Market Assessment and Value Chain Analysis in Benishangul Gumuz Regional State, Ethiopia

Final Report

By

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Acronyms

ADLI	Agricultural Development Led Industrialization Policy
ARD	Agriculture and Rural Development
BGR	Benishangul Gumuz Region
BGNRS	Benishangul-Gumuz National Regional State
BG	Benishangul Gumuz
BG FSEG	Benishagul Gumz Food Security and Economic Growth
BPR	Business Process Re-engineering
CBE	Commercial Bank of Ethiopia
CSO	Civil Society Organization
CBOs	Community Based Organizations
CIDA	Canadian International Development Agency
CSA	Central Statistical Authority
CIF	Cost Insurance Fright
DAs	Development Agents
FSEG	Food Security and Economic Growth
FGD	Focus Group Discussion
GDP	Gross Domestic Product
Ha	Hectare
HH	Household
IGAs	Income Generating Activities
Kg	Kilogram
MFIs	Micro Finance Institutions
MTDP	Market Towns Development Project
NRM	Natural Resource Management
NBE	National Bank of Ethiopia
NGOs	Non Governmental Organization
RED/FS	Rural Economic Development and Food Security
PNRM	Participatory Natural Resource Mapping
PASDEP	Plan for Accelerated and Sustainable Development to End Poverty
Qt	Quintal (100 kg)
SNNPR	Southern Nations Nationalities Peoples Region
SDPRP -	Sustainable Development and Poverty Reduction
ATVET	Agricultural Technical Vocational Education and Training
VAT	Value Added Tax

Executive Summary

Despite its importance, the agricultural sector in Benishangul Gumuz region faces different problems and challenges such as low level of use of improved agricultural technologies, traditional methods of production, natural resources degradation, livestock disease, poor infrastructure and lack of sustainable market outlet. To reverse this situation and contribute to the BG regional state's objective of improving food security and to bring about economic growth, CIDA has provided funds for implementing the BG FSEG program with the expected outcomes of improved food security and increased income. Thus, this market assessment and value chain analysis was commissioned by CHF to SID Consult. The study aims at identifying potential commodities for value chain development and income generation along with identifying associated constraints and opportunities for improvement. To achieve the specified objectives of the study, different methods of data collection such as key informants interview, focus group discussions, field observations and review of secondary data were used. The key findings of the study are summarized below.

Key sub sectors in the area: the economies of the project area are based mainly on agriculture which includes crop and livestock production. Crop production and livestock production account for about 41% and 26% of the household income, respectively. Food crops (including maize, sorghum, haricot beans, okra, and finger millet), oil crops (sesame, Niger seed and groundnuts), pulses (mainly haricot beans and soya beans), some vegetables, fruits (mainly mango) and root crops are produced in the project area. Livestock production includes goats, sheep, poultry, cattle and donkey. Fishing exists but limited in the project woredas to woredas where rivers cross the woredas. Other economic sub-sectors include mining (contributing about 22% of the HH income for Kurmuk, Sherkole, Sirba Abay and Guba woredas); non-timber forest products such as incense and honey production; and non-farm sectors such as trade/petty trading. Bamboo is an important resource for construction purpose. Its role as income generation activity is limited due to its presence in remote areas making access difficult. This resource is somehow endangered and subject to continued degradation.

Potential commodities for value chain development and income generation: potential commodity identification for value chain development and income generation was done based on the economic importance of the commodities, their ecological and social suitability, farmers' objectives to produce the products for market (marketability), and potential for value addition and market linkage. Ecological suitability has been expressed in terms of adaptation of the commodity to the area while the social suitability was expressed in terms of the communities' willingness to engage in the production of the product. These parameters were given score ranging from 1 (the lowest) to 5 (the highest) for each of the commodities and the average score was used to select the commodities for value chain. The result shows that Mango, oil seeds, incense and honey scored an average value of 4-5 and hence selected for value chain intervention. Mango value chain development was identified for Kurmuk while honey value chain development was selected for five woredas: Belojiganfoy, Sirba Abay, Kurmuk, Dibate and Mandura. Incense was identified for four woredas: Sirba Abay, Kurmuk, Sherkole and Guba while oil seed is suitable in all of the seven project woredas. Food crops production, livestock

production, and off-farm activities which include petty trade, bamboo products, mining, and fishing could be considered for income generation.

Opportunities for value chain development and income generation: Key opportunities that contribute to the value chain development of selected commodities include availability of ample land and good climate for production; expansion of road infrastructure especially road connecting the woredas to the main market centers and road connecting to the Sudan; good vegetation cover and ample bee colonies as well as existence of raw materials for beehives construction; experiences of production for the selected value chain products; existence of good market demand for the products; high interest of farmers to participate in value chain products; and existence of exporters currently interested to involve in the processing and/ or marketing of the value chain products.

Likewise, opportunities identified for income generation include existence of land and conducive climatic condition for crop and livestock production; good market for small ruminants in the local markets and neighboring Sudan; road infrastructure connecting the woredas to regional town and to the Sudan; existence of limited skill in income generation activities.

Challenges for value chain development and income generation: Challenges that need to be addressed to realize the objectives of the food security and income generation activities include poor working culture and agricultural practice in the area; lack of skill in modern agricultural practices; poor quality of products and low prices; low productivity and production; no market information system for effective agricultural marketing; limited access to market especially between kebele and woreda; lack of processing, preservation and transportation facilities for the products; capital shortage and lack of access to credit; water shortage during dry season; wild fire, and pests and diseases.

Key recommendations for potential commodities selected for value chain development and income generation:

Value chain development:

- **Honey**: Conduct Participatory Natural Resource Mapping (PNRM) to identify forest area that can serve as area closure; Increase community awareness and introduce bylaws to protect the forest from burning; Skill building in modern beekeeping (queen rearing, utilization of bee equipments, hives making, bee management, honey processing and packing); Provide seed money/credit to initiate modern beekeeping; Establish honey processing and marketing cooperative; provide seed money; training on entrepreneurship and business development; link with the market; provision of water supply; support private bee colony multiplication and marketing for income generation; and facilitate exposure visits.

- **Oil seeds**: Supply improved inputs (seed, draught power, and agronomic practices) to increase production and productivity; establish marketing cooperatives at kebele level and union at woreda level and capacitate them by providing them with seed money/credit and skill building; link them with processors and exporters; establish market information system

and build the capacity of the region as well as the woreda to effectively provide market information to the community; and establish market center in Guba woreda.

- **Mango**: Establish mango processing and marketing cooperative; provide material, financial and skill building to enable processing and marketing; improve the juice quantity of local mango through grafting without reducing the mango quality. Support development of private nursery which can serve as income generation; and facilitate exposure visit.

- **Incense**: Community mobilization and behavioral change on work culture and entrepreneurship; conduct Participatory Natural Resource Mapping (PNRM) to identify the existing and potential incense area. Develop community action plan to manage and benefit from incense plants; Increase community awareness and introduce bylaws to protect the incense trees; expand the plant population through plantation; skill building in incense tree management and harvesting; establish linkage with exporters; facilitate exposure visit.

Income generation:

- **Small ruminants/ poultry production and marketing**: Provide revolving fund for women to rear and market goats; training on goats husbandry; agribusiness skill development to promote fattening; improve veterinary services; and facilitate exposure visit.

- **Non-farm income IGAs**: Provide revolving fund for petty trade, grain trade, etc.; technical support on market information system: establish the system and make it functional at all levels. This is also valid for all income generation and value chain interventions; provide training to improve the quality of the product; and establish market linkage.

- **Crop production**: Provide revolving fund for accessing oxen and other inputs and train farmers on how to plough. This requires provision of adequate veterinary services to reduce the impacts of tsetse fly; alternatively, organize/strengthen farmers cooperatives, provide seed money to purchase small/medium tractor to rent to farmers; train farmers on improved agronomic practices; mobilize the community to improve their working culture by involving CBOs; introduce early maturing and striga resistant varieties suitable for the area e.g. onion, papaya, sorghum, sweet potatoes; and facilitate exposure visit.

- **Improve livestock production productivity**: livestock feed management to mitigate feed shortage during dry season; enrichment planting of fodder plants; introduction of tsetse resistant breeds like Sheko and Abigar cattle; training on livestock health management; improve veterinary service; promote livestock product utilization to improve income and nutrition; provide credit facility to purchase livestock; and facilitate exposure visit.

- **Fishery**: Skill building on fishing and fish management; provide fishing material; introduce fish drying technique; and link to market.

1. Introduction

1.1 Background

More than 85% of the Ethiopian population, residing in the rural area, is engaged in agricultural production as a major means of livelihood. Agriculture, which accounts for about 47% of GDP, 80% of export earnings and 85% of employment is the backbone of the economy. The industrial sector which accounted for only 12% of GDP in 2004 comprises making of textiles, food processing, cement manufacturing, construction and hydroelectric power generation, among others.

The main agricultural commodities produced in the country include coffee, cereals, pulses, oilseeds, "`khat", meat, honey, hides and skins. Agricultural export accounted for 88.3% in 2007/08 (MoARD, 2008)[1]. Coffee is particularly important in the country's economy having accounted for close to 35% of Ethiopia's foreign exchange earnings in 2007/09. Other major agricultural exports are oilseeds (14.8%), pulses (9.3%), hides and skins, and the traditional "khat".

Despite its importance, agriculture continues to face a number of problems and challenges. The major ones are adverse climatic conditions; lack of appropriate land use system resulting in soil and other natural resources degradation; limited use of improved agricultural technologies; the predominance of subsistence agriculture and lack and/or absence of business oriented agricultural production system; limited or no access to market facilities resulting in low participation of the smallholder farmers in value chain or value addition of their produces.

Benishangul Gumuz Region (BGR) is found in the worst situation in the context of the above problems. Despite high potential for agricultural production, several problems hinder economic development and food security in the region. Low level of use of improved agricultural technologies, traditional methods of production, natural resources degradation, livestock disease, poor infrastructure and lack of sustainable market outlet are among the key problems. To reverse this situation and re-instate agriculture as an engine for economic development calls for the development of appropriate human resources, provision of improved agricultural inputs; adaptation/application of appropriate technologies; and improvement and expansion of economic infrastructures. Securing accelerated and sustained development of the agricultural sector through the transformation of the subsistence agriculture to market- oriented development will also guarantee the sector's contribution to the attainment of the millennium development goals. To realize this, the government designed and put in place multitude of policies. Agriculture related policy instruments revolve around a major effort to support the intensification of marketable farm products -both for domestic and export markets, and by both small and large farmers. Elements of the strategy include the shift to higher-valued crops, promoting high-value export crops with niche markets, and better integrating farmers with markets -both locally and globally, a focus on selected high-potential areas through growth corridors, facilitating the

[1] Export statistics of major agricultural commodities for the 2000 EC (2007/2008)

commercialization of agriculture, supporting the development of large-scale commercial agriculture where it is feasible.

In order to contribute to the BGR's objective of food security and bring about economic growth, the Canadian International Development Agency (CIDA) has provided funds for implementing the Benishangul-Gumuz Food Security and Economic Growth (FSEG) Project. The project will be implemented in seven woredas, namely Belo Jiganfoy, Sirba Abay, Kurmuk, Sherkole, Guba, Mandura and Dibate during the next 5 years. By addressing root causes and structural factors of poverty, the FSEG project will improve the socioeconomic and environmental conditions in BGR by harnessing the potential of the poor, increasing their productive capacity, and reducing barriers limiting their participation in social and economic activities. The project has two major outcomes:

1. Improved agricultural production and productivity in the 7 Woredas; and
2. Increased and sustained income within the community (especially among female) in the 7 Woredas.

This market assessment and value chain analysis was commissioned to enable understanding of the potentials of the project woredas to engage in market-led development. The study aims at identifying potential commodities for market development so as to enhance the communities' participation in value chain. The study was commissioned by CHF to SID Consult-Support Integrated Development. Dr. Bezabih Emana represented the firm and is responsible for this report.

1.2 Objectives

i) To make market assessment and identify potential commodities for income generation and value chain in the select project woredas of BGR;
ii) To identify the constraints and opportunities in each of the value chains;
iii) To map out the major supply chains and actors in the selected commodities for value chain;
iv) Assess the micro-finance conditions and give recommendations;
v) To identify potential activities for income generation and value chain to be included in the region's Food Security and Economic Growth project implementation plan.

1.3 Methodology

1.3.1 The study team

The study used a participatory research methodology. Field level data collection was conducted in all of the seven project woredas during March 22 to April 20, 2010. A team of experts participated in the data collection process: Dr. Bezabih Emana (SID Consult) as a team leader, Damte Dagnew (CHF), Teka Birhanu (BGR Agri. and Rural Development Bureau), Geremew Argeta (BGR Cooperatives Promotion Agency) and delegates of Consortium members implementing the project in the respective woredas participated in the assessment.

1.3.2 Data collection

Review of Secondary Data/Documents: The assessment started with review of project document, different reports about BGR, market study reports in the region. Secondary data were collected from the regional bureaus in the region and the selected woredas. Secondary data on microfinance in the region was collected from The Benishangul-Gumuz Micro Finance Share Co. Export data were collected from the Ethiopian Revenue and Customs Authority.

Key Informants Interview: The data collection was made at institution level (region, woreda sector offices) and community level. A total of 104 persons from different institutions and 423 persons from the communities in the seven woredas participated in providing information (Table 1). Government institutions contacted at different levels of administration include the regional Agriculture and Rural Development Bureau, Cooperatives Promotion Agency, Trade and Industry, Agricultural Research Center, Rural Technology Development Center and Road Authority, Technical and Vocational Training and Education Center. At woreda level, the administration offices facilitated the woreda level discussions made with sector partners. The non-government institutions include trader in the respective towns, Wollega University, investors/incense collectors, local NGOs like Boro Shinasha Development Association, Benishangul Rehabilitation and Development Association and Tikuret Le Gumuz Lelimat Mahiber.

Focus Groups Discussion: In order to select kebeles for the data collection, mapping of the kebeles available in the respective weredas were made to identify two approximately homogenous groups. The grouping was made in terms of similarities in means of livelihood, market access and ethnic compositions. In Guba and Sherkole, the kebeles are relatively homogenous while in the other kebeles, two groups were formed. Out of the identified group, one kebele was selected for the FGD. In each of the kebeles/community level data collection, male and female groups composed of different age and ethnic groups were formed for the FGD. As shown in Table 1, 49% of the FGD participants were female.

Checklist was prepared to guide focus group discussions and the key informants' interview (See Annex 1). The checklist aimed at generating relevant information on the potential commodities and agricultural enterprises for value chain and income generation, the existing market situation and linkages, market institutions and facilities, marketing problems and possible solutions,

institutional capacity for market led development, credit facilities and constraints. The questions were gender mainstreamed.

Table 1: Number of participants of FGDs and Key Informants Interview

Woreda	***Kebele***	***Community***		***Total***	**% of women**	**Institutions**		
		Male	***Female***			**Government**	**Non-Government/ private**	**Total**
Balojiganfoy	2	43	44	87	51	16	7	23
Sirba Abay	2	26	13	39	33	7	3	10
Kurmuk	2	30	19	49	39	2	2	4
Sherkole	1	18	14	32	44	6	2	8
Guba	1	21	52	73	71	4	2	6
Dibate	2	39	35	74	47	7	2	9
Mandura	2	37	32	69	46	6	2	8
Total in the 7 woredas	**12**	**214**	**209**	**423**	*49*	*48*	*20*	*68*
Nekemte						1	4	5
Assosa						18	5	23
Chagni							3	3
Bahir Dar						1	3	4
Arjo							1	1
Total outside the woredas						20	16	36
Total institutions						**68**	**36**	**104**

Photo 4: Examples of focus group discussions with the community members

Field Observation: The assessment team made visual observation of the infrastructure in the regional Bureaus of Agriculture and Rural Development regarding the existing capacity to support market led development through provision of technical support for effective market information system and linkages. The observation shows unavailability of market information collection, analysis and dissemination system in the region. This situation was worse at the woreda level due to lack of institution responsible for market information management and distribution. In each of the woredas visited, the visual observation of the potentials indicated by the woreda staff and the community was made for preliminary verification. Some typical visits were made to the Blue Nile in Sirba Abay to observe the fishing area and the extent of fishing; Forest cover especially of Bamboo plants in the area which is thinly distributed in the areas assumed to have high bamboo cover, visit to Beles river to observe fishing situation in Guba (which was also meager) and incense trees in Kurmuk, Shirkole and Guba. Incense processing warehouse in Chagni, market centers in Chagni, Assosa and Nekemte were also visited.

1.3.3 Data analysis

The information and data gathered from different sources were triangulated and analyzed to be basis for this report. The quantitative data were presented in tabular or graphic forms while quantitative information incorporated in the report to support the quantitative data.

1.3.4 Organization of the report

The report is organized into ten sections. Section 1 introduced the background, objectives and the methodology. The second section briefly introduces the Benishangul-Gumuz region while section three provides a description of the project woredas in terms of population that will benefit from the project, the analysis of economic sectors so as to enable selection of the commodities suitable for value chain and income generation and the market situation in the woredas. Sections 4-7 deal with analysis of value chains for selected commodities, namely oilseeds, honey, Gums/incense and mango respectively while section eight assesses the microfinance situation of the region. Assessment of institutional and regulatory environment was discussed in section nine. Section ten provides summary of the findings and recommendations for project intervention in a concise manner.

1.3.5 Limitations

The major limitation of the study is lack of detailed demand analysis. This should be done along a detailed mapping of the value chain to estimate the demand for the commodities and conditions attached to the products. Product certification requirement is needed especially if some of the commodities are to be registered as a regional specialty. The mitigation strategies and risk management strategy was not covered in this study. There has been some inconsistency in regional and woreda level data which emanated from lack of systematic data management system. We attempted show the source of data used in this report. But institutional capacity problems need to be addressed. Economic empowering women requires in depth gender profile

study. This assessment tried to identify only the activities which are done by women and suitable for targeting women. The actual targeting can depend on specific situations of women in different places.

2. Brief Description Benishangul Gumuze Regional State

2.1 Geographic Location and Area

The Benishangul-Gumuz National Regional State (BGNRS) was established in 1994 by the new Constitution of Ethiopia, which created a federal system of governance with 9 regional states and two city administrations. BGNRS is located in the Western part of the country. It stretches along the Sudanese border between 09.17^0 and 12.06^0 N. The Western and Eastern limits are given by the longitudes 34.10^0 and 37.04^0E, respectively. The Amhara, Oromiya and Gambella National Regional States are bordering the region in the North, East and South respectively.

The Region is divided by the Blue Nile in to two parts. The Northern part – Metekel Zone comprises an area of 26, 560 Km^2 , the Southern part – Assosa Zone, Kemashi Zone and Mao-Komo Special Woreda – occupies 23,820 Km^2. The Region is administratively divided into 3 zones 19 woredas and 1 special woreda.

The total area of the Region is estimated to be about 50,380Km2. According to the information received from the Regional Bureau of Agriculture, the total area of arable land in the region accounts to about 911,877 hectares of land is suitable for farming of which only 26% are used. Furthermore, it is indicated that about 189, 534 hectares of land are potential for irrigation that is 24.24% of the irrigable land.

The major rivers within the BGR are Abay River and its tributaries, Beles, Dabus, Dhidhsa, Angar and Dindir. BGR is crossed by the Blue Nile, which enters the region from the east, turning then to the north-west and leaving it between Siriba Abay and Guba Woreda towards the Sudan. The rivers provide some potential for fishing and irrigation. The region has potentially rich surface and sub surface water resources. However little was done to utilize these resources.

Due to its topographic feature, BGR is one of the regions in the country where relatively less soil erosion has taken place. However, due to deforestation of natural vegetations during the last few decades, erosion of top soils is becoming a major problem. According to the Woody Biomass inventory Map, the soil loss rate of the region, ranges from less than 3.125 to equal to 200 tons/ha/year. The degradation of the environment has severe repercussions for rural populations, lowering household income, damaging the agricultural economy, damaging the environment and hindering the general development of the region.

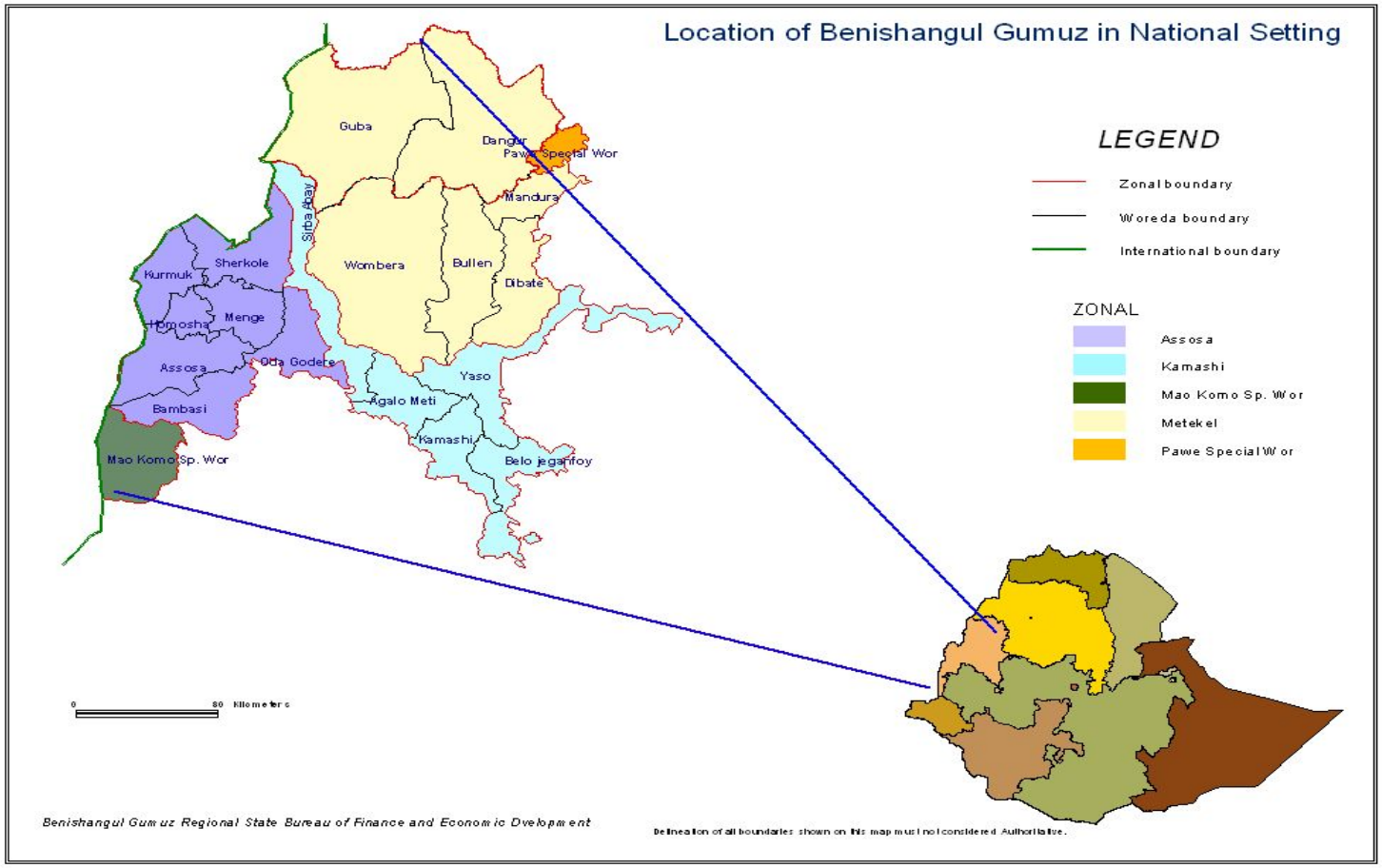


Figure 1: Map of the project area
Source: New Atlas of BG Regional State (BG BoFED, 2007)

2.2 Agro-ecology

BGR has different agro-ecological zones. According to the new Atals of the region (BG BoFED, 2007)2, the region's elevation ranges from 580 to 2,731 masl. The highest peak is the Belaya plateau in Dangur Woreda, the lowest where the Blue Nile crosses the Ethio-Sudanese border. The climate of the region is characterized by a mono-modal rainfall pattern (i.e. a single rainfall maximum per year). The duration of the rainy season decreases from south to north. . Generally the region's climate is grouped in to three zones: Kolla, woynadega and dega. The major part of the region – about 75% - is lowlands (Kolla) with an altitude below 1500 masl. It is hot for most of the year with average temperature ranging from >27.5 ○ c. The annual rainfall is about 860 mm. The midland (Woynadega) zone accounts for 24% of the region with an altitude of 1,500-2,500 masl while the Dega zone accounts for only 1 % of the area of the region and lies in an altitude above 2,500 masl.

