

Evaluating marketing opportunities for haricot beans in Ethiopia

Shaun Ferris and Elly Kaganzi*

Improving Productivity and Market Success (IPMS) of Ethiopian farmers project,
International Livestock Research Institute (ILRI), Addis Ababa, Ethiopia

* Corresponding author: sferris@crs.org, tel +1-410-951-7519, Cali, Colombia



Authors' affiliations

Shaun Ferris, CRS (Catholic Relief Services), Senior Advisor—Agriculture and Environment Program Quality Support Department, 228 W Lexington Street, Baltimore, MD, 21201, USA, formerly CIAT, (International Center for Tropical Agriculture), Cali, Colombia

Elly Kaganzi, CIAT, Kawanda Research Station, Kampala, Uganda

© 2008 CIAT (International Center for Tropical Agriculture)

All rights reserved. Parts of this publication may be reproduced for non-commercial use provided that such reproduction shall be subject to acknowledgment of CIAT as holder of copyright.

Correct citation: Ferris S and Kaganzi E. 2008. *Evaluating marketing opportunities for haricot beans in Ethiopia*. IPMS (Improving Productivity and Market Success) of Ethiopian Farmers Project Working Paper 7. ILRI (International Livestock Research Institute), Nairobi, Kenya. 68 pp.

Table of Contents

List of Tables	iv
List of Figures	v
Acronyms	vi
Acknowledgements	vii
Executive summary	viii
1 Introduction	1
2 Survey methodology	3
3 Bean types grown and traded in Ethiopia	5
4 Production of beans	7
5 Marketing systems and constraints	16
6 Demand analysis	21
7 Supply chain analysis	27
8 Major findings	37
9 Areas of intervention for research, development and the private sector	42
References	47
Appendix 1 Checklist for a bean rapid market appraisal	48
Appendix 2 Bean production in selected countries	50
Appendix 3 Import–export figures for beans in Ethiopia and the wider region	51

List of Tables

Table 1.	Area and production of haricot beans by region (2001/02 cropping season)	8
Table 2.	Production and marketing calendar for haricot beans	9
Table 3.	Farm size and production methods for haricot beans in Ethiopia	10
Table 4.	Production and consumption based on season	11
Table 5.	Production costs of the red beans	12
Table 6.	Common pests and diseases of beans	15
Table 7.	Volume and value of Ethiopian bean crop in 2005–2006 season	22
Table 8.	Beans sales prices based on Awassa retail figures in April 2006.	31
Table 9.	Beans prices in Borecha market in April 2006	31
Table 10.	Red beans buying and selling periods from Ethiopia in Moyale	32

List of Figures

Figure 1. Survey areas	3
Figure 2. <i>Phaseolus vulgaris</i> bean types	5
Figure 3. Main commercial bean types grown in Ethiopia	6
Figure 4. Production levels for haricot beans in Ethiopia in 2000–05	7
Figure 5. Main production zones for red and white beans	8
Figure 6. Schematic area based bean production map for smallholders in Dale, Ethiopia.	10
Figure 7. Haricot bean consumption levels by <i>woreda</i> (2001/02 cropping season)	16
Figure 8. World exports of dry beans 1994–2004	21
Figure 9. Export levels for Ethiopian white beans over the past 20 years	25
Figure 10. Export levels for Ethiopian white beans over the past 5 years	25
Figure 11. Prices of Ethiopian white beans per quintal over the past three years (ETB 150/qt = USD 174/t)	26
Figure 12. Supply areas for red and white bean market flows	27
Figure 13. Beans market channels in Ethiopia	28
Figure 14. Market channels for white export beans in Ethiopia	28

Acronyms

ACOS	Agricultural Commodity Supplies
ASARECA	Association for Strengthening Agricultural Research in Eastern and Central Africa
CGIAR	Consultative Group on International Agricultural Research
CIAT	International Center for Tropical Agriculture
CLUSA	Co-operative League of the USA
CRS	Catholic Relief Services
CSA	Central Statistical Authority
ECABREN	East and Central African Bean Research Network
EGTE	Ethiopian Grain Trade Enterprise
EIAR	Ethiopian Institute of Agricultural Research
ESE	Ethiopian Seed Enterprise
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FINTRAC	Financial Transactions and Reports Analysis Centre of Canada
GoE	Government of Ethiopia
IFPRI	International Food Policy Research Institute
ILRI	International Livestock Research Institute
IPMS	Improving Productivity and Market Success of Ethiopian Farmers
MoARD	Ministry of Agriculture and Rural Development
NGO	Non-governmental Organization
RSA	Republic of South Africa
SNNPR	Southern Nations, Nationalities and People's Region
WFP	World Food Programme

Study period = 10–21st April 2006

Quintal = 100 kg, same as a standard bag

Timad = Area of production equivalent to 0.4 ha

USD 1 was equivalent to Ethiopian birr (ETB) 8.65 at the time of the study.

Acknowledgements

The team would like to thank the invaluable assistance that we received from the various agencies with which we worked including all the staff at IPMS for their logistics, planning and review work. Particular thanks go to the staff at EIAR and SARI for supporting the field work. Special thanks to Drs Tsedeke Abate, Teshale Assefa and Dawit Alemu for their support in the study.

Executive summary

The common bean, *Phaseolus vulgaris*, is an important crop in the provision of food security and as a commercial product in Ethiopia. In addition to the domestic markets, Ethiopia is supplying white beans into the export canning industry in European Union (EU) and other eastern European markets. In the past two to three years, Ethiopia has also been a major supplier of red beans into northern Kenya and this market has shown most rapid growth.

There are three main haricot bean types grown in Ethiopia, based on colour: red, speckled beans and white beans and within each colour type beans are further sub-classified according to size classes; for example red beans are subdivided into small red, medium red and large red types. The red bean types are typically grown for food security by the poorer farmers in the southern Rift Valley areas of the country, whereas white beans are produced almost exclusively for the export market in central eastern Rift Valley. At present, virtually all bean production in Ethiopian is by smallholder farmers with minimal to zero inputs on plot sizes of up to 1.5 ha. With high population pressure, farm sizes are small and 56% of farming households farm less than one hectare.

There are two seasons for bean production in Ethiopia, the short rains season (Belg) from March to May and the longer rains (Meher) season, June to August. Most farmers focus their efforts on the main season production and several farmers indicated that rainfall in the short season is too unreliable to invest in commercial bean production. The main marketing season is from September to January, with residual trading in February.

The main production areas in the country are within the Rift Valley area, which runs diagonally across Ethiopia from top right to bottom left of the country. The two major bean producing regions are Oromia and Southern Nations, Nationalities and People's Region (SNNPR), which produce 70 and 60 thousand tonnes, respectively. These two regions make up 85% of the production. The inclusion of the Afar region brings the total production to 97%.

For the most part, bean production zones are clearly defined, white beans being produced north of Lake Ziway and red beans produced south of the lake. There are some pockets of white bean production in the southern Sidama area, but this is mainly for local consumption.

Based on statistical data from Food and Agriculture Organization of the United Nations (FAO) and Government of Ethiopia (GoE), bean production ranges from 100–200 thousand tonnes per year, with yields highly dependent upon rainfall. Average national

production is approximately 150 thousand tonnes per annum. The level of production in 2005 was approximately 175 thousand tonnes with a domestic market value of USD 30 million. Approximately 35–40 thousand tonnes of beans were sold through the international export markets via Djibouti and it is estimated that 10 thousand tonnes were sold through the Kenyan border at Moyale. This suggests that 125 thousand tonnes or 70% of the bean harvest was consumed locally.

Farmers indicated that bean yield in the short season was approximately 200–300 kg per *timad*¹, equivalent to 800–1200 kg/ha, with yield increasing to 600–800 kg/*timad* (2400–3200 kg/ha) in the longer rains season. Only farmers with more assets and larger farm sizes of 2–3 ha regularly use new seed and fertilizer. This group also hires labour and has access to animal traction for production. No irrigation is applied to beans, even though simple irrigation systems are used in these regions for higher value crops.

Production costs for red haricot beans were approximately USD 125/ha. For the most part, farmers retain seed and all other costs were covered by family labour except for ploughing. Therefore with yield in the range of 800–1200 kg/ha a farmer can expect a return to land and non-paid labour of approximately USD 160 from 1 ha of production, when sole cropped. This figure will decline dramatically if the farmer is using mixed cropping systems.

According to the farmers in the south, costs for white bean production are higher than red beans as seed is more expensive and white beans require additional labour in land preparation and bird protection. Farmers also indicated that market prices for white beans in the south were often lower than red beans and were therefore unattractive. The lower price of the white beans in this area of the country was presumably because the seed were either consumed locally or marketed locally, and did not enter the export market channel where they may receive a higher price.

In the past 2–3 years, bean markets in Ethiopia have become increasingly commercialized with the development of new market linkages. White beans from the northern Rift Valley were sold into export markets to supply European canning factories and red beans were exported from the southern Rift Valley areas to supply drought affected areas in northern Kenya. The major storage and trading sites in the southern Rift Valley area are concentrated in the towns of Sodo, Awassa and Shashemene. Major collection centres for white beans being in Nazareth, prior to exportation through Djibouti.

In the past 4–5 years, the value of exported white beans has been in the range of USD 25–30 million per year. There are good prospects that this market will grow as consumers

1. One *timad* is an area equivalent to 0.25 ha.

in industrialized countries seek evermore competitive suppliers. For the major processing companies, Ethiopia is a relatively new source of supply and recent investments by a number of international companies from Italy, UK and Turkey indicate that market prospects are good.

Regional demand for red beans is also growing, although demand is less stable and is typically dependent upon levels of drought. However, there are prospects that exports of red beans may increase as the bean export market expands. At the time of this survey, all the red beans were being sold through the border town of Moyale, northern Kenya.

Two to three years ago, white bean production in the southwestern Rift Valley, such as Sidama was increasing, probably with government and/or non-governmental organization (NGO) support. However, prices fell and farmers reverted to growing red varieties. Farmers prefer the red beans as they are more popular in the local diet and have lower production costs. Furthermore, over the past two years increasing numbers of traders in the southern areas have been demanding red beans and this shift in market signal may have offset growth of the white bean market.

Market signals in the past 2–3 years have also been tracking away from white to red types to supply the demand for red beans in northern Kenya (Rubyogo 2005). Hence, in the recent past, there have been few incentives to produce the white haricot beans in the SNNPR as market prices were not different, but production costs were higher.

To support both the domestic and export markets, the Ethiopian Institute of Agricultural Research (EIAR) has developed a range of high yielding, multi-disease resistant bean varieties. Within the red bean types the most favoured include Red Melka, a mottled medium sized red, Red Wolaita, a medium sized pure light red, and Naser, a small pure dark red variety.

Within the white types, there are a number of commercially accepted varieties, such as Awash 1, Awash Melka and Mexican 142. Due to increasing demand from export markets there is insufficient seed in the country and there are particular problems in accessing new white bean varieties. In the southern region, access to high yielding varieties is most pressing. To overcome this issue, white seed production has been supported by NGO's and the government through the Ethiopian Seed Enterprise (ESE).

