

# **Graduation of Households from Social Protection Programmes in Ethiopia: Implications of Market Conditions and Value Chains on Graduation**

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# 1. Introduction

## 1.1. Background

Social protection for the poor and vulnerable groups in least developed countries has received frequent attention from development scholars. The Productive Safety Net Programme (PSNP) in Ethiopia, Challenging the Frontiers of Poverty Reduction: Targeting the Ultra Poor (CFPR/TUP) in Bangladesh and the Vision 2020 Umurenge Programme (VUP) in Rwanda are among the well known large scale social protection programmes. All of these social protection programmes focus on graduation of beneficiary households (Sabates-Wheeler and Devereux, 2011). As a result, alongside the discourse on social protection programmes and policies, the concept of graduation has been emerging and getting attention from different development scholars.

There are some variations in the way that policymakers, designers of different social support programmes, and scholars working on the subject matter have been looking at graduation. Sabates-Wheeler and Devereux (2011) have distinguished 'threshold' graduation (an administrative benchmark that signals the point at which a beneficiary is no longer eligible for the programme) from 'sustainable' graduation (a state in which livelihoods have been fundamentally transformed through social protection interventions). At the same time, some proponents of graduation have suggested that the pathway to productive livelihoods is linear and incremental, such that increasing households' income over time by incrementally increasing their assets will have the required effect. Others believe that certain asset thresholds exist that need to be crossed if households are to have a chance of living poverty-free and productive lives. Moreover, there has been further understanding of multiple factors working at different levels beyond the household, such as market conditions, community investment, scale effects and household life cycles, which work to constrain or complement graduation.

The purpose of this research is to analyse how market conditions and value chain development of Food Security Programme (FSP) promoted products affect livelihood performance and possibility of graduating (as enabler and constrainer) from social support programmes in Ethiopia. The study is conducted in contrasting socioeconomic and livelihood settings of Oromia and Tigray regions<sup>1</sup>. This will help to investigate how these two factors affect the resilience of households to various shocks, and their ability to live productive lives in a sustained manner. More specifically, the objectives of this research are:

- To understand how market conditions (i.e. access to input and output markets, including seasonal variation in demand and supply of products, market linkages, market infrastructure and the like) affect the livelihood performance of households in graduating from social support programmes in different socioeconomic conditions;

- To understand how the value chains of products promoted by FSP have been supporting households' graduation from social support and what is needed to improve the life of programme beneficiaries; and
- To reflect on policy implications and action to be taken to improve the livelihood of households, particularly in connection with market operations and value chains of products promoted by FSP.

Therefore the followings are the explicit research questions:

- What market related factors have been supporting the graduation process of FSP/ PSNP beneficiary households and how? What other market related factors have been constraining the pace of graduation and under what circumstances?
- To what level the value chain developments of products promoted by FSP have been contributing to improve the livelihood of PSNP/FSP beneficiary households? What value chain related limitations have been constraining the earnings that the poor FSP beneficiary households ought to get and under what circumstances?

## 1.2. Research Methodology

To undertake the research, review of related literature and collection of primary and secondary data was conducted. Reviewing related theoretical and empirical literature on roles of market conditions and value chain development on graduation is important to build a foundation for the results of this research and to capitalize on important outcomes in contemplation.

The main data sources for this assessment are the qualitative and quantitative surveys of FAC's graduation study in three waves. Most of the data used for market assessment is taken from the second round woreda (district) level key informant interviews (KII), and partly from first round community focus group discussions (FGD) and household (HH) surveys, along with secondary data on market prices of products that reflect trends over time and seasonal variation. Thus, different respondents were interviewed including individual HHs, key informants, market promotion and cooperative experts from the Woreda Office of Agriculture (WOA), and traders from the woreda, and discussions were held with groups of male and female PSNP beneficiaries, graduates and non-PSNP beneficiaries to appraise the market conditions in the study area. The semi-structured questionnaires applied in KII and the checklists for community FGD mainly focused on market conditions of major staple food crops in the area and products and/or services supplied to the market by the FSP beneficiaries. We also asked additional questions to the woreda market promotion

experts, traders and farmers' cooperatives on value chain analysis (VCA) of products promoted by FSP beneficiaries, mainly through the support of different livelihood credit packages under the Other Food Security Programme (OFSP)<sup>2</sup> and Household Asset Building Programme (HABP)<sup>3</sup>, which are part and parcel of the Food Security Programmes of Ethiopia.

### 1.3. Structure of the Report

This report is organized in four sections: introduction, market conditions, value chain analysis, and conclusion and recommendation. In the introduction, the purpose and objectives of the research, its methodology, and the organization of the paper are briefly described. In the second section on market conditions, various issues of the market pertinent to agriculture and food security are discussed. These include access to input markets; trends in production and demand of agricultural products; price trends, seasonality and related factors; and the role of brokers, basic infrastructure and supporting services as enablers and constrainers of graduation from FSP/PSNP.

In the third section, a value chain analysis of selected FSP-promoted products in each of the study woredas is presented. Here the concept of the value chain and its importance in addressing rural poverty in general, and food security in particular, are addressed. Detailed value chain analysis of selected agricultural products, oxen fattening, vegetables and beekeeping is presented. The discussion reveals how issues related to value chains, access to input and supporting services, production and marketing, value addition and quality assurance are affecting the returns of the producers, who are poor food-insecure HHs struggling to improve their livelihood status. The last section comprises a conclusion and recommendations. In this section, issues presented in the discussion and analysis are briefly summarized. Recommendations are drawn for policy and for actions to be taken by various stakeholders to solve bottlenecks related to market conditions and value chains in addressing the food security of poor FSP/PSNP beneficiaries.

## 2. Market Conditions

### 2.1. Introduction

The role of markets in reducing poverty and achieving food security in rural areas has been getting increasing attention from development scholars and institutions. Strong links to markets for poor rural producers are essential in increasing agricultural production, generating economic growth and reducing hunger and poverty. Improving these links creates a virtuous circle by boosting productivity, increasing incomes and strengthening food security. Better access by small producers to domestic and international markets means that they can reliably sell more products at higher prices. This, in turn, encourages farmers to invest in their own businesses, increase quantity produced, improve quality and diversify their produce (IFAD, 2011).

Including markets in food security analysis is essential, given their varied and critical roles in food security. Without a clear understanding of current and projected market conditions, food security analyses will be incomplete and inadequate. Markets are a critical but often under-analysed and under-reported facet of food security work, considering that they shed light on two of the three pillars of food security: availability and access. In terms of availability, market analysis helps to determine household, industrial and institutional supply and demand; geographically disaggregate; and identify areas of potential food deficit and surplus. In terms of access, market analysis helps determine when prices are prohibitively high for particular households and/or when particular events or conditions prevent participants of market networks from responding by releasing stocks or moving commodities from one location to another (FEWSNET, 2009).

In this section of the paper we assess the overall market conditions of staple food crops and products/services promoted by FSP in four PSNP woredas (Fedis and Z/Dugda in Oromia State, and Ahferom and S/St/Emba in Tigray State). This assessment was particularly needed as the market is one of the most vital elements in development coordination, considered at various levels as a factor facilitating or undermining livelihood improvement and hence graduation from FSP/PSNP.

### 2.2. Major Staple Food Crops and Products/Services Promoted by FSP

The four study woredas from the two regions have some common and some different livelihood practices, due to differences in their livelihood zones, agro-ecological characteristics, and the agricultural extension services available. Overall, all four woredas practice mixed agriculture: animal rearing and farming crops.

The two study woredas in Oromia, Fedis and Z/Dugda, lie in midland and partly in lowland areas, having moderately hot weather conditions. As a result, the major staple food crops produced in both woredas are sorghum, maize and wheat, as well as teff in parts of Z/Dugda. Moreover, groundnut and khat in Fedis and haricot bean in Z/Dugda are the major cash crops produced in the areas. The communities, including PSNP beneficiaries, that have access to irrigation in Z/Dugda also grow vegetables like tomato, onion and pepper. In Fedis animal fattening is the most commonly practiced activity by the general community and PSNP beneficiaries. As a result, a large number of fattened oxen are supplied to the local market, the central part of the country, and even to the international market (the Middle East) from this woreda.

The two study woredas in Tigray have quite similar livelihood settings, are in partly highland and partly midland zones, and grow teff, barley, African millet, maize and sorghum as their major staple food crops. In addition, oil crops like bean, chickpea and groundnut

are also cultivated in these woredas. Moreover, most of the PSNP beneficiaries and the community as a whole in these areas work intensively on beekeeping and production of vegetables and fruits using small-scale irrigation. The fruits and vegetables produced and supplied to the market in these woredas include tomato, onion, potato, cabbage, carrot, pepper and guava. The details of staple food crops and products promoted by FSP in each of the study woredas are given in Table 1.

Institution (DECSI) are playing key roles in helping the community get access to various inputs, particularly for beekeeping, irrigation, poultry and livestock, by supplying the inputs from different places to the local level and providing credit.

**Accessibility of Inputs:** The accessibility of the different agricultural inputs and technologies demanded by the community, including PSNP beneficiary HHHs, in terms

**Table 1: Staple Food Crops and Products Promoted by FSP by Woreda**

Region	Woreda	Staple Food Crops	Cash crops & Products Promoted by FSP
Oromia	Fedis	maize and sorghum	oxen fattening, groundnut and <i>khat</i>
	Z/Dugda	maize, sorghum, wheat and teff	vegetables (tomato, onion, pepper and others) and haricot bean
Tigray	Ahiferom	teff, barley, African millet, maize and sorghum others: bean, chickpea and peanut	vegetables (tomato, onion, potato, cabbage, carrot, pepper and guava) and beekeeping
	S/St/Emba	teff, barley, African millet, maize and sorghum others: bean, chickpea and groundnut	vegetables (tomato, onion, potato, cabbage, carrot, pepper and guava) and beekeeping

Source: WOA, Food Security and Early Warning Process

## 2.3. Access to Inputs

**Inputs Demanded:** The key informants and community FGD participants have indicated the most important inputs demanded in their respective woredas. Most of the inputs, like fertilizers, improved seeds of crops, pesticides and veterinary services, are commonly demanded in all of the study woredas. However, inputs for vegetables and fruits, beekeeping and dairy production are commonly demanded in both woredas of Tigray and partly in Z/ Dugda woreda in Oromia. The lists and varieties of agricultural inputs and technologies demanded by the farmers in the study woredas of Tigray are much more diversified than those in the study woredas of Oromia.

**Suppliers of Inputs:** The various inputs demanded by the communities are supplied by different regional and woreda agricultural bureaus, farmers' cooperatives/unions, parastatal regional institutions and non-governmental organizations (NGOs). Fertilizers and improved seeds of crops and vegetables are commonly supplied by farmers' cooperatives and multi-purpose unions with the support of the government; by the WOA in all of the study woredas; and also by the Relief Society of Tigray (REST) in the study woredas of Tigray. Pesticides, insecticides and veterinary services are supplied by government extension services. Pesticides are sometimes supplied by cooperatives, and the communities also buy pesticides from local markets and private suppliers. In Z/Dugda, the Meki Batu Vegetables and Fruit Growing Farmers' Cooperative, which mainly works on irrigation, is a strong institution and has been supporting the farmers by supplying inputs such as improved seeds of different vegetables and pesticides. In Tigray, the two regional institutions REST and Dedebit Credit and Saving

of availability (at nearby areas and in timely supply), affordability and quality (in terms of right variety or breed) varies for different inputs and from place to place. There are various supporting and constraining factors in accessing the inputs demanded. The details of these supporting and constraining factors are presented in the sections below, as explained by woreda and trader key informants and community FGD.

### 2.3.1. Supporting Factors in Accessing Inputs

Overall, it is indicated that government extension services, farmers' cooperatives and multi-purpose unions and other institutions (particularly REST and DECSI in Tigray) have significantly supported the community in getting access to important inputs.

**Government Extension Support:** The Government has been exerting substantial effort in making inputs, particularly fertilizer and improved seeds, available at the local level and on time. A key informant from WOA in S/St/Emba recognized the role played by the Government (WOA) and cooperatives in the provision of inputs saying, 'there is a good performance by the Government in the provision of inputs; Cooperatives have been strengthened to provide access of the inputs to the beneficiaries. The Government, working closely with farmers' cooperatives, facilitates accessibility of various inputs at nearby areas and farmers' training centres. According to a FGD participant, 'the key supporting factors for accessing inputs are its availability at our kebele [the administrative unit below a woreda] store.

We can access the inputs anytime and we can transport it by donkeys to our farm or home.' (OR-ZD/FG-5)

**Roles of Farmers' Cooperatives and Multi-Purpose Unions:** Almost all of the respondents in the study woredas acknowledged the establishment of farmers' cooperatives and multi-purpose unions as a supporting factor for the community in getting access to various inputs. The cooperatives and unions have been playing key roles in supplying timely inputs to the community and nearby areas by building their own stores at the woreda and kebele levels and charging fair prices. The respondents have recommended further strengthening cooperatives and multi-purpose unions in the future.