The length of growing period is the period when the available temperature and water permit crop growth in the area. It is determined by mean annual rainfall, temperature and altitude. An area of South of the Abay river has LGP between 180 to 211 days and North of the Abay LGP ranging between 168 and 190 days. Western parts Metekel and the eastern parts of Kamashi administrative zones have LGP at average of 160 days while Assosa Zone has LGP ranging from 160 -180 days.

The region is one of the high potential resource areas in the lowland regions located in the west and northwestern part of the country, which is relatively less developed.

2.3 The people

According to the population census of 2007, the total population of the region is 670,847 of which 50.7% are male (CSA, 2009). The population has been growing at a rate of 3% per annum during 1994 to 2007 which is higher than the national population growth rate of 2.6% per annum. The population density is low with an average of 12.1 per km^2.

According to the CSA (2008), the region is highly characterized by its ethnic diversity. The major indigenous ethnic groups in the region include Berta (25.9%), Gumuz (21.11%), Shinasha (7.59%), Mao (1.9%), Komo (0.96%), and others indigenous people. The other ethnic groups such as the Amhara (2.25%), Oromo (13.32%), Agew (4.24%), Tigre (0.68%), and others form part of the population of the region.

[2] *Regional Atlas of Benishangul Gumuz Region, Bureau of Finance and Economic Development (BG BoFED, 2007). New BG Regional Atlas1, Assosa.*

Diverse as the ethnic groups is also diverse cultural and traditions governing the lives of these people. The indigenous community has the tradition of social support system in the form of labour for agricultural production and construction, contribution of food, beverages and money on special events of social celebrations or mornings. The work and saving culture of these people severely affected their capacity to accumulate capital and improve their welfare.

2.4 Economic situations

Agriculture

Benishagul Gumz region is endowed with various resources that if properly utilized can significantly contribute to the economic development of the country. Some of the most important ones include fertile land suitable for high value crops, livestock, apiculture, fishery, minerals like gold and marble, economically important trees like bamboo and incense.

The region has a large area of land suitable for both staple and high value crop production. Only 26% of the land suitable for farming utilized so far. Furthermore, it has significant potential for irrigation. Also, the region has suitable agro-ecology and adequate rainfall to improve farm production and productivity. The annual rainfall is high and ranges from 800-1200mm, and it extends from May to October, although there is a tendency to be erratic during the recent years.

Livestock production is important means of livelihood in the region next to crop production. It is important sources of food, cash income, and assets to buffer against shocks. According to the 2005/06 CSA agricultural sample survey, the Region had 350,399 cattle, 314,277 goats, 102,289 sheep, and 961,196 poultry. Goats are the single most important livestock raised by the indigenous ethnic groups of the area. Though the overall number livestock in the region seems small as compared to the national figure (only 0.01% of the total herd of the rangelands), the region has significant potential for livestock production. It has untapped potential for grazing. As anecdotal evidences on regional land use indicates, out of 249,856 total land area, grazing land accounts for 3,816 (1.5%). However, this potential is seriously constrained due to prevalence of various diseases in the area. Trypanosomaisis is the major threat to livestock production in the region. According to the ethno-veterinary survey of June 2004, the direct mortality of animals was estimated to be 46% of the cattle herd and 38% of the sheep and goat flocks per annum. The cattle rearing practice is also traditional and need improvement.

Chicken production is widely practiced in the region. Chicken meat has high nutritional value, affordable for investment by poor and easy to manage compared to raising other livestock. Chickens are that main sources of food and income to the majority of the poor. It is highly important to modernize its production system injecting small amount of human and financial resources to its production (Oxfam Canada, 2004).

Apiculture

Apiculture is another economically important activity in the region. Settlers commonly involve in honey production using traditional beehives. On the other hand, forest honey is collected by the indigenous people from hollow trunks of big trees and stone caves along riverbanks in areas not affected by external encroachment. The fact that the region is endowed with favorable climate and large vegetation cover makes it suitable for apiculture. About 223,980ha or 89% of the total land of the region is covered with vegetation. According to Oxfam Canada's study in 2007, there were 166,736 traditional and 682 modern beehives engaged in the region. According to the regional Bureau of Agriculture and Rural Development, there were 37,087 beehives in the seven project woredas in 2009. More work should be done to take advantage of the vegetative cover of the region, which is conducive for honey production.

Minerals

Further, the region is endowed with important mineral resources. According to studies conducted in some areas, it is proved that the region has potential for gold and base metals such as zinc, lead, copper, and considerable reserves of marble, silica and clay soil. Gold and marble are the most significant mineral resources of the region. Gold mining is practiced among the indigenous community as income generating activity. It is mainly for subsistence and to meet immediate household needs. According to the information received from the Bureau of Water, Mines and Energy, the potential gold mining areas of the region are indicated in Table 2.

Table 2: Location of gold resource by woreda and kebele

Zone	***Woreda***	**Kebele**	**Rivers used**
Metekel	Dangur	Ditchigir	Beles
	Mandura	Debuh Giorgis	Laheh
	Dibate	Albasa; Galisa; Gofen Demben; Zigehe	Tiba; Berbere Zuria; Shar
	Guba	Arenga; Fangula; BabZinda	Abay; Belese
	Bulen	Gitchi Dugi; Ilgod	Kissa; Gishen
	Wonbera	Dikok; Ajoba; Wabo; Menjeda; Baniyame; Kisseya; Atshaga; Jelekota; Merar; Apir	Dura; Abay; Yussa; Belese
Assosa Zone	Kumruk	Dulhudi; Dilshitalo; Azale Akendiyo; Kutaworkie	
	Mengie	Kudenyo	Mangie
	Sherkole		Sherkole
Kamash Zone	Sirba	Chibie	Chibie
		Godere	Godere

Source: Bureau of Water, Mines and Energy, 2004

Fishery

Fishery is important and developable economic engagement in BGR. Some of the most important rivers that are host to varieties of fish include Blue Nile, Dabus, Dhidhessa, Anger, Diga and Daka. The indigenous people residing along some of these rivers practice traditional

fishing as supplementary subsistence activity. However, this potential resource is rarely utilized for commercial purpose so far.

Handcraft

Handcraft is another important economic activity in the region especially for the women. Several handicraft products are produced from clay soil, wood, iron, bamboo, and barks/grass mostly for home use. However, some basketry products from bamboo and palm leaves and pottery are produced for sale. Handicraftsmen among the indigenous ethnic groups are respected and many seek to acquire the skills which are contrary to the segregation and marginalization attributed to them in the highland areas and elsewhere in Ethiopia (Oxfam Canada, 2004). This provides an opportunity to expand handicraft activities through training as a strategy for income generation.

3. Description of the Seven Project Woredas

3.1 Population

The BG FSEG will be implemented in seven woredas listed in Table 3, below. The woredas are located in all the three zones: Guba, Mandura and Dibate woredas are located in Metekel zone; Kurmuk and Sherkole woredas in Assosa zone and Sirba Ababa and Belew Jiganfory in Kamashi zone. The woredas vary in terms of population, area coverage and potentials. Most of the woredas are located far from infrastructure and the livelihood of the people at a very poor condition. Kurmuk, Sherkole, Guba and Sirba Ababay woredas are typically located in high temperature areas with poor infrastructure. The living condition of the people is very poor and food insecurity is common.

The project targets some 179,313 people (about 27% of the population of the region). About 49% of the population is female. The female members of the household are solely responsible for the reproductive and household chores and equally share the responsibility of participating in crop and livestock production and marketing. In fact, the burden of undertaking routine and laborious tasks rests on women (see photo 1, for instance).

Table 3: Population of the target woredas

Woreda	Urban			Rural			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Guba	1,258	1,086	2,344	6,227	6,330	12,557	7,485	7,416	14,901
Mandura	4,187	3,777	7,964	14,876	13,728	28,604	19,063	17,505	36,568
Dibate	2,196	2,396	4,592	24,916	24,672	49,588	27,112	27,068	54,180
Kurmuk	321	232	553	6,637	6,389	13,026	6,958	6,621	13,579
Sherkole	489	418	907	9,442	9,643	19,085	9,931	10,061	19,992
Sirba Abay	1,451	1,265	2,716	6,252	6,132	12,384	7,703	7,397	15,100
Belew Jiganfoy	1,270	1,116	2,386	11,895	10,712	22,607	13,165	11,828	24,993
Total	11,172	10,290	21,462	80,245	77,606	157,851	91,417	87,896	179,313

Source: CSA (2008): Population Census of 2007

Photo 1: A Gumuz woman and girl engaged in dual task at a time (March 2010)

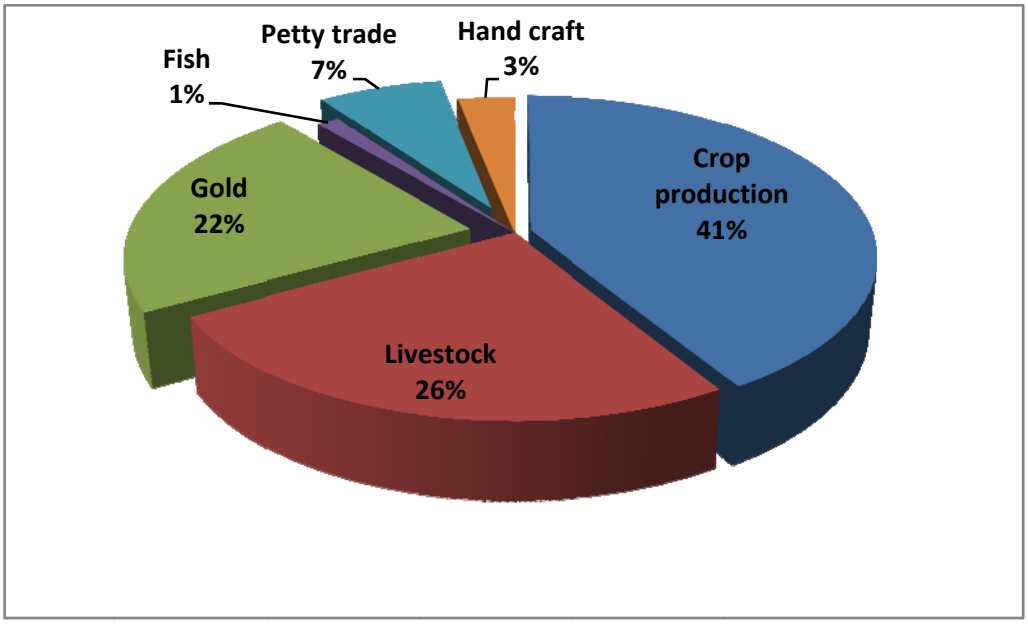
3. 2 Economic Mapping of the Seven Project Woredas

3.2.1 Key sub-sectors

The economies of the seven project woredas are based mainly on agriculture. The agricultural activities involve crop and livestock production. Food crops, oil crops, pulses, some vegetables, fruits and root crops are produced. Livestock production is dominantly goats, sheep, poultry, cattle and donkey. Fishing exists but limited in the project woredas. Other economic sub-sectors include mining, non-timber forest products such as incense and honey production and non-farm sectors such as trade/petty trading. This section discusses the economic sub-sectors analysis based on the discussions made with woreda line department staff and the community and the contributions of the economic sub-sectors to the livelihood of the farm households.

The assessment of the means of livelihood of revealed that crop production accounts for 40-80% of the household income where the share is higher at Dibate, Mandura and Belo Jiganfoy woredas. Livestock is the second important sub-sector contributing to the livelihood of the farming community. Overall, the average contribution of the different means of livelihood to the household income is shown in Figure 2. The proportion of income generated from gold mining is 22% which is particularly important for Kurmuk and Sherkole woredas.

Figure 2: Average income composition in the project woredas



Source: FGD with Communities at Mandura, Sirba Abay, Kurmuk and Shirkole (2010)

Other means of livelihood which were not quantified in Figure 2 including honey production, incense and bamboo products. Although the potential for honey production in BGR is high, there is a limited supply of honey due to low yield and poor production practice, making its contribution to the household minimal at the moment. About 37,087 beehives are currently available in the seven woredas, which are mostly traditional hives. The yield of a traditional beehive ranges from 5-9 kg depending on flower availability. During the field work, the potentials and constraints of some of the major economic activities were also assessed. The key economic sub-sectors are discussed below.

Food crops

Food crops produced in the seven woredas include maize, sorghum, haricot beans, okra, finger millet (mainly in Dibate and Mandura). Soya bean is also grown especially in the northern woredas such as Dibate and Mandura though in a limited scale. The relative importance of major crops grown in the project woredas is shown in Table 4. The result shows that cereal crops are the most important crops grown as shown with a rank of 1-2 in most of the woredas while oil seeds, especially sesame, are the second most important crops grown.

Table 4: Crops produced in the project woredas and their relative importance

Crop type	Sherkole	Guba	Mandura	Dibate	Belogiganfoy	Sirba Abay	Kurmuk
Sorghum	1	1	1	7	2	1	1
Maize	4	4	4	3	1	3	2
Sesame	2	2	3	8	3	2	3
Groundnuts	6	6	5	5			4
Haricot beans	3	3	9	6			6
Finger millet			2	1			
Okra	5					5	7
Niger seed		7	7	2			5
Pumpkin		5	8				
Pepper		8	6	9	4		
Teff				4			
Vegetables				10	5	4	

Note: 1st is the highest mainly in terms of area under crop and volume of production. The proportion of growers also parallels the ranking but with some overlaps

Source: FGDs in the respective woredas, 2010

The area under each of the crops and the production are given in Table 5. The result shows that a total of about 95,000 ha of land was cultivated during the last cropping season in the project areas. Sorghum, maize, haricot beans and sesame are grown in all of the seven woredas. Approximately 28% of the land was allocated to sorghum while maize, sesame and millet were grown on 12.4%, 19.7% and 11.8% respectively. Niger seeds, haricot beans and ground nuts are also important crops grown on 7.9%, 5.1% and 4% of the cultivated area respectively. The findings again confirm that food crops are given the lines share of the area by occupying about 61% of the cultivated area. Okra is also commonly produced and marketed for local consumption as relish.

Table 5: Area under crops in the 7 woredas (ha), 2010

Sr. No	Crops	Sherkole	Kurmuk	Belo-jiganfoy	Sirba Abay	Guba	Dibate	Mandura	Total	Percent
1	Finger millet			159	10		3,115	7,564	10,848	11.8
2	Rice						13		13	0.0
3	Maize	437	771	7,907	2,933	213	4,371	3,042	19,674	21.4
4	Sorghum	2,930	1,903	7,401	3,480	2,435	1,880	5,937	25,966	28.2
5	Haricot beans	514	323	349	63	202	2,896	320	4,667	5.1
6	Soya beans			126	37		7		169	0.2
7	Niger seed		73		16	26	6,449	730	7,293	7.9
8	Sesame	1,615	374	7,986	4,100	679	1,528	1,865	18,146	19.7
9	Groundnuts	309	142		52	73	2,912	200	3,688	4.0
10	Pepper				14	73	509	53	649	0.7
11	Onion				5	?	1		6	0.0
12	Mango			4			127		131	0.1
13	Okra	514	141		3	103			761	0.8
14	Cotton							16	16	0.0
	Total	6,319	3,726	23,931	10,711	3,804	23,807	19,727	92,024	100.0

As shown in Table 6, the productivity of food crops shows significant difference among the project woreds with Kurmuk and Shirkole yielding the smallest mainly due to moisture stress in relatively dry areas and low agricultural technology use. Belojiganfoy, Mandura and Dibate produce relatively higher yields of food crops due to relatively favorable rainfall and use of chemical fertilizers by some of the farmers. The estimated total production was about 1.15 million qt of cereals and 30,465 qt of pulses.

Table 6: Productivity of crops in the 7 woredas (qt/ha), 2010

Sr. No	Crops	Sherkole	Kurmuk	Belo-jiganfoy	Sirba Abay	Guba	Dibate	Mandura	Weighted average
1	Millet			5.3	9.5		48.2	15.3	24.6
2	Rice						18.0		18.0
3	Maize	5.6	4.9	29.0	14.2	25.0	19.4	30.4	23.4
4	Sorghum	8.1	4.1	25.9	1.2	20.0	15.0	20.0	16.3
5	Haricot beans	4.8	1.7	5.6	10.0	12.5	6.2	8.0	6.1
6	Soya beans			11.1	8.0		11.8		10.5
7	Niger seed		1.4		4.0	6.0	3.5	4.0	3.5
8	Sesame	5.2	3.7	?	6.5	4.0	6.1	6.0	3.3
9	Groundnuts	5.1	6.1		9.0	12.0	2.9	8.0	3.8
10	Pepper				8.5	6.0	5.0	6.0	5.3
11	Onion				60.0		50.0		58.2
12	Mango			200.0			173.2		174.0
13	Okra	4.8	2.7		16.0	18.6			6.4
14	Cotton							10.0	10.0

Source: BG Agriculture and Rural Development (2010)

Oil crops

Oil crops include sesame, Niger seed, groundnuts and soya beans. These crops are mainly grown for cash income generation. As shown in Table 4 above, sesame is the most important oil crop grown in the project woredas by occupying about 20% of the cultivated land. It is grown by smallholder farmers as well as investors who grow sesame and sell it in Addis Ababa market or export. Commercial farmers growing sesame are most common in Guba woreda. Niger seed is also grown in almost all the project woredas but on a limited scale. It was indicated that production of Niger seed requires fertile and virgin soil. It is often grown with zero tillage. As shown in Table 5, the yield of oil crops is generally low with an average of 4qt/ha. In 2009, a total of 29,127 ha of land was allocated to oil crops of which 4% and 7.9% were allocated to ground nuts and Niger seeds, respectively. The estimated total production in the project woredas was 99,000 qt of oil seeds which about 60% was sesame.

Fruits

Mango is the major fruit tree grown in BG region in general and in the project woredas in particular. Other fruit trees include papaya, banana, orange, lemon and avocado and are produced only on a limited scale. Mango is of high potential in some parts of Kurmuk and its neighboring woredas such as Menge, Homosha and Assosa, and Belojiganfoy, Dibate and Mandura.

In Kurmuk woreda, kebeles adjacent to Homosha and Assosa woredas are of a high potential for mango production. These include Famatsere, Abadi, Usher Guma, Agubela, Dul-Hode, Akandayu and Salima kebeles. In Famatsere kebele, for instance, the participants of FGD indicated that about 80% of the farm households own mango trees with an average of 7 trees per household and a maximum of 100 trees per household. The trees are big and produce an average of 3,000 fruits per tree. This indicates a good potential for expanding mango production, processing and market linkage. Despite this, the regional statistics of mango grown in the woredas of BG region seems incomplete (Table 5).

Livestock

Farming in BG region is characterized by a mix of crop and livestock production. Goats, sheep, cattle, donkeys and poultry are reared in the area. The seven project woredas account for 44% of the BG region's goats, about 40% of the sheep, 38% of the poultry and about 27% of the donkey showing a significant share. Donkey is used mainly for transporting goods and people and also to a limited degree for ploughing. Ample grazing land in the rural areas provides good feed opportunity during the rainy season. Livestock production is mainly traditional with limited veterinary service and supplementary feeding. As livestock production follows extensive production system, the ample grass grown in communal area is not processed to serve as feed during the dry season. Hence, livestock disease and feed shortage during the dry season constrain livestock production. It should be underlined that livestock disease reduced the number of oxen

available for traction and constrained modernization of the crop farming. As a result of oxen shortage and lack of knowledge of ploughing with oxen, most of the indigenous communities use hoe for land preparation and planting. Due to heavy participation of women in land preparation and planting by hoe, the practice aggravated the workload of women.

There is high demand for livestock products such as goats, chicken, eggs and milk in the market. The assessment shows that an egg is sold at 1.5 ETB while an adult goat is sold at more than 500 ETB. Unfortunately, in woredas like Mandura, the indigenous people do not use milk for sale or for consumption. In addition to negatively impacting child nutrition, not using livestock products like milk also reduces the benefits obtained from livestock rearing.

Table 7: Estimated livestock population of the seven woredas

Sr. No	Woreda	No. of kebeles	Cattle	Sheep	Goats	Donkey	Mule	Poultry	Beehives	Horse
1	Sherkole	18	1,601	656	24,781	2,736	11	12,949		
2	Kurmuk	16	163	891	26,647	906	2	8,583	327	
3	Belojiganfoy	10	12,635	9,657	14,946	328	12	73,440	8,261	
4	Sirba Abay	16	5,927	3,347	10,674	550		18,159	7,291	
5	Dibate	29	66,265	13,041	33,680	3,245		67,411	14,039	
6	Mandura	20	25,685	18,684	22,984	554	15	31,896	6,872	
7	Guba	17	6,193	3,175	12,322	950		8,699	297	
Total for the 7 woredas			118,469	49,451	146,034	9,269	40	221,137	37,087	
Total for the region			376,885	124,579	331,649	34,873		577,843		421
% of the total			31.4	39.7	44.0	26.6		38.3		

Source: BG Region Bureau of Agriculture and Rural Development (2010), No. of beehives from Kurmuk from the woreda ARD office

Livestock keeping is the task of men, women and youth. Small ruminants like goats and sheep and poultry are often reared by girls and boys and managed by women. The benefit seems shared within household through consumption of food and basic necessities though it is the men who dominate in the decision making regarding allocation of income. In the process, most of the men in the indigenous group extravagantly use the income and remain with no saving.

Beekeeping

A vast area of BGR is covered with bushes and forest trees. This has favored bee colonies to produce honey even without hives. The indigenous people hunt[3] for such forest honey to

[3] *Honey hunting is one of the major causes of forest fire and killing of bee colonies. Changing the mode of honey production in the region can have significant environmental impact by reducing forest fire which in turn has positive impact on vegetation increasing bee colonies and hence honey production.*

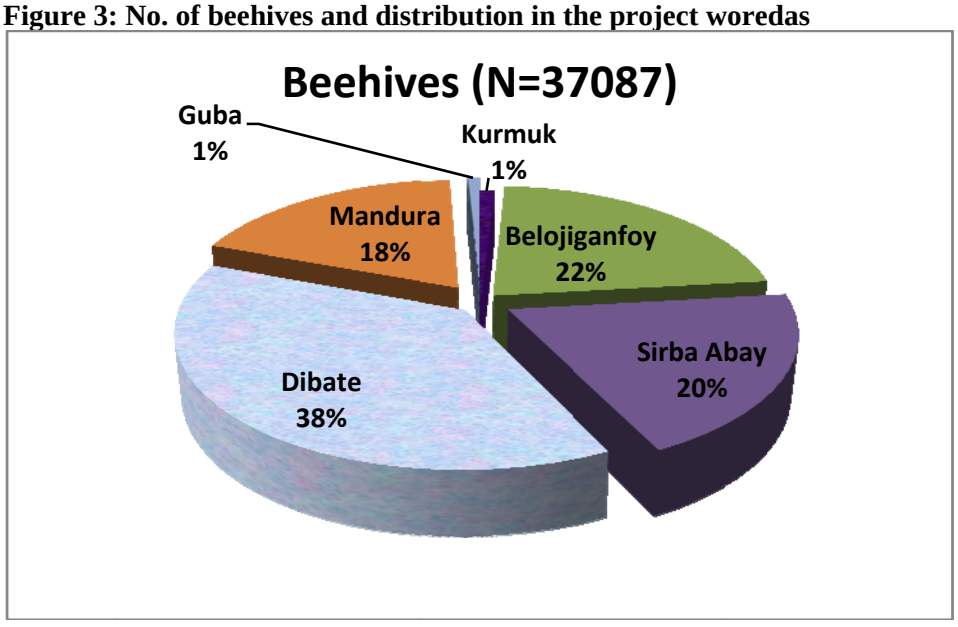
supplement their livelihood. Despite the huge potential for honey production, modern bee keeping is not widely practiced.