Given the new policies for market-led agriculture, the government is promoting formal exportation of white beans and to lesser extent red beans, through investment incentives to local and foreign companies. It appears the private sector is responding to these opportunities and a number of new investments were observed in terms of storage and seed processing factories.

In the past 2 years, there has also been a boom in the construction of more than 20 large stores in the trading centre of Shashemene, with a capacity of more than 5000 qt each. According to one trader, the government is providing loans of up to USD 100–150 thousand to invest in storage capacity. Although these stores are being used for beans, they were developed as part of a general policy framework to support agricultural exports and local trading of other major crops such as maize, teff, beans and other highland pulses.

Specifically for the export markets, two new marketing and processing companies have been manoeuvring to enter the bean markets, Poortman and ACOS. ACOS is a growing industrial processor that supplies almost 80% of the baked beans in the USA and Canadian markets. The company already has significant investments in Argentina, China and through new leadership is now seeking to diversify into new world locations, such as Ethiopia.

These new developments offer interesting new market opportunities for smallholder Ethiopian farmers and they can increase production and remain competitive with other exporting countries such as China, Argentina and India. If this can be achieved, then prospects for increased revenue from this product appear good. The advantage of Ethiopia in this market is cost and time to market. It takes nine weeks for sea shipment of beans from China to EU markets whereas it only takes three weeks from Ethiopia and this confers an advantage for Ethiopia, as long as costs remain low. This is an area of concern as prices for beans that were trading at Ethiopian birr (ETB)² 250–300/quintal in 2005 were trading at more than 400 in 2006. If the market continues to increase or hold high market prices, the larger buyers may defer sales to more competitive regions of the world.

Another advantage in Ethiopia is the general levels of discipline, which infers that farmers can become more organized within a relatively short timeframe and at low costs. The main competition within the bean market is from China, which is aggressively exporting beans into countries throughout the world and is already tied into the canning markets.

Therefore it is important that for the success of the Ethiopian bean subsector efforts are made to provide clear information on local and export markets and that competitiveness of other leading nations are understood. For the Ethiopian farmers, investments will be required to ensure that they are in a position to provide a regular supply of high quality beans at a lower cost than the Chinese competition.

As both types of beans are produced by the poorest sectors of the farming community, it is suggested that any public and private sector investment in this product will have strong

2. USD 1 was equivalent to Ethiopian birr (ETB) 8.65 at the time of the study.

pro-poor benefits and should therefore be considered as a high priority in market-led agricultural development interventions.

Recommendations:

Due to the strong pro-poor impact of increased bean sales for poor, smallholder farmers, it is recommended that large agricultural intervention projects such as Improving Productivity and Market Success (IPMS) of Ethiopian farmers project invest in the areas of seed development and production, grain production, market linkage and market information. Some specific areas of intervention are outlined below:

Breeding. The EIAR bean breeding program requires additional support to accelerate the evaluation and release of existing and newly acquired germplasm, which is required for multiplication and delivery to farmers. Key areas of intervention include:

- Fast-track the evaluation and certification of new commercial varieties that have been imported from USA and other locations for production and export from Ethiopia into the EU markets. This will require both policy and strategic reform to provide new avenues to overcome the long delays involved with passing new varieties through the various requirements established for the testing of varieties that are developed through traditional cross breeding programs.
- Devise new systems to support ways of accelerating the production of bean seed to supply the markets, via dedicated farm plots and through individual farmers or farmer groups.
- Evaluate the canning quality of beans, through linkages of EIAR with other leading agencies in the Republic of South Africa and Europe.

Seed production. A major constraint mentioned by virtually all market chain actors was the lack of high quality seed especially for the white varieties for export. Additional efforts should be made at a commercial and farmer level to introduce projects to increase local availability and access to improved seed types. This should include both the seed types from the public and introduced seed from the private sector. Key areas of intervention include:

- Farmer groups should be supported to produce high quality seed to provide inputs into the bean export industry.
- Build supplier database, such that seed can be informally registered if not considered within a formal seed certification systems, such that farmers are able to benefit from premium prices.
- Despite high demand for white seed in the southern Rift Valley, we would recommend that:
 - o Unless market prices for white beans significantly increase, interventions should focus on red beans distribution, south of Lake Ziway to support the Ethiopian–Kenyan market.

- o To overcome the limited availability of white seed, improved seeds should be multiplied and supplied to the central eastern Rift Valley area to support export production.

Distribution of white seed into the southern districts are at this stage only likely to increase local consumption and this will dilute the potential incomes to farmers overall.

Strengthening capacity of public and private extension services. The Ethiopian Government is investing significantly in programs to promote export-oriented agricultural development. This market-led approach requires considerable support in terms of identifying, adapting and delivering best practices to leading agencies who have been assigned the duty of aligning production with market needs. Key areas of intervention include:

Recommendations:

- Development agencies, such as IPMS, to conduct a rapid review of basic best practice in the area of market-led development, with respect to market analysis, marketing extension, market information, linking farmers to markets, business development services, and basic business development. If there are apparent gaps in access to best practices these should be developed and disseminated to key clients.
- Distribute marketing best practices to extension and marketing agencies in Ethiopia with access to information related to the basic market skills required by marketing extension officers for enabling smallholder farmers to access local and export markets. See downloadable copies at http://www.ciat.cgiar.org/africa/pdf/eri_guide2/contents.pdf
- Support the finalization of the Rapid Guide to Market appraisal. This new guide provides a method for rapid market chain analysis. The guide requires testing in Ethiopia, based on studies of target products for the IPMS project.
- Provide training to the Ministry of Agriculture and Rural Development extension officers, and EIAR to improve their basic skills in market analysis and marketing extension. This training should be provided through an 18 month iterative training program, providing time for the participants to review, test and adapt the tools and methods in their working environment.

Farmer organization. At present the most effective means of adding value to crops such as beans that are produced by smallholder farmers is through product aggregation based on collective marketing. At present, there are no premiums for graded produce as the largest trading houses, undertake sorting at the processing factories rather than establish price premiums for farmers and/or traders to undertake the value adding activities of cleaning and sorting of beans. Collective action requires that farmers understand and invest in collective action and whilst many farmers are being organized through an Ethiopian Government led co-operative movement, this process will require considerable

support, if it is to achieve the desired results. Leading private sector agencies and NGOs also want access to organized farmers and there are prospects for developing opportunities such as contract buying arrangements to supply identified markets, if farmers can be organized to supply aggregated produce at required quantities and qualities. Key areas of intervention include:

Recommendations:

- Capacity building programs to be developed in partnership with government ministries and counterparts to strengthen existing extension agents with farmer organization marketing skills.
- NGOs should be supported with capacity building to enable them to establish commercial grain producer groups to supply the newly emerging formal commercial sector.
- This training should also be given to EIAR who are keen to play a leading role in market-driven R&D, to accelerate success in the export markets.
- Short-term Co-operative League of the USA (CLUSA) training program may prove to be a rapid means of building local capacity.

Poor co-ordination amongst traders: In most cases, traders operate on an informal, opportunistic manner, as there are few operational trading associations, and only one that focuses on white beans. In the south, there are several towns with large numbers of traders, such as in Shashemene, but no associations have been developed.

Recommendations:

- NGOs/government extension should be supported to build the capacity of trader groups to enhance their abilities in record keeping, computer management systems, access and use of market information.
- Effort should also be placed in enabling this level of trader to share knowledge of market conditions and to gain additional access to credit in order to develop bean production and supply in their areas of activity.

Lack of market information: Traders and farmer associations raised the issue of lack of market information being a considerable constraint to their trading and negotiating capacity. Several traders mentioned that they were required to make several phone calls and in some cases travel to the major production sites in order to confirm prices and product availability. Key areas of intervention include:

Recommendations:

- Development agencies should liaise with other major projects such as the FINTRAC marketing project and International Food Policy Research Institute (IFPRI) to devise and deploy a simple, low-cost market information service to improve the current asymmetry in access to market information for beans in the domestic and international

markets. This market information service should cover at least the top 10 most traded agricultural commodities in Ethiopia to make the service more cost efficient.

- The project should not create a new market information service, but apply tested and commercially available market information products, such as TRADENET, www.tradenet.biz, which is a dedicated software that allows for uploading and simple transfer of information through selected media such as internet, emails, radio MP3 files and mobile phone messaging. Although there are some restrictions with the use of SMS mobile phone messaging, the project could explore sanctioned push and pull SMS information flow which does not allow for other additional information response. The project should explore the prospects of testing a low cost MIS to be tested for 1–2 years in Ethiopia, with support from IPMS to cover installation, training and maintenance costs. The work of a market information service dovetails well with current plans to develop a commodity exchange as this will assist not only in price discovery mechanism, but will also assist with more efficient spatial and temporal arbitrage.
- Undertake a rapid market review of the European bean markets to benchmark current prices and quality from Ethiopia with major competitors into the EU markets from USA, Canada and China.

1 Introduction

The common bean, *Phaseolus vulgaris*, is an herbaceous annual plant domesticated independently in Africa, Mesoamerica and later in Europe. The crop is grown worldwide for its edible bean, popular as dry, fresh and green beans. Production is expanding slowly, based on population growth, with highest usage in poor developing countries, where beans provide an alternative to meat as a source of low-cost protein. Beans are well suited to low input systems as they can be stored for long periods without refrigeration and provide an excellent nutritional complement to maize, which is one of the most important grain cereals.

The common bean is high in starch, protein and dietary fibre and is an excellent source of minerals and vitamins including iron, potassium, selenium, molybdenum, thiamine, vitamin B6, and folic acid. Dry beans will keep for 3–4 years if stored in a cool, dry place, but as time passes, their nutritive value and flavour degrades and cooking times lengthen as they desiccate and harden. Dried beans are almost always cooked by boiling, often after having been soaked for several hours. While soaking step is not essential it shortens the cooking. Common beans take longer to cook than most pulses and depending on the variety cooking times vary from one to four hours.

Common beans are grown throughout Ethiopia and are an increasingly important commodity in the cropping systems of smallholder producers for food security and income. The major production areas are in the Rift Valley areas. Farmers grow a wide range of bean types, in terms of colour and size, but the most common types are the pure red and pure white beans. Most of the beans produced, traded and consumed in the domestic Ethiopian bean markets are the medium and small red beans whereas white beans are virtually all exported.

There is a growing domestic and regional demand for red beans. In the future, there is potential to expand into new export markets as there are trends for richer consumer segments in industrialized countries to adopt vegetarian diets. Prospects for increased regional trade of red beans are somewhat dependent upon drought, conflict, and food aid needs. The recent policy shift towards higher levels of local procurement means that more food aid will be sourced from the East African region and therefore it is likely that demand for red beans will grow.