Key informants from WOA in Fedis indicated that these institutions provide better accessibility of inputs in terms of availability, price and timeliness. They affirmed this, saying, 'there are no complaints with regard to fertilizer and improved seeds. There is no inadequacy of inputs because there are the multi-purpose unions which distribute all the necessary inputs timely and adequately for two seasons in a year; the inputs are available and the price is not beyond their buying capacity for those who are using inputs.' Similarly, community FGD participants explained, 'we buy seeds from here, from our kebele, and fertilizer also from here through our cooperatives.' (OR-F/FG-5)

**Roles of Regional Institutions:** Regional institutions, especially REST and DECSI in Tigray, have been playing significant roles in helping the community get access to inputs. REST has been playing a leading role in supplying various new and improved technologies and inputs from different places to the local level, while DECSI has been providing credit services to the community for the purchase of inputs and irrigation technologies. These institutions also provide technical supports on the use of the various technologies and inputs they provide to the community.

**Support of Non-governmental Organizations (NGOs):** There are also some NGOs that support the community by constructing warehouses and supplying different agricultural inputs (e.g. CISP/EU in the case of Fedis; World Vision in S/St/Emba). The key informants from WOA in Fedis, when asked about the key supporting factors in accessing inputs, replied, 'the key supporting agents to accessing the inputs are cooperatives, unions and NGOs.'

### 2.3.2. Constraining Factors in Accessing Inputs

There are also various constraining factors in accessing different inputs, and the type and severity of these varies from location to location. Overall, challenges of availability, access to the right variety, timely supply, limited credit support (particularly in both woredas of Oromia) and the perception of high costs of inputs (particularly for chemical fertilizers) in all the study woredas are among the constraints mentioned in accessing inputs. Insufficient access to basic infrastructure

(particularly all-weather roads and adequate storage) is also a constraining factor in accessing inputs in most of the study areas.

**Limitations in Availability, Variety and Timely Supply:** Constraints in getting the right amount, the right variety and at the right time are reported by different respondents in different woredas. The key informants in Z/Dugda indicated that there are constraints in getting the right variety of some inputs. Some inputs are not supplied in sufficient quantity and some inputs are not available at the local level. 'Even though the farmers were in dire need of the so-called 543 variety of maize, it was not available in a sufficient amount. In addition, the preferred wheat seed was not available and the farmers were forced to use other varieties called Fafani and 1680. Pesticides are supplied by unions, but there is shortage of pesticides for crop diseases. Farmers travel far to Asella and Meki to buy pesticides. The transportation cost is high and they spend a lot of time and energy which they could expend in their farms.'

Moreover, the woreda, kebele and community level respondents in the study woredas of Tigray indicated that there are problems in getting quality irrigation equipment like water pumps; delays in the supply of fertilizers; and inappropriate varieties of some local inputs. Some concerns which must be addressed properly are listed below.

'Water pumps and accessories are not adequately available. Fertilizer does not arrive on time.' (TG-A/K-1)

'Fertilizer and household package loan are not coming on time.' (TG-S/FG-3)

'Some of the water pumps and modern beehives have problems and they are of poor quality; improved seeds like chickpea and tomato are distributed without being tested and they were not germinating; price of fertilizer is very high.' (TG-S/Emba/W-KI)

**Limitation in Access to Credit Services:** The farmers in both of the study woredas of Oromia have an acute shortage of credit services to buy inputs and engage in livelihood enhancing activities in general. This is because only a limited OFSP package was provided and HABP credit was not available at all in these woredas. The HH survey data indicated that more than 80% of HHs in Tigray have access to OFSP/HABP credit services, while only around 21% of HHs in Oromia have accessed to the same OFSP/HABP credit. Moreover, there are no vibrant local institutions that provide various credit services, in kind and in cash, as in the case of the Tigray woredas. In the Tigray woredas access to credit is not a problem, although the community complained that the interest rate of credit provided by DECSI is very high.

**High Cost of Inputs:** High cost of inputs, particularly fertilizer, is commonly mentioned in all of the study woredas. Respondents in Z/Dugda indicated that some inputs (particularly fertilizer) are very expensive: 'Most of the community members have an interest in using

different inputs, but they have the problem of affording these inputs in cash. Regarding availability, it is not as bad as one may think; sometimes it is available and sometimes not available.' (ZD/W-KI)

Similarly, the community FGD and key informants in both study woredas of Tigray have indicated that some inputs are very expensive:

'Fertilizer, veterinary drugs and improved seeds are available but their price is very high for PSNP beneficiaries. Beehive is available but the price has recently increased significantly; supply of improved dairy cows is low and price is also expensive. The beneficiaries usually get long-term loans to buy the beehives and dairy cows.' (TG S/Emba-MktExpt)

'The price for inputs (fertilizer, improved seeds and interest rate for the loan) is very high.' (TG-A/FG-4)

**Limited Access to Infrastructures and Services:** Lack of access to all-weather roads and inadequate transportation facilities are mentioned as constraints in almost all of the study woredas. It is only the kebeles on the highway in Tigray and those close to woreda centres in Oromia that have better access to all-weather roads. However, there is good access to dry-weather roads in all of the study areas. In addition to poor transportation services, road inaccessibility has been costing the farmers dearly in terms of finance and time. However, most respondents have indicated that access to infrastructure has been improving over time. (See the details of access to basic infrastructure and services under sections 2.5.1 and 2.5.2 respectively.)

## 2.4. Product Markets

In this section we explore the overall operation of product markets in terms of market supply, market players, trends in market prices and other factors. The analysis spotlights further how the different issues of product markets affect the livelihood trajectory of PSNP (FSP) beneficiary HHs as market actors (suppliers or buyers) vis-à-vis their graduation.

### 2.4.1. Market Supply (volume, suppliers and trends)

**Trends in Market Supply:** The responses from the community FGD, woreda KII and HH survey indicate that the volume of products supplied to the market has been on an upward trend. This increase is attributed to various socio-economic improvements. For instance, in Tigray, over 90% of sample households reported an increase in the quantities of cereals, vegetables, dairy products and livestock in the market over the last five years. Similarly, about 71.7%, 50%, 100% and 74.5% of households in Oromia indicated an increase in the quantities of cereals, vegetables, dairy products and livestock in the market, respectively. Such improvements are largely related to better extension services (bringing

increased production), increase in consumer population, increase in the number of traders and improved market infrastructure including rural road access.

The woreda market promotion experts in Fedis indicated that the market supply volume of groundnut has been increasing over time due to greater local per capita production (resulting from an increase in the number of producers and their level of production), an outcome of extension and research support as well as better market prices for the product. Similarly, supply of fattened oxen to the market has been increasing over time in Fedis as a result of high demand, triggered by local and global market conditions. A market expert explained, 'groundnut production increased because of a favourable agricultural policy and market price. The amount of production and the number of people who produced peanut increased. Fattening increased due to high demand and high market price.' (OR-FD-MktExpt)

In Z/Dugda, improvements in extension support raised the awareness of the community on various agricultural practices. This resulted in better access to various inputs; an increase in irrigation agriculture practices; the establishment of farmers' cooperatives and unions that support farmers by supplying inputs and marketing their products; and the expansion of private agricultural investors in the area.

Similarly, key informants in the study woredas of Tigray explained that market supply volume of agricultural products has been increasing over time as a result of improvement in extension support, access to new and improved technologies, awareness of the community on various agricultural practices, and better market prices of the products. They explained, 'supply and demand has significantly increased. Supply increased due to adoption of new technologies and of extension services; new varieties of crops and vegetables and water pump for irrigation have been introduced. So products such as potatoes and tomatoes are newly introduced vegetables. The production has increased as a result of the use of new improved seeds and the demand is very high.' (TG-S/Emba-MktExpt). However, it was also indicated that market supply volume, particularly of vegetables, varies from season to season: 'It depends on the product type and season. For example, tomato production in the months of November-January was in excess but now it is decreasing; supply of onion, milk and poultry is low and price is high.' (TG AF MktExpt)

It was also explained that weather conditions, particularly rainfall, determines supply of products to the market. The respondents in Z/Dugda Woreda indicated that market supply volume of different agricultural products (particularly crops) is determined by weather conditions, mainly rainfall, and thus market supply volume of crops increases after a good rainy season. 'The decisive thing is weather condition ... when the weather is good (sufficient rain available) the supply to the market increases. In the year when there is shortage of rain, supply to the market decreases.' (OR-ZD-MktExpt)



### ***Does Increase in Supply Volume Meet Local Demand?***

Even though the supply volume of most products has been increasing over time, it is indicated that market supply of some products, particularly staple food crops, from local production is not sufficient in the study areas. As a result, local demands are met by supply from surplus producing areas in other part of the country, PSNP transfers and other social support (food aid).

In Fedis, no significant amounts of staple food crops were supplied to the market by surrounding farmers. The food crops produced by farmers in the area, like sorghum and maize, are only used for subsistence and other cereal crops are supplied to the local market by traders from other parts of the country. The role of PSNP transfers and other social support is also of paramount importance in this woreda. The surrounding farmers, however, supply large amounts of fattened animals, groundnut and khat to markets in the area and to other areas. In Z/Dugda, different food crops and livestock products are supplied to the local market by the farmers in the surrounding area. The woreda market promotion and cooperative experts, however, have noted that the communities sell their products not because they are in surplus, but to cover other living costs such as clothes and children's school expenses. This is further supported by responses in community FGD: 'It is our living/livelihood need that forces us to sell, e.g. we sell our products during harvest time with lower price because we need cash for some household expenses such as health expense, school fee for children etc.' (OR-ZD/FG-1) Key informants among traders in the woreda have also indicated that there are times when the local demand is met by supply of grains to the local market from other places.

Similarly, in both of the study woredas of Tigray, cereal crops produced in the area are used for household consumption in most cases, while large amounts of vegetables (potato, tomato, onion, cabbage and others) and honey are supplied to the market by the farmers, including PSNP beneficiaries. Traders in these woredas also explained that grains are supplied to the local market from other parts of the country (Gojjam and Wollega in most cases). PSNP transfers, food aid and other social support are also important in meeting local consumption demands in these woredas.

***PSNP Beneficiaries as Market Suppliers:*** The information obtained from woreda market promotion and cooperative experts and traders in the study woredas reflected that the volume of products, particularly staple food crops, supplied to the market by PSNP beneficiary households is not significant. This is mainly due to the fact that PSNP beneficiary households are among the poor and food insecure sections of the community and have little access to the means of production such as land, human labour, working capital and animal power (oxen, horses, donkeys, etc.). The PSNP beneficiary HHs use staple food crops for their own consumption and even buy more from the market (more common in Oromia woredas) during stress seasons to fill their food gaps. As a result, they have been severely affected by high market prices of staple food crops in recent years (as given in

Section 2.4.2 below). However, PSNP beneficiary HHs are major suppliers of vegetables and honey products in Tigray woredas; fattened oxen, khat and groundnut in Fedis; some vegetables; and a few other livestock, particularly shoats in Z/Dugda.

## ***2.4.2. Market Demand as Constrainer/Enabler to Graduation***

Availability of an adequate market is as important as production in promoting local growth and development. It is the availability of an adequate market that allows producers to reap the benefits of scale effects in production. This subsection of the report deals with analysis of the existence of adequate market opportunities in terms of number of traders, prices, seasonality and availability of a market in nearby areas to absorb local production. This is to help understand the effect of market issues as constrainer or enabler of the graduation of PSNP beneficiary HHs from the programme.

***Market Availability (marketplaces, off-takes):*** The information obtained from woreda key informants indicated that the availability of markets is good for cereal crops and livestock in their areas. Overall, it was indicated that the communities do have marketplaces within a distance of 12-15km, and there is even the chance of selling some products like vegetables (in the Tigray woredas and Z/Dugda) and groundnut (in Fedis) at farm gates. Moreover, while there is variation from place to place and season to season, it is also indicated that the presence of an adequate number of traders, good prices and different market alternatives in nearby areas help the local communities sell their products. The availability of marketplaces in nearby areas enables poor PSNP beneficiary HHs to sell their products easily, and therefore facilitates graduation. However, the community FGD participants, in contrast to the views of woreda key informants, have indicated that they do not get a fair price for their products at the local level, and that seasonality and other market imperfections have been affecting returns from their products as discussed below.

'The market is adequate to absorb the whole quantity delivered to it. There are external and foreign traders (Somalis) who are using our cattle market and the price of fattened cattle increases when foreign traders are here.' (OR-FD-MketExpt)

'There is no problem of market as there are enough consumers from the rural or nearby urban areas.' (TG-AF-MktExt)

'The woreda town market is sufficient to absorb the produce of the farmers; there are two market days in a week (Monday, the major market day, and Friday). If you look at the market, you will see that two to three heavy trucks are loaded in one market day. You can also see many brokers [that collect produce for large traders] in the market ... The average distance

to the market from the woreda town is around 25km, those who are far away from the woreda centre do not come to the market, they have other alternative market centres in other neighbouring woredas. They do not usually travel more than 10km to get to the nearest market centre.' (OR-ZD-MktExt)

**Major Buyers and Market Linkages:** The major buyers of agricultural products from small markets (collection centres) in rural towns and at farm gates are local traders, residents (mostly town dwellers and government employees) and the rural community itself. Local products, particularly vegetables in the Tigray woredas and Z/Dugda and fattened animals, groundnuts and khat in Fedis, are supplied in large amounts to the local market where they are collected mostly by local traders and then taken to other markets in different parts of the region and country. Farmers' cooperatives and multi-purpose unions do also collect some products from individual farmers and sell these to other places at a fair price. Moreover, some selected crops (e.g. haricot bean in Z/Dugda) are also collected and supplied to the central market by the Ethiopian Commodity Exchange (ECX)<sup>4</sup>.