A total of 37,087 beehives were recorded in the seven woredas. Sirba Abay, Belojiganfoy, Mandura and Dibate have high potential for honey production (Figure 3). Although the number of beehives in Kurmuk woreda currently reported by the Agriculture and Rural Development is low, the local community underscored the potential if water resources are made available and the forest resources are well managed. However, currently, only few farmers make their livelihood from beekeeping with an overall low economic contribution to the households in all of the woredas. The indigenous community harvest honey from the wild without much beekeeping effort (i.e. honey hunting) which is a major cause of forest fire and bee colony killing. In Dibate woreda, the impact of agricultural pesticides on bee colony has been reported. Beekeeping potential exists in few of the kebeles in each woredas (Table 8).

Table 8: Kebeles suitable for beekeeping

Sr. No	Woreda	Kebele with high potential	Remark
1	Kurmuk	Abadi, Usher Guma, Fematsere, Agubela	Dile Hode, Salima has little potential
2	Sirba Abay	Fapiro Sirba, Gosu, Meko Fincha, Qoncho	Out of 15 kebeles
3	Belojiganfoy	Say Dalacha, Dimitu, Arjo kilil, Sennee, Dadiga	Out of 10 kebeles
4	Mandura	Abida (#2), Gumada, Jegdar, Duharz-Baguna	Other rural kebeles have some potential
5	Dibate	Albasa, Korka, Chancho, Galassa, Gippo,	These were of high potential areas out of 28 kebeles

Figure 3: No. of beehives and distribution in the project woredas



Source: BG Bureau of Agriculture and Rural Development (2010)

In terms of gender participation, the current practice shows that beekeeping is mainly the task of men while women support the men through food provision and supply of materials used for construction of traditional beehives. Honey marketing involves both men and women.

Fishing

Despite the availability of water potentials in the region, fishing as an economic activity and source of income is not widely known in the area. However, it has been confirmed during the focus group discussions with the indigenous people that few people living around Blue Nile, Dabus, Dhidhesa, and Hayima Rivers practice small scale and seasonal fishing. There are also some organized fishermen fishing along Dabus, Dhidhesa and Hayima rivers. Fishing is also used by individuals as copping strategy during months of food scarcity and not as source of income. Through the introduction of fish varieties and fishing technologies, the widely available water resources can be used for the development of fisheries with the objective of increasing the income and enhancing household food security in the region.

Table 9: Kebeles benefiting from Fish production

Sr. No	Woreda	Kebele	Source (River)	Remark
1	Sirba Abay	Chesiga, Jali, Aba Gole, Bar Kassa, Arangama, Wanjo, Gule Tsegede, Zembe Dabus, Baphararo, Adinkish, Piyabala	Blue Nile and Dabus	• Out of 15kebeles • Potential could not be assessed
2	Belojiganfoy	Say Dalacha, Dimitu, Dhidhesa, Dadiga	Dhidhesa	• Out of 10 kebeles • 3 Kebeles around Anger River (Meti, Waja and Shenkora are reported to benefit. But fish potential is low.
3	Guba	• Anishimish and Omedla • Babizenda • Yarenja, Fankuso, Bambudi	• Hayma • Beles • Blue Nile	• High potential • Low potential • Low potential

Fishing is basically the task of men. Women play crucial role in fish processing. Currently, there is not much fish processing activity in the area.

Incense

Incense and natural gums are produced from economic trees naturally growing in the forest. Some of the woredas bordering with the Sudan including Kurmuk, Sherkole, Goba and Sirba Abay are endowed with good plantation of incense plants. However, harvesting of the product has been granted to individual business men (called investors) who employ laborers from other parts of the country (outside of BG region) and harvest incense product. Accordingly, Wogegta

Trading has been granted to harvest incense from 20,000 ha of land (10,000 ha in each woreda) in Sherkole and Kurmk plan to harvest 1 qt/ha, the company succeeded to collect only a total of 5,000 qt during 2009/10. This investor sells the product to the exporters. Moreover, another investor called Ababaye and the Ethiopian Gums and Incense Enterprise also collect and sell incense in the two woreda. Based on the discussion made with an Officer of the Wagagta Trading, the potential of the two woredas can be estimated at 30,000 qt of incense per annum. The officer also indicated that existence of conflicts between collectors (laborers) and community on ownership of the trees and the conflict among the investors on boundary constrained incense harvesting.

In Guba woreda, a 'private investor' has been harvesting/collecting incense to directly export to different American, European and Arab countries. According to Ato Woldu, general manager and owner of the enterprise, he is the only collector of incense from the woreda. Though the annual harvest potential could be 18,000 quintals in the woreda, he has managed to produce one third (6,000 quintals) in 2009/10. Lack of skill and interest by the local people to harvest, forest fire and incense tree cutting are the major problem. Traditionally, the use of incense as an economic tree was not known to the local people. Although the benefits are known these days, the community is not entitled to harvest the plant nor do the people know the harvesting technique. As the people are not empowered to benefit from these trees, they burn or cut down the trees creating a potential threat to the national economy. Both investors contacted are willing to buy from the local community if they manage to collect.

The incense subsector generates good employment in the regional and national economy. Incense collection is the task of men as the collection site is in a remote are with hardship. Incense collectors earn based on their work efficiency and quality of incense collected. Currently, the collectors were paid ETB 800 - ETB 1,000 per qt. depending on quality. Incense is sorted into 4 grades for export while the discarded ones are sold in the local market. Women involve in sorting of the incense. One of the companies has incense sorting store in Chagni town where about 150 women were employed for sorting (see Photo 2).

Photo 2: Incense collection (Shirkole) and Sorting (Chagni town)

Mining

Artesian gold mining is practiced in some of the woredas. According to ITAB-CONSULT (2007), about 95% of the people in Kumruk and Sherkole woredas, 70% in Sirba Abay and 3-5% of the people of Guba w*oreda* depended on traditional gold mining. The findings of this assessment also shows that almost all of the households in Sherkole woreda (with some variations among kebeles) participate in gold mining during the dry season, while 50% of the focus group discussants in Kurmuk woreda and 70% of the households in Sirba Abay participated in gold mining. As low as the household income, the contribution of gold mining to the welfare of the community has been low since only the lucky ones could succeed to get gold and the risk involved is high. The average income from gold mining in Kurmuk for the lucky ones is ETB160 per week and about one-third of the people may be luck to earn this amount. The rest may earn up to ETB 35 per week. In Sherkole, the miners complained of lack of success but continue to search for gold with hope that they will succeed. In fact, some also succeed to earn about ETB 30 Birr per week.

Individuals form a group for a joint mining process and share the benefit at the end of the day. Mining is done by both men and women where the men involve in digging the soil and women wash the soil to search for gold (Photo 3). Local gold assemblers buy on the spot and sell it to the traders in Assosa who further sell it in Addis Ababa. The local assemblers make a margin of 10 Birr per gram. The observations made in the mining field shows that mining is the task of the poor. Unless technology intervention is made to ease the mining process and increase the opportunity to gain, alternative income generation that increases labour productivity and reduce the work burden of women is necessary.

Photo 3: Artesian gold mining at Sherkole

Moreover, marble is a potential mineral resource available mainly in Sirba Abay and Guba woredas. This resource could be a potential

Bamboo

Bamboo naturally grows in some areas of the project woredas. Bamboo is traded at the local level for different purposes including house construction, fencing, construction of cattle barns, furniture (stools, chairs, mats, etc.), baskets, grain stores, tools, firewood, bamboo shoots are used for food during the food gaps between June and August. The stem sheath (thin silvery) is extensively used in roofing and the construction of traditional beehives while the hollow bamboo is used for making traditional music instruments. The stem (culms) cut into small pieces makes cups for coffee drinking and water jars. Despite its extensive use, bamboo vegetation is declining due to poor management and lack of protection. It is availability is now in remote areas where access is limited. In such places, bamboo flowers and dies (Photo 4). Bamboo is said to mature in 7-10 years and flower and die in 20 years.

The discussions made with the beneficiaries show that Bamboo hardly forms means of livelihood based on value chain. It, however, continues to be an important natural resource for local needs. In the absence of bamboo, the rate of deforestation of other tree species will drastically increase. On the other hand Eucalyptus tree which grows fast and meet economic needs of the household is expanding in the region. Local demand for construction and the demand for Eucalyptus tree in the Sudan can be a threat to bamboo plantation in the future. Thus, bamboo conservation should be part of the NRM component of the program.

Photo 4: Flowered bamboo on the way between Assosa and Kurmuk

3.2.2 Selection of commodities for value chain and income generation

Commodities for value chain development

The selection of commodities for value chain development was based on the economic importance of the commodities, ecological and social suitability, farmers' objectives in producing the product for market (marketability) and potential for value addition and market linkage. Ecological suitability has been expressed in terms of adaptation of the commodity to the area while the social suitability was expressed in terms the communities willingness to engage in the production of the product. Based on the findings of the assessments made during the focus group discussions, the market assessment team attached relative scores ranging from 1 (the lowest) to 5 (the highest). The average score was used to select the commodities for value chain (Table 9). The result shows that Mango, Oil seeds, Incense and Honey scored an average value of 4-5 and hence selected for value chain intervention. The other commodities/activities given in Table 10 could be considered for interventions related to income generation.

Table 10: Selection of Commodities for value chain development and Income generation

Sr. No	Commodity	Ecological and social suitability (Potential)	Market importance	Potential for value addition	Average score	Recommendation for intervention
1	Mango	4	5	4	4	Value chain
2	Oil seeds	5	5	4	5	Value chain
3	Incense	4	5	2	4	Value chain
4	Honey	4	5	4	4	Value chain
5	Food crops	5	4	1	3	Income generation
6	Fish	3	4	2	3	Income generation
7	Livestock	3	4	1	3	Income generation
8	Bamboo	3	2	1	2	Income generation
9	Mining	2	5	1	3	Income generation
10	Off-farm activities (e.g. petty trade, hand crafts)	4	3	1	3	Income generation

Rank: 1 -5 where 5 is highest score

The woredas of applications of the value chain and income generation activities are given in Table 11. This shows that Mango value chain will be applied in Kurmuk while honey value chain covers five woredas (Belojiganfoy, Sirba Abay, Kurmuk, Dibate and Mandura woredas. Incense is applicable in 4 woredas (Sirba Abay, Kurmuk, Sherkole and Guba) while oil seed is suitable in all the 7 woredas.

Table 11: Coverage of value chain and IGA

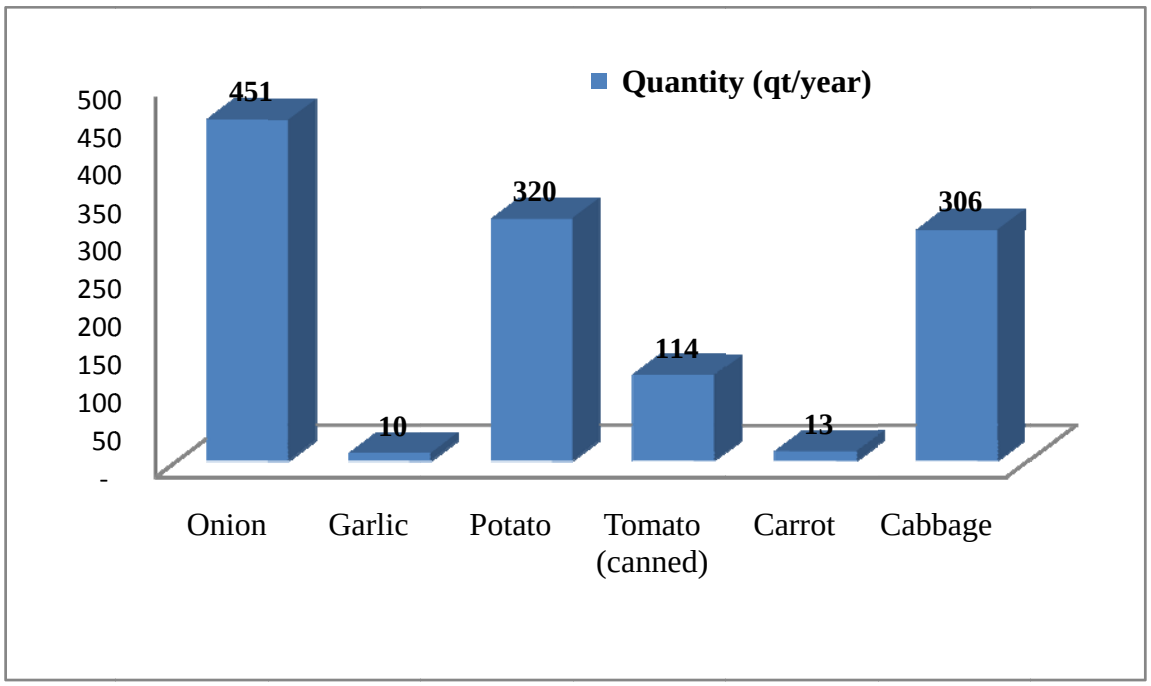
Sr. No	Commodity	**Belo-Jiganfoy**	**Sirba Abay**	**Kurmuk**	**Sherkole**	**Guba**	**Dibate**	**Mandura**
	Value chain Commodities:							
1	Mango			x				
2	Oil seeds	x	x	x	x	x	x	x
3	Incense		x	x	x	x		
4	Honey	x	x	x			x	x
	IGA-Commodities:							
5	Food crops	x	x	x	x	x	x	x
6	Fish	x				x		
7	Livestock	x	x	x	x	x	x	x
8	Bamboo		x	x	x	x		
9	Mining			x	x	x		
10	Off-farm activities (e.g. petty trade, hand crafts)	x	x	x	x	x	x	x

Income generation activities

Income generation activities identified in the project areas are crop production, livestock production, fishing, mining, off-farm income generation like hand crafts and petty trading and bamboo (to a limited extent) (see Table 9 above). These activities have been practiced by all or some segments of the society and hence can be useful for gender sensitive targeting of the project beneficiaries.

The income generation activities are widely applied to the woredas except fish and mining. Food crop production ranks first in Mandura, Dibate and Belojiganfoy woredas implying that food crops are also produced for food and cash generation. Households earn cash income by selling food crops such as sorghum, maize and millet. It is necessary to consider interventions that can increase production and productivity of food crops with the aim to increase food security and income of the farm households. Belo Jiganfoy has access to Nekemte markets. Institutional demand assessment shows that local vegetables supply to the Nekemte market can satisfy a demand only for one month. Most of the vegetables needed by the household and institutional consumers come from distant places like Gonder/Gojam, Shewa Robit, Shashemene, Arsi, etc. Figure 4 illustrates the demand for vegetables by Wollega University in Nekemte. The university plans to expand the number of students from the current 5,500 to 10,000 in three years. Hence, the demand can proportionally increase. It should also be noted that lack of vegetable in the area limited students' vegetables consumption. Hence, lack of supply of vegetables is not only affecting the rural poor in terms of nutrition, it also affect the urban poor.

Figure 4: Quantity of vegetables demanded by students' cafeteria (Wollega University)



Source: Computed based on data from Wollega University (March 2010)

Similarly, livestock production can also be seen as good potential for increasing household income. For the time being, local demand for these products is high and interventions that can increase the supply side are necessary. Hence, food crops and livestock production were included as an intervention for income generation rather than as value chain.

As described above, fishing and mining contributed to income of some segments of the society in the project area. In the case of fishing, preservation and market linkage is crucially limiting the income generation. Artesian mining involves the youth, women and adult persons. The production of gold is laborious, risky and depends on chances. When successful, the local collectors make a margin of ETB 10 per gram which is significant. Organizing miners into group and linking them to formal gold market. It should however be noted that the current practice of mining is inclusive in terms of number of people involved in mining. If organizing artesian miners leads to exclusion, it may be source of conflict.

Non-farm activities such as petty trading and hand craft are gender sensitive activities for income generation. The interventions related to bamboo should also be related to furniture making.

3.3 Market Infrastructure and Facilities

Road network: Currently, the woreda towns are connected to the regional or the central market with all weather roads except Belojiganfoy which is accessible only under a dry weather condition. The woreda towns in the southern part of BG region are connected to Assossa town. Products like incense and oil seeds are transported from the woreda markets to the nearest large market centers like Arjo and Nekemte or Addis Ababa (for Belojiganofy); to Mendi or Addis Ababa (for Sirba Abay); to Assosa and then to Addis Ababa (for Kurmuk and Sherkole); to Chagni and then to Addis Ababa (for Guba, Mandura and Dibate). Assosa town is connected to the terminal market in Addis Ababa via the asphalt road while the northern woreda towns are connected to the main market via all weather roads extending from Koso Bar town of Amhara region Chagni and then further to Guba and Dibate and beyond. The new all weather road being constracted between Sherkole and Guba woredas will have implications on the directions of commodity flow depending where the demand lies. The road will create good opportunity for establishing and expanding processing plants that can use raw materials produced in the northern part.

Most kebeles in Sirba Abay and Guba woredas and some kebeles in Belojoganfoy, Sherkole, Mandura and Dibate woredas are not accessible by vehicle during the rainy season. This puts a challenge on market led development and demands an approach of intervention which requires assignment of local staff for community mobilization and project implementation.

Telecommunication: The Ethiopian Telecommunication Corporation is expanding access to telecommunication services in the rural areas through wireless and mobile phone services. All of the seven woredas have access to fixed telephone lines while Guba, Mandura and Dibate woreda towns have access to Mobile phones. Some of their kebeles started accessing the mobile phone service, too. It was also indicated that all the woredas will access to telecommunication service during the program implementation period.

Storage: It was reported that agricultural commodities are supplied in a larger quantities immediately after the harvesting time. Especially, sesame is sold during the first 1-2 months following the harvest time. Thus, the traders in the respective woredas are constrained by limited storage capacity. Cooperatives in Dibate woreda purchase grain, store it and sell but constrained by storage, capital and market linkage.

Market place: Except in Guba woreda, all the program woredas have woreda level market centers where crop and livestock products are marketed. Guba has no woreda level market center and traders or grain collectors go to the village level to purchase farm produces. This creates a problem of market information dissemination resulting in exploitation of the producers. It also reduces the negotiation power of the producers. Some kebeles located far away from the woreda towns also have small kebele level market centers. Access to such markets by vehicle is constrained by lack of roads. Some of the kebeles are also located adjacent to markets outside the project woredas and sometimes even outside the BG region. For instance, besides Soge Market in Belojiganfoy woreda, most of the kebeles in the woreda sell their produces at markets in Oromia region (e.g. Arjo, Ukke, Baroda, and Belo Central markets). Similarly, some kebeles in

Dibate and Mandura woredas sell their produces at markets in the Amhara region the major market center being Chagni. Some of the kebeles in Sirba Abay also have a better proximity to markets in Oromia (like Kiltu kara, Mendi and Nedjo).

3.4 Market Information

Lack of market information system is a common phenomenon in the BG region. Although the objective of providing market information is a mandate of the regional Bureau of Agriculture and Rural Development, there is no human and material capacity to provide the service. In fact, there is no system put in place at the regional bureau to enable market data collection, analysis, interpretation and dissemination market information. Worst is also lack of organizational structure that allows staffing of agricultural marketing at woreda level. It was reported that the new Business Process Re-engineering (BPR) recognized the problem and attempted to overcome it. Market information system development and making it functional is a major task in the implementation of market led development.

3.5 Summary of Issues Raised at Community Level

The issues raised by the FGD participants seem widely common in the project woredas. Most of the issues listed in Table 12 below have been mentioned by both men and women groups showing that the problems affect all gender categories. Problems related to agricultural knowledge and skill especially of the indigenous people, lack of good agricultural practices and inputs, lack of necessary support by DAs which could also be related to their capacities, livestock disease affect the production capacity of the farming communities throughout the project woredas. Moreover, lack of road infrastructure, lack of market facilities and low agricultural prices affected the scale of market participation. The results of the focus group discussions and key informants interview also revealed that capital shortage limited the scale of production and marketable products. The root causes of capital shortage are low saving (which also affected by the spending behavior or the indigenous people) and lack of access to credit.

Issues like the poor work culture of the Gumuz and Berta men and high workload and unfair treatment of women were mentioned by women group only. Women are overburdened by productive, reproductive and household chore. It seems that the men in the indigenous households rely mostly on women's labor as means of livelihood and provided limited support. This situation is a little bit different with the non-indigenous groups where men assist for example in fetching woods for firewood. It was understood the indigenous communities mostly depend on hoe farming and land clearing for shifting cultivation. Men provide labor for clearing while most of the time hoeing is made by women, demanding dear energy. As mentioned in all of the FGDs, lack of good agricultural practices affects not only the production and productivity of agriculture but also it demands huge human labor especially of women.