Whereas red beans are mainly produced for domestic consumption, white beans are almost exclusively grown to supply a longstanding export market from Ethiopia. This market is a valued source of foreign exchange with an annual value in the range of USD 25–30 million. There are good prospects for continued growth in this export market with

the arrival of several major processing companies that are investing in the white bean sector.

Despite growth in the bean markets there is little evidence of large-scale bean farming in Ethiopia and virtually all beans are produced on smallholder plots, with minimal inputs. The average plot size of farmers in Ethiopia is 1.5 ha and up to 83% of the farming households in Ethiopia have an area of less than 2 ha, with 56% of farming households having less than 1 ha (World Bank 2006). This multitude of smallholder farmers is unlikely to change as the high population density in Ethiopia limits the amount of land available for agricultural expansion into large-sized farms.

According to the information gathered through this survey, the typical bean farmer is only producing 0.5–1 t of beans per year. If the focus is on red bean production, more than half of the crop is used for household consumption, and if white bean production then virtually all is sold. Based on 2006 prices, incomes from beans range from approximately USD 70–USD 150 per year. Given this level of production and income, it is clear that the benefits from bean production are being accrued by the poorest sector of the farming community. Hence any public and private sector investments that advance bean marketing will have highly pro-poor benefits.

This market report was undertaken to evaluate the marketing opportunities and constraints for beans in Ethiopia, to gain insight into the demand and supply of this crop and the medium and long-term market outlook across the subsector for national, regional and international trade. Major findings are summarized with recommendations made in the form of suggested ways forward.

The paper is organized as follows. Section 2 presents the research methodology, section 3 describes bean types, section 4 provides an overview of the production systems, section 5 deals with marketing issues, section 6 focuses on the demand for beans in Ethiopia, section 7 deals with the major supply channels, section 8 provides major findings, and section 9 provides recommendations for interventions.

2 Survey methodology

The method for this rapid market appraisal was based on that designed by Holtzman (1995). Due to the rapid nature of this approach, the study is illustrative as opposed to rigorous and serves to prioritize market options, constraints and interventions. The approach takes into account information from both secondary and primary data to determine market prospects. Primary data was obtained through interviews with producers, brokers, traders, retailers and exporters using a semi-structured informal questionnaire (Appendix 1). Secondary data was acquired through literature review and the collection of available statistics.

This study was undertaken by a CIAT-led marketing team working in collaboration with economists from the Ministry of Agriculture and IPMS. The survey began with a focus on the IPMS pilot learning sites of Dale and Alaba, in the southwestern parts of the central Rift Valley. The study then continued into the eastern part of the central Rift Valley area, as shown in Figure 1.

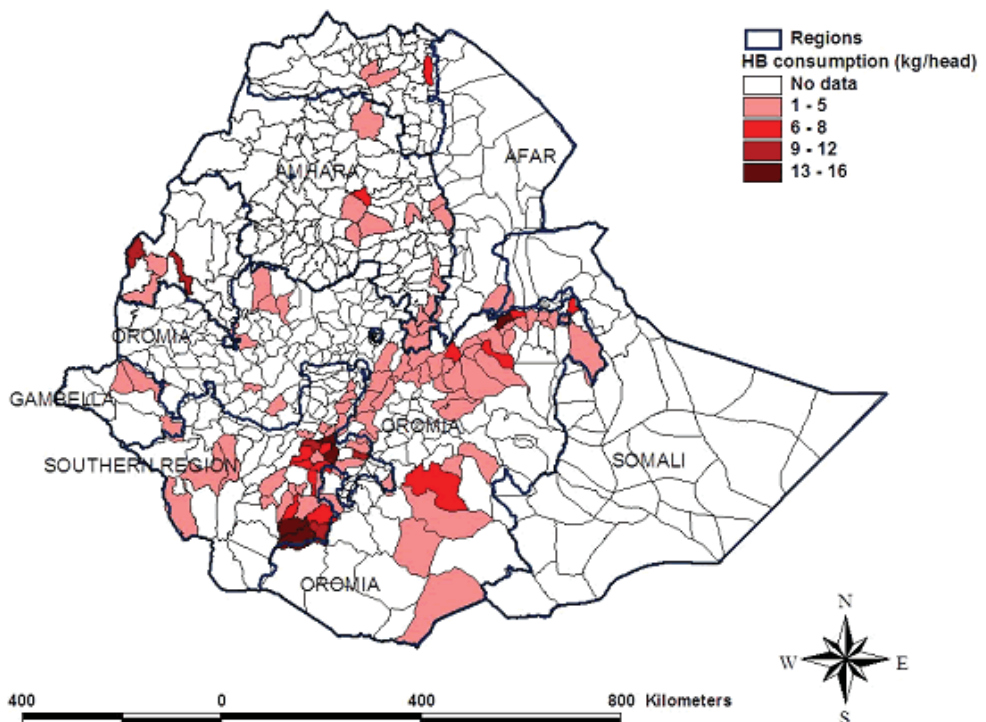


Figure 1. Survey areas.

Objectives of bean survey

- (i) To undertake a study of the major marketing channels for red and white dry beans in the Rift Valley areas of Ethiopia to identify and prioritize market opportunities and analyse marketing constraints.
- (ii) To develop interventions that improve the marketing efficiency, as related to organization, technology and policy in support of local, domestic and export markets, for red and white bean varieties in Ethiopia.

Whilst there are many types of beans grown in Ethiopia, this survey focused on the two most economically important bean types, namely pure white and pure red beans. These products were selected as they represent strong growth market opportunities for export in the case of white beans and for domestic and regional trade for red beans. For each bean type the study investigated the major market channels, viz: (i) the production and export of white beans from eastern central Rift Valley areas for export through Djibouti and (ii) the production and reported export of red beans from the western central Rift Valley areas through the Southern Border into Kenya.

Due to the rapid nature of the survey information was gained through interviews with a range of key informants along the target market chains, including farmers, farming groups, brokers, rural assemblers, transporters, travelling traders, wholesalers, retailers and exporters. The collection of primary data was undertaken after the collation and analysis of secondary information that was gathered in Addis Ababa and Nazareth, namely at the (i) Export Promotion Department (Ministry of Industry and Trade), (ii) National Bank of Ethiopia, (iii) Ethiopian Grain Traders and (iv) top 10 bean traders in Addis Ababa and/or Nazareth.

Survey areas

The CIAT team undertook interviews from the southwestern parts of the Rift Valley with emphasis on the IPMS pilot *woredas* in the Southern Nations, Nationalities and People's Region (SNNPR) i.e. Alaba and Dale, heading in a generally north easterly direction from Dale towards Addis Ababa and then onto Nazareth. In terms of the market chain, the survey work started at the farmer level and worked back towards the market sites (see Figure 1). In this report, we refer to southwestern areas as those in the Rift Valley area south of Lake Ziway and eastern areas as those to the northeast of Lake Ziway. We make this distinction due to the divide that was evident at the time of this survey for a dominance of white beans to the northeast of the lake and the dominance of red beans to the southeast of Lake Ziway.

3 Bean types grown and traded in Ethiopia

In Ethiopia there are strong cultural bonds with pulse crops which are closely associated with the dietary customs of the majority Orthodox Christian community. However, most traditional vegetarian dishes are prepared from highland pulses, such as chickpeas, split peas, faba beans and lentils. Phaseolus (haricot) beans are considered to be a lower value and lower esteem pulse crop, but there is increasing interest in phaseolus beans, particularly among the low income segments for reasons of food security and income generation.

There is a wide range of haricot bean types grown in Ethiopia (Figure 2), including mottled, red, white and black varieties. The most commercial varieties are pure red and pure white coloured beans and these are becoming the most commonly grown types with increasing market demand.



Figure 2. *Phaseolus vulgaris* bean types.

To support both the growth in domestic and export bean markets, the Ethiopian Institute of Agricultural Research (EIAR) has developed a range of high-yielding, multi-disease resistant bean varieties. The focus of this genetic improvement program has been on the pure red and white beans to support the commercial sector. Within the red bean types, the most favoured and most commercially accepted varieties include Red Melka, a mottled medium sized red; Red Wolaita, a medium sized pure light red; and Nasser, a small pure dark red variety (Figure 3).

In Ethiopia, red beans are preferred by rural consumers, and there is a wide range of reds, red mottled varieties that are produced and sold in the rural markets. White beans are sold almost exclusively for the export markets, the leading white bean varieties include Awash 1, Awash Melka and Mexican 142, all of which are small white beans. The white beans are often referred to as white pea beans, due to their small size and round shape; they are otherwise known as navy beans. White beans are popular in industrialized nations, such as the USA and UK, as they are used to prepare pre-cooked canned 'baked

beans'. The baked bean market is growing in many parts of the world, as it is low cost, nutritious snack food that is easy and quick to prepare. Although an important export crop, the white pea bean is not consumed by many Ethiopians.



Figure 3. Main commercial bean types grown in Ethiopia.

New commercial varieties being introduced to Ethiopia

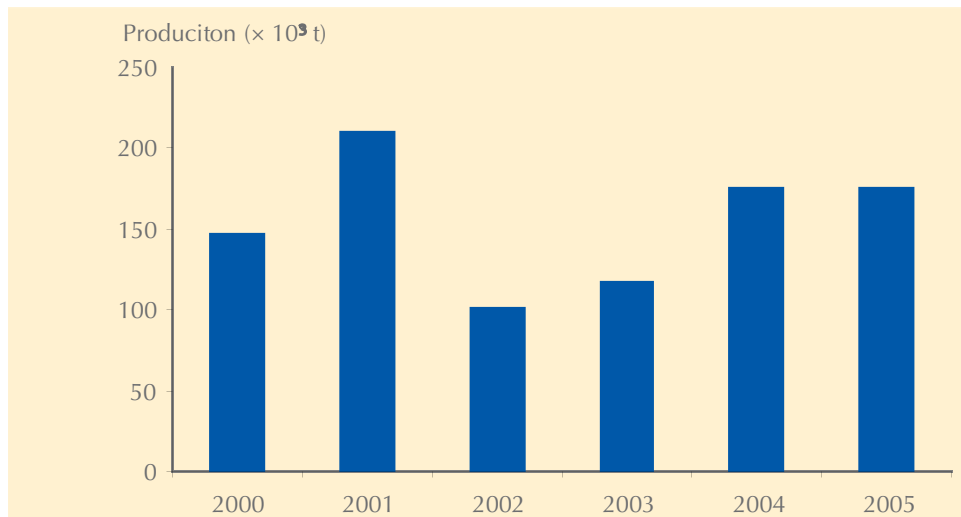
The arrival of two international bean trading companies in Ethiopia in the past 2–3 years has introduced demand for internationally recognized varieties that are not grown in Ethiopia and increased demand for rapid evaluation of existing commercial varieties has placed additional demands on the national bean research system.

Poortman Plc imported AR04 RGY which has been released for production and a rival company ACOS is seeking permission to begin multiplication of two additional white bean varieties, i.e. Avanti and Christod, and one red variety, McMillan. These varieties were developed for canning and are currently mainly grown in USA. The export and processing companies particularly want supplies of these varieties as their canning factories are geared to process these specific varieties, and they suggest it is easier to change the production in Ethiopia to meet this market rather than change the processing system for the factories.