There are some market linkages with locative advantages for local products in the study woredas. Moreover, through concerted efforts by the local government, farmers' cooperatives and unions, customers in different places have developed loyalty to some products. Z/Dugda has a locative advantage that has helped it to create market linkages with surrounding areas (Meki, Modjo, Bishoftu, Adama, Addis Ababa and others) for agricultural products. Similarly, in Fedis there are market linkages for fattened animals with traders in Somali Region (Babile, Wuchale) that export live animals to the Middle East, mainly due to locative advantages and customer loyalty. The study woredas in Tigray have market linkages for vegetable products with the cities and towns (Mekele, Adwa, Axum and others) and universities that are found in the region (Mekelle, Axum and Adigrat), and even abroad (Europe, Sudan) for their honey products. Overall, there is a good start by government bodies in Tigray woredas and by cooperatives in Z/Dugda in creating market linkages.

'The major buyers here, at the woreda centre, are the local traders if the supply is in bulk. If the supply is small, the buyers are the local communities including farmers.' (OR ZD-MktExpt)

'Traders from Harar and other places come to this place and directly buy groundnut from the rural areas and transport it to other places.' (OR-FD-Traders)

'Most of the urban dwellers are the buyers; small hotel owners buy most of the products.' (TG-S/EMBA-MktExt)

'Households exchange their products among themselves; for example, they exchange crop with vegetables. In addition they also sell their products to the traders. Other products like sheep and butter are transported to Makelle. Farmers directly go to

the nearest town to sell their products.' (TG-S/EMBA-MktExpt)

### **Does the community get the right price?**

However, the existing market linkages are not sufficient to help farmers reap the rewards of their products. Some of the community FGD participants have indicated that the price they get at local markets is not fair, particularly for vegetable products because of inadequate market linkages in the area. In addition, the bargaining power of producers in determining the market price is very low; the farmers are not strong enough to create bargaining power and to influence market prices. Conversely, traders do collude to determine the price of the products in some cases. Moreover, the effect of seasonality (particularly for vegetables and other perishable products) and other market impediments (as discussed in the section below) are constraints for producers in getting a fair price for their products.

'Here we do not get the right price for our produce. For example, onion is sold for better price in other markets than here. So we think that we are not getting the right price for our produce.' (TG-A/FG-1)

'It is the traders from Addis Ababa who determine the price of livestock, since they know the price at which they can sell in Addis Ababa. It is the traders that buy in bulk who determine the price of crops. The traders are exploiting us. If one trader says no, farmers are forced to sell at lower price.' (OR-ZD/FG-1)

'It is the buyer who has the bargaining power because there are many sellers but few buyers for tomatoes when we go to the marketplace.' (TG-A/FG-4)

**Seasonality:** Seasonality is one of the important market aspects, as seasonal variations in supply and demand of products (excess or shortage) affect market prices. It is indicated that seasonal drop in prices of products has been affecting farmers' earnings, and this is particularly paramount on vegetables. Prices of products become low during and after harvest time when supply exceeds demand. Seasonal price variation is common with vegetables, whose price becomes extremely low during harvest time as they are easily perishable and the communities do not have the means of preserving the products. The decrease in the price of vegetables is also exacerbated by limited knowledge of market orientation among producers. A high supply of the same product at one time to the market lowers the prices of similar products, as most of the community produce similar products at the same time. The supply and price of fattened animals in Fedis also significantly increase during holidays (Arefa, Christmas, Easter, New Year, etc.). In fact, the communities in Fedis fatten their animals, forecasting the demand during holidays. It is known that fattened animals do not have adequate demand during other times. The following direct quotes best explain these claims.

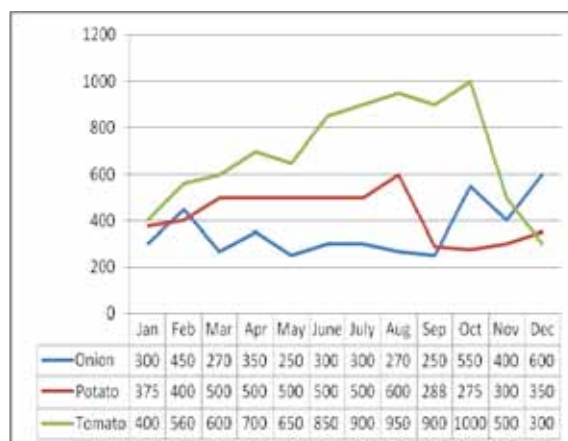
'There are seasonal variations on price of vegetables; when many farmers in one area produce same vegetables at the same time and when other farmers in other places (for e.g. around Meki, Zeway, etc.) produce the same, the price goes down; around August and September the prices of tomatoes and onions significantly go down to around 1 birr, or even 50 cents. Currently it is around 8 birr.'(OR-ZD-MktExpt)

'During the months of September to January, we all deliver the same product, mainly onion, to the same market in this kebele.' (TG-A/FG-1)

'During production season supply is high and the price is low as supply exceeds demand. During March, April and May demand exceeds supply price increases. The price of onion is very low at production season and there are no preservation mechanisms for onion. So, the producers are forced to sell their products at a low price. Supply and price of fattened cattle increase during holidays like Arefa, Christmas, Easter, etc.' (OR-FD-MktExpt)

The quantitative data on the price of vegetables over a year also supports the qualitative information explained above, as given in Figures 1 and 2 below. The price of a quintal of tomatoes in S/Emba falls from 1,000 birr in October to 300 birr (less by 70%) in December. Similarly, the price of a quintal of onions in Z/Dugda falls from 670 birr in December to 250 birr (less by more than 60%) in May. The figures show that the prices of all the vegetable products significantly vary from season to season over a given year. This has a reasonable impact on producers' earnings and livelihood improvement.

**Figure 1: Vegetable prices in S/Emba, 2011**



Source: WOA, Food Security & Early Warning Process

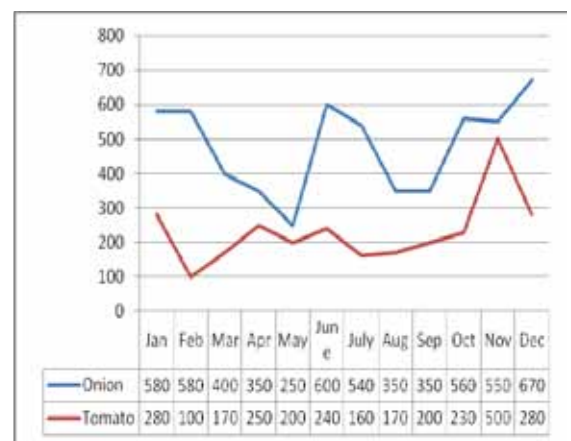
**Brokers/Middlemen:** The other problem commonly mentioned in most of the study woredas is the challenge from middlemen (brokers) who determine market price by blocking direct links between sellers and buyers. This is particularly true in the market of fattened animals and khat in Fedis and vegetables in Z/Dugda and other surrounding woredas. In Fedis brokers have developed a trust relationship with the sellers and buyers and influence both to not freely interact in the market. As

a result, the sellers just hand over their product to the brokers without their physical presence in the market by negotiating and setting prices with some preliminary price information. This has become a reality as producers are afraid to directly negotiate with buyers because the brokers are so strong that they have the power of mediating and blocking producers from directly selling their products to buyers. On the other hand, dealing with brokers saves producers a lot of time spent looking for buyers. The buyers, on their part, do not trust the sellers without the involvement of brokers in the transaction. Similarly, in Z/Dugda and surrounding woredas the role of brokers in setting price of vegetables is very strong. The brokers in the area are larger in number and are more organized and have strong links with traders of vegetables in Addis Ababa and other cities and towns in nearby areas. As a result, they block the direct interaction of buyers and sellers, reaping huge benefits in the process. Informants believed that the undependable nature of the vegetable market necessitates the role of brokers in the area. No strong measures are seen to be taken by local governments or other concerned bodies to regulate the unfair influence of brokers in the markets of agricultural products.

'Currently, it is the traders and brokers that have been benefiting much from the production than the producers; there are many brokers of vegetables in this woreda.' (TG-AF-MktExpt)

'Fattened cattle brokers create a problem between the farmers and foreign traders and most of the time they are the ones to fix the price of fattened cattle; the brokers get a huge amount of money in

**Figure 2: Vegetable prices in Z/Dugda, 2011**



brokering between traders and farmers. The same is also true in khat marketing. In a similar way, the price of khat is determined by the brokers; farmers are helpless. Paradoxically, producers and buyers do not trust each other. Thus, it is not easy to stop the unfair activities of brokers. In fact both producers and buyers have developed trust on brokers, in spite of their exploitative role. Now it seems that sellers and buyers do not trust each other without the involvement of the brokers. Though it is possible

to minimize the effect of brokers, in this regard, no attempt has been made at kebele level in fighting the abusive behaviour of brokers. Moreover no attempt has been made in making brokers' role in creating market linkages in other places.' (OR-FD-MketExpt)

'You cannot stop brokers/middlemen since the market condition is not dependable without them. Sometimes, both buyer and seller do not avail themselves the services of the broker, but strange enough you find them paying some amount to the broker as a token of gratitude for services he didn't discharge, thinking that the market will be undependable without a broker for other times.' (OR-ZD-MketExpt)

'There are brokers who affect the market.' (TG-S/EMBA-MktExpt)

'Both buyers and sellers trust us; there is no problem in this regard; everybody brings oxen/cows here and we sell and/or buy them; the traders give us their money to buy for them oxen and the producer farmers also simply bring their oxen and give to us. You can just observe this, here we are alone; we do the selling and buying activity here at this local market.' (OR-FD-brokers)

However, brokers sometimes become important in searching out markets for local produce, as explained by the woreda key informants. It is possible to enhance this positive side and minimize the negative impacts of the brokers by organizing them into legal entities and building their capacities. However, so far there are no measures or initiatives in terms of organizing the brokers into legal entities, beyond some attempts by the Meki Batu Farmers' Union. The interviews made with woreda key informants and groups of brokers indicated that the existing brokers do not have known addresses or offices and are not easily identified. They do their brokerage activities arbitrarily with no formal training and are not well organized in most places: 'We are working individually; we have no offices, but we have licenses to do brokerage; we learned the job just by observing our predecessors; we do not have training or any other thing.' (OR-FD-brokers)

**Trends in Market Prices:** The price of almost all staple food crops, livestock and other goods (industrial products) have been increasing since 2000 E.C. (2007/08 G.C.) due to various socio-economic, internal policy and global factors. An increase in population (leading to increase in demand), decrease in production (in bad/drought years and due to overall decrease in productivity of land), change in monetary policy (significant devaluation of local currency against basket of foreign currency) and the soaring price of agricultural products at the global level in recent times are among the major factors considered to be behind the increase in the price of food items and other goods in the country as a whole. However, it is also noticed that the price of food crops decreases seasonally

(post harvest) and when the Government intervenes in the market by supplying imported grains at lower prices.

'The price of all staple food crops have been highly increasing starting from 2000 E.C. (2007/8), especially the price of maize has been surging very significantly. Before that time market price was good ... The production of staple food products in our locality varies from year to year since we are in lowland area and frequently affected by drought. In good years, we buy and sell from local production, but in bad years we even bring from other areas, like Wollega, and sell in the local market. Thus, the market price depends on many factors ... The price of livestock has been also going up from time to time and now it is doubled. Especially this year the price of livestock has been surging, what you could buy for 3,000 last year now it is costing 5,000 birr.' (OR-ZD-Traders)

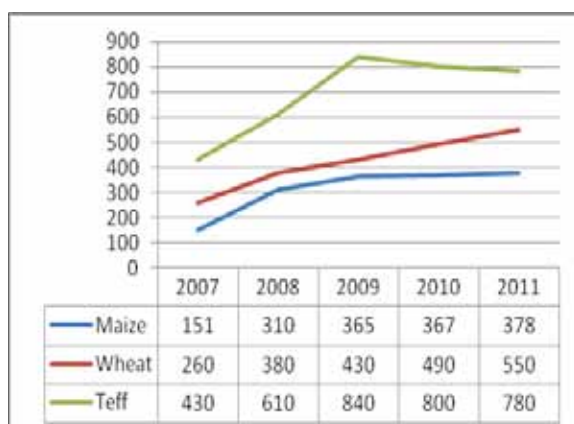
'One of the major causes for changes in food prices is population increase. The number of consumers increased whereas production decreased due to poor productivity of the land; The supply of animals to the market is minimal due to lack of grazing land and most people have started fattening their animals at home. On the other hand, there is a big gap between demand and supply; the demand by consumers is very high and the supply of animals is very limited.' (TG-S/EMBA-Traders)

The key informants also indicated that the continuous increase in the price of agricultural products over subsequent years has been affecting the part of the community who do not have their own production, and the rural poor who do not produce sufficiently to fill their food gaps. At the same time, it was indicated that significant seasonal drops in the price of vegetables as supply exceeds demand, as well as drops in the price of staple food crops as a result of a huge supply of food aid by the Government, all affect producers.