Table 12: Summary of issues raised by women and men focus group discussants

Issues	***Balo Jeyganfoy***		***SirbaAbay***		***Kurmuk***		***Sherkole***		***Guba***		***Madura***		***Dibate***	
	Male	*Female*	*Male*	*Female*	*Male*	*Female*	*Male*	*Female*	*Male*	*Female*	*Male*	*Female*	*Male*	*Female*
Poor working culture of Gumuz/Berta men		x		X		x		X		X		X		X
High workload/unfair treatment /polygamy		x		x		x						x		
Limited knowledge and skills of the indigenous farmers	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Lack of good agricultural practices	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Limited and untimely supply of inputs	x	x	x	x	x	x	x	x		x	x	x		x
Weed (Striga)	x	x	x	x	x	x		x		x	x	x		x
Pests	x	x	x	x	x	x		x		x	x	x		x
Livestock diseases	x	x	x	x	x	x	x	x		x	x	x		x
Limited capacity of staffs (DAs)	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Poor road infrastructure	x	x	x	x	x	x		x		x	x	x		x
Lack of storage	x	x	x	x	x	x		x		x	x	x		x
Lack of marketing facilities	x	x	x	x	x	x		x	x	x	x	x	x	x
Agricultural output price fluctuations	x	x	x	x	x	x		x		x	x	x		x
Lack of access to credit	x	x	x	x	x	x	x	x		x	x	x		x
Poor saving culture	x	x	x	x	x	x		x		x	x	x		x
Conflict	x	x									x	x		
High input price	x					x								
Lack of management for fruits, vegetables	x	x			x									
Bush fire			x	x	x	x	x	x						x
Erratic rainfall			x	x	x	x	x	x		x				x
Wild animal						x								

4. Oil Seeds Value Chain

4.1 Key actors and functions

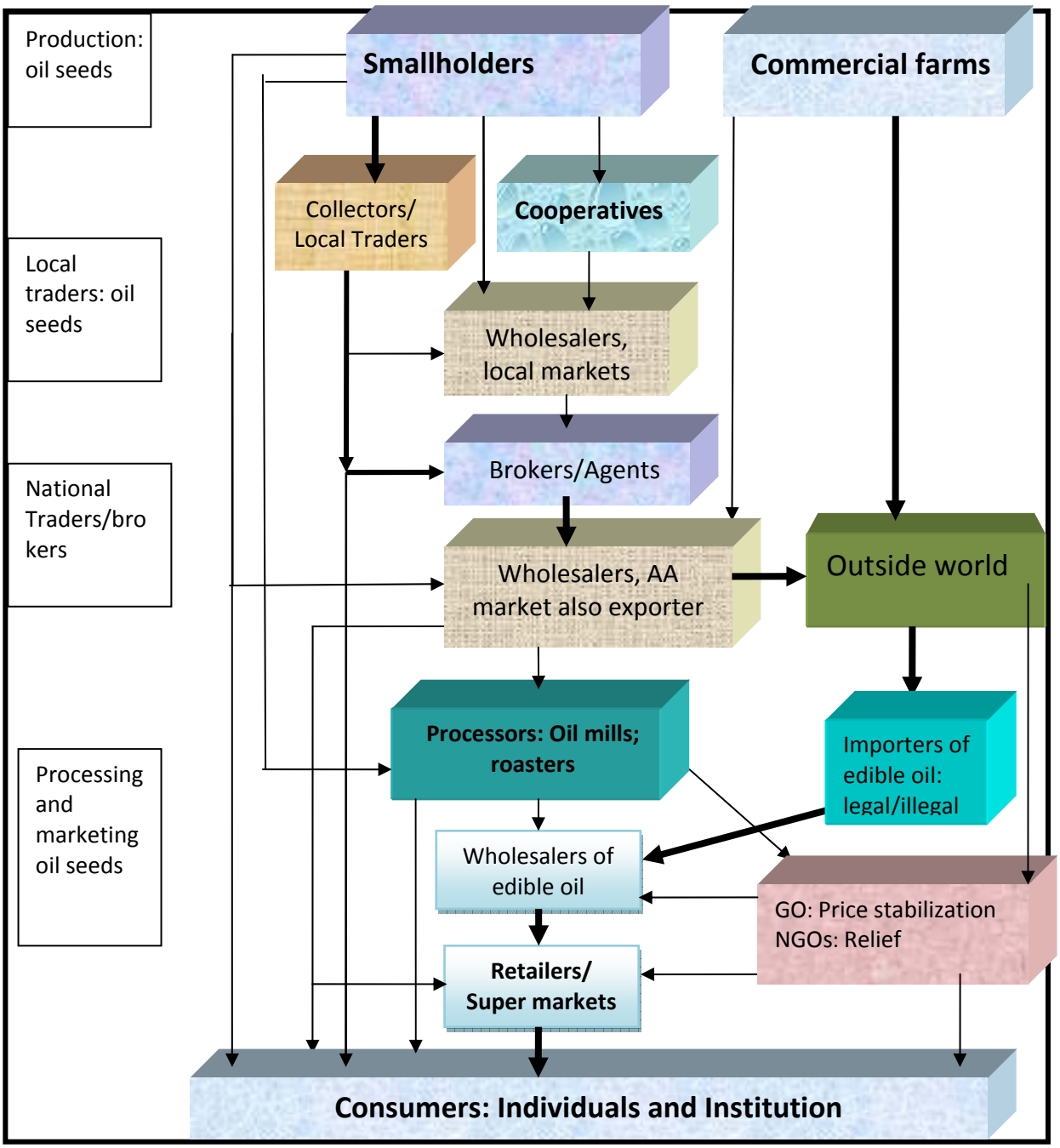
Current actors in oil seeds value chain operate at local, regional, national and international markets. The local market actors include producers/suppliers, local collectors, local wholesalers and consumers. Other actors along the value chain include transporters and facilitators like the agricultural inputs suppliers, extension services by the government institutions, research centers who generate and disseminate improved agricultural technologies. The major market actors are given in Figure 5 and their functions are discussed below. The bold line shows the most common channel of flow of the commodity.

4.1.1 Production

Oil crops grown in the seven project areas include sesame, groundnuts and Niger seed. Though it can also be categorized under beans, soya bean is also grown in some of the woredas especially in Dibate and Mandura. These products are supplied by smallholder farmers as well as commercial farmers. The commercial farmers/Investors produce and sell the products directly in the Addis Ababa market or export it. The smallholder farmers rely on the market chain to sell their produces.

Smallholder farmers sell their products to local collectors, local wholesalers, cooperatives (in Dibate), regional wholesalers (e.g. in Chagni, Assossa, Nadjo and Nekemte towns) and consumers in the local market. The farmers sell the oilseeds without processing. Due to shortage of operating capital, farmers often receive loan from the wholesalers with a promise to sell oilseeds to them. The farmer promises to things: to sell sesame to the loaner at the price at the harvest time, which is often low, until the loan amount is recovered and to sell the remaining amount of the produce at the prevailing price when the farmer wants to sell. Currently, there is no farmers' union in the seven woredas to participate in the value chain. As discussed in the preceding section, about 99,000 qt of oilseeds were produced during 2009. Of this about 60% was sesame.

Figure 5: Oilseeds value chain



4.1.2 Collection/Local Trading

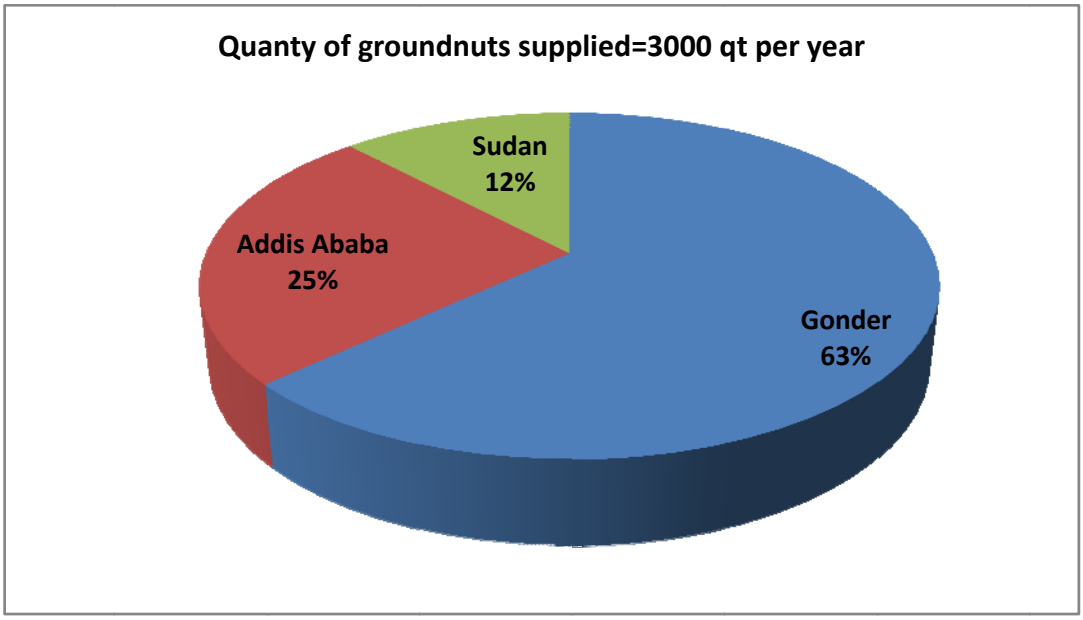
In the potential grain producing woredas there are several grain collectors: over 70 in Mandura and Dibate woredas each and 20-30 local traders in each of the two woredas while there are more local traders in Belo Jiganfoy and few in Kurmuk, Sherkole and Sirba Abay. The collectors often reside in the jurisdictions of the producers while the local traders reside in the woreda town or rural areas in the woreda. Both collectors and local traders have limited capital and business skill. Thus, they rely on the wholesalers who could reside in the woreda town or neighbouring big towns like Assosa (for Kurmuk and Sherkole), Chagni (for Guba, Dibate and Mandura), Nekemte (for Belo Jiganfoy) and Mendi (for Sirba Abay). Although the functions of the local traders and collectors are similar, their status is different: all the local traders are licensed while not all the collectors are licensed. As the collectors/local traders lack capital in terms of finance and storage, they heavily depend on the wholesalers for capital and product price. Based on the price information delivered to the collectors, they determine the buying prices of grain and oil seeds so that their operation costs and profit margins are covered. It was stated that the local traders and collectors earn a profit margin of 5-10 ETB per qt.

Sesame marketing takes place between 1-2 months after the harvest time. Hence, in order to increase the scope of their operation, collectors and traders engage in marketing of different sorts of grain, without much specialization.

4.1.3 Wholesalers and Commission Agents

Local/Regional Wholesalers: Wholesalers are found in bigger towns such as Nekemte, Arjo, Mendi, Assosa and Chagni. The wholesalers buy sesame from local traders and collectors and sell it in Addis Ababa market. Groundnut is sold to Mekele, Gonder (for edible oil extraction), Addis Ababa and the Sudan. Most of the oil seeds traded in Chagni come from the BG area including the project woredas. The key informant wholesalers of grain in Chagni market estimated the supply of sesame and groundnuts marketed in Chagni at 3,000 qt each, all of which were coming from Bulen, Mandura, Dibate and Guba woredas. As shown in Figure 6, about 63% of the groundnut is transported to Gonder for cooking oil extraction. Some 12% of the groundnut is exported to the Sudan through the western border while the rest (25%) is sold in Addis Ababa. Consistent with the findings of the assessment made in each of the visited woredas, the Chagni traders indicated that most of the sesame from BGR is directly shipped by the commercial farmers to the Addis Ababa market.

Figure 6: Destination of groundnuts marketed at Chagni market



Wholesalers and Commission Agents in Addis Ababa: Grain and oilseeds marketing in Addis Ababa is solely through commission agents who are sometimes not physically known to the local traders. No legal agreement exists between the traders and the commission agents. The mutual trust worked for some time but there have been incidences of default. The agent receives the products without any guarantee and sells it to the wholesalers in Addis Ababa. The commission agents charge the regional trader about 5 Birr/qt when the commodity is sold. After deducting the costs of measuring, unloading and the commission, the balance is transferred to the traders through bank. The agents also communicate the price information to the regional wholesalers to determine the purchasing price in the local market. However, the information transfer is not systematic and sometimes not consistent. The wholesalers sell oilseeds to consumers, oilseeds processors or to exporters. Groundnuts is processed into cooking oil and roasted and sold in the super market.

4.1.4 Cooperatives

Farmers' cooperative movement in Ethiopian principally aims at overcoming marketing problems and increasing the farmers marketing margin. In the project woredas, farmers' cooperatives purchase grain from farmers and sell it to wholesalers. Marketing cooperatives in Dibate woreda are actively involving in grain marketing but limited by lack of market linkage and lack of price information to determine the purchase price. In almost all of the project woredas, the cooperatives are weak in terms of management capacity and operating capital and fixed capital and entrepreneurship skill to undertake effective business activities.

The current role of the cooperatives in oilseeds marketing is very much limited. The Assosa Farmers Cooperatives Union started purchasing oilseeds to implement its cooking oil extraction plan. In the future, as other marketing bottlenecks are removed, the role of cooperatives in marketing shall increase.

4.1.5 Processing

Oilseeds processors could be located in the region as well as outside the region. It was stated during the data collection that extracting cooking oil from Niger seeds was a common practice in the region. However, due to lack of standards and quality assurance which is a common problem in the artesian cooking oils extraction sector. As depicted in Figure 6, groundnut produced in BGR is sold in Gonder for local processing into cooking oil. Some groundnut is also sent to Addis Ababa for processing into different food items and sold in super markets.

Oilseeds processing creates additional values in terms of employment creation, maintaining price of oilseeds by creating competitive market environment, import substitution which also saves foreign currency expenditure. Currently, cooking oil used in the country in general and in BGR in particular are imported from Asian countries, especially Malaysia. According to the major traders in Assosa, cooking oil sold in the market is imported from Malaysia and arrives formally via Addis Ababa and also informally via Sudan. This shows the potential for import substitution and high local demand for the product.

The Assosa Farmers Cooperative Union is importing oil extraction machine which can use different oilseeds as raw materials. It has the capacity of 100 qt of oilseeds to process and create employment opportunity for about 19 persons. Along with capacitating the marketing cooperatives in the project woredas, it is important to capacitate the work in progress to process oilseeds and link with potential markets. The oil supply modalities, standards, and quality assurance, labeling and packing size should be determined and adequately promoted.

4.1.6 Export

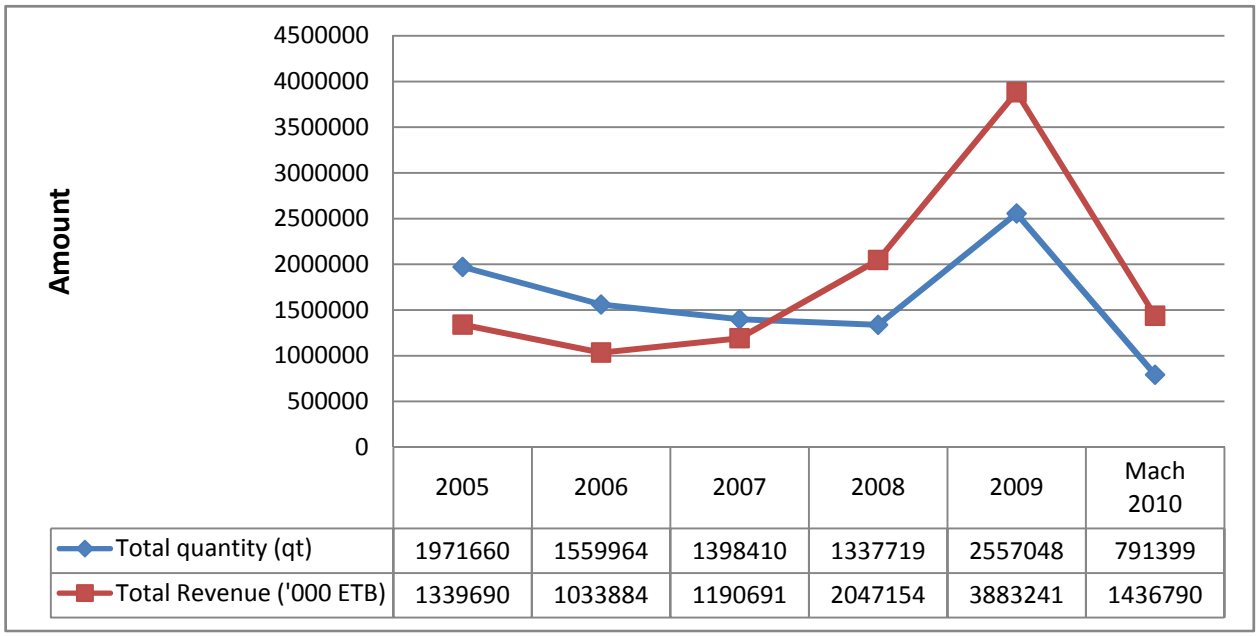
Oilseeds produced in BGR is ultimately sold to local consumers or exported. The trend of the oil seeds export is increasing. In this section, the export of sesame, Niger seeds and groundnuts is discussed based on the data collected from the Ethiopian Revenue and Customs Authority.

Sesame: The demand for sesame in the international market is high. White seeded sesame which is often produced in Metema and Humera areas is highly demand. Key informants indicated that the golden colored sesame seed, which is grown in BG region, attracts superior price. Sesame is also an essential export commodity for generation of foreign currency as a result of which exporters purchase sesame at higher price compared to the price in the international market.

The trend of sesame export increased from about 2 million qt in 2005 to about 2.6 million qt in 2009 generating about 1.3 billion ETB in 2005 and 3.9 billion in 2009 (Figure 7). The trend is on the increase since 2007 and the first quarter export of sesame in 2010 shows that 791,399 qt was exported and generated revenue of about 1.4 billion ETB. The major importers of sesame are

China (41.2%), Israel (13.9%), Turkey (9.1%), Jordan (4.8%), Greece (3.5%) and other countries (Table 13).

Figure 7: Trend of sesame export and revenue (2005-March 2010)



	2005	2006	2007	2008	2009	Mach 2010
Total quantity (qt)	1971660	1559964	1398410	1337719	2557048	791399
Total Revenue ('000 ETB)	1339690	1033884	1190691	2047154	3883241	1436790

Source: Computed based on Ethiopian Revenue and Customs Authority (2010)

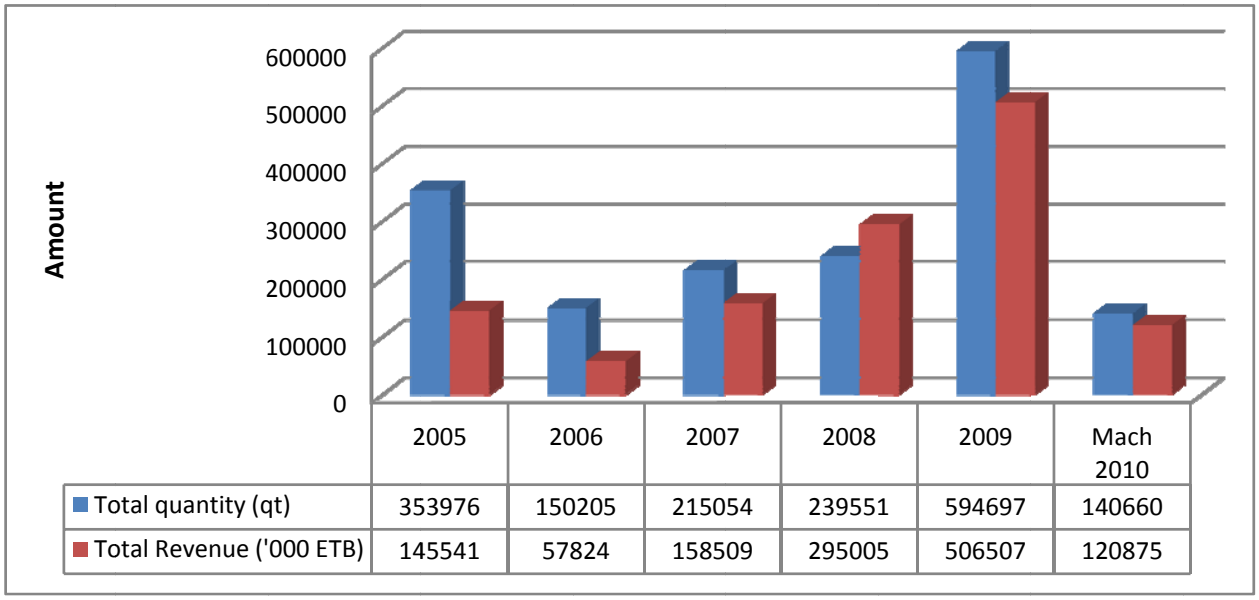
Table 13: Ethiopian sesame seeds export and importer countries (2005-March 2010), kg

Country	2005	2006	2007	2008	2009	Mach 2010	Total	Cumulative %
Algeria	379,620	531,373	341,468	379,240	0	189,620	1,821,321	0.19
Canada	7,075,556	3,343,427	2,148,815	530,000	2,013,772	756,000	15,867,570	1.65
China	76,805,005	63,728,018	48,067,884	39,202,577	141,654,458	26,831,690	396,289,632	**41.21**
Djibouti	7,121,330	9,498,569	1,646,004	0	444,880	190,000	18,900,783	1.97
Egypt	1,953,266	95,000	3,424,700	1,906,000	3,036,000	1,541,809	11,956,775	1.24
Germany	226,038	0	0	0	252,000	36,000	514,038	0.05
Greece	5,213,337	4,266,602	7,190,012	10,193,707	4,452,512	2,048,000	33,364,170	3.47
Iceland	1,259,884	1,013,715	246,810	0	0	0	2,520,409	0.26
India	1,034,810	132,924	95,000	721,772	3,365,582	892,620	6,242,708	0.65
Israel	21,896,742	20,817,406	22,280,031	22,243,831	30,050,680	16,164,923	133,453,612	**13.88**
Italy	1,857,613	114,000	1,614,152	0	75,848	0	3,661,613	0.38
Japan	643,696	0	1,153,690	380,000	0	25	2,177,411	0.23
Jordan	5,375,494	7,920,949	7,238,662	9,565,744	12,634,494	3,696,000	46,431,343	**4.83**
Korea	3,729,548	1,993,000	0	2,328,990	4,390,000	0	12,441,538	1.29
Lebanon	0	76,000	303,149	1,102,000	2,166,000	0	3,647,149	0.38
Netherlands	1,587,950	240,810	438,000	646,960	930,000	94,000	3,937,720	0.41
Saudi Arabia	5,728,292	2,760,553	3,566,746	5,845,549	12,220,764	2,351,140	32,473,044	**3.38**
Singapore	1,959,380	1,290,632	1,475,700	2,690,500	1,896,680	380,000	9,692,892	1.01
Switzerland	9,356,014	2,718,722	787,659	2,392,860	2,719,893	569,620	18,544,768	1.93
Turkey	14,748,403	15,373,770	21,184,680	17,284,474	15,405,012	3,476,420	87,472,759	**9.10**
United Arab Emirates	11,989,084	4,537,817	1,143,703	2,718,231	707,842	741,000	21,837,677	2.27
United Kingdom	1,198,000	580,000	1,636,772	2,318,000	1,633,432	299,280	7,665,484	0.80
USA	2,214,546	2,128,220	3,352,578	3,896,158	2,704,573	304,000	14,600,075	1.52
Yemen	7,599,407	9,987,514	6,475,208	2,951,389	5,901,333	866,091	33,780,942	**3.51**
Other countries	6,212,950	2,847,332	4,029,611	4,473,892	7,049,053	17,711,697	42,324,536	4.40
Total export in kg	197,165,965	155,996,352	139,841,033	133,771,873	255,704,807	79,139,935	961,619,967	100.00
FOB Value (ETB)	1,339,689,969	1,033,883,837	1,190,690,860	2,047,153,561	3,883,240,839	1,436,789,630	**10,931,448,696**	

Source: Computed based on Ethiopian Revenue and Customs Authority (2010)

Niger seed: The trend of Niger seeds export increased from 353,976 qt in 2005 to 594,697 qt in 2009 generating about 145.5 million ETB in 2005 and 506.6 million in 2009 (Figure 8). The trend is on the increase since 2006. During the first quarter of 2010 fiscal year, 140,660 qt was exported and generated revenue of about 120.9 million ETB. The major importers of Niger seeds are the USA (70.5%), Singapore (12.1%), United Arab Emirates (3.4%), United Kingdom (2.3%), India (1.9%) and other countries (Table 14).