4 Production of beans

4.1 Production trends

Bean production in Ethiopia ranges widely from 100–200 thousand tonnes per year. The wide range in yields is due to the considerable and regular losses that farmers suffer due to drought, which is a regular and severe event (Figure 4). The level of production in 2005 was approximately 185 thousand tonnes with a domestic market value of USD 30 million.



Source: Ethiopian Central Statistical Authority: Agricultural Abstracts 2000–05.

Figure 4. Production levels for haricot beans in Ethiopia in 2000–05.

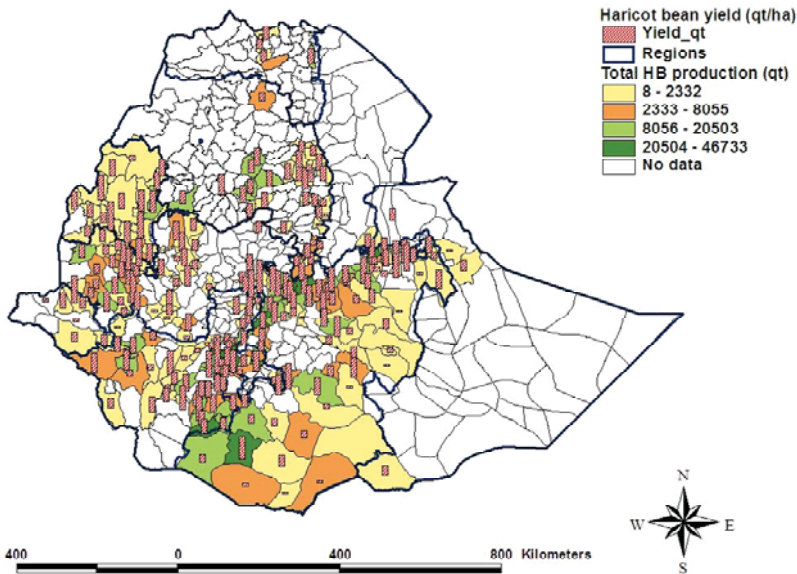
The main bean producing areas in the country are in the Rift Valley area, which runs diagonally across the centre of Ethiopia from top right to bottom left of the country. The two major bean producing regions are Oromia and SNNPR, which produce 70 thousand and 60 thousand tonnes, respectively (see Table 1). These two regions make up 85% of the production (see Figure 5).

Production within the country at the time of this survey was clearly defined, with virtually all bean production to the north of Lake Ziway being focused on white bean production for export, and with production south of the lake being dominated by red beans for domestic and household consumption; the divide in production and marketing is shown in the supply chain section in Figure 11.

Table 1. Area and production of haricot beans by region (2001/02 cropping season)

Regions	Land size (ha)	Yield (kg/ha)	Production		Total consumption	
			Production (t)	% from national total	Consumption (t)	% from regional total
Afar	62	286	18	0.01	16	91
Amhara	29,983	595	17,848	12	10,913	61
Benishangul-Gumuz	3,954	894	3,534	2	2,610	74
Gambella	221	499	110.	0.07	91	83
Oromia	98,217	710	69,699	46	45,820	66
SNNPR	72,898	814	59,339	39	45,435	77
Somali	1,224	210	2,573	0.17	160	62
Tigray	2,310	432	999	0.66	822	82
Total country	208,872	727	151,805	100.0	105,870	70

Source: Alemu unpublished EIAR, Nazareth Station and calculation based on CSA (2002).



Source: Alemu unpublished, EIAR, Nazareth Station.

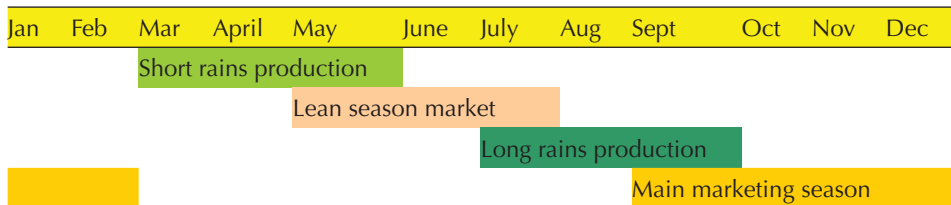
Figure 5. Main production zones for red and white beans.

4.2 Production and marketing calendar

There are two seasons for bean production in Ethiopia, the short rains season (*Belg*) which run from March–May (Table 2). Several farmers that were interviewed felt that rainfall

in this season has become too unreliable to invest in commercial bean production. Consequently, most farmers focus their efforts on the longer rains (*Meher*) season from July to August. The main marketing season for beans is from September to January, with residual trading into February.

Table 2. Production and marketing calendar for haricot beans



Source: Authors.

4.3 Production systems

In the southwestern Rift Valley, large numbers of farmers were being encouraged to work within farmer groups and larger associations through an intensive government extension effort. Within this system, there are approximately 200 farmers in an association termed a ‘Peasant Association’ or ‘*Kebele*’. These clusters are further sub-divided into farmer groups of approximately 20 members. The government aims to support farmer organizations that will support collective learning and marketing to increase the adoption of new technologies and thus improve food security and rural incomes.

Farmers in the higher altitude, coffee growing areas of Dale *woreda* produced a cropping mix that comprised 20–25% coffee, 60% cereals and 10% traditional crops such as *enset*. In the dryer, lower lying areas of Dale *woreda*, coffee was replaced by cereals, pulses and livestock production systems.

In focus group discussions with farmers, a basic schematic production system for the bean based farming systems was outlined (see Figure 6). This diagram shows hypothetical areas devoted to food security and commercial crops, indicating that beans are produced in both seasons, a smaller area produced in the short rains, with increasing bean production in the long rains season. According to the farmers interviewed, many farmers were no longer growing white beans. Farmers preferred red beans as food, ease of sale and lower production costs. Furthermore, over the past two years demand for red beans had increased and this market signal may have offset growth of the white bean market, which usually commands a higher price.

Two to three years ago, white bean production in the southwest valley area was increasing, with the provision of free seed from government and NGO sources. However, when prices for red beans increased in the area, farmers reverted to red varieties.

Beans 25% land use	Maize 50% land use		Teff 25% land use	Beans
Coffee/ensete 25% land use			Coffee/ensete 25% land use	50% land use

Figure 6. Schematic area based bean production map for smallholders in Dale, Ethiopia.

Bean production methods and use of productivity enhancing technologies depends upon income levels. As presented in Table 3, farmers with more assets have larger farm sizes, 2–3 ha, and these farmers regularly use purchased seed and fertilizer. Due to their land size, this group also hires labour and either owns or has access to animal traction for production. Most farmers with less than 1.5 ha, rarely use fertilizer or purchase bean seed and use mainly family labour.

Table 3. Farm size and production methods for haricot beans in Ethiopia

Wealth class	Farm size (ha)	Population distribution	Use fertilizer	Hire labour
Highest	2–3	25%	Yes	50%
Middle	1.5	50%	Perhaps	25%
Lower	0.25–0.75	25%	No	0%

The level of production and sales of beans are highly dependent upon rainfall and in years with drought, yields are significantly reduced, i.e. by more than 50%. There is no irrigation applied to the bean crop, although simple irrigation systems are used by these farmers in this region for higher value crops such as vegetables and chat.

According to information from a focus group with farmers, bean production in the short season, based on a production unit of 1 *timad*¹, is approximately 200–300 kgs (1000 kg/ha). This level increases to 600–800 kgs/*timad* (3000 kg/ha) in the longer rains season, as is shown in Table 4. Levels of sales also increase from 55–80% from the low to higher rainy season.

1. One *timad* is an area equivalent to 0.25 ha.

Table 4. *Production and consumption based on season*

Short rains season	Quintals/ <i>Timad</i>	Long rains season	Quintals/ <i>Timad</i>
Production 3–4 quintals/ <i>timad</i>		Production 4–5 quintals/ <i>timad</i>	
20% seed	0.5 quintal	5% seed	1 quintal
25% consumption	1 quintal	15% consumption	1 quintal consumed
55% marketed	1.5–2 quintals	80% marketed	6 quintals sold

1 quintal = 100 kg. 6–7 quintals/*timad* equates to 650 kg.

1. Quintal is equivalent to 100 kg and there are 10 quintals per tonne. In Ethiopia, all cereal weights are given in quintals rather than tonnes.

4.4 Production costs for red beans

If all costs of production for red haricot beans are monetized, based on calculations for 1 *timad* (0.25 ha) with 1 man day costing ETB 4, total costs are approximately ETB 267/*timad*, which is approximately USD 124/ha. However, as indicated in Table 5, most of these costs are not included when farmers calculate their costs, as they base production costs only for actual expenditure on inputs, such as seed and ploughing and any hired labour that is required.

For the most part, farmers retain seed, so this is not a recurrent cost and all other costs are covered by family labour except for ploughing. In the coffee growing areas, farmers are generally not considered to be poor and many have their own oxen.

Given production in the range of 800–1200 kg/ha, a farmer can expect to earn approximately USD 160 from 1 ha of production, when sole cropped. This figure will decline dramatically if the farmer is using mixed cropping systems for the bean component.

The production costs given in Table 5 are based on red bean costs and incomes, which were produced by the majority of farmers in the area, at prices in 2005, which was considered unusually high. The farm gate price for red bean at the time of the interview was above ETB 1.5/kg, but in a normal year, farmers may only earn ETB 1/kg.

4.5 Production costs for white bean

According to the farmers in the SNNPR, costs for white bean production are higher than red beans due to additional labour requirements. Field preparation for white beans requires 2–3 additional man-days compared to red beans, as the white types require a finer tilth, which needs additional ploughing. The white seeded types are also more prone to bird attack so additional labour is required to ward off birds. Although yields for white

beans are claimed to be higher than red beans, lack of good husbandry often means that white bean yields are lower than red varieties and therefore overall unit costs are higher. Farmers indicated that there is less availability of white seed, and therefore farmers may have to buy seed from the Ethiopian Seed Enterprise (ESE), which costs ETB 4/kg. For most farmers it is therefore simpler to plant the red types as they are readily available and have a more secure market.

Table 5. *Production costs of the red beans*

Activity	Quantity	Units	Unit price (ETB)	Total cost/value (ETB)	Total costs no labour/input costs
Buying seed	25	Kgs	3	75	Own
Land clearing	2	Days	4	8	8
Primary cultivation (first ploughing)	1	Days	4	4	4
Secondary cultivation (three ploughings)	3	Days	4	12	12
Preparing lines and planting	2	Days	4	8	
Application of fertilizer (DAP)	25	Kg	4	100	
Weeding	4	Days	4	16	
Bird watching	7	Days	4	28	
Harvesting	2	Days	4	8	
Drying		Days		0	
Threshing	2	Days	4	8	
Total costs				267	24
Total harvest per 0.25 ha (<i>timad</i>)	250	Kgs	1.5	375	375
Profitability at farm gate (ETB)				108	351
USD profits				USD 12.56	USD 40.81
Total income (ETB/ha)	1000		1.5	1500	1500
Total profit USD/ha				USD 50.23	USD 163.26

Source: Hantate and Salakaba Cooperative group members (calculations for 1 *Timad* = 0.25 ha).