The quantitative data on the price of staple food crops and some of the products promoted by FSP (vegetables and fattened oxen) reflect similar results to what the key informants and FGD participants have mentioned above. The figures below indicate the trends in the mean price of a quintal of crops and vegetables and a fattened ox over certain periods of time. Overall, the figures on prices of all staple food crops, vegetables and fattened oxen have exhibited an increasing trend over time. However, the tendency and level of increment varies from product to product, year to year, and woreda to woreda.

Figures 3 and 4 below indicate the trends in prices of staple food crops and some FSP-promoted products (vegetables and fattened oxen) respectively for the time period 2007-2011 in Z/Dugda. Over this period the price of staple food crops exhibited a continuous rise, more than doubling. The price of FSP-promoted products oscillated from 2007-2010 before dramatically surging in 2011.

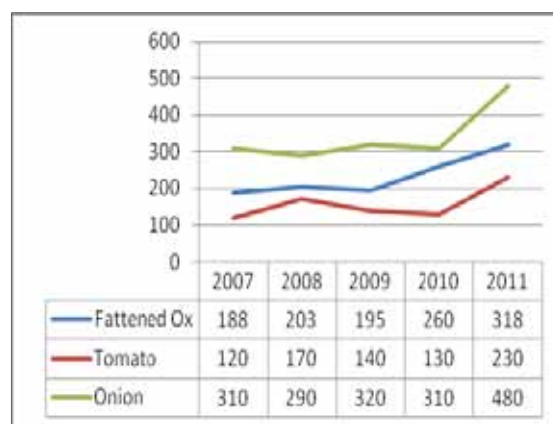
**Figure 3: Trend in Price of Staple Food Crops in Z/Dugda**



Source: WOA, Food Security & Early Warning Process

Note: The price of a fattened ox was divided by ten to fit the graph; this is the same for all figures. The exact price is obtained by multiplying by ten.

**Figure 4: Trends in Price of FSP Promoted Products in Z/Dugda**



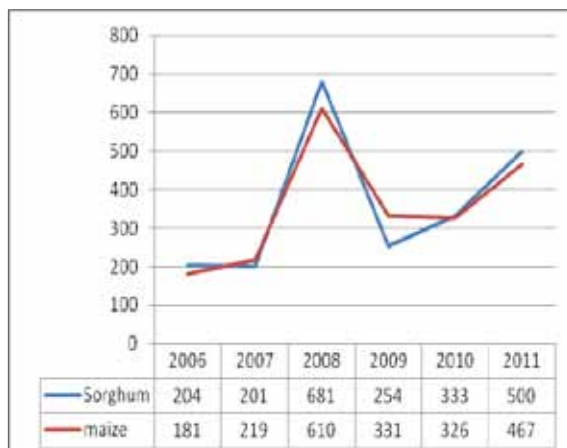
In Fedis, the price of staple food crops surged to a climax in 2008 before declining significantly in subsequent years. There was high inflation at the national level from 2007-2009, and the immediate drop in the price of staple food crops in the following year was the result of the Government's intervention through importing grain. Overall, the price of staple food crops in Fedis more than doubled in the period between 2007 and 2011. Similarly, the price of groundnut and fattened ox exhibited a continuous increase from 2006 to 2011; the price of groundnut more than tripled, and the price of fattened ox more than quadrupled (see Figures 5 and 6 below).

Similar to the case in the Oromia woredas above, the price of staple food crops such as teff, maize and sorghum

in the Tigray woredas had significantly increased in the period between 2006 and 2009. Following high food price inflation at the national level, the prices started to decline after 2009, partly due to government stabilization measures. The average price of vegetables has also been increasing over time.

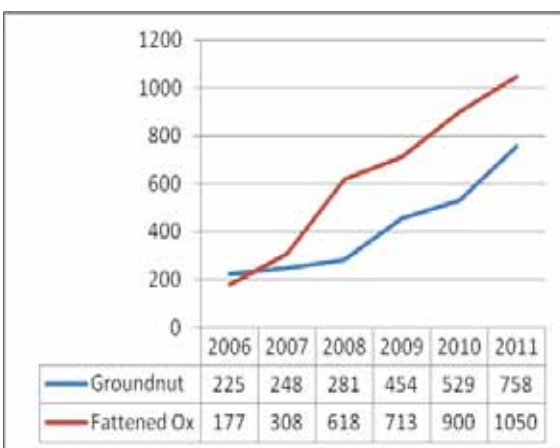
Thus, in view of the graduation of PSNP beneficiary HHs, the trend in market prices of staple food crops (which the FSP beneficiaries buy to fill their food gaps) and the FSP-promoted products (that PSNP beneficiaries supply to the market) both exhibited rising trends, having an offsetting effect.

**Figure 5: Trend in Price of Staple Food Crops in Fedis**

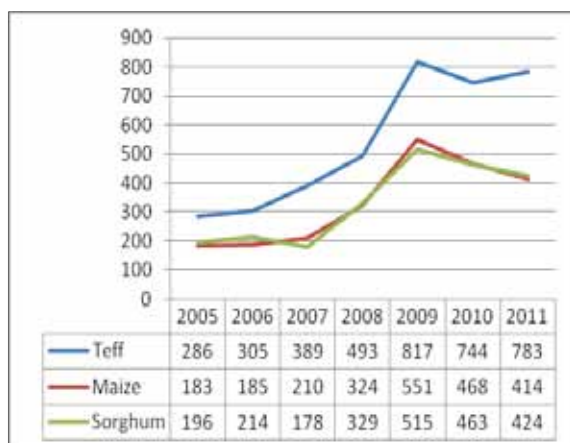


Source: WOA, Food Security & Early Warning Process

**Figure 6: Trend in Price of Products Promoted by FSP in Fedis**

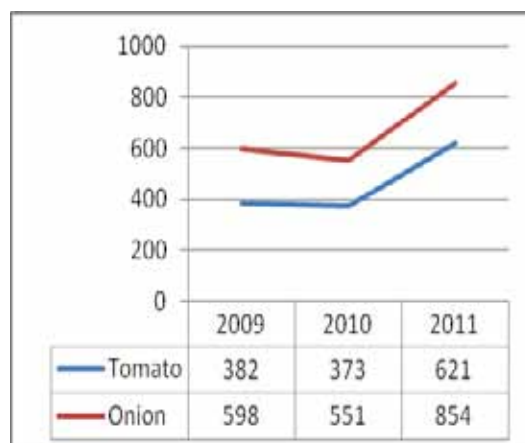


**Figure 7: Trend in Price of Staple Food Crops in Ahferom**



Source: WOA, Food Security & Early Warning Process

**Figure 8: Trends in Price of Products Promoted by FSP in Ahferom**



## 2.5. Other Market Related Enablers/Constrainers of Graduation

### 2.5.1. Basic Infrastructures

The role of public infrastructure for transport, communication and power is paramount in enhancing local economic development in general and market expansion in particular. The expansion of such basic public infrastructure creates an enabling environment and facilitates market operation by linking rural communities that produce and supply agricultural goods with small towns which are the collection centres for rural produce and exchange of industrial consumer and durable goods. The information obtained from various sources indicates that availability of this basic infrastructure varies from type to type and from place to place in the study areas.

Access to all-weather roads is limited in all of the study woredas, except in a few kebeles near woreda centres and on the sides of highways. The condition of access to power is similar; in the Oromia woredas access to power is limited to woreda centres and interruptions in power supply are very common. Access to power is somewhat better in the Tigray woredas; some of the kebeles have access to power, and the woreda centres have more reliable power supply. Moreover, access to telephone and mobile communication is good in all of the study woredas and kebeles, and farmers use these to easily get market information. The following direct quotations support the above claims.

‘There is dry weather road accessibility in all the kebeles but during the rainy season road access is almost non-existent. There is a good telephone network.’ (OR-FD-MktExpt)

‘Except during the rainy season, there is sufficient dry weather road access. Access to power is available in a few kebeles (around four kebeles), though electric power interruption is a very common problem. Lack

of electric power is a big problem of the community as a whole. The same is true for our town (woreda centre). Electric power and water service are interrelated. Power interruption occurs 2-3 days within a week. When there is no power there is no water and no telephone and mobile connections. We have been facing such problems even this week.’ (OR-ZD-MktExpt)

‘Out of the 20 kebeles, only one kebele has no road. Most of them have electric power supply. There are markets in every kebele. Wireless telephone services are available in all Kebeles.’ (TG-S/Ema-MktExpt)

‘We cannot say basic infrastructure is available for all. Road is the main problem for all kebeles. They use donkeys and camels for transporting their products. Power supply is not available for kebeles far from the roadside.’ (TG-AF-MktExpt)

### 2.5.2. Marketing Service

Access to financial (credit and banking) services, transport and storage services, market information and related services are very crucial in facilitating market operations in a given area. The responses of different key informants and community FGD pointed out that the availability of these important services varies from woreda to woreda in the study areas.

**Financial Services:** Financial services are poor in the Oromia woredas and better in the Tigray woredas. In the Oromia woredas, Oromia Credit and Saving Share Company (OCSSCo) and Commercial Bank of Ethiopia (CBE) have only recently opened branches at woreda centres and their accessibility and outreach to the community so far is very limited. Moreover, there are no well organized rural savings and credit cooperatives (RUSACCOs) or any other credit and saving institutions that provide financial service to the market operators, traders and suppliers. In the Tigray woredas, Dedebit Credit and Saving Institution (DECSI), which is one of the strongest micro financial institutions (MFI) in the country,

has up to four branches at the woreda level and also has agents at the kebele level who provide credit and saving services to the community. There are also other small credit and saving associations and RUSACCOs at the kebele level that have started providing similar services. In addition to this, CBE and Anbessa International Bank (AIB) provide banking services through their branches at woreda centres in both of the study woredas of Tigray.

'The financial institution available in this woreda is Oromia Saving and Credit Institution. But the problem with it is that if one opens an account and save money there, one cannot withdraw money whenever one wants to do so. Thus, people are not willing to put their money with OSCI.' (OR-ZD-MktExt)

'Banks are available at woreda towns (Anbessa Bank and Commercial Bank of Ethiopia) and Dedebit Credit and Saving Institution (DECSI) is present in each kebele.' (TG S/EMBA-MktExt)

'There is no shortage of financial institutions in this woreda as there are a number of micro-finance credit associations. For example, in this woreda there are 4 microfinance branches. We are planning to transform the big microfinance institutions to banks and the work of microfinance institutions will be taken over by cooperatives at kebele level.' (TG AF-MktExt)

**Storage Services:** In general, the existing storage facilities in most of the study woredas are not sufficient. Some storage facilities are available at the kebele or farmers' training centres (FTCs), mainly used for storage of inputs (improved seeds and fertilizers). Farmers' cooperatives also have some storage facilities at the woreda level and in some kebeles. In Fedis, access to storage services is relatively better due to the support of some NGOs in the area (EU/CISP).

'CISP constructs warehouses to PSNP beneficiaries for storing products. Cooperatives provide warehouse services and store crop production.' (OR-FD-MktExt)  
'Regarding stores, there are seed banks in 21 kebeles of the woreda and the community can store their crops there.' (OR-ZD-MktExt)

'Cooperatives and FTC have stores for fertilizers; the problem is shortage of stores for grain. We have no space or land to construct a store.' (TG-S/EMBA-MktExt)

**Market Information:** The level of available market information is similar in all four woredas. The majority of the communities get market information through their mobile telephones. There are also other sources of market information like radio, and brokers do also serve as sources of market information to the community. There are also some attempts by WOA Market Promotion Units in providing up-to-date market information to the community by posting prices at woreda centres and other locations.

'The community use mobile telephones to exchanging market information at different market centres. Brokers are also sources of market information, even if they primarily collect it for their own purposes. They communicate with producers and buyers as mediators.' (OR-ZD-MktExt)

'The PSNP beneficiaries get information by telephone. They discuss the prevailing prices among themselves. However, even though the woreda sends monthly price information to the kebele, the beneficiaries have the information in advance of the announcement.' (TG-S/EMBA-MktExt)

'There is also market information through the Radio and posters or meetings after reviewing the market every week.' (TG-AF-MktExt)

**Transport Services:** It was indicated that there is a big problem in transport services, particularly in the Oromia woredas. The problem of transport service is linked with access to quality roads and availability of transport operators. In general, only kebeles found on the main highway (in the Tigray woredas) and on all-weather roads connecting woredas have better access to transportation services. The problem of transport has been an obstacle to communities in taking their products to the market on time and at reasonable fares.