Figure 8: Trend of Niger seed export and revenue (2005-March 2010)



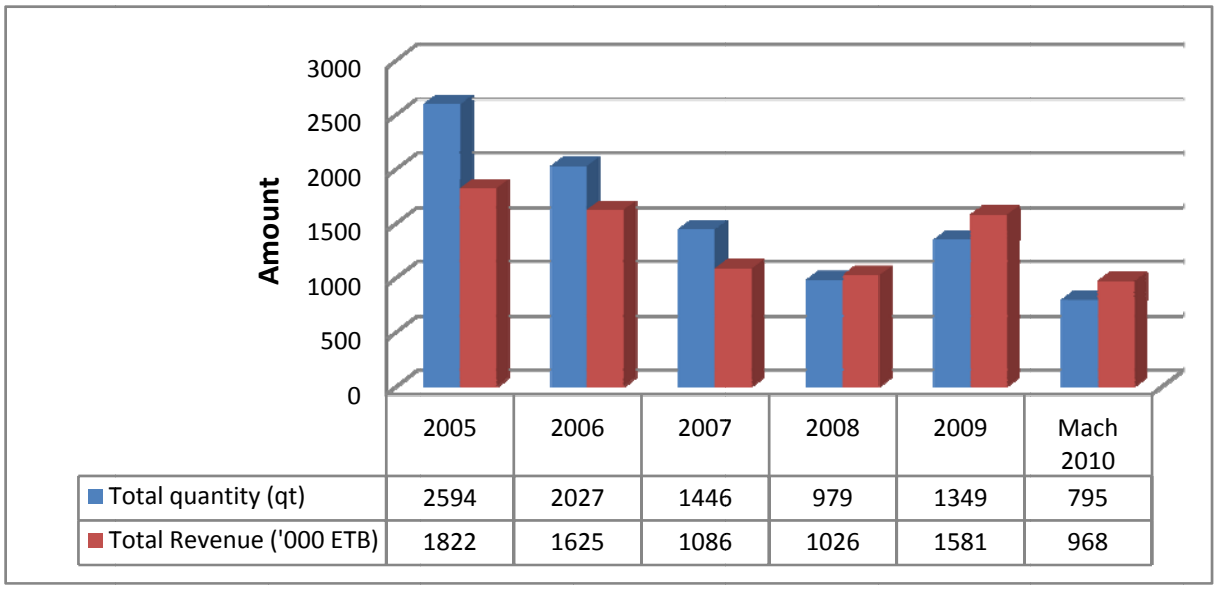
Source: Computed based on Ethiopian Revenue and Customs Authority (2010)

Table 14: Ethiopian Niger seeds export and importer countries (2005-March 2010), kg

Country	2005	2006	2007	2008	2009	2010(Jan-March)	Total	Cumula-tive %
Belgium	783,000	151,886	227,734	248,892	57,424	18,962	1,487,898	0.88
Djibouti	1,500,524	709,000	478,000	97,500	152,000	153,000	3,090,024	1.82
Germany	172,348	269,500	191,848	153,400	393,878	122,598	1,303,572	0.77
India	0	0	0	11,976	2,877,442	365,892	3,255,310	1.92
Israel	125,244	96,616	74,446	54,016	126,046	39,500	515,868	0.30
Italy	513,597	380,694	265,620	189,724	187,282	282,658	1,819,575	1.07
Netherlands	417,886	47,000	455,088	512,658	167,000	360,924	1,960,556	1.16
Singapore	6,198,659	234,000	2,351,190	3,709,000	6,628,383	1,387,890	20,509,122	12.11
United Arab Emirates	2,051,000	208,772	290,000	351,000	2,064,848	858,000	5,823,620	3.44
United Kingdom	811,514	909,320	322,406	417,624	771,340	701,882	3,934,086	2.32
USA	**21,269,423**	**11,627,164**	**15,904,384**	**17,704,330**	**43,436,459**	**9,406,518**	**119,348,279**	**70.45**
Other Countries	1,554,415	386,522	944,731	505,000	2,607,572	368,132	6,366,372	3.76
Total quantity	35,397,609	15,020,474	21,505,447	23,955,120	59,469,674	14,065,956	169,414,281	100.00
FOB Value (ETB)	145,541,383	57,823,763	158,509,430	295,004,945	506,507,114	120,875,467	1,284,262,102	

Groundnuts: Groundnuts export declined between 2005 and 2008 and then increased in 2009 (Figure 9). In 2009, 1,349 qt of groundnuts was exported and generated 1.5 million ETB. Since 2005, Djibouti has imported about 63% of the groundnuts export of Ethiopia followed by Yemen which imported about 29% of the Ethiopian export. The balance (8%) was imported by the Sudan, Netherlands, Saudi Arabia, United Arab Emirates, and Italy.

Figure 9: Trend of groundnuts export and revenue (2005-March 2010), kg

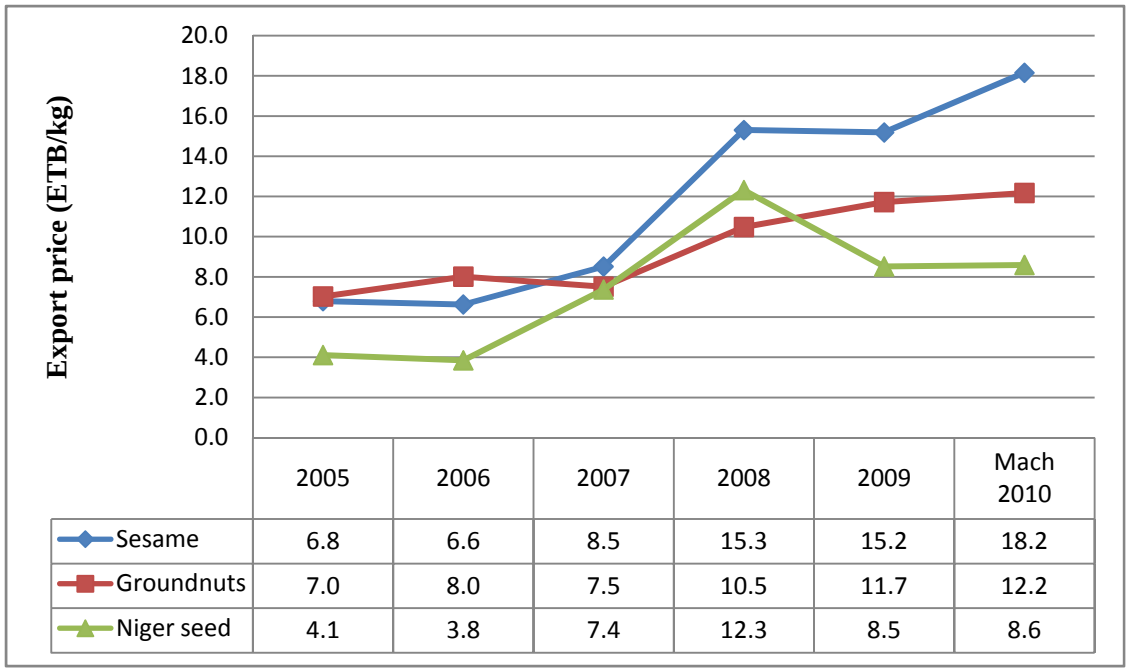


	2005	2006	2007	2008	2009	Mach 2010
Total quantity (qt)	2594	2027	1446	979	1349	795
Total Revenue ('000 ETB)	1822	1625	1086	1026	1581	968

Trend in oilseeds export price: The international prices of sesame, groundnuts and Niger seeds have been increasing over the last five years (Figure 10). The price of sesame increased from ETB 6.8 per kg in 2005 to ETB 18.2 in 2010, with annual average of ETB 11.4, without adjusting for inflation in ETB. Similarly, the international price of groundnuts and Niger seeds increased from ETB 7 and 4.1 respectively, in 2005 to ETB 12.2 and 8.6, respectively, in 2010. The annual average price during this period was ETB 8.8 and ETB 7.6 respectively.

As stated earlier, the price of these products depend on product quality. Especially, golden colored sesame is said to have higher demand followed by white seeded sesame. The field assessment also shows that the golden sesame is grown in Sherkole area and can be expanded.

Figure 10: Export price per kg of oilseeds



	2005	2006	2007	2008	2009	Mach 2010
Sesame	6.8	6.6	8.5	15.3	15.2	18.2
Groundnuts	7.0	8.0	7.5	10.5	11.7	12.2
Niger seed	4.1	3.8	7.4	12.3	8.5	8.6

4.1.7 Consumption

Consumption of oilseeds starts on farm. Farmers consume limited quantity of sesame and groundnuts though the quantity of the latter was said to be relatively high as groundnut is also consumed raw. This shows that in addition to creating access to food through increased cash income, groundnut directly contributes to the food security at the household level. Consumers in both local and national markets purchase oilseeds for consumption both processed and unprocessed ones.

4.1.8 Summary of oilseeds value chain actors

Table 15: Summary of roles of oilseeds value chain actors

Actor	Functions/Activities
Producers	▪ Manage farm level production process ▪ Determines quality of oilseeds during seed selection and production process especially threshing ▪ Pack and store oil seeds (sesame is often not stored) ▪ Deliver it either to local collector or local wholesalers ▪ Commercial farmers deliver it to central market in Addis Ababa or export
Collector/Local traders	▪ Collect, measure and pack the oil seeds ▪ Pay cash on delivery ▪ Store grain ▪ Deliver to local wholesalers ▪ Sell oilseeds to local consumers
Local/Regional wholesalers	▪ Provide loan to be paid when oilseeds are harvested: The products are sold to the wholesaler at the harvest time price and the rest of the product will be sold to the wholesaler at the prevailing price when the farmer wants to sell. ▪ Pay cash on delivery to the collectors or farmers who sell oilseeds to them ▪ Deliver the product to central markets in Addis Ababa or sell it to processors in the regional market
Commission agents	▪ Receive oilseeds transferred to it by the local/regional wholesaler. Such a transfer is arranged by telephone whereby the driver name, the plate number of the truck, type of product and quantity is informed to the commission agent; ▪ Facilitate the selling of the oilseeds; ▪ Negotiates the price and effects the selling ▪ Deduct unloading cost and own services from sales value; ▪ Transfer the balance to the local/regional wholesaler
Wholesalers in Addis Ababa	▪ Negotiate with the commission agents. ▪ Pay cash to the commission agents on delivery of the product ▪ Export or sell to processors or retailers
Exporter	▪ Maintain the quality of the product and pack it ▪ Deal with export clearance ▪ Pay necessary fees for export ▪ Export the product and remit the income
Processors	▪ Buy the oilseeds ▪ Process the seeds (extract oil/roast, etc) ▪ Sell the processed product to retailers/super markets, consumers
Consumers	▪ These are the ultimate users of the product

4.2 Margins

The difference between the retail price and farmer's price represents the value added by the different market actor. The farmer's share in the marketing margin is represented by the ratio of the farmer's price and the retailer's price. The farmer's margin is the farmer's price less the production and marketing cost. Whereas the marketing margin of the other market actors is computed by deducting their costs from their sales prices. The contribution of the market actors is computed in a relative term. Table 16 shows the value addition by the traders along the main marketing channel shown in Figure 5.

The producer's margin ranges from 625 Birr per qt in Belo Jiganfoy to 200 ETB per qt in Kurmuk and Sherkole. The producer's margin is affected by yield level, the cost of production and sales price. Due to space utility i.e. moving the product from farm level to Addis Ababa market, a value of 175 ETB is gained per qt. As a result, the local/regional traders gained ETB 8-40 per qt. depending on their proximity to the Addis Ababa market. Thus, traders at Belo Jiganfoy are near to the Addis Ababa market and paid lesser cost for transportation and earned bigger margin.

Table 16: Value addition in sesame

Production cost	Unit	Belo Jiganfoy	Sirba Abay	Sherkole	Kurmuk	Guba	Mandura	Dibate
i) Producer's margin								
Yield	Qt/ha	7	6	4	4	6	7	6
Production cost	ETB/ha	5,426	5,560	4,800	4,800	5,620	5,565	5,560
Unit cost	ETB/qt	775	927	1,200	1,200	937	795	927
Selling price	ETB/qt	1,400	1,400	1,400	1,400	1,400	1,400	1,400
Farmer's margin	**ETB/qt**	625	473	200	200	463	605	473
Gross profit	ETB/ha	4,374	2,840	800	800	2,780	4,235	2,840
ii) **Trader's margin**								
Purchase cost	ETB/qt	1,400	1,400	1,400	1,400	1,400	1,400	1,400
Labour cost	ETB/qt	7	7	8	8	5	5	5
Taxes	ETB/qt	35	35	20	20	20	20	20
Transport	ETB/qt	80	90	125	125	110	110	110
Commission	ETB/qt	5	5	5	5	5	5	5
Other costs	ETB/qt	9	9	10	10	9	9	9
Total cost of trader	ETB/qt	1,536	1,546	1,568	1,568	1,549	1,549	1,549
Wholesale price in Addis Ababa	ETB/qt	1,575	1,575	1,575	1,575	1,575	1,575	1,575
Trader's margin	**ETB/qt**	**40**	**30**	**8**	**8**	**27**	**27**	**27**
Value added		**175**	**175**	**175**	**175**	**175**	**175**	**175**

4.3 Potentials and Constraints

Table 17: Constraints and opportunities for oilseeds

Supply Chain Level	Main Constraints	Opportunities
Marketing	➢ Weak farmers organization to engage in value chain; ➢ Poor market information system; ➢ Lack of legal procedure governing grain marketing in Addis Ababa especially of commission agents	➢ The new road and bridge connecting north and south of BG region and road to the Sudan; ➢ Increasing trend in export shows an increasing demand; ➢ Demand for processed products with good quality has good demand in the local market
Processing	➢ Value addition along the supply chain is limited and most value addition is related to space utility; ➢ Limited financial, material and skill for oilseeds processing;	➢ Assosa farmers cooperative union is creating an opportunity for oilseeds processing ; ➢ Since large quantity of cooking oil in Ethiopia is imported, the local demand is high; ➢ Interest to access loan to overcome financial shortage is high.
Production	➢ Low productivity due to: • Poor agricultural production technique • Use of traditional agricultural inputs and little research support to increase yield; • Poor work culture of the indigenous farmers and hence low yield • Impact of erratic rainfall.	➢ Assosa and Pawi Agricultural Research Centers established in the region and attempt to select suitable oil crop varieties; ➢ Policy to increase production and productivity is supportive; ➢ Farmers interest to engage in production of high value crops is encouraging; ➢ Large and suitable land to expand production.

5.4 Proposed Interventions

Production*:*

- Supply improved inputs (seed, draught power, and agronomic practices) to increase production and productivity;
- Link with research centers for supply of high quality improved inputs.

Processing:

- Link the marketing cooperatives with processors;
- Create the capacity to process oil crops, for example soya bean, into soya milk, groundnuts and Niger seeds into cooking oil and other food types;

Marketing*:*

- Link the farmers to marketing cooperatives and the cooperatives with National Exporters Associations, private exporters and national oilseeds forum;
- Capacitate the existing or establish new marketing cooperatives at kebele level;
- Establish marketing union at woreda level;
- Providing coops/unions with seed money/credit;
- Identify the market niche of BGR sesame and work for certification like that of Humara sesame of Tigray;
- Skill building for cooperatives/unions (management, accounting/finance, marketing).

5. Honey Value Chain

5.1 Key actors and functions

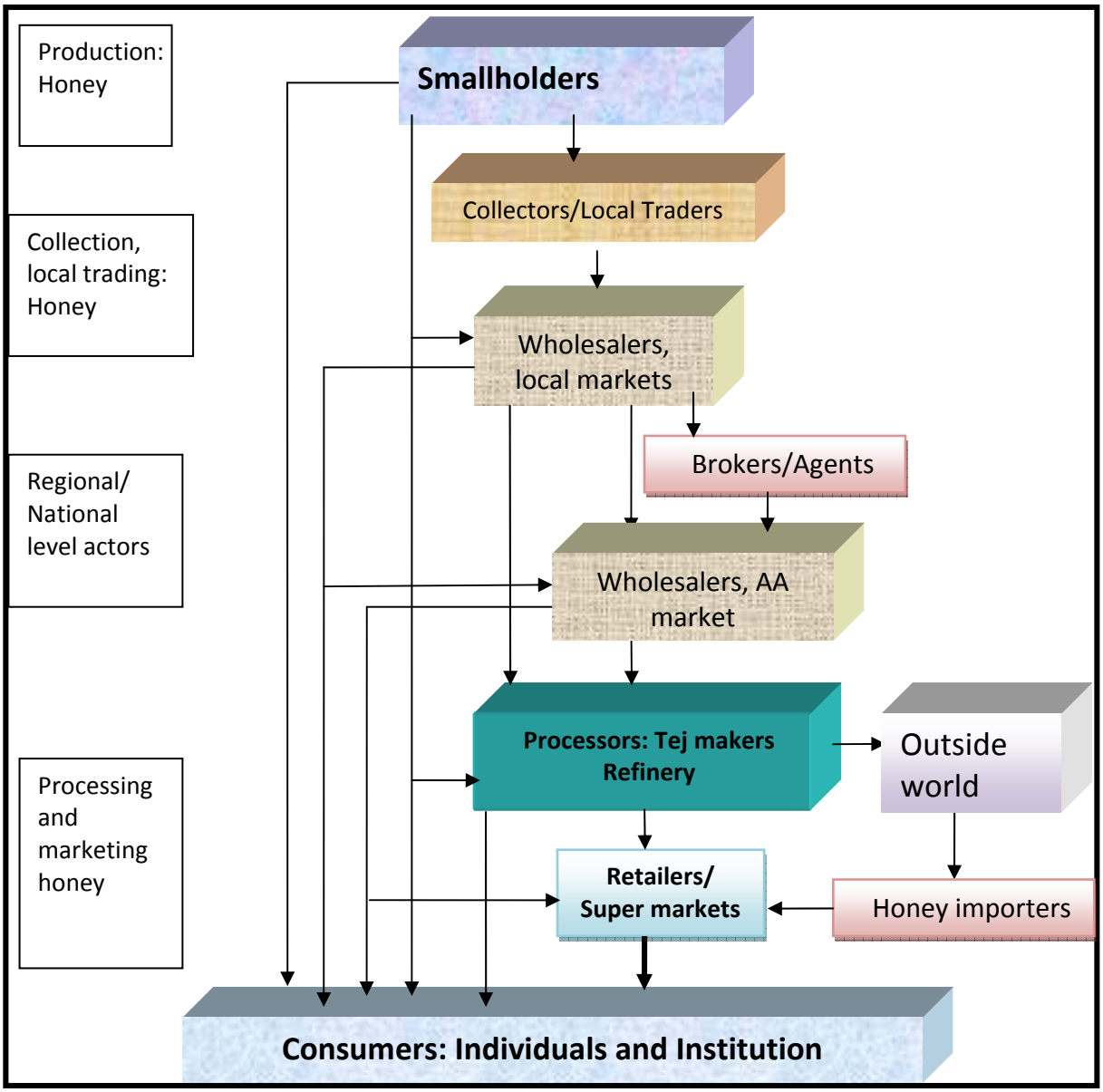
Honey and bees-wax are the two main products generated by the bee-keeping subsector. World Trade of honey fluctuates between 997,000 tons and 1,000,000 tons yearly. Russia and China are the two biggest producers which together account for more than one third of the world production. Developing countries taken as a group produce about 500,000 tons. It should however be noted that only a small proportion of this honey is of exportable quality. Although several African countries are major producers of honey, almost nothing is exported due to quality only 2% of Africa's production is exported.

A study conducted by SNV (2005)[4] shows that Oromia regional state produces about 41% of total national honey production followed by SNNPR and Amhara regions contributing about 22%, and 21% of the national production respectively. Tigray contributes close to 5% and all other regions including BGR contribute 11%. The study estimated that the country's production of honey was between 21,480 and 23,700 tons per annum during the 1998/99 making Ethiopia the leading producer in Africa. Since then, the production of honey increased significantly due to introduction of beekeeping technologies and capacity building on beekeeping to assist producers to participate in honey production.

[4] SNV Support to Business Organizations and their Access to Markets (BOAM)-Strategic Intervention Plan on Honey and Bees-Wax Value Chain; Johannes Agonafir (August 2005).

Although the potential for honey production in BGR is high, there is a limited supply of honey due to low yield and poor production practice. Though honey is used for consumption, it is one of the cash income generation activities in the region. Figure 11 shows the value chain and main actors along the chain.

Figure 11: Honey value chain



5.1.1 Production

In BGR, honey is collected from the forest, mainly by the indigenous communities, and also from traditional beehives. Traditional beehives are hung on trees and not much of the modern beekeeping techniques are practiced. The yield of a traditional beehive ranges from 5-9kg depending on flower availability. Recently, there are attempts to introduce improved beehives and beekeeping practices with the aim to increase honey yield and improve the income of the people. As discussed above, 37,087 beehives are currently available in the seven woredas, which are mostly traditional hives. If 10% of the beehives successfully produce honey at a rate of 5-9kg/hive, then 1,700 qt -3,000 qt of honey can be produced. However, the production from the region should be much higher since farmers harvest forest honey and also higher yield from improved beehives although the number of hives is limited.

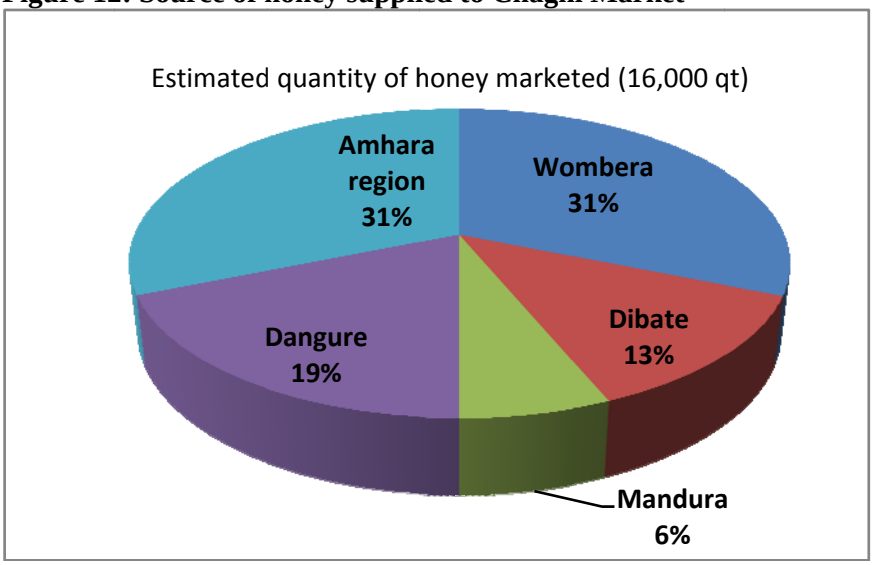
Honey is harvested in October, April/May and June/July. The October honey is considered to have good quality attracting good price (ETB 25/kg) while the June/July honey is of low quality attracting ETB 16/kg. The April honey is average in quality attracting ETB22/kg. It is important that good feature of the honey product is identified to develop a brand for the region. The seasonality of honey production clearly shows that the supply follows the flowering pattern of the flora which results in peak supply of honey during specific months and slack during the dry season during which the bee colonies require supplementary feed.

5.1.2 Trading

The honey produced in the region is sold to consumers in the local market and collectors/traders who buy and sell to traders coming from neighboring towns (e.g. Chagni for the Metekel zone of BGR) and Nekemte, Arjo or Mendi towns for the Kamashi zone and Assosa for Kurmuk area). For instance, 38% of the honey marketed in Chagni comes from BG region as shown in Figure 12. The traders in these towns sell honey to local consumers or sell in other markets such as Addis Ababa where brokers or commission agents play a crucial role. Cooperatives have no role in the current honey chain in the region. In other regions like SNNPR, Amhara and Tigray regions, honey marketing cooperatives have stake in the value chain.

The market for crude honey is Addis Ababa where honey is brewed into *Tej*. Refined honey is informally traded to Sudan.

Figure 12: Source of honey supplied to Chagni Market



Source: Trader's interview in Chagni town

5.1.3 Processing

Honey can be processed into a diversified range of products. Using basic processing technology, it can be separated into crude honey and crude wax which can be done at the household level. Intermediate processing technology can be in the form of separation of products to make liquid honey for use as table honey and bees wax for making candles and other wax-related products. At the more sophisticated industrial level, honey can be processed to produce ingredients in food manufacturing (sweetener in cereals, cake mixes, processed foods, jams, jellies and increasingly as an ingredient in health and beauty products) and pharmaceutical products. In the project areas, honey processing is at its most rudimentary level. Even household level processing is insignificant and the bulk of honey is by and large sold to traders in a crude form comprising honey, bees-wax and in some instances larvae. The only processing that occurs at the local level is commonly in the form of honey and wax separation, which starts at the level of honey collectors/suppliers and Tej makers.

The minimal equipment required for collection treatment and packaging of honey consists of accurate platform scales for weighing the product; collecting tanks (locally manufactured metal or plastic food grade containers); honey extractors; strainer and honey-packing equipment. As the color, flavor and moisture content of the honey determine the quality of honey, its grading standards should be tested at collection post using pocket refractmeter.

So far there is no government or private owned bee products processing enterprises, nor well organized collection center in the project woredas. A high quality product is essential for every honey operation. Management of honey extraction process is crucially important to maintain honey quality. Excessive heat during extraction will darken the honey. Certain export markets have minimum standards for diastase (an enzyme which can be destroyed by heat) and the level

of sugar breakdown due to heat. To prevent heat damage to honey, producers need to carefully manage the wax melting process and pay attention to storage conditions.

The process of extraction introduces air, bee parts and beeswax. These impurities cause the honey to granulate more readily. Management practices to reduce natural impurities focus on developing an extraction process that removes wax and bee parts, and reduces the amount of air incorporated into the honey.