- Profit and return to land, ** Profit and return to land and family labour
- 1 USD = ETB 8.66.

Assumptions each kg planted yields 10 kg of beans. Daily rural wage is ETB 4/day (USD 0.5)

The other disincentive for farmers has been that prices being offered for white beans in the southern parts of the country were no higher than red beans, despite the higher cost of white seed. This fall in demand for white beans was also noted by Rubyogo (2005). Therefore in the past 2–3 years, there have been few incentives to produce white haricot beans in the SNNPR. Incentives are quite different in the Oromia region where white

beans dominate the market and production systems. In the Rift Valley area north of Lake Ziway, all production figures are based on white bean farming system.

4.6 Seed production

Seed for improved varieties are supplied through the government system. New varieties are developed by the Ethiopian Institute of Agricultural Research at Nazareth Station, which has developed a number of high-yielding white and red varieties of beans. Certified breeding seed is multiplied on station and from this initial seed lot, further multiplication for production purposes is undertaken by the Ethiopian Seed Enterprise. To accelerate the dissemination of new varieties, other agencies such as state farms, private estates and some private sector actors have also been involved in bulking seed.

Despite this system there is insufficient seed to meet demand. There are particular problems in accessing white bean seed of any new variety, such as Awash Melka or Mexican-142. In the more southern areas where red bean dominate the production system, access to new white seeded varieties is particularly difficult.

4.6.1 On farm seed production

It is clear from the lack of seed that a more systematic approach to seed production is required, using large scale, and irrigated farms and/or through specialized seed producing farmer groups to produce bulk seed. Both approaches are being developed in Ethiopia with the Ministry of Agriculture and Rural Development (MoARD). The private sector is currently bulking up basic seed through contractual arrangements with sugar plantations that have extensive areas of irrigated land near the EIAR station at Nazareth. In the Nazareth area, Catholic Relief Services (CRS) is working with MoARD to establish farmer groups with the capacity to bulk up non-certified, but higher quality seed based on access to basic seed from EIAR. Current information suggests that despite these efforts, there is still a significant lack of improved seed required to supply the increasing export sales of white bean.

4.6.2 Seed production and policy

As with most countries in eastern Africa, there are stringent legal requirements for the development, evaluation and dissemination of new commercial varieties to the farming community. These requirements were developed to protect farmers from being supplied with inferior quality produce. When breeding a new variety there are several stages, which includes: 3–4 years on-station evaluation to test the agronomic and pest and disease resistance of new varieties. Successful candidates then undergo an additional 2–3

years of on-farm testing to evaluate performance in farmers conditions and a final 1–2 years of multi-location testing to assess yield stability and crop performance in pest hot spots. Once all of the necessary data has been collected and analysed it is submitted to a varietal release board, which often meets only once per year. Once approved, the process of seed multiplication and delivery to farmers can begin. This procedure takes 7–10 years to complete.

This timeframe is a considerable frustration to private sector investors who want to introduce new varieties into the country and rapidly bulk them for production and export. The investors are bringing varieties to Ethiopia that have already undergone similar performance evaluation in other countries of origin with similar climatic conditions. This situation is compounded if an investor is seeking to produce a new variety in more than one country in East Africa, as even if the new variety is tested and approved in Ethiopia; if it were to be subsequently introduced into Kenya, the same variety would have to undergo another 7–8 years of testing prior to release in that country.

To address these constraints, the national varietal release board have come to an agreement through which new varieties, which have undergone strict varietal evaluation processes in other bean production areas or countries, can be fast tracked through the Ethiopian crop release process. This fast track, however, still takes 2–3 years to complete. The inter-country release mechanisms remain and this may explain why some varieties are released through leaks and testing programs to avoid the formal process.

To avoid such situations, there may be a role for the international research centres to work with regional research networks, such as ASARECA's East and Central African Bean Research Network (ECABREN) to undertake accelerated regional release processes. In this case, a variety which is recognized as a commercial variety in one country, perhaps in Asia, or the Americas can be cleaned and tested for two seasons in a new African location prior to general regional release.

To allow this to occur would require new international and regional arrangements and new policy options to facilitate such movements.

4.7 Production constraints

As indicated in Table 6, common beans are susceptible to a number of pests and disease constraints, but farmers and traders were of the view that beans are fairly robust. In Ethiopia, the crop suffers from few field diseases, unless there are exceptionally high rains, which leads to root rots. Farmers do not spray beans, and protection costs are mainly to avoid losses caused by bird damage.

Table 6. *Common pests and diseases of beans*

Pest or disease	Detail
Angular leaf spot	Favours moist warm conditions
Anthracnose	Important at higher altitudes
Bean stem maggot	Serious during late planting and in unfavourable wet and water logged conditions
Bruchids (bean weevil)	Important under warm conditions. More common in continuous production systems
Root rots	Increasing in importance especially with intensive production
Common bacterial blight	Favours moist conditions and high temperatures
Aphids	Transmit the bean common mosaic virus
Rust	Severity increases with soil pH
Bean common mosaic	
Thrips	Pest is often undetected by farmers

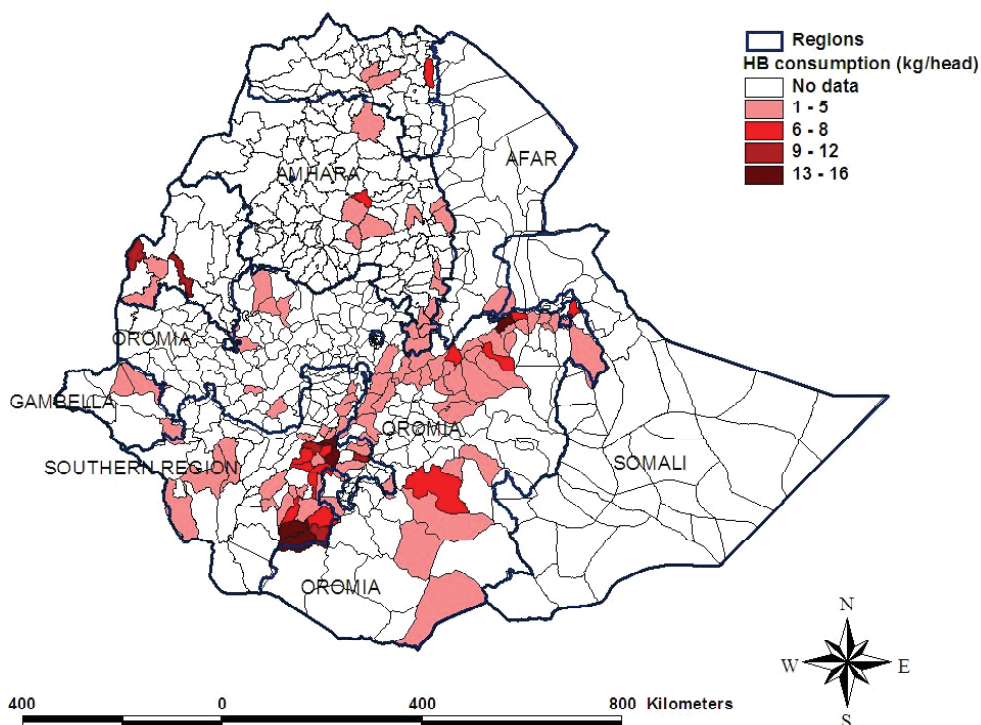
Adapted from Spilsbury (2003).

There was more concern in regard to yield losses due to drought and from dry periods during flowering, which significantly reduce yields. Beans, unlike maize, have fewer storage problems due to pests, although long-term storage can lead to losses if the crop is not stored in dry conditions. The white bean has a hard seed coat and is generally sold into the export traders soon after harvest and therefore, due to the short storage period, encounters few post harvest problems.

5 Marketing systems and constraints

5.1 Consumption patterns

The consumption pattern of beans in Ethiopia is a mirror of the production areas, with highest consumption occurring in areas with most beans. Household levels of bean consumption are shown in Figure 7, with the highest consumption being in the southern region, where per capita levels of consumption are from 9–16 kg/annum. This is comparable to Uganda, which has consumption levels of 15–17 kg/annum (Spilsbury et al. 2003).



Source: Crop statistical abstracts 2002.

Figure 7. Haricot bean consumption levels by woreda (2001/02 cropping season).

Proportion of crop sold and consumed

Given a production of approximately 185 thousand tonnes in 2004/05, and an export of approximately 50 thousand tonnes, the domestic consumption would be around 130–140 thousand tonnes. This suggests that up to 70% of the bean harvest is consumed domestically. The majority of the consumption is taking place in the *woreda*'s of SNNPR and Oromia.

Unlike other east African countries, such as Uganda and Kenya, where phaseolus beans are the dominant legume in the diet and where demand for beans is increasing, in Ethiopia the market demand is perhaps more comparable with India. In both of these countries, there is a wide range of traditional foods, based on a strong association with vegetarian diets or fasting periods. Hence, consumers buy a range of up to 10 different legumes that are regularly used in the diet for specific traditional foods. Orthodox Christian religion stipulates that meat is only eaten on certain days of the week and meat will not be consumed for 45 days during the period of lent every year.

Given the large number of Orthodox Christians in Ethiopia and a strong cultural following, there is high demand for pulse crops, including faba beans, green peas, yellow and red lentils, green grams and chickpeas during fasting times. All of these legumes are preferred to common beans, which is mainly consumed on-farm and in the lowland villages. Food relief is also not dependent upon bean purchasing as many other available legumes can be locally purchased to substitute beans for lower cost protein sources.

5.2 Low esteem for common beans in local market

For many people, particularly the medium to higher income urban consumers, beans are considered a poor man's or a farmer's legume. In a typical market town such as Awassa, we found that only 5% of the legumes being sold in the market were common beans. The majority of traders who sold highland pulse crops preferred not to sell beans, indicating that their customers were not interested in this low value product, consumers preferring the higher value chickpeas, lentils, split peas, faba beans and other pulses used in traditional Ethiopian cooking. We found that in Awassa, as in other markets visited, beans were sold separately, in the poorer sections of the markets, where there were no fixed stalls. The main bean traders were women, who sold beans in small lots, such as cups.

In contrast, the highland pulses were sold in the more formal, protected stalls and the traders at these stalls generally had 10 different types of products. Across the country, the highland pulse traders were generally men and sales appeared brisk compared with bean sales. In an interview in the central Merkato market in Addis Ababa, there was no retailing of white beans and one of the traders remarked that 'even the donkeys won't eat beans'.