'There are two kebeles on the main road with better access to transport, though it is not easy to get transport services as you want on the main road ... The available private transport service providers from Asella to Meki and other places charge the community beyond the tariff rate.' (OR-ZD-MktExt)

'Transport service is provided by private enterprises and individuals; there is no transport problem.' (TG-S/EMBA-MktExt)

## 3. Value Chain Analysis of Selected FSP Promoted Products

### 3.1. Introduction

As one component of the Food Security Programme, credit services have been provided or are intended to be provided in different livelihood packages to chronically food insecure households under the Other Food security Programme (OFSP) in the first phase (2005-2009) and Household Asset Building Programme (HABP) in the second phase (2010-2014) of FSP. The aim of OFSP/HABP, as described in the Programme Implementation Manual (PIM), is to diversify income sources and increase assets of chronically food insecure households and to help them graduate from FSP (MoARD, 2009). In this report, value chain analysis (VCA) is undertaken for selected products promoted by OFSP/HABP in the study woredas of Oromia and Tigray.

This is because different research outputs in the fields of agricultural economics and food security have recently underscored the importance of improving value chains in addressing rural poverty in general and food security in particular. According to the International Fund for Agricultural Development (IFAD), value chains are one of the instruments through which market forces can be harnessed to benefit poor rural households – not just producers but wage earners, service providers and others ([www.ifad.org/english/market/index.htm](http://www.ifad.org/english/market/index.htm)). Moreover, recently development communities have fostered an interest in sub-Saharan Africa in value chains of agricultural commodities as a way to add value, diversify rural economies, contribute to increasing rural household incomes and reduce the prevalence of rural poverty (Webber, 2007). Thus, in the following sections, the brief concept of value chain is presented and VCA is undertaken for selected products in each study worded.

transactions in which the product is passed on from primary producers to end consumers.

Value Chain Analysis, therefore, provides an overview and a good understanding of a specific economic reality. The results of these analyses are used to prepare decisions on objectives and strategies. Based on a shared VCA, enterprises can develop a joint vision of change and determine collaborative upgrading strategies. Governments and public agencies can also use VCA to identify and plan supportive actions as well as to monitor impact. Apart from its use in a development context, VCA also helps individual enterprises make business decisions (Jon and Madelon, 2006). Figure 9 below depicts the basic conceptual model of value chain map. The model is presented as a reversal of the conventional value chain diagram, which represents a flow of goods, in order to emphasise a demand-led perspective.

### 3.1.1. The Concept of Value Chain

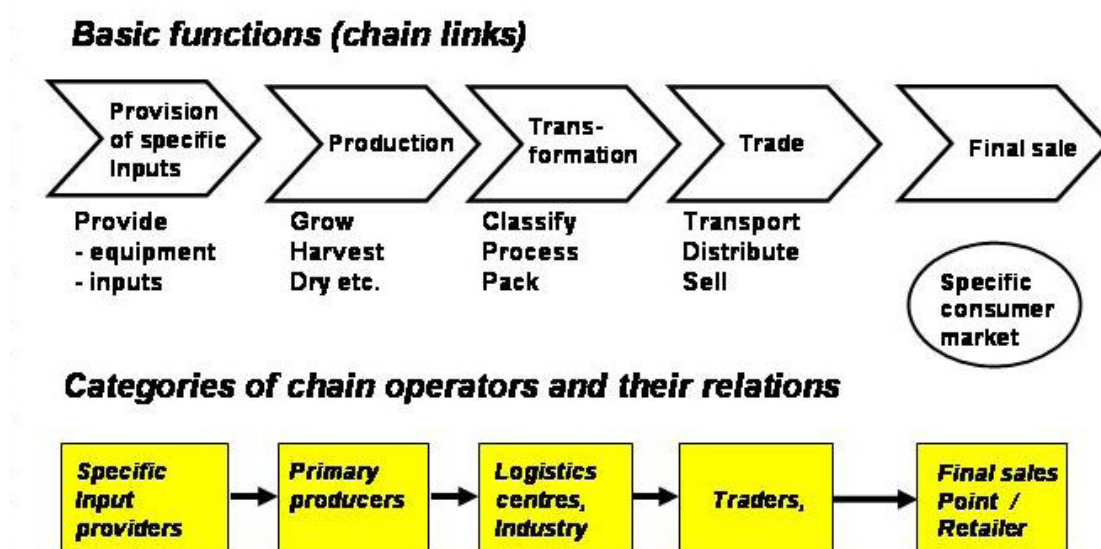
The concept of value chain in different economic sectors has been explained by many researchers in many ways, yet these share similar central issues. According to Jon and Madelon (2006), a value chain is the full range of activities which are required to bring a product or service from conception, through the different phases of production (involving a combination of physical transformation and the input of various producer services), delivery to final customers, and final disposal after use. The GTZ Value Link Manual (2008) defines a value chain in functional terms, as a sequence of related business activities (functions) from the provision of specific inputs for a particular product to primary production, transformation, marketing, and up to the final sale of the particular product to consumers. The set of enterprises (operators) performing these functions, i.e. producers, processors, traders and distributors of a particular product are linked by a series of business

### 3.1.2. Mapping Market

According to Jon and Madelon's (2006) VCA guideline, a Market Map is a conceptual and practical tool that helps to identify policy issues that may be hindering or enhancing the functioning of the chain, as well as the institutions and organizations providing the services (e.g. market information, quality standards) that the different value chain actors need in order to make better informed decisions. The Market Map is made up of three inter-linked components (see Figure 10 below).

- **Value chain actors:** The value chain actors are the main market actors related to specific product(s) under consideration. They include different input suppliers, primary producers, processors, distributors, exporters/importers, traders/retailers and end consumers.
- **Enabling environment:** The enabling environment consists of the critical factors

Figure 9: Conceptual Model of Value Chain Map



Source: GTZ Valuelink Manual, 2008



and trends (including infrastructure and policies, institutions and processes) that are shaping the value chain environment and operating conditions. Enabling environment factors are generated by structures (national and local authorities, research agencies and others) and institutions (policies, regulations and practices) that are beyond the direct control of economic actors in the value chain. Thus, charting this enabling environment helps not only to map the status quo, but also to understand the trends that are affecting the entire value chain, and examine the powers and interests that are driving the change. This knowledge can help determine avenues and opportunities for realistic action, lobbying and policy entrepreneurship.

- **Service providers:** These are the business or extension services that support the value chain's operations. In most effective value chains the actors who actually form the chain (i.e. commercial transaction of the main product) are supported by business and extension services from other enterprises and supporting organizations. There is an ongoing need for chain actors to access services of different types, both markets and technical specifications. The following are among the main services that support, or could potentially support, the value chain's overall efficiency:
  - Input supplies (seeds, livestock, fertilizers etc.)
  - Market information (prices, trends, buyers, suppliers)

- Financial services (such as credit, savings or insurance)
- Transport services
- Quality assurance (monitoring and accreditation)
- Support for product development and diversification

Figure 10 depicts the Market Map, including all the important components – the value chain, the enabling environment and service providers that have a big impact on how the value chain functions.

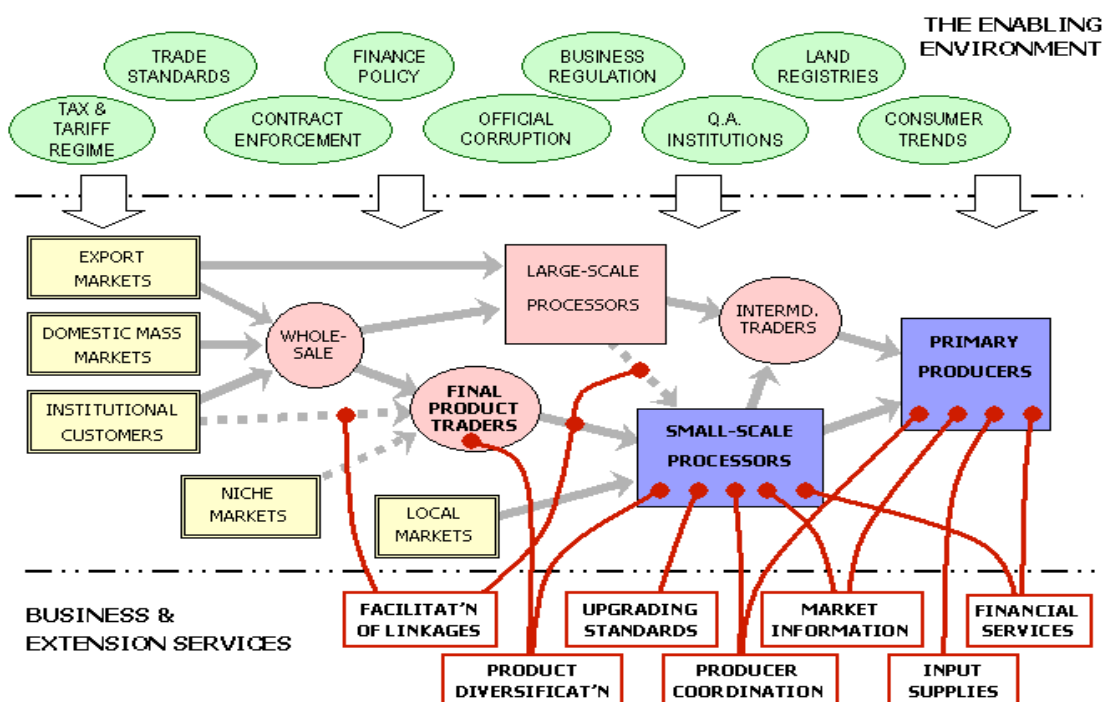
## 3.2. Value Chain Analysis for Selected Products

The products supplied to the market by FSP/PSNP beneficiaries through the support of OFSP/HABP in each of the study woredas were identified with the support of woreda market promotion and cooperative experts. As given in Table 1, most of the products identified, particularly vegetables and honey, were common in both of the study woredas of Tigray. As a result of this, only certain products were selected for further value chain analysis.

### 3.2.1. Value Chain Analysis for Oxen Fattening (Fedis)

Livestock fattening, particularly fattening of oxen/bulls, is the most common practice by FSP beneficiaries and the community as a whole in Fedis and other surrounding woredas in Eastern and Western Hararge Zones of Oromia. According to the WOA, Fedis in

Figure 10: Full Market Map in Value Chain Analysis



Source: Jon and Madelon (2006)

particular has become a model in this activity at the national level, and farmers in other zones of the region and other parts of the country have been looking to this woreda for best practices in livestock fattening. As a result, it is important to analyze how the value chain for this product is functioning and what contribution it makes to improving the livelihood/earning of PSNP beneficiary HHs in the area and to supporting their graduation from PSNP.

**Access to Inputs and Supporting Services:** Households buy better breeds of bulls from their local and other surrounding woredas. The woreda livestock subject matter specialists (SMS) and development agents (DA) support the community in identifying better breeds of bulls for easy fattening and provide technical support to them on fattening processes (feeding, building homes, maintaining hygiene and health services). Veterinary drugs are supplied by WOA and there are animal health technicians at the woreda and kebele levels that provide health care services. Most of the PSNP beneficiary HHs receive money for buying bulls from the credit support of OFSP and NGOs (particularly CISP) or household packages (provided by FSP and the World Bank). There are also some HHs that buy bulls with their own money (obtained by selling other assets, groundnut and khat). However, shortage of credit supply is the main constraint for the community as a whole and PSNP beneficiaries in particular in pursuing oxen fattening. The HABP credit was not provided to the programme beneficiaries until this assessment was undertaken in July 2012, for various reasons. The farmers have also indicated that apart from the constraint of credit support, shortage of animal fodder is a limiting factor to increasing the supply of fattened bulls in the area. A woreda market promotion expert said, 'the problem of the community in bull/oxen fattening is shortage of credit supply. The credit provided to the community is not sufficient enough to buy bulls for fattening; the HABP credit provided for this purpose is also not sufficient.'

**Production and Marketing:** The communities have specialized on preparing different varieties of animal feed from compositions of different ingredients such as fruskelo, salt, fenugreek, boiled maize, immature (green)

maize and its stalk, roughages and by-products (pods) of cereals after harvest. They give high priority to feeding their bulls by giving them leftovers and sometimes even sharing their own meals with them. However, the respondents (community and woreda key informants) have indicated that there is a shortage of fodder and water for livestock in the area.

Large numbers of fattened oxen/bulls are supplied to the market, according to woreda market promotion experts; during peak demand, this averages about 3,000 animals on one market day. It is common to observe one or more bulls/oxen in the farmland or backyard of every household in Fedis. It takes three months for a better performing/model PSNP beneficiary HH to fatten a big bull that can easily be fattened. However, the majority of HHs are able to fatten a bull in four to six months, on average. The detailed cost-benefit calculation estimated with the woreda market promotion and cooperative experts puts the cost of fattening a single bull (including buying the bull, feeding, veterinary and labour costs) at around 8,484 birr, while the average price of a single fattened bull at the local market (woreda centre) is about 13,000 birr. This allows a return of more than 4,000 birr. A farmer who is able to work effectively and fatten two oxen at a time, three times a year, can thus earn more than 20,000 birr in 12 months. This would make a significant contribution to their prospects for graduation. Box 1 below presents a case story of a PSNP/FSP beneficiary HH working on oxen fattening.