Refining and marketing of bee products by cooperative producers and small-scale processor have been successfully used in many tropical countries, which have been proved in improving the quality and better utilization of resources (Rousseau and Maxwell, 1989)[5]. Honey processing finally requires packaging materials such as bottles and label descriptions.

The honey that comes from both traditional and transitional beehives is crude (honey mixed with comb, dead bees, brood, etc), which needs further processing to separate these materials to have pure (table) and marketable quality honey. Although this can possibly be done in different ways depending on the level of available technologies, which in most of the cases depends on affordability of the producers, volume of honey to be processed and the existing demand for table honey, the BG honey value chain should opt for the simplest one which is opting for simple technique of honey extraction using honey presser. Currently, such practices are not used in the project woredas and should be attempted by the project.

5.1.4 Export

Apparently, large volume of honey produced in Ethiopia is locally consumed. Poor quality of honey and lack of meeting the minimum standard quality standard by EU was the major reason. During the recent years, the trend of honey export increased from about 232 qt in 2005 to about 2,744 qt in 2009 generating ETB 578,300 in 2005 and 10.5 million in 2009 (Figure 13). The trend is on the increase since 2005 and the first quarter export of honey in 2010 shows that 2,014 qt was exported and generated revenue of about ETB 9.3 million. The major importer of honey is the Sudan which imported 71.1% of the export during 2005-2010. The other major importers are Yemen (6.8%), Norway (6.5%) and United Kingdom (6.1%) (Table 18).

[5] Rausseau P. and J. Maxwell (1989). Aid to beekeepers in the region of Gabu, Guinea Bissau. *Proceedings of the 4th International Conference On Apiculture In Tropical climates*., Cairo, Egypt, PP. 284 – 287

Figure 13: Trend of honey exported and revenue (2005-March 2010)

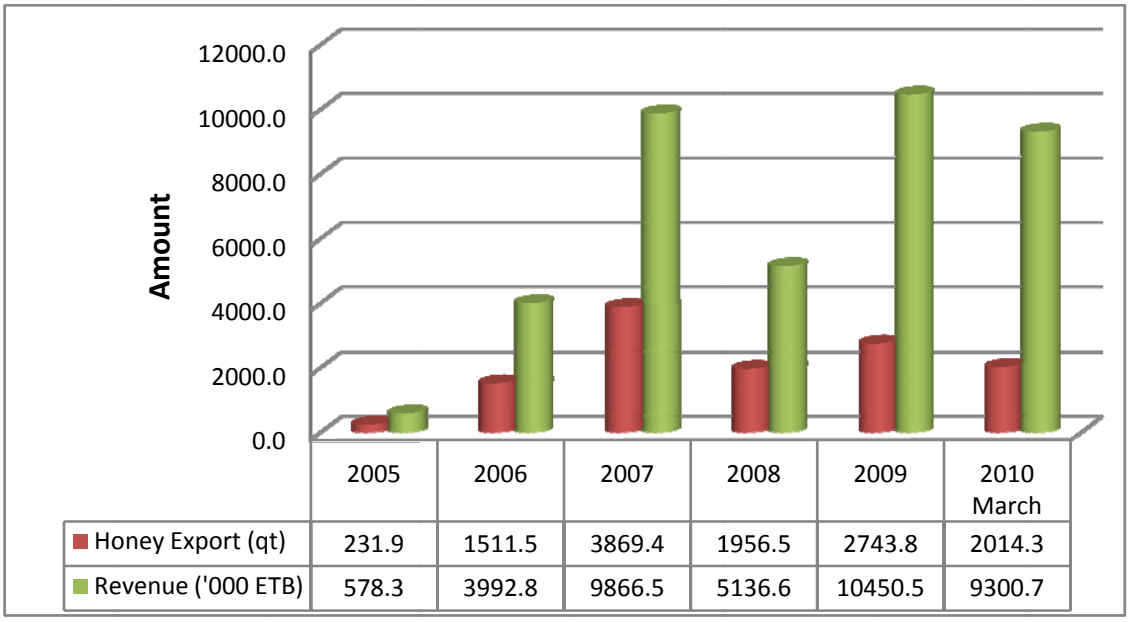


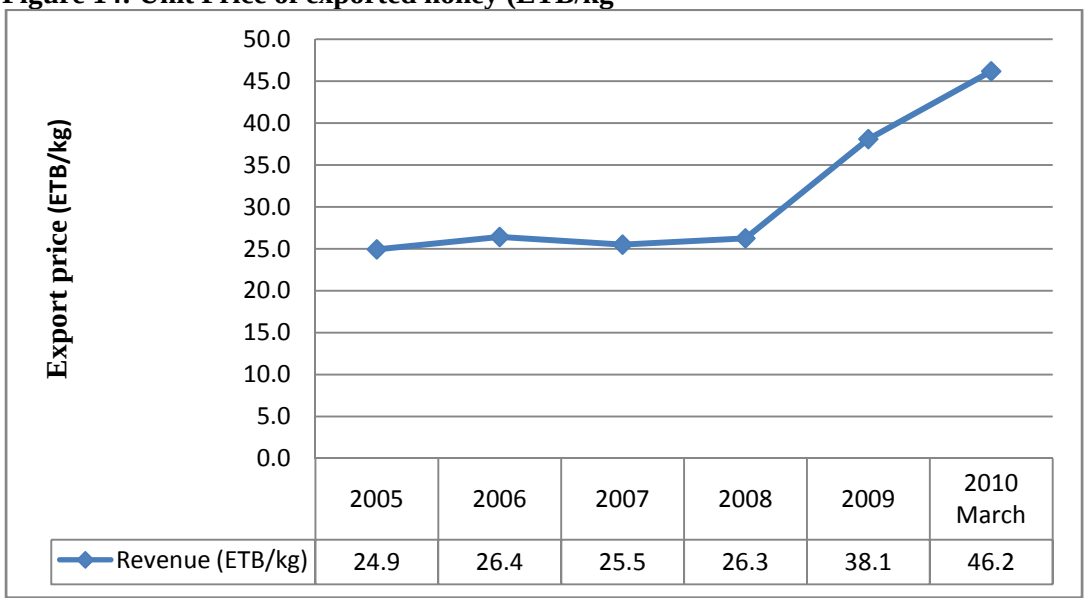
Table 18: Major Ethiopian Honey export and the importer countries (2005-March 2010), kg

Country	**2005**	**2006**	**2007**	**2008**	**2009**	**March, 2010**	**Total**	Cumulative %
Djibouti	142	206	549	783	664	0	2,344	0.19
Norway	0	0	0	0	40,000	40,000	80,000	6.49
Saudi Arabia	2,683	15,930	11,229	6,034	23,586	3,265	62,727	5.09
Sudan	10,800	68,600	357,056	140,610	145,674	155,836	878,576	71.27
United Kingdom	1,110	0	0	30,000	44,080	118	75,308	6.11
Yemen	7,062	30,186	12,684	16,562	15,989	1,193	83,675	6.79
Other countries	1,397	36,230	5,418	1,659	4,384	1,021	50,108	4.07
Total quantity (kg)	23,194	151,152	386,936	195,648	274,377	201,433	1,232,738	100.00
Total Value in Birr	578,314	3,992,785	9,866,486	5,136,558	10,450,465	9,300,720	39,325,328	

Trend in export price: As shown in Figure 14, the international honey price increased from ETB 24.9 per kg in 2005 to ETB 46.2 per kg in 2010, with an annual average of ETB 31.9 per kg for the stated period, without adjusting for inflation in ETB. The increasing trend in export price indicates the existence of potential for participation in honey export sector especially if good

quality honey is produced, branded and promoted to niche markets. It is important to note that the potential for organic honey export is high and should be considered by the project.

Figure 14: Unit Price of exported honey (ETB/kg



5.1.5 Consumption

Different consumers are recognized: consumers buying honey in the local market, those buying honey for brewing tej (local and Addis Ababa) and consumers in the terminal market. At the moment, all the honey produced and sold from BG region are used for tej brewing rather than for processing and using as table honey. Attempt to process honey makes the BG honey to enter into super markets.

5.2 Margins

The analysis of honey prices and associated costs were made for three woredas. Belo Jiganfoy woreda access the Arjo and Nekemte market where the honey is locally consumed. As shown in Table 18, the farmers incur an average cost of ETB 8.3 per kg and sell it at ETB 15, making a margin of ETB 6.7 per kg. The trader incurs a marketing cost of ETB 2.93 per kg and earns a margin of ETB 5 per kg. This creates a value of ETB 11. Sirba Abay farmers also sell the honey in nearby town of Nedjo, Mendi and Kiltu Kara where the honey is used for tej brewer. The producers and traders in this area make a margin of ETB 2.7 and 9 respectively. The total value added in the process is ETB 12. Further analysis of processing and tej price might increase the value.

A relatively longer value chain exists in the Metekel zone where traders in the local market collect and sell the honey to traders in Chagni who further trade it in Addis Ababa. Here, the

producers earn a margin of ETB 8.8 while the local traders and the Addis Ababa traders earn ETB 2.37 and 5 respectively. A total value of ETB 10 was added in the marketing process with a 50% share by the local and Addis Ababa traders.

Table 19: Price margins for honey production and marketing

Particulars	Unit	Belo Joganfoy	Sirba Abay	Mandura/ Dibate
i. Producer				
Yield	kg/hive	5	8	7
Sales price	ETB/kg	15	12	20
Cost of production and marketing	ETB/kg	8.3	9.3	11.2
Producer's margin	ETB/kg	6.7	2.7	8.8
Gross profit per hive	ETB/hive	33.5	21.6	61.6
ii. Local trader				
Purchase cost	ETB/kg	15	12	20
Marketing cost	ETB/kg	2.93	2.93	2.63
Total cost	ETB/kg	17.93	14.93	22.63
Traders price	ETB/kg	23	24	25
Traders margin	ETB/kg	5.07	9.07	2.37
iii. Addis Ababa trader	**ETB/kg**			
Purchase cost	ETB/kg			25
Consumer price	ETB/kg			30
Trader's margin	ETB/kg			5
Total value added	ETB/kg	8	12	10

5.3 Potentials and Constraints

Table 20: Constraints and opportunities for honey

Supply Chain Level	Main Constraints	Opportunities
Marketing	➢ Organized marketing is lacking; ➢ Low domestic demand for processed (table honey) and no Incentives for high quality honey; ➢ Market information not sufficiently reaching market actors; ➢ Low product quality due to poor harvesting and handling techniques limited honey marketing; ➢ Poor road infrastructure;	➢ High honey quality especially in Metekel zone which can be further explored for branding ➢ Road infrastructure is being expanded ➢ Interest of the farmers to participate in value chain is high ➢ Institutions are expanding in Ethiopia which can create demand for honey locally; ➢ Promotion can increase the demand for table honey
Processing	➢ Value addition along the supply chain is limited; The honey of the region is not as such processed to enter super markets ➢ Lack of financial resources for investment in honey processing; ➢ Lack of honey processing skill ➢ Lack of honey processing equipments; ➢ Poor packaging negatively affect quality of honey	➢ Experience on honey processing, packing and labeling exists ➢ Beekeeping equipments are being promoted by the government
Production	➢ Low productivity due to: • Poor technical know-how on the part of bee-keepers on appropriate bee-hive management and harvesting techniques leading to poor quality and low yields; • Widespread use of traditional beehives • Harvesting forest honey ➢ Inadequate knowledge on the part of bee-keepers about appropriate methods of handling honey; ➢ High moisture content; ➢ Forest fire killing bee colonies ➢ Water shortage for bees during dry season ➢ Use of pesticides in Dibate area	➢ Availability of bee colonies ➢ Good vegetation cover; ➢ Ground water potential is said to be available at shallow depth; ➢ Bee technologies available ➢ Partners can building beekeeping capacity of the producers ➢ Positive profit margin of investing in honey; ➢ Farmers know the benefit of honey production and marketing

5.4 Proposed Interventions

Production:

- Conduct Participatory Natural Resource Mapping (PNRM) to identify forest area that can serve as area closure;
- Based on the resource mapping, develop community action plan that includes management of the area closure which is closely linked to beekeeping and other non-timber productions;
- Increase community awareness and introduce bylaws to protect the forest from burning;
- Provide seed money/credit to initiate modern beekeeping;
- Skill building in modern beekeeping (queen rearing, utilization of bee equipments, hives making, bee management, honey processing and packing);
- Support private bee colony multiplication and marketing for income generation.

Processing:

- Establish honey processing and marketing cooperatives/union;
- Skill building in modern beekeeping and honey processing and packing.

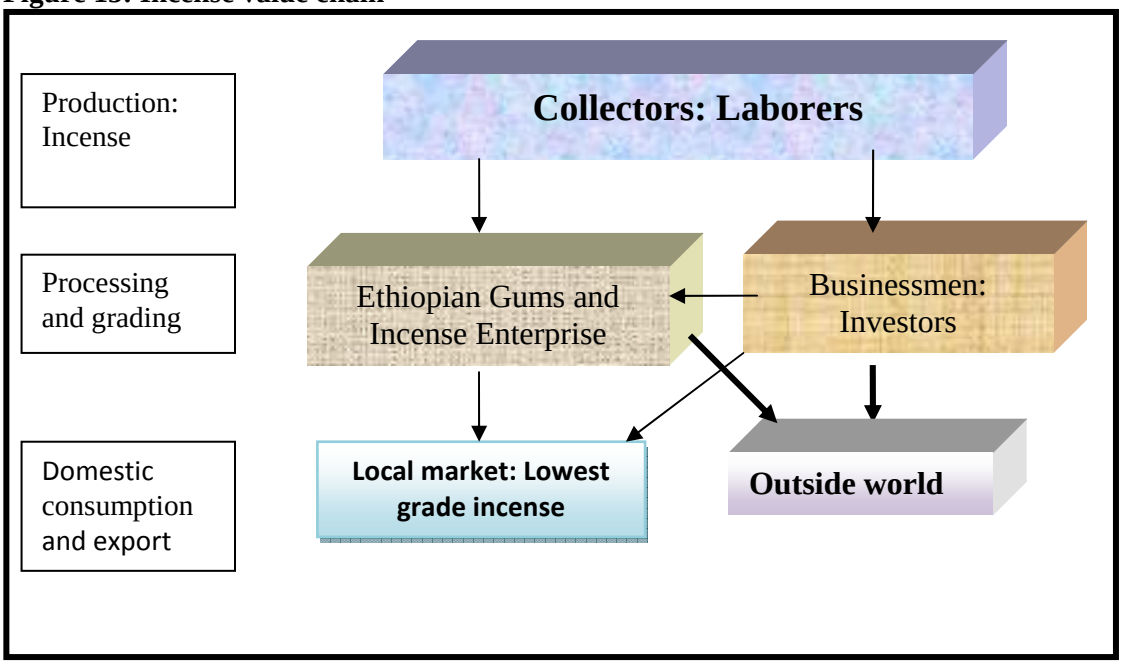
Marketing:

- Provide seed money for the cooperatives/unions;
- Training cooperative management on entrepreneurship and business development;
- Characterize and label the BGR product;
- Support private bee colony multiplication and marketing for income generation;
- Link honey coops/union with the local market in Addis (get the experience of Ecopia around Legahar and Nnational honey exporters association);
- Skill building in modern beekeeping (queen rearing, utilization of bee equipments, hives making, bee management).

6. Gums/Incense Value Chain

The incense value chain is short. The value chain actors are few: collectors and the Ethiopian Gums and Incense Enterprise and business entities called investors. Figure 15 shows the value chain and the main actors.

Figure 15: Incense value chain



6.1 Production

Incense production takes place in hot and remote areas of Guba, Kurmuk, Sherkole and Sirba Abay woreds. As discussed earlier, incense collection is made by employees brought by the processors/exporters from Tigray, Gonder and Gojam areas since the local people had shown little interest due lack of awareness about the benefits when the incense collection was launched. The employees collect and sell the incense to the businessman/investor licensed to work in the area or to the Ethiopian Gums and Incense Enterprise which is a government entity. The business men disburse the product in two channels: direct sale to the Ethiopian Gums and Incense Enterprise or processing it and exporting. The Ethiopian Gums and Incense Enterprise also process incense and export.

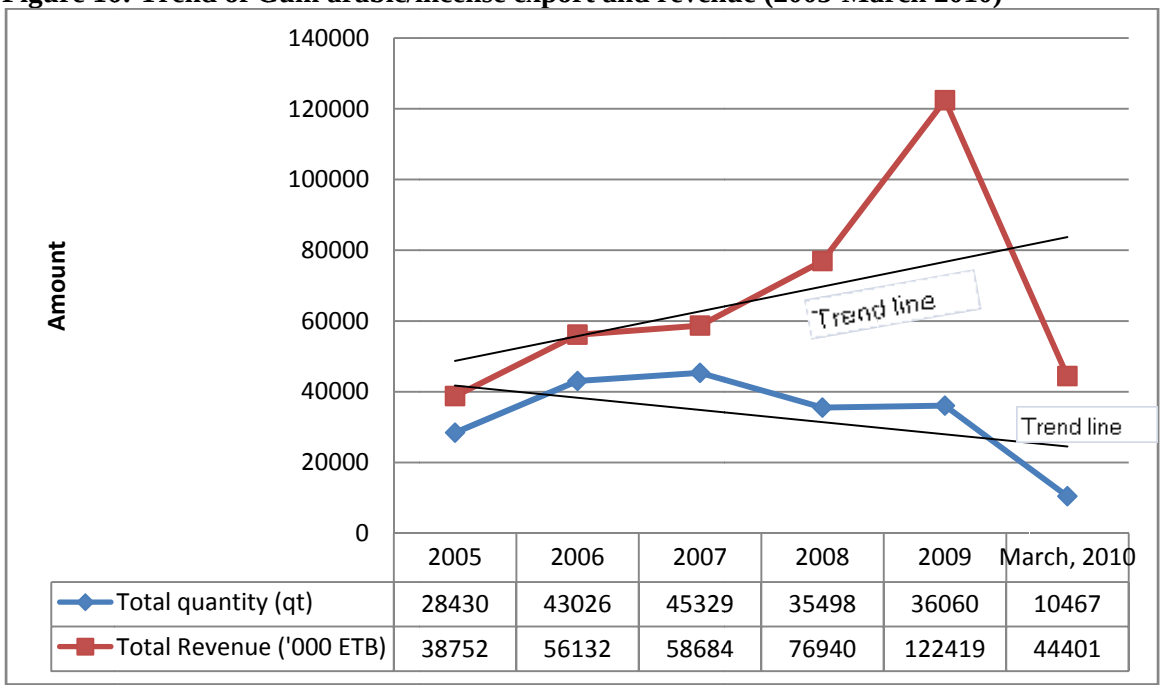
It was learned through the field assessment that incense is sorted by sieving, which is the main task of women. The sieving and cleaning process produces 4 exportable grades while the discarded grade is sold locally for consumption. The export price depends on the grade of the incense.

6.2 Processors/Exporter

The two types of agencies collecting incense in BG have warehouses where incense is cleaned and sorted into different grades. The warehouses were the BG incenses are sorted and graded are available in Chagni and Adama. Basically, there is no national standard for incense grading except that the grades are specified the importers.

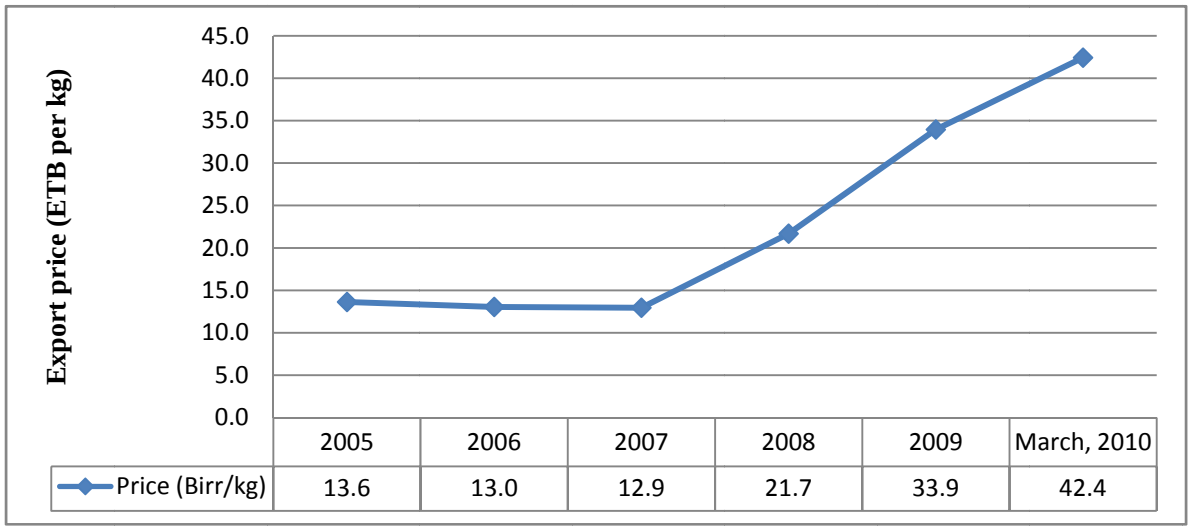
Trend of quantity of incense exported during the last five years shows a decreasing tendency (Figure 16). The key informants' interview with incense collectors in Guba and Shirkole shows that the decrease in incense supply is a serious concern. Without empowering the community to benefit from the non-timber products such as incense and honey and participate in the protection of the forest including incense trees from being burned or cut down, the national income from incense export can be endangered. Despite the decreasing trend in the export quantity, the total revenue has shown an increasing trend due to a sharp increase in the unit price of incense specially since 2007 (Figure 17).

Figure 16: Trend of Gum arabic/incense export and revenue (2005-March 2010)



	2005	2006	2007	2008	2009	March, 2010
Total quantity (qt)	28430	43026	45329	35498	36060	10467
Total Revenue ('000 ETB)	38752	56132	58684	76940	122419	44401

Figure 17: Unit price of exported incense (ETB/kg)



	2005	2006	2007	2008	2009	March, 2010
Price (Birr/kg)	13.6	13.0	12.9	21.7	33.9	42.4

China is a major importer of incense from Ethiopia by importing and average of 27.1% of the Ethiopian export during the last five years. Expressing the huge international demand for incense, the key informant exporter stated the supply from Ethiopia as "a drop in an ocean". The other major importers of incense from Ethiopia are the United Arab Emirates (15.7%), Tunisia (8.9%), Germany (8.8%), and Greece (6.4%) (Table 21).