5.3 Weak business development in local domestic markets

To learn more about bean sales in the open markets we went to the more remote parts of the markets to find women, sitting on sacks open to the sun and rain to learn more about

bean marketing. Most of the bean sellers had no stalls and were selling small amounts of produce, i.e. selling in lots of 2–3 cups from a 20 kg bag.

In an interview with a woman bean trader in Awassa market, we were informed that she had been trading in beans for almost 10 years. She started with ETB 60 (USD 7) but had steadily built up her business and now has a working capital of ETB 5000 (USD 580). She employed 2–3 young women who clean the beans and retailed 1 quintal per day, i.e. 100 kg to consumers in the market. The price being paid to farmers at the village level was approximately ETB 120–140/quintal (USD 13–16/100 kg). When produce arrived at the market towns, the retailers in April 2006 were buying at approximately ETB 290/quintal and selling at ETB 320/quintal. This is equivalent to a mark-up from USD 33 to USD 36/100 kg. The gross margin for the trader during this tail end of the marketing season was USD 18–20/week. It should be noted that there was a dramatic rise in bean prices at the end of the season being studied and therefore these prices and hence profits may be somewhat higher than generally expected.

A second retailer was selling large white and red mottled variety that was sold at ETB 5/kg. This retailer sold a wider range of beans and was involved in both retailing and small-scale wholesaling of large white, medium red and large red beans. The second retailer informed us that sales had increased due to demand from Kenyan buyers and that this was the second year Kenyans have come to buy beans. The second retailer sold 5–6 quintals on a market day, but this increased to 10 bags during the peak season. The overall impression from these interviews was that bean marketing was increasing slightly but that this was the domain of the poorer traders selling to the more marginalized people in society, or to other farmers.

5.4 Incentives in the export markets

The Government of Ethiopia is keen to develop export opportunities to raise foreign exchange and it was clear in discussions with traders and government officials that formal exportation of white beans is being heavily promoted by the government. Foreign companies are being provided with attractive incentives to invest in Ethiopia and several companies have recently built bean export plants in Nazareth. The government appears less keen to support the sales of red beans into northern Kenya through informal cross border trade. Several traders felt that the government may stop this trade, rather than find ways to formalize the process. Lack of support from officials creates considerable uncertainty in the market and is an issue that could be resolved to the advantage of the farmer and trading community, rather than being viewed as a potentially unlawful exercise.

5.5 Price volatility

Recent shifts in the prices and demand for beans has led to increased risk and volatility in both prices and volumes. We were informed that bean prices had declined towards the end of the 2005 main selling season and this may have caused a fall in bean planting for the 2006 season. The lack of beans on the market in early 2006 had led to intense competition for the crop and in February and March white bean prices had tripled from a normal farm price of ETB 110/quintal to ETB 350/quintal. Most traders had not stored beans in the current trading climate and many traders had stopped investing in white beans as they felt the extremely high market prices could collapse at any time.

5.6 Lack of market information

For the most part, traders interviewed were involved in rapid turnover, back-to-back² trading with low margins and there was little evidence that traders were involved in long-term storage and speculative trading. Whilst many traders indicated that storage would have been highly profitable, the general lack of short and longer term market information meant they had insufficient data to plan for future sales with confidence.

Throughout the survey, farmers and traders indicated that they were unable to access regular market information. This was considered to be a major problem in developing marketing plans and in price discovery. This lack of information was increasing both transaction costs and resistance to risk taking. All market chain actors indicated that a simple price and volumes information system based on the key trading towns would make a considerable difference in their marketing decision making.

5.7 Poor co-ordination amongst traders

None of the traders interviewed were part of a formal trading organization. Some indicated that they were part of informal associations and many indicated a coffee shop where traders congregated in the mornings to discuss business options. The discussions were, however, based on local conditions and it was difficult for traders to gather information and assess opportunities in new areas. Most traders indicated that they were only seasonal bean traders and worked with other commodities such as maize, coffee and teff during the year. If traders were to be given support in terms of business skills development, they would wish such an intervention to apply across commodities.

2. Back to back trading relates to trading that is undertaken.

5.8 Lack of trade finance

Most traders indicated that they were using family or business capital funds to support their business operations and only the larger more formal trading houses in Addis Ababa and Nazareth were using formal sources of credit to finance their operations.

5.9 Poor infrastructure

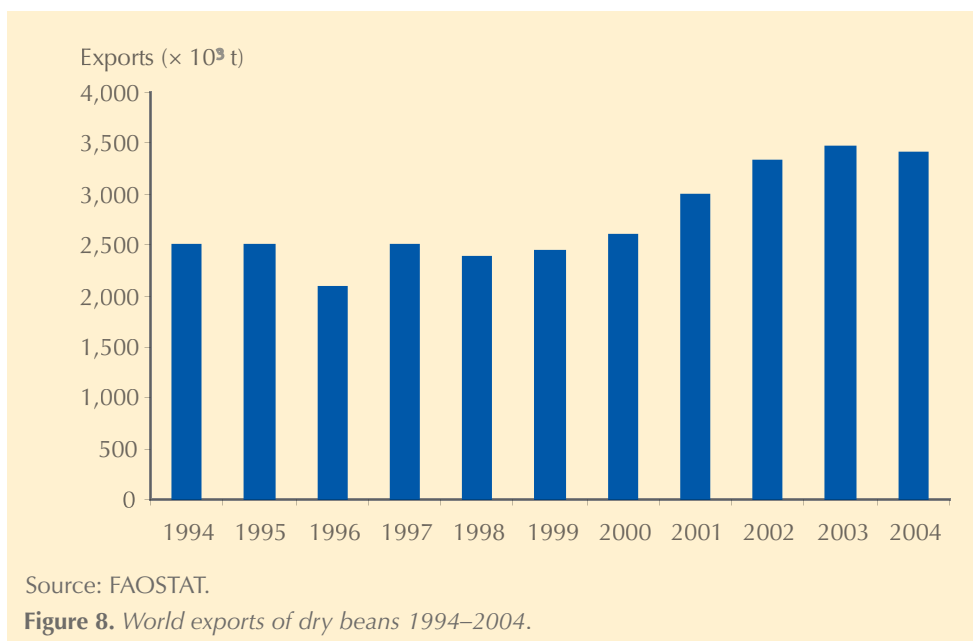
In addition to the lack of finance, Ethiopia is clearly suffering from a limited road infrastructure. The government is engaged in a serious road building program, which it is undertaking though support from donor agencies. In its deliberation on the budget for the 2007/08 fiscal year, the House of People's Representatives has raised the budget for road building relative to the previous fiscal year.

6 Demand analysis

During the survey, more than 12 markets were visited to gain an overview of the market flows. This study was, however, undertaken at the end of the marketing season, and to gain a clearer view of the market, and the findings should be compared with events during peak marketing from November–January. Markets were selected based on local knowledge of bean production and marketing. The southern market studies investigated red bean demand and northern markets white bean. The centre of trade for red beans was Shashemene and Nazareth for white beans.

6.1 World exports of dry beans

Before analysing the Ethiopian market, we felt it would be useful to provide an overview of the world market situation for beans. According to FAO data on world production and exports of dry beans, it appears that growth is slow and that market demand is flattening (see Figure 8). This suggests that bean prices are falling, which would correspond to other agricultural commodity markets that are steadily falling in price as production efficiency increases and increased international competition forces down costs and prices.



Based on price data gleaned from the internet, prices for pinto beans, a standard traded bean in south-central Idaho which is a major production area in the USA, had fallen to USD 18/hundredweight³ in mid 2006, compared with USD 28 in 2005. Red and

3. Hundredweight is a unit of weight in the US Customary System equal to 100 pounds (45.36 kg).

pink beans, at USD 19/hundredweight, in June 2006, were also about USD 10 below 2005 prices. On converting these figures from USA standard weights and measures to USD/t, these figures represent a fall in value from USD 616/t in 2005 to USD 396/t in 2006. In comparison Ethiopian white beans were trading on the domestic market over the past two years at a price of approximately ETB 150/quintal (1 quintal = 100 kg), which is equivalent to approximately USD 173/t. Given the costs of preparing beans for export such as cleaning, sorting, bagging and transport, at a standard commercial rate of 25–30% above the purchase value, the product would be on offer at USD 220–230 FOB Djibouti, providing a significant margin for the international traders compared to US prices.

The main markets for white beans, which are also known as ‘navy’ beans in the US are the domestic market followed by UK (USD 10 million), Djibouti (USD 7 million) and South Korea (USD 2 million). US navy bean exports to the UK have fallen in recent years due to competition from Canada and existing supplies into these northern markets are likely to shift to alternative low cost sources such as China, Argentina and potentially new sources such as Ethiopia, if they can provide a regular supply of high quality beans at competitive prices.

6.2 Size and value of the Ethiopian markets

As mentioned above, bean production in Ethiopia is approximately 150 thousand tonnes per annum, and FAO data indicates a steady growth in production, which is above the rate of population growth. In the 2005/06 season, traders estimated production at approximately 185 thousand tonnes with a domestic market value of USD 36–40 million and an export value of USD 15–18 million (see Table 7). This suggests that 130–140 thousand tonnes or 70% of the bean harvest was consumed locally. The value of this local consumption was monetized at average retail prices, whereas in reality at least half of this crop would have been consumed on-farm or sold at a lower prices through household sales, barter, inter-family trade or at the local market.

Table 7. *Volume and value of Ethiopian bean crop in 2005–2006 season*

	Volume ($\times 10^3$ t)	Price/t	Value ($\times 10^6$ USD)
Red domestic	140	260	36.4
Red export	10	350	3.5
White export	35	350	12.25
Total	185		52.15

6.3 Market types in Ethiopia

Seed market

With increasing demand for red and white beans in Ethiopia there is increasing demand for new and/or clean seed. Due to limited commercial incentives to support supplies of bean seeds, the bean sector is funded by government programs and subsidized projects through NGOs. In most cases, support to beans is short lived with the support agency aiming to overcome a specific disease or to prime the producers with a more competitive variety. The bean seed market is therefore generally only lucrative for short bursts of time for a limited number of farmers, who become engaged in contract farming to restock farmers after a major shock. The additional and new requirement for large quantities of seed of improved varieties comes from farmers who wish to supply major export buyers. To address both needs NGOs such as CRS are working with the Government of Ethiopia to develop local, farmer led, seed production units. In the 2006–07 season, 40 t of basic seed was shared with farmers in a first attempt to startup local seed producer groups and prime the farmer community with commercially desired varieties.

Domestic market for red/mixed colour beans

The largest and most valuable bean market in Ethiopia is the domestic market, which supports the production of a range of small to large, red and mottled beans. Whilst the market offers premium prices for larger mottled beans, the main volume is for small red beans. These are preferred by farmers due to their productivity and disease resistance. This market is showing growth in line with population growth and therefore cannot be considered as a dynamic market.

Red beans household and local market

The major market for red beans is for local village consumption. The value of the crop is relatively low, but beans are an important part of the rural diet and strong performance of the bean crop allows farmers to sell more of their other higher value food crops, such as maize, teff and other highland pulses. The local market for red beans is increasing slowly with the poorest farmers and urban consumers, being most active in this market.