The community and woreda level key informants indicated that a good market is available for fattened bulls in the area. There are two market centres for livestock in the woreda, Boko in the woreda centre and Fachatu at the far corner of the woreda. Traders come to these market centres from the surrounding woredas, neighbouring Somali Region (Babile and Wuchalle), Harar and Addis Ababa. The traders in turn sell the fattened bulls to abattoirs, individual consumers or live animal exporters. The local traders also have some market links with traders that export live animals to Somalia and Arab countries, getting better prices. According to woreda key informants, on one market day, four to five trucks of fattened oxen are loaded up from the woreda market

#### Box 1: Oxen fattening case study

Mr. Yusuf Usman is a male household head who lives in Risqi kebele, Fedis woreda. His family is currently a beneficiary of PSNP, and gets transfers of money by participating in public work and improving its livelihood trajectory.

Yusuf got a credit of 4,340 birr in cash and 8 kg of groundnut from CISP, an NGO working in the area, in 2011 by preparing a business plan with the support of DAs. He bought an ox for 4,000 birr, farmed with it for one season, and sold it for 9,000 birr after fattening. Now he has bought a donkey for 2,000 birr and is ready to buy and fatten another ox with the rest of the money at hand, while saving part to cover other expenses such as food and his children's schooling.

Yusuf has indicated that the credit he got was adequate for the time being, but the market price of ox has been increasing over time. He is ready to pay back the credit by selling groundnut. He says the credit package he got has supported him well and will enable him to graduate from PSNP in the future.

centre. There is, however, no exact record of market supply of fattened oxen in the woreda.

**Market Impediments (Seasonality and Brokers):** The market constraints for this community are the seasonal variations in demand and the intervention of brokers. Seasonality is very important for the rise and fall of demand in the area's livestock market. The key informants from WOA and livestock traders and households that are engaged in bull fattening indicated that market demand for fattened bulls significantly varies from season to season; the demand for fattened bulls increases greatly during holidays (like Arafa, Easter and Christmas). Most of the farmers are well aware of the high demand seasons. In other times, the supply of fattened bulls exceeds the demand and the price significantly falls. It is also difficult for farmers to keep the bulls for a longer period of time, beyond the fattening time, as this has cost implications and causes them inconvenience.

Brokers are more of a hindrance than a help in the fattened bulls market. A group of organized brokers play a leading role in determining price. By blocking the link between the seller and the buyer, they separately determine the amount that the seller will get and what the buyer will pay, appropriating the difference for themselves. The farmers simply hand over the bulls to the brokers at the price they are offered, and the brokers take the bulls to the buyer and sell them at a big profit.

**Value Additions:** There are no agro-processing industries that support both the supply side (like animal fodder processing) and demand side (like modern abattoirs or meat processing) of bull fattening in the surrounding area. The unavailability of modern and large abattoirs in the area is indicated as one constraint on demand; the farmers could benefit if such facilities were available in nearby areas. The woreda key informants said, 'There is no market linkage with abattoirs that export meat/beef to international markets; the supply from this locality could be enough to serve big abattoirs and so far no attempt was made in this regard.'

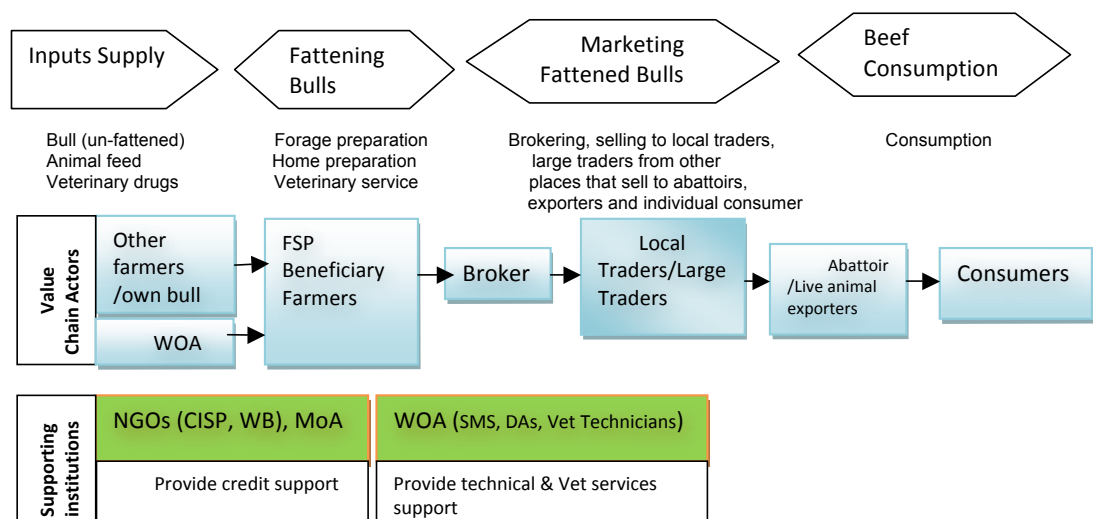
**Quality Assurance:** Moreover, there is no quality assurance service for animal fattening in the area.

### 3.2.2 Value Chain Analysis for Vegetables (Tomato and Onion) (Z/Dugda)

Vegetable production is a widely practiced activity in Z/Dugda and other surrounding woredas of East Shewa and West Arsi Zones of Oromia, lying in the belt of the Great Rift Valley of the Horn of Africa. In this area vegetable production is undertaken by smallholders and some large-scale commercial farming private investors. The area has a plain topography, with favourable weather conditions (moderately hot temperature), better availability of water (underground and river sources), and an advantageous location (in the central part of the country, with better infrastructure and high market potential) for vegetables production. As a result, a large amount of vegetable products are supplied to different markets in the area and to different parts of the country as a whole. The key informants at the woreda level and community discussions indicated that vegetables produced in the area account for the major share of the vegetables supplied to markets in the central part of the country (including Addis Ababa, Adama, Bishoftu, Asella and others). This section thus presents a VCA of tomatoes and onions produced in Z/Dugda by smallholder farmers, particularly beneficiaries of FSP.

**Access to Inputs and Supporting Services:** Smallholder farmers in Z/Dugda mainly produce vegetables on their farmland under small-scale irrigation. The woreda market promotion and cooperative experts indicated that farmers get most of the inputs for tomato, onion and other vegetables production (improved seeds, herbicides, fertilizers) from Meki Batu Fruit and Vegetable Growing Farmers' Union. The availability of these inputs is good, as the cooperatives distribute these inputs at the kebele level, but the farmers have problems paying for these inputs (particularly fertilizer) in cash.

**Figure 11: Model for Oxen Fattening Value Chain Analysis**



Source: Adapted from GTZ Valuelink Manual (2008)

The most constraining factor for vegetable production under irrigation for smallholder farmers in the area, particularly for the poor FSP beneficiaries, is access to a motor pump. This is mainly due to a shortage of access to different credit services. As stated in section 2.5.2, only a very small proportion of FSP beneficiaries have gained access to credit through OFSP/HABP as of July/August 2012. Moreover, those who got access to credit service were not able to buy motor pumps since the credit provided to them was very small. As a result, some FSP beneficiary HHs rented motor pumps from other, better-off individuals, and many rented out their land to private investors and better-off individuals who have motor pumps. However, those HHs who are renting out their land to others are also very conscious about the trade-off in benefits between working their land by themselves and renting out the land to others in their efforts to improve their livelihood.

**Production and Marketing:** The smallholder farmers, including FSP beneficiaries, produce tomato and onion on an average of 0.25ha of land. There are two production seasons: spring/summer (September-December) is the major production season under irrigation, while the winter season (May-July) is the focus for rain-fed agriculture. The HHs get about 45 quintals of tomatoes and 40 quintals of onions during one production season.

Table 2 indicates the total area cultivated and production obtained through irrigation agriculture for tomato and onion in the woreda. The woreda expert estimated that the share of smallholders and big private investors is more or less equal in area of cultivation, but private investors are more productive.

The total costs of production of tomato and onion on 0.25ha, including inputs, labour and others, is estimated to be 9,987 birr for tomato and 10,882 birr for onion. The average farm gate price of tomato and onion for the year 2012 is 350 birr and 500 birr respectively. Multiplying the average price by total production, an individual farmer can get about 5,763 birr and 9,118 birr in profit from production of tomato and onion, respectively, on 0.25ha of land. The discussion with the woreda key informants and the community indicated that producers sell vegetables mostly at the farm gate price, as traders come from distant places such as Addis Ababa, Adama, Bishoftu and Asella. However, producers have not been getting a good price for their products for various reasons: seasonality, lack of market orientation, traders' collusive

practices, the role of brokers, product qualities and the absence of value addition and preservation practices, as discussed below.

**Seasonality:** The effect of seasonality is very significant on market price of vegetables. The price of vegetables drops during the major production season, summer. During this time there is an excess supply on the market and the traders are the major price makers; producers are even forced to sell at a loss. There are two major causes for excess supply of vegetables during this production season: lack of market orientation and farming tradition.

Most farmers produce the same or similar products at the same time and do not have an awareness of market orientation. The key informant from the market promotion office said that it is important to change this situation by strong extension intervention: 'There is no coordination and market orientation among the farmers on what to produce; the woreda office of agriculture should work on this and give advice to the farmers not to produce same products at the same time. So far nothing is done in this regard.'

The farmers also prefer to work on vegetable production during the summer season with irrigation rather than during the rainy season. During the main rainy season, farmers follow a tradition of working fully on staple food crops for their own consumption. At the same time, vegetable production demands more capital and effort during the rainy season as different vegetable diseases and pests arise during this period. A woreda key informant explained it as follows: 'If you advise farmers to cultivate onion and tomato at the main harvest season (rainy season), they do not care to heed because at this season they cultivate staple food crops and this has been the tradition for centuries. Another reason why they do not want to produce vegetables during the rainy season is that they do not want to invest a large amount of their financial capital on spraying chemicals [as pests and diseases are rampant during the rainy season] on a given small plot of land during the rainy season. It is investors who grow vegetables during the rainy season on a large scale covering 3-10 hectares of land and get a high rate of return as the price of vegetables during the season is very high.'

**Role of Brokers:** The role of brokers in vegetable marketing is very significant in Z/Dugda and surrounding woredas. According to Meki Batu Fruits and Vegetables Growing Farmers' Cooperative, there are more than 100

**Table 2: Trends in Area of Cultivation and Production of Tomato and Onion in Z/Dugda under Irrigation**

Year	Tomato		Onion	
	Area (in Ha)	Production (Qt)	Area (in Ha)	Production (Qt)
2010	275	41,250	280	39,200
2011	350	56,000	325	48,750
2012	550	99,000	510	86,700

Source: Woreda Office of Agriculture (WOA)

big and small brokers who work on vegetables at Meki town alone and their influence in setting the price is great in the surrounding woredas, including Z/Dugda. The big brokers have a strong network with traders in different areas, including Piassa and Merkato, the largest vegetable marketplaces in the capital city of Addis Ababa. They have strong bargaining power in setting prices, which the farmers accept without further ado. The small brokers in the surrounding areas (at village and kebele levels) have linkages with the big traders stationed in the towns, and they are the source of information for the big brokers, with whom they share the benefits. The woreda key informants have described the situation as follows: 'The brokers have been getting much of the benefit that the producers should have got; the brokers have a communication network even up to Addis Ababa; if a producer tries to bypass a big broker and go to Addis Ababa by himself, then the big broker will follow him and establish a secret collusive relationship with the wholesalers/traders to prevent the producer from getting a fair price for his product. The government has to do more to improve this situation.' As a result, the community perceive that it is better to be a broker than a producer of vegetable products in the area. Moreover, the undependable nature of the vegetable market has magnified the role of the broker, and as a result both buyers and sellers need the broker.

**Poor road access and traders collusion:** The problem of road access during the rainy season is also mentioned as one of the factors affecting the price of vegetables, as farmers are not able to take their products to better marketplaces. As a result, some traders operate in collusion with other traders to buy vegetables at the farm gate price. The woreda market promotion experts have elaborated the situation as follows: 'There is no sufficient market access for the producers; during rainy season it is difficult for farmers to take their products to other markets in other places and traders with their usual collusive practice buy the product at farm gate price.'

**Quality Standards:** The farmers have poor management skills for vegetable products. There are also no product management facilities like preservation storages, and vegetable products are highly perishable. As a result the farmers do not get a better price for their products, often selling at a loss, and there is wastage of products on farmland and post harvest.

**Value addition:** Even though large amounts of vegetable products are supplied from the area to different parts of the country, there are no value addition activities implemented in the area, except for some attempts by WOA and farmers' cooperatives in constructing storage facilities for vegetable preservation. Different key informants from WOA and farmers' cooperatives have indicated that there is sufficient product supply in the area, and it is important to establish vegetable processing factories.

### 3.2.3 Value Chain Analysis for Vegetables (Tomato, Potato and Onion) (Ahferom)

Production of vegetables under small-scale irrigation is a widely practiced activity by smallholders in both of the study woredas of Tigray. This was made possible by attention given to small-scale irrigation at all levels of the administration hierarchy (region, woreda and kebele). Moreover, strong support is provided to the community, particularly FSP beneficiaries (in terms of technical, credit and input supply) to build their livelihood and eventually allow them to graduate from food insecurity. The VCA of tomato, potato and onion, which are among the vegetables most commonly produced by FSP beneficiaries in Ahferom, is presented as follows.