Table 21: Major Ethiopian Gum/Incense export and importer countries (2005-March 2010), kg

Country	2005	2006	2007	2008	2009	March, 2010	Total	Cumula-tive %
China	719,000	1,165,160	1,087,400	1,082,600	946,208	390,060	5,390,428	27.11
Egypt	140,852	229,600	123,938	20,010	30,000	0	544,400	2.74
France	15,000	75,000	300,000	271,130	77,000	0	738,130	3.71
Germany	446,349	345,875	384,966	318,704	158,975	87,000	1,741,868	8.76
Greece	195,000	262,050	285,474	308,955	184,984	32,000	1,268,463	6.38
Guatemala	148,984	214,000	130,187	64,000	0	0	557,171	2.80
Hong Kong	0	30,000	62,000	0	104,982	0	196,982	0.99
India	0	32,000	184,882	293,935	494,700	130,500	1,136,017	5.71
Israel	3,072	15,249	6,705	3,885	2,250	0	31,160	0.16
Italy	16,360	32,300	4,000	0	1,344	12,250	66,254	0.33
Netherlands	30,000	62,970	81,500	31,500	33,320	0	239,290	1.20
Saudi Arabia	97,300	180,200	102,143	45,600	0	0	425,243	2.14
Sudan	91,100	11,000	38,500	29,000	10,350	19,650	199,600	1.00
Syrian Arab Republic	0	48,000	111,913	128,000	148,000	16,000	451,913	2.27
Tunisia	249,965	497,982	261,436	357,881	263,973	137,995	1,769,232	8.90
United Arab Emirates	492,725	753,968	838,470	412,784	449,538	174,000	3,121,485	15.70
United States	774	3,689	137,614	40,603	18,320	45	201,045	1.01
Yemen	102,240	142,289	219,186	104,979	136,987	17,000	722,681	3.64
Others	94,270	201,296	172,557	36,230	545,106	30,152	1,079,611	5.43
Total quantity (kg)	2,842,991	4,302,628	4,532,870	3,549,796	3,606,037	1,046,652	19,880,973	100.00
Total Value in Birr	**38,752,353**	**56,132,138**	**58,683,727**	**76,939,795**	**122,418,855**	**44,400,739**	**397,327,607**	

6.3 Potentials and Constraints

6.3.1 Potentials

- Availability of populous incense trees
- Good climate and land to expand the plantation
- Existence of exporters currently harvesting incense in the project
- Willingness of the exporters to involve the local people in incense harvesting

- High demand for incense in the local and international market

6.3.2 Constraints

- Lack of experience and poor working culture of the local people to harvest incense
- Forest fire burning incense
- Lack of ownership by the local community resulting in degradation of incense trees
- Lack of experience in establishing incense plantation

6.4 Proposed Interventions

Production:

- Conduct Participatory Natural Resource Mapping (PNRM) to identify the existing and potential incense area;
- Expand the plant population through plantation;
- Increase community awareness and introduce bylaws to protect the incense trees;
- Develop community action plan to manage and benefit from incense plants.

Marketing:

- Community mobilization and behavioral change on work culture and entrepreneurship;
- Establish linkage with local purchasers/ investors working on incense production and export;
- Skill building in incense tree management and harvesting;
- Establish and capacitate incense collectors associations in potential areas (business skill, management).

7. Fruits (Mango) Value Chain

7.1 Key actors and functions

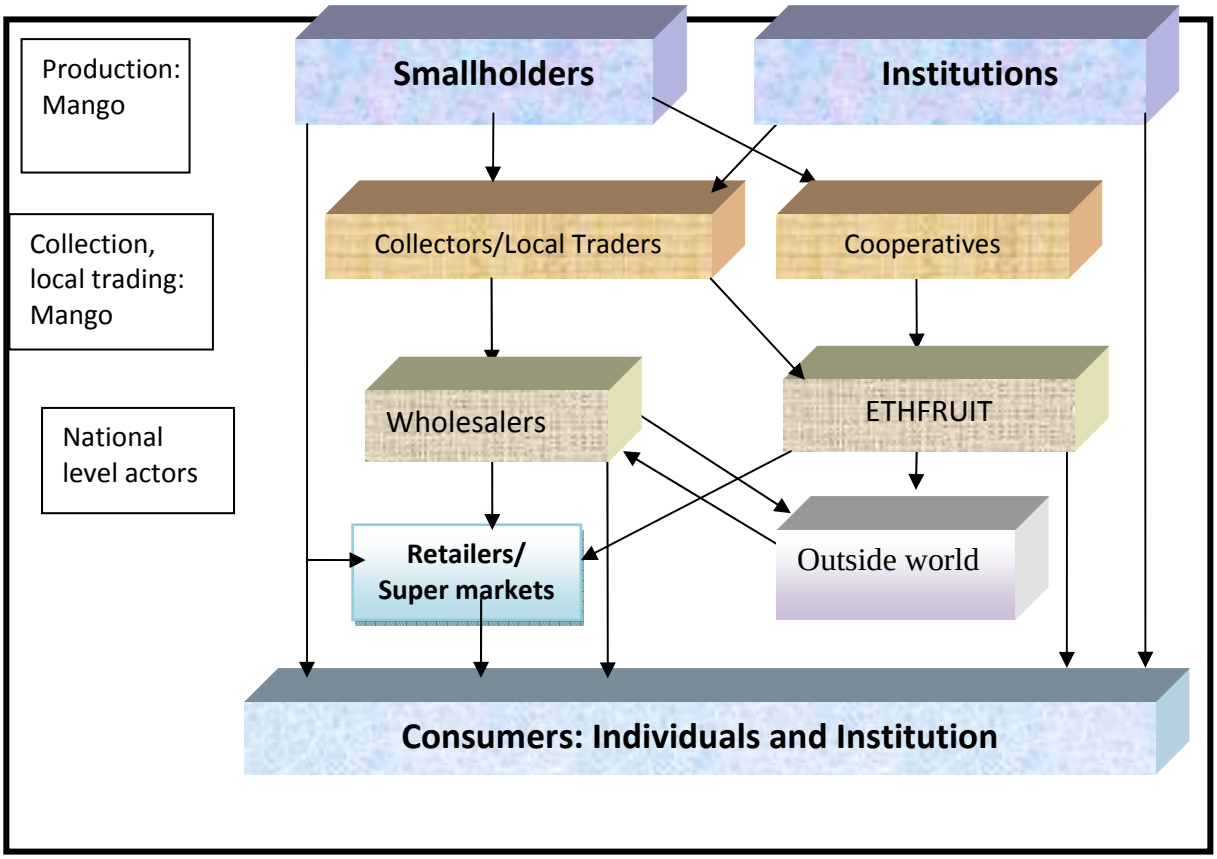
Production: The major actors in the mango value chain are the producers, traders and consumers (Figure 18). The producers are mainly smallholder farmers who supply the product to the local traders, cooperatives, retailers and consumers. The traders sell to Ethfruit, wholesalers, retailers or consumers. Another source of mango supply is institutions or firms that produce mango as a side business. These institutions sell mango to any buyers. The source of mango supply and channel of

Marketing: Mango from BG is known for its sweet juice. Hence, it is sold at good price in Addis Ababa and in Djibouti. Wholesalers in Addis Ababa purchase mango from local traders who collect and transport mango to Addis Ababa. Often the traders in Addis Ababa and local traders communicate and arrange the delivery. The products are sold in the so called Vegetables Marketing Center in Piaza from where retailers purchase it. The local traders and cooperatives sell the mango fruits to Ethfruit, which is a government enterprise. The enterprise also sells the product to retailers, super markets and exports it to Djibouti.

The role of cooperatives in mango marketing is at an infant stage. Obviously, mango is among the most perishable fruits. As a result, when there is a good supply, most of the fruit deteriorates and farmer's loss is considerable. On the other hand, except in few cases of efforts made by ZOA and SNV to initiate processing of small scale mango, there has not been persistent effort to add value to mango and increase its shelf life.

As mango is exported to Djibouti, most of the fruit juices in the Ethiopian super markets are imported. In addition to demanding foreign currency for importing these products, it discourages the development of local industry.

Figure 18: Mango Value Chain



7.2 Potentials and Constraints

7.2.1 Potentials

The potentials of mango production and marketing is inherent in ecological suitability and fruit quality. The major potentials are:

- Ample land and good climate for production;
- Good experience in production of mango in BG region in general and in Kurmuk and the neighboring woredas like Homosha, Menge and Assossa in particular;
- Good juice taste;
- Potential for grafting mango and expand the production exists; Mango grafting should be done, however, without affecting the existing mango quality.
- High demand for mango and increasing mango price in the central market;
- Expanding road network and transportation facilities linking main towns and the woredas;
- The knowledge and skill to share experience on mango processing is available in the country;

7.2.2 Constraints

The major constraints of mango value chain are related to production, processing and marketing. The following are the constraints related to each of them:

On production:

- Seasonality of supply of mango fruit limits investment in mango processing and marketing;
- Despite its sweet juice, the mango from BG region is known for its fibrous feature which limits its processing;

On processing:

- Lack processing facilities in the area;
- Lack of financial capital
- Lack of business vision and skill;
- No preservation facilities;

On marketing:

- Limited access to market due to poor road infrastructure between woreda twons and the kebeles;
- Low local price;
- No market information system for effective agricultural marketing;
- No market linkage.

7.3 Proposed Interventions

Production:

- Support development of private nursery which can serve as income generation;
- Improve the quality of local mango through grafting to increase the juice quantity of local mango without reducing the mango quality, and
- Expand mango plantation.

Processing:

- Skill building to enable processing and packaging;
- Establish mango processing and marketing cooperatives/union;.

Marketing:

- Build the capacity of the coops with skill and materially;
- Provide seed money for operational capital;
- Link the coops/unions with the national enterprises like Ethfruit, Ecopia, etc. Search also for niche markets like Embassies and missions in Addis Ababa as consumers and link them.

8. Rural Finance and Credit Analysis

8.1 Financial Institutions

Access to credit is one of the key inputs for the rural poor to pursue different income generating opportunities. In Ethiopia, informal sectors such as *Iqub*, *Idir*, loan from friends and relatives, etc. have been the major source of credit for small scale business and consumption activities. The formal and informal financial sectors are the principal sources of finance for any investment or business that can be undertaken at micro, small-scale and large-scale levels in an economy. As the large scale formal financial institutions failed to reach the poor majority, alternative means of financing pursued to address the credit demand of the poor in rural areas of the country. Wide scale financing began in 1990 in Ethiopia, following the credit agreement signed between the Ethiopian government and the IDA. The credit program was an urban micro financing scheme that aimed at financing the Market Towns Development Project (MTDP), whose actual operation began in 1994 (Mengstu, 1997).

Micro credit delivery and saving mobilization in Ethiopia were carried out by NGOs, government departments, co-operative and others in a fragmented and inconsistent way. To ratify

these inconsistencies, the government took the initiative to establish a regulatory frame work in order to facilitate sound development of the microfinance industry. Accordingly proclamation number 40/1996 was enacted to provide for the licensing and supervision of the business of micro financing by empowering the NBE to license and supervise them (MFDR, 2000).

Accordingly, twenty nine MFIs have been licensed by the NBE and started delivering microfinance services since the issuance of this proclamation. These MFIs aim at poverty alleviation through targeting specific groups (reaching the poor) and group based targeting. In short period of time the MFIs have managed to reach a size able portion of the rural and urban poor. Currently, over 6,236 saving and credit cooperatives have been established in the country (FCA 2007). These MFIs have played key roles in enhancing opportunities for the poor; contributed to rural saving, and enhanced production and productivity. In MFI, credit recipients have the opportunity to act individually or in a group and hence more likely to benefit from the service.

8.2 Current Status of Micro-financial Institutions in BG Region

There are two types of financial institutions in BGR. One is the Commercial Banks (Commercial Bank of Ethiopia (CBE) and Awash International Bank) that mainly target traders, investors and individual borrowers who can provide collateral and other requirements and the Benishangul Gumuz Micro Finance Share Company which target the micro enterprises run by the rural and urban vulnerable groups. These commercial banks give service for the nearby woredas, such as Homosha, Menge, Sherkole, Kurmuk, Bambasi and Mao Komo Woredas. The other weredas of the region use bank services outside the region. Woreda towns such as Koncho and Oda Bulidigilu use the bank service in Mendi; Kamashi and Agelo Meti towns use the bank in Ginbi; Soge and Yaso woreda towns use the banks in Nekemte town of Oromiya Region, where as all Metekel Zone Woreda towns use banks in Chagni of Amhara region except now (since May 2010) that the CBE opened a branch in Gilgel-Beles town.

The BGR MF Co was established to provide financial service to the poor and mobilize saving with the view of poverty alleviation. The company has 20 sub branches throughout the region which are authorized to approve and extend credit to the poor. In Assossa Zone alone, the BGR MF has 15 credit officers and 21 support staff that currently serve about 7,913 active borrowers, of which 1,372 are women (Oxfam, 2007). In 2009, the company disbursed over ETB 24 million loan for the needy people in rural and urban areas. Of this, about 50% was for agriculture, 20% for input purchase, 16% for asset building, 12% for micro-banking, 2% for petty trading and 0.06% for service (BG Micro-Finance Share Company, 2009). In the first quarter of 2009, about 407 new poor rural and urban people joined the saving and credit group and received loan of more than ETB 2 million.

Also, the BG MF share company is playing key role in financial resource mobilization. This role is particularly important in areas where formal banks are not available and also to improve the contribution of small rural savings into investable capital. Such saving is key source of future

loan to ensure institutional sustainability. In 2009 alone, over 12million birr saving mobilized, which is about 53% of the plan for the year. Of this, about 64% mobilized through voluntary saving and the remaining 36% through compulsory saving. Below, the strengths and weaknesses of the Benishangul-Gumuz Micro Finance Share Co. are discussed.

The regional government holds about 40% of the capital of the MF share company. The regional government also allocates fund from its regular budget for rural credit to be distributed to for agricultural inputs and asset creation. In 2010, for instance, the regional government borrowed ETB 10 million from CBE by providing its budget as collateral and provided it to the BG MF share company to be disbursed as input credit. In order to reduce, default, the regional government also introduced a strategy of keeping the woreda administration accountable for credit distributed in its constituency.

8.3 Strength and Challenges

8.3.1 Strengths

- ***Improved options for the poor***: The BG MF addresses the capital shortage of the poor and expands income generation opportunities for them. Credit recipients are more motivated to participate in income generating activities and likely to be profitable.
- **Contributed to saving**: The MF service initiated saving which was a critical linkage in the indigenous people's culture of spending. The MF deducts about 12.5% of the credit from each recipient and saved to encourage saving.
- ***Decentralized structure***: The Company has established sub-branches in all of the woredas in the region to increase financial accesses.
- ***Working with Government***: The Company works closely with the government staff such as the Agriculture and Rural Development Office to identify targets and mobilize the community. It also focuses on credit for productive activities such as input credit to increase production and productivity.
- ***Employing local staff***: Though limited by availability, the Company attempts employing the local people to work with people.

8.3.2 Challenges/weakness

- ***Lack of institutional capacity*:** the company lacks the required capacity-physical, human and logistics- to reach the neediest people in remote locations. Only two staffs exist at woreda level in most cases. Even these lack adequate capacity and incentives and this impacted a smooth implementation of the programme. Regular monitoring and evaluation is hampered due to low staff and logistics.

- **Lack awareness of indigenous people**: Most of the beneficiaries are the highlanders and the indigenous people lack adequate understanding and benefits of the credit service.

- **Lack of community capacity building in the areas of business planning, skill development and financial management**: In most cases, credit beneficiaries lack adequate business skill, comprehensive business planning and appropriate financial management. The trainings provided so far were more of facilitating repayment collection than enhancing capacity in the above mentioned areas.

- ***Inadequate support and participation of key stakeholders***: The support of key stakeholders like woreda administration council is inadequate especially in times of loan repayment. The company has over ETB 42 million outstanding loans. In 2009, the company's loan repayment achievement was less than 60%. This implies institutional sustainability is threatened if this situation is left unaddressed.

- **Discriminatory credit preconditions**: MFI financial service is provided based on group collateral. This has resulted in grouping based on repayment capability of the beneficiaries. Hence, the group members choose colleagues with who have the potential beneficiary having fixed assets like an ox and food self sufficient. This means poor that doesn't have asset and not food self sufficient are not entitled and this discriminate the poor.
- ***Inadequate lendable fund***: The Company doesn't have enough lending to satisfy the increasing demand for credit in the region.

8.4 Recommendation

- **Provide capacity building for MFI Company -** technical, logistics and financial support is needed for MFI to build its capacity and reach the needy poor in the region.
- **Provide capacity building for the poor beneficiaries**: capacity building in the areas of business skill, plan preparation and financial management is crucial to ensure benefit to the poor and increase the performance of the Company.
- **Improve collaborative engagement**- Concerned actors especially the woreda offices and administration should provide required support to credit groups or beneficiaries of the micro finance service which can enhance loan repayment.
- **Revisit beneficiary screening criteria**: criteria like asset holding and food self sufficiency discriminates against the poor. Alternative credit packages should be thought to provide good credit service and ensure repayment. Building the beneficiaries skill and extending loan for the purpose the borrowers needed is helpful.
- **Integration with other programmes**: Integrate the loan with other programmes like veterinary service and asset building schemes to maximize the impact.
- **Insurance**: consider insurance packages to absorb shocks.

9. Institutional and Regulatory Environment

9.1 Policy Environment

In the recent past, emphasis has been increasingly given to market oriented agricultural production to transform the economy of the country. Along his, various policy and strategic instruments were put in place to facilitate market development and market oriented agricultural growth. The leading strategies include agriculture-led industrial development strategy, agriculture and rural development policy, National input and output marketing strategy, development Corridor and PASDEP.

The agriculture-led Industrial development strategy lied the founding blocks for all other instruments and directions. As a long term strategy, ADLI envisages that the country's economic development should in the short term be centered on agricultural growth and development while industrial development will in the longer term lead the country's economic development. Agriculture accelerates trade and industry development by supplying raw materials, creating opportunities for capital accumulation and enhancing domestic markets. The rational for this is centered on the resource endowments of the country. Industrial growth requires capital. It also requires raw materials and labor, and it is stated that only agriculture can deliver all the three on a sustainable basis.

The second and equally relevant instrument is the Rural Development Policy and Strategy issued in 2002 for developing a free market economy, in a way which would ensure rapid and sustainable development, extricate the nation from dependence on food aid, and make the poor the main beneficiaries of economic growth. The rural development policy states that rapid and sustainable economic development would be ensured through agriculture-led and rural-centered development. To achieve faster growth and economic development, this policy estipulate the use of technologies that are labor using, but are land augmenting, such as fertilizer and improved seeds and other technologies.

To this end, specialized production system based on local potential is envisaged. For this, the government adopted development corridor to understand and recognize the challenges and opportunities of the different agro-ecological zones of the different parts of the country and to adopt the most appropriate plans and strategies tailored to addressing the specific conditions of each zone. Growth corridor refers to a geographical region, such as a sub-basin rather than a single rural or urban centre, which generates economic activities well beyond regional administrative boundaries. Growth corridors facilitate integrated development by creating value chains within and across regional boundaries. Growth corridors integrate complementary centers of production and marketing. But the extremely small ratio of urbanization of the country threatens to make inadequacy of domestic demand a critical constraint. This implies that agriculture has to be made internationally competitive, and that part of its production has to be oriented towards exports. The country can't take advantage of its potential in the foreign market with commodities that are not competitive both in quality and price. Hence, the need for reliable market system that ensures this came to the fore.

Along this, the government has put in place agricultural marketing strategy as a fourth key instrument. According to this, if agriculture is to achieve development objectives, the smallholder farmers need to be assisted to shed the traditional mode of production in exchange for a market- oriented production. The marketing system needs to be efficient and oriented to coordinating buyers and sellers to reduce marketing-related transaction costs. In this strategy, priority is given to products which can be produced extensively in the country and have domestic and international demand. Further, establishing an effective input supply system based on market demand has been envisaged to enable the farmer to obtain quality inputs in the required quantity and type, at the place needed, and on time, for a reasonable price. Hence, this will enable the agricultural input utilization to be quite profitable.

To realize the aforementioned policies and strategies, the government has put in place the comprehensive five years programme called PASDEP. The first Poverty Reduction Strategy Paper (PRSP) known as Sustainable Development and Poverty Reduction (SDPRP) was implemented from 2002-2005. The broad thrusts of the SDPRP by and large remained under PASDEP - the second PRSP (2006-2010). Agriculture remains the key sector as it is a source of livelihood for 85% of the rural population; many of whom are poor. The government continues to give primacy to the welfare of the rural population. Agriculture continues to be a source for generating primary surplus to fuel the growth of other sectors of the economy. The SDPRP laid the foundation for growth by investing in the enabling environment reforms, capacity building and decentralization. While continuing to consolidate these processes, PASDEP has embarked on new strategic directions that can accelerate economic growth. In response to the PASDEP a Joint Government-Donor Platform for Enhanced Support and Implementation of the Rural Economic Development and Food Security (RED/FS) Element of PASDEP was established. Three pillars of RED/FS were defined: (i) agricultural growth - both for high value crops and for transforming subsistence farming, (ii) attaining food security, and (iii) improving the natural resource base.

Investment and export promotion have been intensified to enhance economic growth. Currently, export of agricultural commodities with value addition is highly encouraged. As a result, export earning of the country is growing over the recent past years (MoARD, 2009)[6]. Since 1993, the Government of Ethiopia has taken a number of reform measures with the view to dismantling quantitative restrictions and reducing the level of tariff rates. At present, quantitative restrictions are applied only to a few commodities including used clothing, harmful drugs and firearms. Tariff levels have also been significantly reduced as part of the measures taken to stimulate export/import trade; for example, import duty rates (import duty receipts as percentage of CIF import value) in 2002 was almost half of the amount in 1980-12% in 2002 against 23% in 1980. Importers are also required to pay 15% value added tax (VAT) based on the CIF value and import duty. Concerning export, all export duties except those for coffee were totally removed. Although there is not much commercial import of maize, the 15% VAT is considered by many merchants as a serious disincentive to trade in large volumes and a burden to poor consumers

[6] MoARD (2008). Agricultural Export Statistics, Amharic version.

who spend a large portion of their income on cereals. Many regional merchants attempt to evade this tax by selling their maize supplies to those who do not request payment against receipts.

As part of the trade reform, additional measures taken by the government include abolishment of state monopoly in coffee, pulses and oilseeds export and abolishment of the mandatory approval requirement for export contract by the National Bank of Ethiopia, introduction of foreign exchange retention schemes (10% of foreign exchange proceeds) by the private sector, introduction of import duty rebate scheme, and initiation of bonded warehouse schemes. Despite such measures, however, exporters have not yet realized benefits from these measures, because of administrative problems and lack of transparency of operational rules. Moreover, the export processing system is made more efficient.

9.2 Supporting Institutions and Capacity Building Needs

Different institutions in BGR as well as outside of it can support the successful implementation of market led development in the region. Some of these organizations directly involve in the value chain development or facilitate the process. Research organizations assist in agricultural technology selection. Vocational Training and Education Centers play crucial role in training development workers and the farmers. Micro Finance Share Co. can play role in disbursing loan to the beneficiaries. Assossa Farmers' Cooperative Union is a key player in using the oilseeds as inputs for processing. Investors buy the project outputs or contribute to supply of processing capacity for different commodities. NGOs partner in implementation of the project activities. Government institutions create conducive working conditions and participate in the implementation of the project. Moreover, the government institutions will play crucial role in scaling up and creating market linkages. The following table summarizes the role of stakeholders in the market led development process and the type of capacity building needs for the institutions.