Red beans export

In the past two years there has been a significant increase in the levels of red bean exports through Moyale into northern Kenya. The reasons for this increase in trade are unclear, but most traders suggested the market is driven by (i) a drought in northern Kenya, which had increased demand for beans and increased local purchase for food aid,

(ii) lack of roads in northern Kenya, and insecurity which provided Ethiopia with better access to northern Kenyan markets compared with supplies through Nairobi.

The size of this market is unclear, but based on estimates from traders, the approximate size of this market is 9–10 thousand tonnes. This has a value of approximately ETB 3000/t. At an exchange rate of ETB 8.65/USD 1, it has a value of USD 3.1–3.4 million.

However, obtaining market information from Moyale was difficult and most traders felt that the current exports to Kenya may not be a long-term market. There are problems in developing this market due to: (i) insecurity issues in southern Ethiopia, which prevented the survey team from driving south from Chiko to Moyale, (ii) government resistance to informal trade, (iii) likely clamp downs by the government.

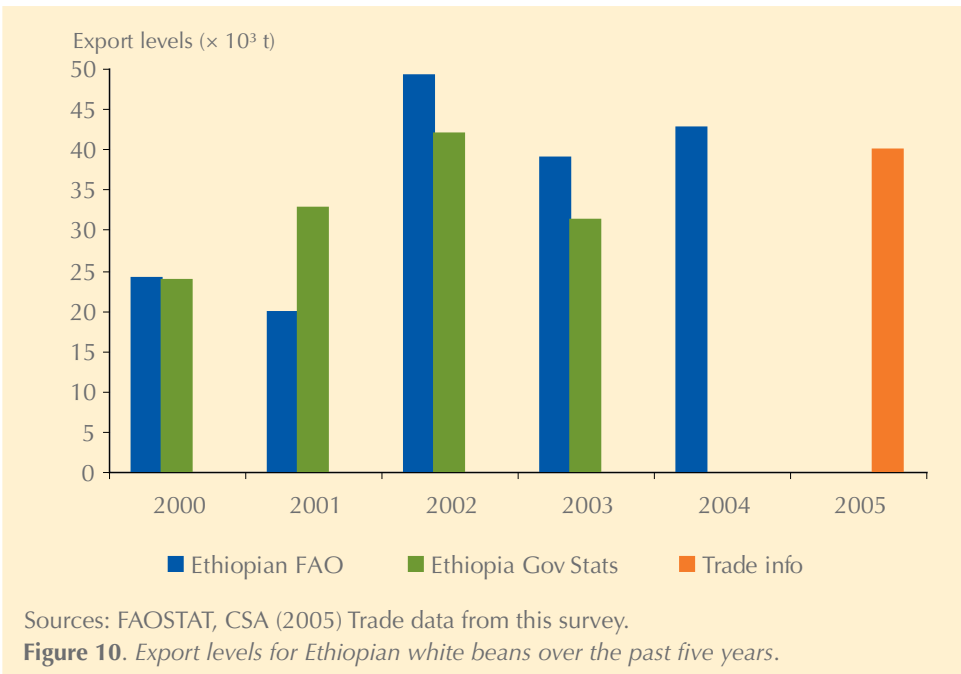
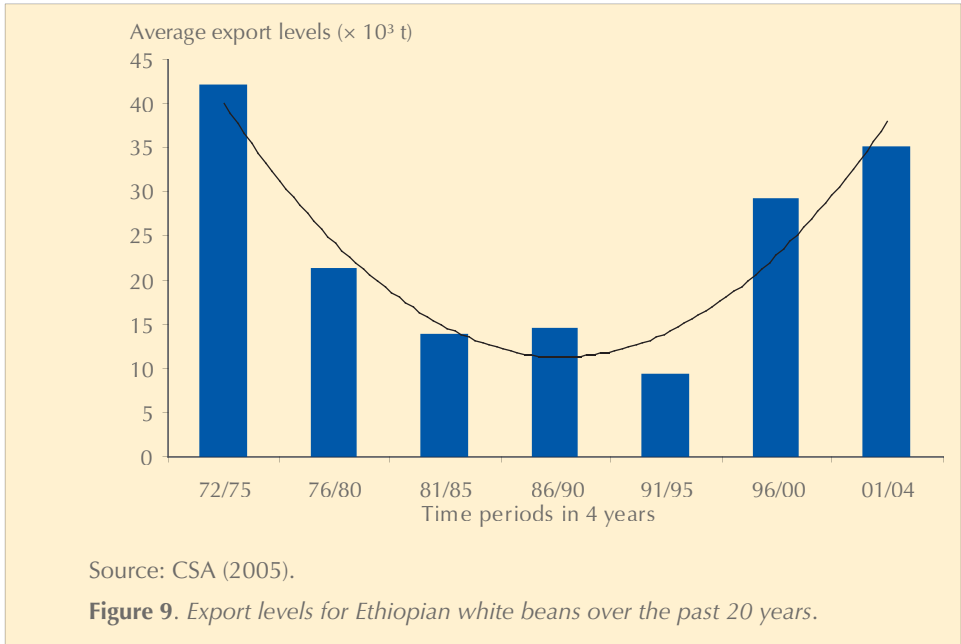
Moyale is known as a border post for smuggling of low-cost electronics and luxury consumer goods. This was apparently stopped by the government and many traders felt that if the bean market continued to grow it may attract negative attention from the government and would either be more heavily taxed or exports could be banned to prevent losses of low value food in times of need in Ethiopia.

At present the level of formal red bean export through the coastal ports such as Djibouti are low and intermittent, probably depending upon period of contracts. In discussions with the larger buying houses, they suggested that in the future, they would be interested to export red beans. To test this market, ACOS had imported 10 t of improved commercial red bean basic seed, which indicates their desire to exploit this market in the near future.

6.4 White bean export market

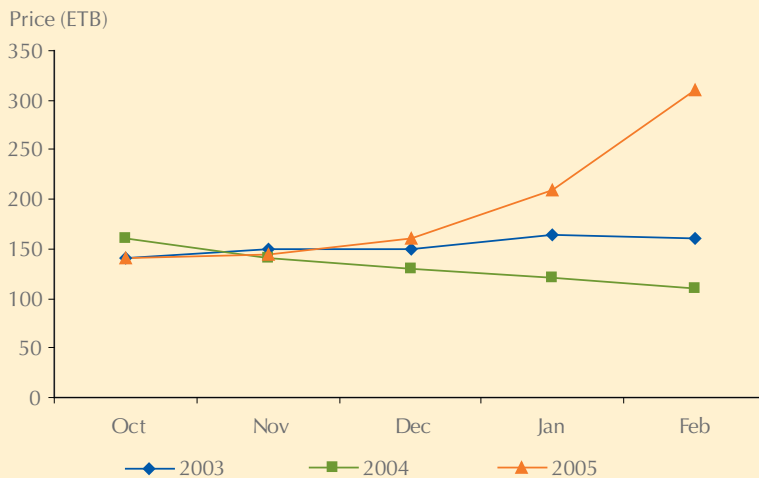
Figure 9 shows that Ethiopia has been exporting white beans for many years. In the early 1970s, export levels were above 40 thousand tonnes. The fall in export levels reflects the periods of political instability. Recent signs indicate that Ethiopia is now making a recovery to former levels of export, with the advantages of improved varieties, production methods and better market linkages.

In the analysis of exports in 2005/06, there were conflicting pieces of evidence in regard to the levels of export of white beans from Ethiopia. Data from customs appeared to suggest that at least 140 thousand tonnes of beans was exported in 2004–05 season. However, in interviews with traders across the country and from previous official statistical abstracts, we suggest the levels of export were in the range indicated in Figure 10. Please note that this evidence is not conclusive and the data indicated that demand for white bean exports were increasing, but that supply in the 2005–06 marketing season was lower than anticipated.



White beans prices in the past two years have been erratic. Whereas traders used to buy white beans at the ETB 110–120/quintal at the start of the season increasing up to ETB 150/quintal as the season ended, this trend was not observed in 2004 or 2005. In

2004, traders found themselves in a market with falling prices and many lost money as the season progressed. In 2005, the price was within the normal range until the end of December 2005, when there was a sudden price increase up to ETB 300–350/quintal (see Figure 11).



Source: Authors' data.

Figure 11. Prices of Ethiopian white beans per quintal over the past three years (ETB 150/qt = USD 174/t).

The 2005 price hike was, we believe, due to a general scramble for product as traders attempted to fulfil contracts in a low production year. There was a general sentiment that the drought had caused a shortage of product in the market in 2005. It is not clear how the next season will develop, but continued high prices until December 2006 suggest that production levels have not yet returned to previous levels and that demand remains firm. The effects of the Ethiopian entry or re-entry into the world dry white bean market, along with increasing production from China can only drive down prices globally, and this is likely in the mid term run, i.e. next 4–5 years to lead to a greater market share for low cost suppliers such as Ethiopia, as long as they can become a consistent supplier in terms of volume and quality.

Red bean flows

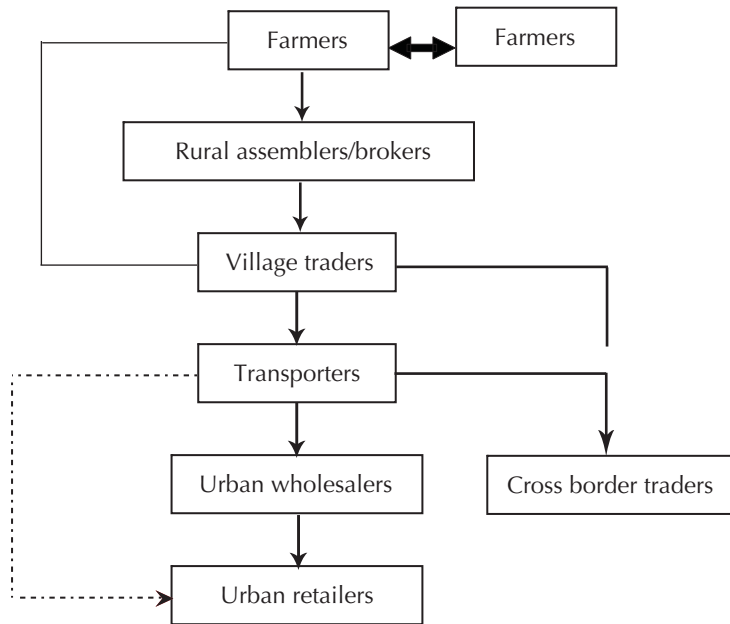


Figure 13. Beans market channels in Ethiopia.