**Access to Inputs and Supporting Services:** The necessary inputs for production of tomato, potato and onion under small-scale irrigation are land<sup>5</sup>, irrigation equipment (motor pump and others), fertilizers, seeds and herbicides. These inputs are supplied by different stakeholders that work to improve the livelihood of the community in the area in general, and to ensure food security of chronically food insecure HHs in particular. Improved seeds of tomato, potato, onion and other vegetables are supplied by REST and WOA, and herbicides by the region's Farmers' Cooperatives Federation through WOA. The farmers, particularly FSP beneficiary households, buy irrigation equipment (motor pumps and others) with the credit support of DECSI (from OFSP/HABP<sup>6</sup>, own finance and other sources). However, the farmers complain that the interest rate from DECSI is high at 18.0%. Fertilizer is supplied by farmers' cooperative unions with the support of WOA. Overall, the farmers and woreda key informants perceive that most inputs are expensive and particularly that those who do not get access to credit support cannot afford to buy these inputs. Access to credit service is very easy for farmers, however, if they apply for it.

The farmers also get strong technical backstopping from woreda subject matter specialists (SMS) and DAS on agronomic practices to increase yield. In addition, the farmers get some technical support on financial literacy (marketing) from DECSI and woreda market promotion and cooperative experts.

**Production and Marketing:** As a result of strong support and attention given at various levels of administration, the area cultivated and production of various vegetables have been increasing over time. Table 3 below indicates the trends in area of cultivation and yield of the vegetables under consideration.

According to Ahferom WOA, an average FSP HH cultivates tomato, potato and onion on 0.25ha, 0.25ha and 0.125ha of land respectively. The average yield is 50, 45 and 20 quintals of tomato, potato and onion

**Table 3: Trends in Area of Cultivation and Yield of Tomato and Onion in Ahferom**

Year	Potato		Tomato		Onion	
	Area (Ha)	Yield (Qt)	Area (Ha)	Yield (Qt)	Area (Ha)	Yield (Qt)
2010	150	26,400	601	147,245	556	58,380
2011	614	89,644	991	180,407	1,037	118,923
2012	263	59,206	549	142,556	748	78,435

Source: Woreda Office of Agriculture (WOA)

respectively. The benefits obtained from production of vegetables (see Table 4 below) are very helpful to FSP beneficiary HHs in improving their livelihood (earning more income, creating assets and feeding their families) and graduating from FSP/PSNP.

According to key informants among the woreda market promotion experts, the availability of market for vegetable products in the area is good in general. They indicated that a greater share of the vegetables produced is supplied to larger towns and cities (Mekele, Axum, Adigrat and Adwa) by traders and wholesalers from these locales, who then sell to hotels and urban populations. A lesser share of the vegetable products are also supplied to the local market of the woreda and consumed by surrounding communities (including the urban community and hotels/restaurants in the area). There are also market linkages for vegetable products, including tomato, potato and onion, with universities (Mekele, Axum and Adigrat universities). The case study in Box 2 depicts the typical benefit that the HHs are getting from vegetable production.

However, there are several constraints that have been facing the producers to get optimal benefit from their production, as described below.

**Seasonality:** As indicated in Figure 1, the turnover obtained from the same amount of products in different seasons varies quite significantly. This is due to the excess supply of vegetables at one time by many farmers, during the irrigation season. Similar to the case of Oromia, farmers in Tigray woredas also grow vegetables by irrigating in the spring-summer season, and focus on production of staple food crops, cereals and grains during the main harvest rainy season. During this time the price of vegetables is very high, and products even come to the area from distant places like Addis Ababa. The woreda key informants explained it as follows: 'Seasonal

price variation happens due to variation in amount of production; the farmers do not want to produce much vegetable during the rainy season. At this season they prefer to cultivate staple food crops like teff, and as a result vegetables even come from as far as Addis Ababa. The farmers are not used to producing vegetables during the rainy season and are reluctant to do so.'

This is also an indication of a lack of market orientation by farmers and inadequate market or market linkages in the area for vegetable products. The key informants among the woreda market promotion experts also acknowledged that the existing market linkages are not adequate and more has to be done in the future.

**Weak Producers (Horizontal) Coordination:** It is further indicated that most of the benefits from vegetable production go to traders instead of producers. Traders sell the vegetable products in other places for more than double the price they pay to producers. The producers and farmers' organizations are not well coordinated to take their products to better marketplaces that would enable them reap the advantage of economies of scale from their production by reducing transaction costs in marketing their products. 'It is impossible to say the market linkages created so far are not enough; market linkages should be created with hospitals, hotels and other organizations. Currently, most of the farmers sell their products to wholesaler traders. In such a case, it is the traders who benefit much more than the producers. The traders buy a kilo for 7 birr at local market since there is excess supply and sell it for 16 birr in other places.' The woreda market expert also indicated that the farmers' cooperatives unions should be strengthened and should support the farmers on the marketing side by transporting their products to other places to sell them at better prices, denying traders and brokers the opportunity of getting the lion's share of the benefit.

**Table 4: Estimated Average Return on Cultivation of Vegetables at HH Level**

S/N	Product Type	Land Cultivated by a HH (Ha)	Yield (Qt)	Average Price (Birr/Qt)	Total Revenue	Estimated Cost of Production	Estimated Profit
1	Tomato	0.25	50	850	42,500	14,950	27,550
2	Potato	0.25	45	700	31,500	13,000	18,500
3	Onion	0.125	20	1050	21,000	9,000	12,000

Source: Woreda Office of Agriculture (WOA)

## Box 2: Vegetable production case study

Mr. A is the head of a household living in M/Megelta kebele of Ahferom woreda. His family has graduated from PSNP and now is on an improving livelihood trajectory. He explained the benefit that the HH gained working on vegetable production as follows. The HH received a loan of 11,000 birr from REST in 2010 and bought a motor pump for irrigation. 'After purchasing the water pump, I have started irrigation on a piece of land and planted onion, tomatoes, garlic, cabbage, beetroot and salad,' says A. From the vegetable production, he was able to diversify his assets and bought different livestock. 'After utilizing the water pump loan, I bought 2 oxen, cows, goats and a donkey. With the oxen I plough my land; I get milk from the cows and use my donkey for transporting my products to town.'

He indicated that the credit package was good, and helped him to improve the life of his household. He has already paid it back without difficulty. 'The type of loan was so good. It helped me to work and get better production of crops which also improved my life.'

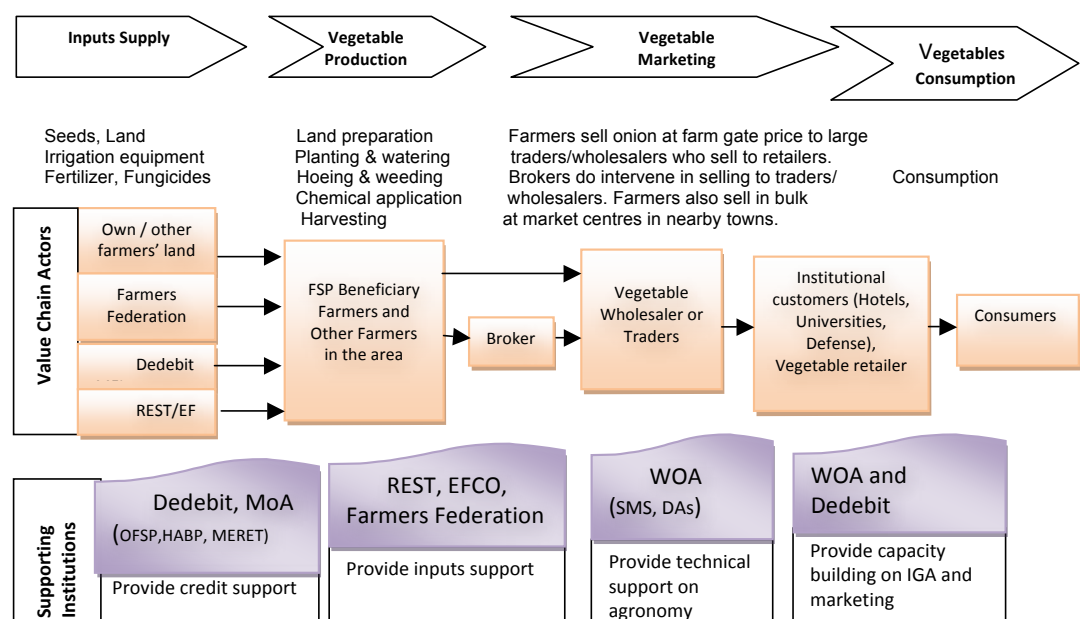
He explained the extension and marketing support he gets from DAs, the Kebele, the Woreda and farmers' cooperatives as follows: 'I get technical advice, training and received follow up from the DAs on my crops in terms of sowing and harvesting. The Kebele encourages me and my friends by providing prizes for better performance. I am a potential candidate for my best performance for this year. I know I am better and I live in a better house, use fertilizer and get better production and I have shared my experience with others. The Woreda provides me with market information. Merchants are frequently coming to us to buy our products. The Woreda has helped us to organize our cooperatives to get better market for our crops. The cooperatives also provided us improved seeds and fertilizer in cash and credit.'

**Quality Assurance and Value Addition:** There are no quality improving facilities like preservation or other services for vegetables in the area. Even though substantial quantities of vegetable products are supplied to the market in this woreda and other woredas in the region, there are no value addition undertakings implemented. No preservation or processing activities take place in the woreda, at least at the visible level. Value addition activities could solve the problem of seasonal price variations and make it possible to easily sell the processed products in markets in other places, as well as allowing products to last longer under preservation.

## 3.2.4 Value Chain Analysis of Beekeeping (S/St/Emba<sup>7</sup>)

Beekeeping and honey production are the most common economic activities practiced by households in the highland woredas of Tigray Region. As a result, bee colony production and honey products are the most important sources of livelihood for many farmers, including the FSP beneficiary HHs in the area. The farmers use both modern and traditional beehives for

Figure 12: Model for Vegetables Value Chain Analysis



Source: Adapted from GTZ Valuelink Manual (2008)

honey production. Beehives and accessories (wax, bee veil, excluder, glove and smoker) are supplied to the farmers by the WOA input supply unit and also by REST. Bee colonies (including the queen) are supplied to the local market by farmers in the surrounding areas. The farmers buy these inputs with the support of OFSP/HABP credit and other services.

Information obtained from the key informants and community FGD indicates that there is no problem of supply of beehives and accessories, except for wax, which is not adequately available due to a shortage of supply at the regional level. However, there is a shortage in the supply of bee colonies supplied to the market by local farmers, as a result of which farmers have started to adapt the splitting method, in which one bee colony is divided into two or more hives. In most cases, farmers start honey production with the traditional beehive and gradually switch to modern beehives as their production capacity increases. The modern beehive is more durable, serving for more than ten years, and has better production capacity, more than double that of the traditional beehive.

The farmers produce honey three times a year in most cases; it takes three months for one production season, on average. Production of honey has been improving in the woreda, reaching 1,115.75 tons in 2010/11 from 54.33 tons in 2006/07. This significant improvement was achieved as a result of increased awareness among farmers of the essence of honey, as well as improvement in input supply and technical support provided to the farmers. An average FSP beneficiary HH has three modern beehives and obtains 30kg of honey from each in one production season, which is equivalent to 270kg of honey per annum. The average price of a kilo of white honey at the local market is 130 birr. Thus, a farmer with three modern beehives can get a turnover of 35,100 birr annually, with operational expenses in the production year not exceeding 15,000 birr.

**Market Availability/Linkages:** There is a dependable market for honey in the area. The woreda key informants have indicated that there is no problem of market for honey and the seasonal price variation is also not significant. This is due to the good market linkages created and customer loyalty developed for honey products in the woreda, and in the region as a whole.

'Problem of market has not been an issue so far; since the woreda's honey is well known even in faraway places such as Addis Ababa, Mekele and even outside the country in Sudan. This testifies the fact that there is a good market linkage for the honey of our area. More or less we can say that demand marginally exceeds supply.' (WOA)

There are small local traders who collect honey from producers and sell it to big traders, who in turn sell the honey in distant markets, including exporting it to Europe (Italy, Holland) and Sudan. There are also cooperatives of

honey producers that collect honey from their members and sell it to other places, including Mekele and Addis Ababa, at better prices.

**Quality Standards:** The woreda key informants explained that at one time there was a quality problem in honey production. The quality was so bad that the honey processing factory, Dimma, refused to buy the honey supplied from the woreda. It was the local collectors that caused this quality problem by mixing honey with other products. The key informants indicated that this has been solved by actions taken by WOA in collaboration with other relevant institutions, and awareness raising activities carried out with the community on the harmful effects of adulteration.

'Quality was a big problem in the past. But nowadays this has been minimized, as measures were taken on individuals that created the problem. Many individuals were taken to prison for mixing other things with honey. Measures were taken through the action of experts from this office and the policemen and the action has been reduced significantly. We have experts from the Input Supply Unit who work on quality control and experts test the products supplied to the market on market days for quality control. Those who create the quality problem in most cases are the local collectors, not the producers; they collect the honey from the producers and they take it to other markets adding other substances.' (WOA)

However, the key informants said that no quality testing equipment is available in the woreda or in the region and this has become a hindrance to precise quality determination. Quality experts are forced to determine the quality of honey at the market merely by looking at the honey with the naked eye. They are not allowed to touch the honey with their hands, as it is an unhygienic practice. The woreda key informants have further indicated that the Farmers' Union is planning to buy a quality detecting apparatus for 2005 EC with the support of World Vision Ethiopia. It is hoped the purchase of the apparatus will encourage Dimma Honey Factory to resume buying honey from the local producers.