Table 22: Summary of roles of stakeholders in market led development process

Sr. No	Institution	Role in Market Led Development	Capacity Building Need
1	Government institutions: • Agriculture and Rural Development • Food Security Office • Micro and Small Scale Enterprise Agency • Cooperative Promotion Agency	Participate in implementation of activities to increase production and productivity, market information delivery and documentation, facilitating formation of farmers organizations, facilitation of business development, farmers' capacity building, cooperative registration, etc.	• Establish market information system and make it functional by equipping with IT and training staff (at regional and woreda levels) • Train staff on value chain, marketing, business and entrepreneurship; • Experience sharing • Logistics for field activities • Support to create conducive work environment
2	Cooperatives and unions	Involve in value chain development; give marketing service (purchase and sell the project outputs), involve in product processing	• For cooperatives in the project woredas: capacity building through training, experience sharing and financial support • For Unions outside the project woredas, assess their capacity gaps, synergy with the project output and support filling the gaps so as to enhance the project impact.
3	Micro finance institution	Involve in loan disbursement; capacity building for project beneficiaries through training and experience sharing; joint planning, monitoring and evaluation of credit schemes	• Support staff capacity building • Involve in joint loan planning and management •
4	Rural Technology Center	Production of project inputs such as farm implements, carts, beehives, etc.	• Procure farm implements and beehives
5	Technical and Vocational Education and Training	Training of DAs and farmers on value chain, marketing and business management	• Support development of relevant curricula for capacity building on marketing, business and entrepreneur development; • Support the staff capacity building for TVET to effectively train DAs and farmers
6	Agricultural	Selection of crop varieties, livestock breeds	• Support experiments of the

Sr. No	Institution	Role in Market Led Development	Capacity Building Need
	Research	and agronomic practices; livestock and crop pest and disease control	research centers in the project kebeles
7	NGOs	Local NGOs partner in mobilization of community for development; social work for behavioral change to improve work and saving culture; Other NGOs working in the region including Oxfam GB, Action Aid, ANFEA (Adult and non Formal Education Association in Ethiopia), blessing the children international, International Rescue Commit(IRC) and others can contribute through experience sharing, collaborating on implementation of different aspects of the market led development like Oxfam GB strengthening the capacity of Assosa farmers cooperative union.	• CBOs should be capacitated with tools of community dialogue for development. Training and logistics for the CBO needed. • Community CBOs shall also be organized and supported.
8	Ethiopian Quality and Standards Authority	Product standardization and certification	
9	Holeta Bee Research Center	Provides training on modern beekeeping and bee processing	

10. Summary and Recommendations

10.1 Potentials, Issues and Recommendations for Income Generation and Value Chain Development

Table 23: Summary of Income Generation and Value Chain for the BGFSEG project[7]

(Kurmuk; Sherkole; Belew Jiganfoy; Sirba Abay; Guba; Mandura and Dibate Woredas)

Type of income generation	Potential	Issues/Constraints	Recommended intervention	Applicable woreda
1. Small ruminants/ poultry production and marketing	• Ample land; • Conducive climate; • Farmers especially of women to rear goats; • Good market in the local and neighboring Sudan	• Livestock disease; • Forest fire burning down bushes; • Capital shortage • Water shortage	1. Provide revolving fund for women to rear and market goats 2. Training on goats husbandry; 3. Agribusiness skill development to promote fattening 4. Improve veterinary services 5. Facilitate exposure visit	Goats/ Poultry: all 7 woredas; Sheep: Mandura ; Dibate
2. Non-farm income IGAs	• Road infrastructure connecting the woredas to regional town and some woredas to the Sudan; • Basic experience in trading exists of industrial goods; cross border trade exists though informal • Existence of handcraft skill (pottery, bucket, carpentry	• Capital shortage • Lack of access to market; low demand • Low quality of product	1. Provide revolving fund for petty trade, grain trade, etc. 2. Technical support on market information system: establish the system and make it functional (at regional, woreda and community level). This is also valid for all income generation and value chain interventions. 3. Provide training to improve the quality of the product 4. Establish market linkage	All 7 woredas
3. Crop	• Ample and fertile land for	• Late onset and early stopping of	1. Provide revolving fund for accessing oxen and other	

[7] Detailed activities for each of the value chain and income generation interventions are give in Annex 2 for each woreda

Type of income generation	Potential	Issues/Constraints	Recommended intervention	Applicable woreda
production	production of sorghum, maize • Grain production is the major source of income of the community	rainfall • Shortage of oxen due to Tsetsefly resulting into hoe culture • Lack of skill to plough with oxen resulting in small cultivated area • Poor working culture • Striga weed infestation	inputs and train farmers on how plough. This requires provision of adequate veterinary services to reduce the impacts of tsetse fly. 2. Alternatively, organize/strengthen farmers cooperatives, provide seed money to purchase small/medium tractor to rent to farmers 3. Train farmers on improved agronomic practices 4. Mobilize the community to improve their working culture by involving CBOs. 5. Introduce early maturing and striga resistant varieties suitable for the area e.g. onion, , papaya, sorghum, maize sweet potatoes, others. 6. Facilitate exposure visit	
4. Improve livestock production productivity	• Good market • Grass availability during rainy season	• Feed shortage during dry season • Livestock disease • Lack knowledge to use livestock product • Lack of capital to acquire livestock	1. Livestock feed management to mitigate feed shortage during dry season 2. Enrichment planting of fodder plants 3. Introduction of Tsetse resistant breeds like Sheko and Abigar cattle 4. Training on livestock health management (Pawe Research Center can partner on tsetse control methods) 5. Improve veterinary service 6. Promote livestock product utilization to improve income and nutrition 7. Provide credit facility to purchase livestock 8. Facilitate exposure visit	
5. Bamboo	• Good local demand for construction of fences and houses, furniture • Ecological suitability	• Continued degradation due to over harvesting of bamboo located near residential houses • Available plant is in remote area which is difficult to access or transport it manually • Limited processing technology which can add value to the plant	1. Enhance conservation of bamboo trees in order to increase its population 2. If processing plant can be established in woredas with high bamboo population (which is outside the project area), groups of farmers can generate income from bamboo by providing bamboo raw material to the plant	
6. Mining	• Mineral potential exists in some of the project	• Traditional tools are used for mining	1. Organize the miners 2. Provide detective devices to ease accessing gold	

Type of income generation	Potential	Issues/Constraints	Recommended intervention	Applicable woreda
	woredas. The potential minerals include gold and marble. • Good market and attractive price for gold • Farmers have indigenous skill of artesian mining	• Due to lack of detective devices, mining is currently done by trial and error. Hence success rate is low. • The artesian mining process is tiresome and risky business as they dig deep in a narrow hole. • Gold collectors who purchase at the mining site benefit most compared to the miners	mineral, if possible 3. Link with market to increase their margin.	
7. Fishery	• Positional supply from Dhidhessa river in Belew Jiganfew and Hima river in Guba. • High demand for fish • Fishing cooperative already established	• Lack of fishing equipment • Lack of fish preservation and transportation facilities • Lack of processing skilling and facilities • Limited fishing skill	1. Skill building on fishing and fish management 2. Provide fishing material 3. Introduce fish drying technique 4. Link to market	Belew Jiganfoy and Guba
Value chain				
1. Honey value chain	• Good vegetation cover • Ample bee colonies • Communities in some of the kebeles practice traditional beekeeping • Availability of raw materials like bamboo for hives construction • Good experience in the neighboring woreda (ZOA's experience)	• Lack of market for honey • Poor quality of honey • No honey processing • Lack of skill in modern beekeeping • Wild fire damaging vegetation and bee colonies • Lack of capital to acquire modern beehives and equipment • Poor road infrastructure to the community (mainly Sirba Abay and part of the other woredas) • Predators • Shortage of water during dry season	1. Conduct Participatory Natural Resource Mapping (PNRM) to identify forest area that can serve as area closure. Based on the resource mapping, develop community action plan that includes management of the area closure which is closely linked to beekeeping and other non-timber productions. 2. Increase community awareness and introduce bylaws to protect the forest from burning 3. Skill building in modern beekeeping (queen rearing, utilization of bee equipments, hives making, bee management, honey processing and packing) 4. Provide seed money/credit to initiate modern beekeeping 5. Establish honey processing and marketing cooperative; provide seed money ; training on entrepreneur ship and business development; link with the market 6. Provision of water supply	All woredas except Guba and Shirkole

Type of income generation	Potential	Issues/Constraints	Recommended intervention	Applicable woreda
		• No market information system for effective agricultural marketing	7. Support private bee colony multiplication and marketing for income generation. 8. Facilitate exposure visit	
2. Oil seeds	• Good climate and soils for sesame, groundnuts, Niger seed, soya beans and haricot beans production; • Experiences of production available; • Assosa Cooperative Union is in process of establishing cooking oil extraction plant from several types of oilseeds • Exporters and processors available in Addis Ababa •	• Limited market access • Low productivity and production • Lack of processing facilities • Lack of capital to increase production • No market center in Guba woreda • No market information system for effective agricultural marketing	1. Supply improved inputs (seed, draught power, and agronomic practices) to increase production and productivity 2. Establish marketing cooperatives at kebele level and union at woreda level and capacitate them by providing them with seed money/credit and skill building; link them with processors and exporters. 3. Establish the market information system and build the capacity of the region as well as the woreda to effectively provide market information to the community 4. Establish market center at Guba woreda	All the 7 woredas
3. Mango	• Ample land and good climate for production • Good experience in production in Kurmuk and the neighboring woredas like Homosha, Menge and Assossa. • Highly sweat mango	• Limited access to market; low price • No market information system for effective agricultural marketing • Lack processing facility • No preservation facilities • Seasonality of supply • Fibrous mango limits processing	1. Establish mango processing and marketing cooperative; provide material, financial and skill building to enable processing and marketing. 2. Improve the quality of local mango through graphing. Support development of private nursery which can serve as income generation. 3. Facilitate exposure visit	Kurmuk
4. Incense	• Populous incense trees • Good climate and land to expand the plantation • Existence of exporters currently harvesting incense • Willingness of the exporters to involve the	• Lack of experience and poor working culture of the local people to harvest incense • No market information system for effective agricultural marketing • Wild fire • Lack of ownership by the local	1. Community mobilization and behavioral change on work culture and entrepreneurship 2. Conduct Participatory Natural Resource Mapping (PNRM) to identify the existing and potential incense area. Develop community action plan to manage and benefit from incense plants . 3. Increase community awareness and introduce bylaws to protect the incense trees. 4. Expand the plant population through plantation	Kurmuk, Shirkole, Guba and Sirba Abay

Type of income generation	Potential	Issues/Constraints	Recommended intervention	Applicable woreda
	local people in incense harvesting • High demand for incense in the local and international market	community • Lack of experience in establishing incense plantation	5. Skill building in incense tree management and harvesting. 6. Establish linkage with exporters 7. Facilitate exposure visit	

10.2 Synergy between the Proposed Value Chains and Food Security and Capacity Building Components of BG FSEG Program

Table 24: Summary of synergy between value chain commodities and other outcomes

Type of income generation	Synergy with other components
Value chain	
1. Honey value chain	• Highly linked to NRM in outcome 1. • Introduces innovative NRM technique to enable sustainable use of the flora for honey production • Increases food security through increased income (outcome 1); • Has synergy with community and government capacity building (outcome 3) through training
2. Oil seeds	• Increases food security through increased income (outcome 1); • Builds community and government capacities to implement market led development
3. Mango	• Contributes to environmental management by mitigating impacts of climate change • Increases household income and hence access to food; • Provides nutrition during critical food gaps.
4. Incense	• High synergy with NRM; Same NRM system as for honey. • Linkage with private sector (exporters) to enhance national growth • Contributes to community capacity building; • Increases food security through access

Annex 1: Checklist for Institutions (GOs, CSOs, Cooperatives and Private Sector)

I. Market Led Development

1. List of means of livelihood and their relative contributions to household income (**Ask:** Community)
2. Identification of Commodities (For each commodity, identify the primary and secondary products) **(To be asked:** GO and Community)
    a. What are the marketable agricultural commodities in the woreds (rank them in order of importance)
    b. List of non-agricultural activities for income generation (beekeeping/honey, gum and incense, trading, artesian mining, bamboo products, etc.)
    c. Other potential income sources that can be exploited in the future (e.g. vegetables and fruits production with small scale irrigation which might be developed in the near future.
    d. Others (list and discuss)
    e.
3. Production Analysis (**To be asked:** GO and Community)
    a. Geographical locations the commodities are produced/available
    b. Production potentials of the commodities listed under #1 (area, production, magnitude, etc)
    c. Quantity produced, marketed and income generated (Secondary source from each woreda)
    d. Constraints of producing these commodities
    e. Suggested solutions
    f. Who participates in the production of these commodities and benefits out of it (gender aspect)?

4. Markets for the commodities (**To be asked:** GO Market experts, community, traders, processors)
    a. Establish value chains for MAJOR marketable commodities and identify market actors (supplier, buyers, processors, consumers, others)
    b. Are there different roles of settlers and indigenous people in the value chains?
    c. Price information at different markets along the value chain (buyers and sellers price- ask actors at the level they operate).
    d. Understand the estimated costs of the market actors
    e. Market facilities
    f. Marketing margins for the producers
    g. Who are involved in the marketing of these commodities and benefits out of it (gender aspect)?

5. Market analysis with gender perspective (**To be asked:** Community:
    a. What is the role of each enterprise in the household economy (estimate percentage consumed at home and sold)?
    b. Which type of market outlet do women and men use to sell the crop?
    c. How frequently do they visit different types of markets?
    d. On average, how much do they take to sell per visit?
    e. On average, how much do they sell annually?
    f. How do they transport the produce to market?
    g. Who do they sell to (private trader/buyer, cooperative, direct retail to consumers, other)?
    h. What influences how much they sell and the frequency of their visits to the market?
    i. Who controls the income from marketing?
    j. How are the proceeds from marketing used?

6. Major supplies, inputs and services (**To be asked:** GO, Communities)
    a. Source of inputs and services
    b. Estimated cost of the inputs (also from woreda offices)
    c. Constraints of inputs supply
    d. Suggested solutions
    e.
7. Post harvest handling (**To be asked:** GO, Communities)
    a. Description of post harvest handling process
    b. Estimated post harvest losses (as % of production)
    c. Major constraints
    d. Suggested solutions
    e.
8. Processing of products (**To be asked:** GO, Community, processors)
    a. Description of ranges of products
    b. Processing methods
    c. Processed product
    d. Estimate of value addition
    e. Value addition technologies
    f. Major constraints
    g. Suggested solutions

9. Post harvest processing inputs, supplies and services (**To be asked:** GO, Community, processors)
    a. Suppliers of inputs/source
    b. Cost of inputs
    c. Constraints
    d. Suggested solutions

10. Main trading characteristics (**To be asked:** GO, Community, processors)
    a. Role of middlemen
    b. Services provided by intermediaries/agents
    c. Cost of the services
    d. Access to market (Transport facilities, infrastructure, etc)
    e. Indirect access (agents) and contractual arrangements)
    f. Indirect access (co-operatives, associations) and contractual arrangements
    g. Profits from product handling
    h. Capacities of the buyers
    i. Potentials for other markets

11. Relations of these commodities to other project outcomes
    a. To food security and Natural Resources Development
    b. To capacity building

12. Community business skill
    a. Training given
    b. Trading participation
    c. Access to micro credit by the community
        i. Purpose of the credit
        ii. Source of the credit
        iii. Amount given and conditions
        iv. Limitations in the current credit system
    d. Assessment of GO capacity gaps for effective promotion of value chains (what is available and what is lacking?)
        i. GO level
            1. Staff
            2. Logistics
            3. Working environment
            4.
    e. Problems of the community to engage in given value chain (**To be asked:** GO, Community, processors)
        i. Skill/knowledge
        ii. Market availability
        iii. Market information
        iv. Materials (storage, implements, transportation, machines, etc)
        v. Finance

13. Market information system (**To be asked:** GO, Community, processors)
    a. Availability now
    b. Necessity
    c. Constraints
    d. Suggestions for solutions

14. Cultural/religious factors limiting community participation in:
    a. Profit making
    b. Taking credit
    c.
15. What processing technologies are available in the area? Any gaps associated with their effective use?
16. How do you assess credit availability for marketing?
    a. Who among the HH members have access?
    b. Source?
    c. Features of the credit facility if available (Amount of loan, interest duration, purpose, etc)
    d. Constraints?
    e. Suggested solutions

II. Assessment of Micro-Credit Scheme (For Microfinance institution/SACCOs)

1. Current credit and saving services available in each woreda
2. Features of the loan service
    a. Range of loan size
    b. Loan period
    c. Loan processing time
    d. Interest rate
    e. Collateral requirement
    f. Repayment schedule
    g.
3. Purpose for which the loan is used
4. Current clients for the credit institutions
5. Lending capacity of the institution
6. Current capital
7. No. of clients
8. Default rate
9. Constraints
10. Suggested solutions

Annex 2: Activities related to value chain and Income generation

i) Activities related to value chain and Income generation which will be implemented by Geo leads

Intervention (Value chain commodities)	***Activities related to Outcome 1***	***B.Jiganfoy***	***S. Abay***	***Kurmuk***	***Sherkole***	***Guba***	***Dibate***	***Mandura***	***Technical support by Thematic lead***
Oil crop production (sesame, Niger seed, ground nuts, soya bean)	Supply improved inputs (seed, draught power, and agronomic practices) to increase production and productivity. Put seed supply system in place.	x	x	x	x	x	x	x	CHF identifies suitable high value crops in collaboration with research center.
	Link with research centers for supply of improved inputs								Will be done by CHF
Mango	Improve the juice quantity of local mango through grafting without reducing its quality and expand mango plants.			x					Identify suitable high value crops in collaboration with research center.
	Support development of private nursery which can serve as income generation.			x					
Incense	Conduct Participatory Natural Resource Mapping (PNRM) to identify the existing and potential incense area.		x	x	x	x			FHI/CIPAR to facilitate training, PNRM & community action planning
	Develop community action plan to manage and benefit from incense plants.		x	x	x	x			
	Increase community awareness and introduce bylaws to protect the incense trees.		x	x	x	x			
	Expand the plant population through		x	x	x	x			

Intervention (Value chain commodities)	***Activities related to Outcome 1***	***B.Jiganfoy***	***S. Abay***	***Kurmuk***	***Sherkole***	***Guba***	***Dibate***	***Mandura***	***Technical support by Thematic lead***
	plantation.								
Honey value chain	Conduct Participatory Natural Resource Mapping (PNRM) to identify forest area that can serve as area closure.	x	x	x			x	x	FHI/SIPAR provide technical support
	Based on the resource mapping, develop community action plan that includes management of the area closure which is closely linked to beekeeping and other non-timber productions.	x	x	x			x	x	
	Increase community awareness and introduce bylaws to protect the forest from burning	x	x	x			x	x	CHF facilitates CBO activity to bring about behavioral change and establish resource bases for honey and incense
	Provide seed money/credit to initiate modern beekeeping	x	x	x			x	x	CHF establishes credit guideline
	Skill building in modern beekeeping (queen rearing, utilization of bee equipments, hives making, bee management, honey processing and packing)	x	x	x			x	x	CHF provides training
	Support private bee colony multiplication and marketing for income generation	x	x	x			x	x	CHF provides training

Intervention (IG commodities)	Activities	***B.Jiganfoy***	***S. Abay***	***Kurmuk***	***Sherkole***	***Guba***	***Dibate***	***Mandura***	***Technical support by Thematic lead***
Crop production	Provide revolving fund for accessing oxen or donkey (as alternative & low cost) and other inputs and train farmers on how plough.	x	x	x	x	x	x	x	CHF establishes credit guideline
	Alternatively, organize/strengthen farmers cooperatives, provide seed money to purchase small/medium tractor to rent to farmers		x	x	x				CHF provides capacity building training
	Train farmers on improved agronomic practices	x	x	x	x	x	x	x	
	Mobilize the community to improve their working culture by involving CBOs.	x	x	x	x	x	x	x	CHF facilitates CBO activity to bring about behavioral change
	Facilitate exposure visit	x	x	x	x	x	x	x	
	Introduce early maturing and striga resistant varieties of sorghum and suitable varieties of crops such as e.g. onion, papaya, sorghum, maize sweet potatoes, etc.	x	x	x	x	x	x	x	
Small ruminants/ poultry production and marketing	Training on goats/poultry husbandry	x	x	x	x	x	x	x	
	Training on sheep husbandry						x	x	
	Improve veterinary services	x	x	x	x	x	x	x	Oxfam establishes linkage with Pawi Agr. Research center in demonstration of tsetse control
Livestock production	Livestock feed management to mitigate feed shortage during dry season	x	x	x	x	x	x	x	

Intervention (IG commodities)	Activities	***B.Jiganfoy***	***S. Abay***	***Kurmuk***	***Sherkole***	***Guba***	***Dibate***	***Mandura***	***Technical support by Thematic lead***
	Enrichment planting of fodder plants	x	x	x	x	x	x	x	
	Introduction of Tsetse resistant breeds like Sheko and Abigar cattle	x	x	x	x	x	x	x	
	Training on Participatory Tsetse Prevention and Control system (Pawe Research Center can partner)	x	x	x	x	x	x	x	Oxfam establishes linkage with Pawi Agr. Research center in demonstration of tsetse control
	Improve veterinary service	x	x	x	x	x	x	x	
	Promote livestock product utilization to improve income and nutrition	x	x	x	x	x	x	x	
	Provide credit facility to purchase livestock	x	x	x	x	x	x	x	CHF establishes credit guideline
	Facilitate exposure visit	x	x	x	x	x	x	x	
Non-farm activities	Provide revolving fund for petty trade, grain trade, etc.	x	x	x	x	x	x	x	CHF establishes credit guideline
	Technical support on market information system	x	x	x	x	x	x	x	CHF provides training on entrepreneurship and business development
	Training	x	x	x	x	x	x	x	
Fishing	Skill building on fishing and fish management	x				x			
	Provide fishing material	x				x			
	Training on fish drying and packing	x				x			
Gold mining	Organize the miners		x	x	x				
	Link the miners group to market		x	x	x				

Intervention (IG commodities)	Activities	***B.Jiganfoy***	***S. Abay***	***Kurmuk***	***Sherkole***	***Guba***	***Dibate***	***Mandura***	***Technical support by Thematic lead***
	Provide implements/instruments that can ease the search and mining of gold		x	x	x				
Bamboo	Provide seedlings and develop bamboo lots		x	x	x				
	Organize farmers who can harvest and sell bamboo to processors		x	x	x				
	Support bamboo processing enterprise in Assosa or Homosha		x	x	x				INBAR may take the responsibility

ii) **Activities related to Value chain which will be implemented by Thematic lead (CHF)**

Intervention	**Activities related to Outcome 2**	**B.Jiganfoy**	**S. Abay**	**Kurmuk**	**Sherkole**	**Guba**	**Dibate**	**Mandura**	**Remark**
Oil crop production	1. Capacitate the existing or establish marketing cooperatives at kebele level	x	x	x	x	x	x	x	Geo leads assign focal point to facilitate and link with woreda and community
	2. Establish marketing union at woreda level	x	x	x	x	x	x	x	" "
	3. Providing coops/unions with seed money/credit	x	x	x	x	x	x	x	" "
	4. Skill building for cooperatives/unions (management, accounting/finance, marketing)	x	x	x	x	x	x	x	" "
	5. Link the marketing cooperatives with processors, National	x	x	x	x	x	x	x	" "

Intervention	Activities related to Outcome 2	B.Jiganfoy	S. Abay	Kurmuk	Sherkole	Guba	Dibate	Mandura	Remark
	Exporters Associations, private exporters and national oilseeds forum								
	6. Create the capacity to process oil crops, for example soya bean, into soya milk								This could be done through Assosa coop. union or private investors
	7. Identify the market niche of BG Sesame and work for certification like that of Humara Sesame of Tigray.								This should be done with regional Cooperatives Promotion Agency and Bureau of Agriculture and Rural Development
Honey value chain	1. Establish honey processing and marketing cooperatives/union;	x	x	x			x	x	
	2. Provide seed money for the cooperatives/unions ;	x	x	x			x	x	
	3. Training cooperative management on entrepreneurship and business development;	x	x	x			x	x	
	4. Skill building in modern beekeeping (queen rearing, utilization of bee equipments, hives making, bee management, honey processing and packing)	x	x	x			x	x	
	5. Support private bee colony multiplication and marketing for income generation.	x	x	x			x	x	
	6. Link honey coops/union with the local market in Addis (get the experience of Ecopia around Legahar & national	x	x	x			x	x	

Intervention	Activities related to Outcome 2	B.Jiganfoy	S. Abay	Kurmuk	Sherkole	Guba	Dibate	Mandura	Remark
	honey exporters association);								
	7. Characterize and Label the BG product								Should be done at regional level
Mango	1. Establish mango processing and marketing cooperatives/union;			x					
	2. Build the capacity of the coops materially			x					
	3. Skill building to enable processing and marketing			x					
	4. Provide seed money for operational capital			x					
	5. Link the coops/unions with the national enterprises like Eatfruit, Ecopia, etc. Search also for niche markets like Embassies and missions in Addis as consumers and link them.			x					
Incense	1. Community mobilization and behavioural change on work culture and entrepreneurship		x	x	x	x			
	2. Establish and capacitate Incense collectors associations in potential areas (business skill, management)		x	x	x	x			
	3. Skill building in incense tree management and harvesting		x	x	x	x			
	4. Establish linkage with local bulk purchasers/ investors working on Incense production and exporters		x	x	x	x			