels. Similarly, the supply of chicks in Tigray is below the demand. There is no enough supply of chicks to the needy households mainly due to the fact that the Mekele Poultry Multiplication Centre is operating much below its capacity. Moreover, the system of vaccination didn't allow the provision of the required service efficiently.

HEW and DAs are busy with multiple of tasks. For instance one HEW in some cases has to follow from 100 to 150 model households per year. In addition, this person is involved in other mass-based interventions and campaign activities. Like wises DAs have to prepare business plans and follow up each and every household obtaining loans through food security and regular development programs. They are also expected to provide technical assistances to all the famers under on subject matters related to their professions. Particularly their involvement in the collection of loans is adding a extra work load on these field personnel. Thus, health related program should come up with a mechanism that would motivate community health works to share the work border on HEW. At the same time food security programs should also devise means for taking the responsibility of loan collection away from the DAs. For instance the programs could encourage cooperatives to recruit technical persons responsible to systematize their activates and be responsible for the collection of loans. In this regard Programs could also subsidise cooperatives.

## *5.3 Program Linkage Gaps*

The other food security programs such as federal budget support and World Bank food security project are for creation of household assets and business opportunities. PSNP is also aimed ensuring entitlement to food at the same time creating community assets on which the household asset has to be built. Currently woredas have managed to direct household package loans to PNSP

beneficiary household. However, in many instances, there is less linkage between the community assets building and household asset creation at planning and implementation level. For instance in case of the livestock packages (dairy, fattening, small ruminant restocking, beekeeping, etc) loans are often provided without designing a system by which it is linked to watershed management.

Research and extension linkage in the food security program system is relatively poor to develop packages that are suitable to specific conditions. However, there is an indication that the linkage between the research and the extension is coming up in both regions. They have used watershed approach in which different stakeholders including farmers is brought into a common platform. In Amhara, the linkage is better particularly in areas where the AMAREW project was active. Amhara Agricultural Research Institute (ARARI) has taken part in the AMAREW project. Similarly Tigray Agricultural Research Institute (TARI) is taking part in the implementation of Operational Research project for food security and sustainable livelihood in Tigray in two watersheds in Hawuzen and Kola Tamben woredas funded by Irish Aid. This experience need to be expanded into other watersheds. It is also essential to document and disseminate such experiences for further considerations by policy makers, food security program planners and implementers.

Irrigation is used as most important package in the food insecure areas. Its effectiveness, however, largely depends on the watershed management which is well known in the area. Yet, systematic integration of the irrigation system is currently not strong enough in both regions. Often the small-scale schemes are operating under their designed capacities. This is because of structural problems with operation and maintenance of damps, diversion and water conveyances. In addition, lack of institutional capacity at woreda and cooperatives level is low to support farmers' production and marketing of irrigation products. At the same time extraction of water through shallow wells for household level irrigation is found to be very high and beyond the sustainable recharge capacity of the watershed. Therefore it is important to devise mechanise of linking conservation activities with irrigation works through a watershed development approach. In addition enhancing woreda and cooperatives capacity for provision of required services to irrigation farmers is vital.

## *5.4 Packages Gaps*

Complementary interventions for household packages are often incomplete to maximise the success of the packages. In this regard some the gaps observed through this study includes distribution of dairy cows without making sure the adequate feed availability, linkage to the market or adequate artificial insemination services. Similarly creating demand for poultry package without ensuring adequate supply and efficient veterinary services is a typical example. In Tigray for instance production of horticultural crops were found very promising but so far seeds are brought from the central part of the country through the government system which is costly and time taking. There are experiences in the country on the production of horticultural seeds by

farmers which could be adopted in Tigray. Part of the horticultural package has to focus on the production of seeds to make horticultural production more sustainable. Although it is difficult to make the package more comprehensive at once these and similar gaps need to considered before promoting packages at full scale.

Household packages, in general, are planned to be market oriented. However for various reasons deliberate planning and implementation of packages in many part of the food insecure woredas is lacking. As a result of this, the performances of packages in some cases found to be poor. The poor outcome of dairy package in some woredas of Amhara region for instance is a clear indication of the need for market development. Similarly in Tigray, where there is good market linkages animals fattening is well adopted. Contrary to this, in some parts of the region this package is rejected due to lack of market linkages.

Moreover, it is not uncommon to encounter with experts promoting packages which they are not very sure of its profitability under certain specific conditions. They do not usually have hard data to convince farmers on the advantages of adopting the packages. This might gradually be solved through the application of business planning exercises at household level. This planning process gives full choice of technologies to the households and use of local evidences for planning.

Promotion of income and production of food alone could not lead to food security. In many of the cases in Ethiopia social obligations and cultural practices force households to spend most of their annual income. Households should be regularly advised and trained on the need for saving assets and accumulating wealth. In this regard, the experience from ORDA from Amhara and Cooperative Promotion Office in Tigray show that formation of saving and credit groups as well as battling with wasteful cultural practises is an effective strategy to promote real savings at household level.

FAO/BSF assists limited number of poor household to access latrines. This approach will not have any effect on environmental health, because it only covers a few households within a community. In order to control communicable diseases through environmental sanitation the entire community has to be able to use the facility.