**Value Addition:** The value addition practice in the area is one of the factors that created favourable conditions for the producers to get a better price for their product. The honey processing factory Dimma, in Adgirat town 60km away from the woreda, collects honey from the around the region and supplies processed honey to domestic and foreign markets.

## 4. Conclusion and Recommendation

### 4.1. Conclusions

#### 4.1.1. Market Conditions



- Government extension services, services provided by farmers' cooperatives, and the support of local development and financial institutions and NGOs have all been creating an enabling environment for farmers in getting access to various agricultural technologies and inputs. These supporters play vital roles in helping FSP beneficiary households enhance their production capacity, diversify products to help them meet their food needs, create assets, and graduate from FSP.
- However, various factors have been affecting farmers' access to various inputs. These include limitations in the right quality, sufficient amount and timely availability of some inputs; limited access to credit services, particularly in the Oromia woredas; the high cost of some inputs, particularly fertilizer; and limited access to infrastructure such as all-weather roads and services such as transportation. These constraining factors on inputs have negative impacts on the livelihood performance of smallholder farmers, particularly the poor FSP beneficiary HHs, and therefore affect the pace of their graduation.
- The market for various agricultural products (in terms of volume of supply and number of traders) has been growing over time as a result of improvements in various supply- and demand-side factors. On the supply side, improvements in agricultural extension services and in access to various improved agricultural technologies play a major role. Weather condition (particularly rainfall) is the other determinant factor in the supply of agricultural inputs, and this has appreciably improved in recent years, particularly in the study woredas of Tigray. The demand factors that have contributed to the growth of the market include an increase in demand for agricultural products and other goods at the national level; a simultaneous increase at the global level; growth in population; and government policies, notably the devaluation of the domestic currency.
- However, the participation of the poor PSNP/FSP beneficiaries in market supply is not straightforward, and the share of poor food insecure HHs in market supply of staple food crops in all of the study areas is negligible. An even larger number of PSNP beneficiaries, particularly in the study woredas of Oromia, stand on the other side of the market as buyers of staple food crops. However, PSNP beneficiary HHs have a significant share in the market supply of fattened animals, khat and groundnut in Fedis, and vegetable products and honey in both the study woredas of Tigray.
- The overall operation of the agricultural product market and farmers' participation in the market introduces some enabling and constraining factors to the graduation of PSNP/FSP beneficiary HHs.
- Marketplaces in nearby areas serve as alternative markets (with some market linkages), increasing the demand for agricultural products, and particularly those supplied by FSP beneficiary HHs. Relative improvements in access to infrastructures (like dry weather roads and electric power), financial services (in the Tigray woredas) and market information have supported the smallholder farmers, including the poor FSP beneficiary HHs, in market participation, thereby helping them improve their livelihood and expedite their graduation from FSP/PSNP.
- However, there are numerous constraining factors related to product marketing that continue to affect the livelihood potential of the poor FSP beneficiary HHs. The significant increase in the price of staple food crops in recent years is affecting the livelihood performance of most of the PSNP beneficiary HHs (particularly in the Oromia woredas), as they fill their food gaps during times of stress by buying food crops from the market.
- Furthermore, the high volatility and significant seasonal variation in prices of those products the FSP beneficiaries supply to the market has been affecting their earnings significantly. No adequate market linkages exist for the vegetables supplied by FSP beneficiary HHs to the market in the Tigray woredas and Z/ Dugda. The farmers' awareness of market orientation for their production of vegetables is very low. The market for fattened oxen in Fedis is also very seasonal; the demand for fattened oxen is concentrated around holidays, and the farmers do not have an adequate market throughout the year.
- Moreover, other market impediments prevent farmers from getting a fair price for their products. The collusion of traders in local markets, weak farmers' organization and the intervention of brokers and middlemen severely diminish farmers' returns from their products. Limitations in infrastructure (access to all-weather roads and power) and

other services (storage and transportation) have been identified as further constraining factors in product marketing.

#### 4.1.2. Value Chain Analysis

##### **Oxen Fattening (Fedis):**

- The farmers in Fedis Woreda have been getting significant returns from their production of fattened oxen. They are skilful in fattening bulls/oxen, preparing varieties of animal feed and looking after their animals' health. They also have access to all sorts of support services from the woreda SMS and DAs at the kebele level on fattening, choosing appropriate breeds, vet services and other forms of technical support. The prices of fattened oxen have also been increasing significantly, and some market linkages are emerging locally and abroad.
- However, the farmers are not making optimum use of their working capability, and hence are not reaping optimum returns from oxen fattening, due to various constraints. On the production side, farmers face constraints in access to credit services and shortage of animal feeds. On the marketing side, there are no reliable market linkages for fattened oxen lasting throughout the year. The intervention of brokers is also strong in determining the returns that the farmers get from the production of fattened oxen.
- There are also limitations to working on value addition and quality assurance. Despite the large supply of fattened oxen from the woreda and other surrounding woredas, there are no value additions that support the supply and demand sides of oxen fattening in the area. No market linkages are available for fattened oxen in the area; it is the live animal traders who buy them and sell them to abattoirs in other part of the country or to live animal exporters. There is no abattoir or meat processing or any agro-processing industry that adds value to the fattened oxen in the area. There is also no quality assurance service for oxen fattening at all in the area. Moreover, there is no institution that works on production of animal feeds.
- Overall, even though there is good animal fattening practices in the area and the poor farmers are benefiting from these, there are limitations in input supply (animal feed), supporting services (particularly credit supply) and market reliability (seasonality, role of brokers), and a constraining absence of value addition and quality assurance services.

##### **Vegetables (Onion & Tomato in Z/Dugda):**

- Farmers in Z/Dugda get access to inputs for vegetables (tomato and onion) production from farmers' cooperatives and WOA. The service provided by Meki Batu Farmers' Cooperative is paramount in providing various inputs to the farmers. The area is conducive for vegetable production, and farmers have irrigated land for vegetables. The problems that the smallholder farmers, particularly the poor FSP beneficiary HHs, have been facing are a lack of credit services to buy different inputs (particularly motor pumps) and the high cost of inputs like fertilizer. The result is that only a limited number of FSP beneficiary HHs are availing themselves of the potential of irrigated land to improve their livelihood.
- There are also various constraints on marketing of vegetables in the area. Even though the average price of vegetables has been increasing over time, seasonal variation in the price of vegetables due to lack of market orientation, storage facilities and means of preservation has been affecting the earnings of producers. The intervention of brokers, collusion of local traders and weak farmers' organizations have also constrained potential income from vegetable production by farmers in the area.
- Moreover, even though large amounts of vegetable products are produced in the woreda and other surrounding woredas, no value addition activities like vegetable processing factories exist in the area.
- The quality of vegetables produced in the area is also affected by the lack of farmer awareness on quality management and a shortage of storage and preservation facilities.

##### **Vegetables (Onion Tomato & Potato in Ahferom):**

- Vegetable production on small holdings is a very common agricultural activity in both of the study woredas of Tigray, a result of government policy, extension services and various supports provided to the farmers to ensure their food security and help them create assets to improve their livelihood. Various organizations, government agricultural offices, local development institutions, MFIs and farmers' cooperatives have been supporting the community technically and financially in getting access to various inputs to boost production. Thus, the production of vegetables in the area has been increasing over time.

- Farmers are getting support on the marketing side, creating market linkages with different institutions at different locations in the region. However, much remains to be done for farmers to get optimal benefits from their products.
- There are still limitations in access to inputs due to the high cost of some inputs, the high interest rate of credit, and quality problems in some inputs (i.e. motor pumps).
- Challenges on the marketing side are paramount, and these have been significantly affecting the producers. Large seasonal drops in the price of vegetables due to excess supply, lack of market orientation among farmers and inadequate market linkages are among the market impediments in the area.
- Moreover, no attempts have been made in improving quality or adding value in the production of vegetables, despite the high volume of this production in the area.
- Overall, production of vegetables has been helping smallholder farmers improve their food security and earn better income. However, limitations in marketing, quality management and value addition, as discussed above, have been affecting the earnings that farmers could be seeing from these products.
- There is a widespread market linkage for honey products with honey traders in different towns and cities in the region, other cities in the country, and even abroad in Europe and Sudan.
- The value addition work on honey products is also encouraging in the region. A honey processing factory has been established that collects honey products from the area and exports the processed products to international markets.
- However, there is a problem of managing product quality due to the lack of quality assurance devices in the area.
- Overall, the VCA of beekeeping indicates that there is a good start on honey production activities and farmers have been getting better returns from honey than from vegetable products. This has paramount significance for smallholder farmers in general, and especially for helping the poor FSP beneficiary HHs in earning better income to improve their livelihood, create assets and graduate from PSNP/FSP.

***Beekeeping (in S/St/Emba):***

- Like vegetable production, beekeeping is a common livelihood activity for farmers in the study woredas of Tigray. In fact, beekeeping has been emerging as the main source of livelihood here and has been supporting the community in creating assets.
- There is better access to inputs for apiculture, though some accessories like wax and bee colonies are not abundantly found in the area. Government offices and other institutions provide ample support to farmers in getting the required inputs, and farmers, for their part, have started supplying bee colonies to the local market.
- There is a reliable market for honey products, as commendable efforts have been made in maintaining honey quality and brand along with market linkages and value addition activities in the area. As a result, there is a good market for honey and the price has been consistently rising.

## 4.2. Recommendations

The Government of Ethiopia has been implementing various FSP to support chronically food insecure HHs with the objective of achieving food security in a sustainable manner. The FSP also aim to graduate these beneficiary HHs as an end goal. The government has given top priority to filling food gaps and asset stabilization and creation as driving forces that help HHs graduate successfully through the various components of the FSP (PSNP, OFSP/HABP and CCI). Many challenges and opportunities have been encountered during the process of programme implementation. This paper is devoted to the market conditions and VCA as enabling and constraining factors of graduation. Based on the above findings and conclusions, we recommend the following points to help achieve the programme targets effectively in the future.

- It is important to improve access to inputs for FSP beneficiaries. The beneficiaries have to get the right quality (varieties/breeds) at the right time and at a fair price. This could be made possible by improving access to credit services, providing sufficient amounts with fair interest rates on a demand basis; as well as by strengthening institutions that provide supporting services, like rural financial institutions (MFIs, RuSACCOs and others) and farmers' organizations (cooperatives and unions).

- Likewise, market linkages should be given top priority. Without strong market linkages, the programme cannot succeed and livelihood earnings of the smallholding farmers, particularly the poor FSP beneficiary HHs, will not improve. Concerned organizations (government and other partner institutions) have to work hard to strengthen markets for staple food crops by creating adequate market linkages for products/services promoted by FSP. Concerted effort must be made to avoid significant seasonal price fluctuations, and farmers have to be well informed on market orientation.
- It is also vital to give attention to other market impediments like the intervention of middlemen and collusion of local traders by strengthening farmers' organizations and providing sufficient market information. It is also possible to turn the challenge of brokers into an opportunity by organizing them under a legal entity, building their capacity and making them serve as marketing channel operators. Great importance should also be attached to improvement of basic infrastructure (roads, power) and services (storages, transportation and others).
- Concerned bodies should work relentlessly to advance product quality management. Farmers have to foster skills in quality management, and they should also have access to quality management facilities like preservation and quality assurance devices.
- Efforts should be made to realize the essence of value addition for products promoted by FSP. There is little doubt that value addition will solve many of the existing problems of producers, and eventually they will reap the rewards of their hard work.
- Implementing these and other supporting initiatives could help motivate the poor FSP/PSNP beneficiary HHs to work more, diversify their products, realize a high rate of return, and easily graduate from the programme.

#### END NOTES

- <sup>1</sup> Four woredas (districts) and eight communities where the graduation study has been carried out by FAC and Dadimos Development Consultants.
- <sup>2</sup> OFSP was a credit package provided to PSNP beneficiaries during the first phase of FSP (2006-2010) by different bodies, i.e. Government, NGOs and Multilateral organizations such as WB. The provision of packages under this programme is supply driven and does not have clear implementation guidelines.

- <sup>3</sup> HABP is the credit package that evolved from OFSP and began implementation in the second phase of FSP (2010 onwards). It is demand driven and has its own guidelines/manual, and is implemented in an organized form, mainly through government institutions.
- <sup>4</sup> ECX is a parastatal federal organisation that performs marketing of selected cereals and grains (particularly coffee and sesame).
- <sup>5</sup> Many farmers work the land of other farmers through sharecropping, sharing the benefit equally after taking out the cost of production. This is widely practised as many farmers in the area, particularly FSP beneficiary HHs, are landless.
- <sup>6</sup> The region's Food Security Office has long tradition of working with Dedebit MFI, and the FSP credit packages are provided through Dedebit MFI.
- <sup>7</sup> The value chain of honey product in Ahferom, another study woreda in Tigray, is almost similar to the case in S/St/Emba.

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