White bean flows

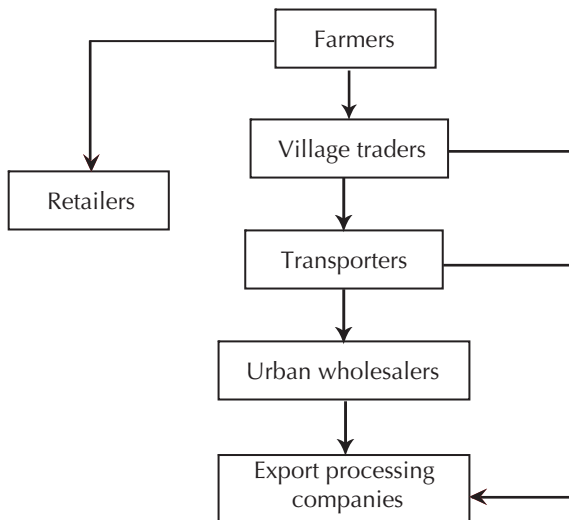


Figure 14. Market channels for white export beans in Ethiopia.

7.2 Key chain actors

7.2.1 Village traders and collection agents

In most parts of Ethiopia, farmers have access to animal traction and can therefore transport goods, such as beans, to local collection centres on donkeys or on carts pulled by donkeys. In major trading towns the numbers of donkey carts are so high that local laws prevent them from entering the market areas to avoid congestion. The farmers can deliver their beans directly to either collecting agents or village traders. In most cases, there is a strong bond between village traders, their collecting agents and farmers. Relationships between the traders and farmers are, to a limited degree, supported through small loans and credit systems to provide inputs and local expenditures that are required by farmers. It is often the case that traders will also provide seed inputs to their more loyal suppliers. In local market settings, the village traders and brokers or rural assemblers often have a retail option, selling small amounts of product directly to consumers from their stores. Most traders operating with farmers indicated that at peak periods, they collect and pass onto larger traders with a handling fee of between ETB 3–5/quintal, plus transport and loading fees to porters. At these low margins, turnover needs to be high to maintain reasonable incomes. Village traders have basic go-downs to store their goods, and the capacity of the stores we visited were in the region of 100–1000 quintals.

7.2.2 Travelling traders/transporters

Once the village traders have gathered sufficient volumes for transportation, they call travelling traders and/or transporters who collect the produce. The distinction between these intermediaries is that travelling traders tend to be individual operators owning their truck and buying produce versus transporters who simply shift goods for larger traders in the major urban centres. All the market actors are in communication using mobile phones, and tend to operate with known entities. Whilst this reduces marketing risk, the lack of new market linkages may reduce competition and opportunities for spatial arbitrage.

7.2.3 Urban wholesalers

Urban wholesalers in provincial towns provide large storage facilities to bulk commodities including beans prior to sending them either to urban retail centres or to export houses or cross border traders. In Ethiopia, the largest urban wholesalers for beans were found in the major towns of Soddo, Shashemene, Addis Ababa and Nazareth. These traders have large capacity warehousing of 50–100 thousand quintals, and employ staff to maintain security and basic stock management. They also store and trade in other major

crops such as teff, highland pulses and maize. These intermediary traders rarely engage in crop cleaning as there are no incentives or premiums to grade and clean produce. It is these urban wholesalers in the larger southern towns that were engaged in the informal export of red beans into Kenya.

7.2.4 Urban retailers

Retailers operate at all levels in the chain and make sales directly to consumers. Retailers generally add the highest margins onto produce, particularly those in informal markets as they sell small amounts per day and have low turnover. As explained in the previous section, bean retailers were often found to sell only this product, as beans are in low relative demand outside of the rural areas. The urban retailers charge higher rates as they also incur costs for handling and market fees.

7.2.5 White bean export houses

The white bean exporters are the most specialized operators involved with large-scale procurement, cleaning, grading, re-bagging and organizing finance and contracts either with the largest exporters or directly with overseas buyers. In Ethiopia, it is at the export level where produce is cleaned either with gangs of women labour working in mechanical checking lines, or using electronic colour sorters. Virtually all of the export houses for white bean are located in Nazareth, which is the major market town en route to Djibouti. At present there are very many small to medium sized export companies in Nazareth, with some larger exceptions such as the AWAD brothers and ACOS.

7.3 Detailed excerpts from key market chain actors in the survey

7.3.1 Red bean retailers in Awassa market

Our market observations indicated that market sales for beans were low compared with sales of other highland pulses in the marketplace. In Awassa, our study only revealed 6–10 low volume retailers, selling 2–3 bags/market day during the off seasons and 6–10 bags/market day during the high season, compared with highland pulse traders who sell 30–40 bags/market day. If this were extrapolated for the year this would be in the region of 150–200 t/year of beans, with a value of USD 45 thousand. Total revenue for a trader may equate to USD 4500 with profits of USD 400–500/year, based on a 10% margin, or gains of USD 10–15/week for each trader. Whilst this is a low income it does enable people to earn more than USD 1/day which is above the level of extreme poverty (see Table 8).

Table 8. Beans sales prices based on Awassa retail figures in April 2006.

		Red	Volumes	White	Large mottled
Farmer	Peak harvest	ETB 120/qt		ETB 120/qt	ETB 150–160/qt
	Off season	ETB 290/qt		ETB 300/qt	
Retailer	Peak harvest	ETB 150/qt	5–6 qt/day		
	Off season	ETB 350/qt	0.5–1 qt/day	Not available	ETB 380/qt

Although the retailers were indicating prices of ETB 350/qt, i.e. ETB 3.5/kg, the beans were being sold in cups/glasses. When the volume in a glass was weighed, 3 glasses were being sold at ETB 2, which related to ETB 4/kg. Hence prices were considerably higher than indicated. This practice of manipulating weights and measures is standard in most open markets. Moreover, there are few checks on such transactions and the effect is that the poorest people always pay considerably more for buying small amounts of goods at informal retail markets.

7.3.2 Village bean traders (Borecha, southwest Rift Valley)

Borecha is a small market town that provides a collection centre for beans from a 20–30 km radius, before shipping into larger markets such as Shashemene and Nazareth. As shown in Table 9, this market trades in 3 types of beans, (i) large red and white, (ii) red beans and (iii) white beans. The town has 10 traders dealing in approximately 200 bags of beans every week, and the total estimated amount of beans traded in the main trading season was approximately 3200 t.

Table 9. Beans prices in Borecha market in April 2006

Variety	Peak season (ETB/quintal)	Off season (ETB/quintal)
Large red and white	240	350
Red	194	309
White	130	300

All traders in Borecha own mobile phones which they use to communicate with travelling traders from Shashemene and Moyale. Whilst most of the village traders are engaged in back-to-back⁴ sales, the traders in Borecha have storage capacity for up to 40–50 t. The collecting agents in Borecha buy from farmers in the villages and supply bulking agents in Borecha. Each agent in Borecha has a network of 10–15 collectors.

According to these traders, large red and white beans attract the highest prices, although these beans are not part of a bean development strategy. According to one trader who has

4. Back to back trading describes a trader who does not speculate, but rather buys and sells as quickly as possible for a low margin.

been trading for eight years, sales of beans into Moyale started four years ago but sales have increased by 75% in the last one and a half years. The main trade into Moyale is red haricot beans accounting for over 80% of trade to Moyale.

7.3.3 Moyale red bean traders based in Awassa

In interviews with traders selling directly into the Moyale markets, we were informed that beans were being purchased from farmers at prices of ETB 110–130/quintal and sold over a 3–4 month period (Table 10). The main form of communication for trading across the long distances, Awassa is more than 700 km from the border town of Moyale, is through mobile phones. Calls are made to traders in Moyale and product is delivered within 2–3 days. The mark-up is approximately ETB 10/quintal. The main role of the traders is to buy from farmers, clean and re-bag the produce for border delivery. The development of the Moyale market depends on demand from the Kenyan side. Future sales may also be dependent upon the levels of drought in northern Kenya and the condition of the roads. According to the traders, the road conditions on Ethiopian side were considerably better than in northern Kenya.

Table 10. Red beans buying and selling periods from Ethiopia in Moyale

October	November	December	January	February	March	April
Buying						
			Selling			

Source: Study findings.

7.3.4 Shashemene trade centre: major urban storage centre

The town of Shashemene, located at the southern cross-roads, has become the major commodity trading point in southern Ethiopia. Traders deal in all products including maize, teff, pulses and beans and sell most of the goods in Addis Ababa, Nazareth, and Moyale and directly in Djibouti. Prices quoted for the red beans ranged from ETB 150–300/qt in the peak and off seasons, whereas prices for white beans ranged from ETB 130–280/qt. According to the traders, margins and demand for white beans were currently less than for red beans in their areas.

The growth in trading at Shashemene has led to major investments by at least 20 traders who are building stores with a capacity of 30–40 thousand bags. The larger stores cost approximately USD 50 thousand to build and traders are accessing government loans on good terms for this construction program. The investment being made by the traders is impressive.

The traders provided a basic breakdown of the prices of handling and transportation to the main markets throughout Ethiopia, as shown below:

Trading costs from Shashemene to major markets

1. Handling fees ETB 3–5/qt
2. Transportation of beans from Shashemene to Moyale (800 km) ETB 28–30/qt
3. Transportation of beans from Shashemene to Nazareth (400 km) ETB 10–12/qt
4. Transportation of beans from Wolaita to Moyale (1200 km) ETB 38/qt
5. Transportation of beans from Wolaita to Nazareth ETB 16–18/qt
6. Packing bean into bags ETB 2.5/qt
7. Loading beans on Isuzu 5 tonne truck ETB 0.6/bag.
8. Bank charges to receive money from Moyale traders 0.1%.

The low margin indicates that this is a fairly competitive market and that traders are providing a reasonable service to farmers rather than playing an extractive role as is often portrayed.

7.3.5 Ethiopian Grain Trade Enterprise (EGTE)

The Ethiopian Grain Trade Enterprise is a government trading company established 50 years ago to assist in stabilizing prices by providing a floor price for purchasing of commodities on behalf of the government. This agency started export trading almost eight years ago and is mainly involved with the export of oil seed and pulses. EGTE remains a major buying instrument for the government and has storage capacity of 8 million quintals across the country, but in most cases does not use this capacity.

In 2004, EGTE claimed to have exported 5000 t of white pea beans and 2000 t of red haricot beans. This information did not indicate the destinations for the red beans. They attribute the low amounts of export to scarcity of product and poor quality of beans on the market. EGTE has 12 branches across the country and a branch in Shashemene focused on white bean purchasing. According to management, farmers prefer to work with EGTE because it purchases in cash and buys in bulk. EGTE also trades in sesame, wheat and teff.

7.3.6 Arba and Tinyaky Export Company

In 2006, Arba and Tinyaky, a Syrian–Turkish company set up a new agricultural export factory in Nazareth. This company exports white beans, sesame, chick peas and lentils. They are currently organizing their first purchases and by April 2006 had procured 280 t of white and 200 t of red beans. Their white beans were destined for the Republic of

South Africa while the red haricot beans were destined for Turkey and Saudi Arabia. This company has set up a manual grading and sorting line that includes a powered de-stoner and is working on developing new contracts for white beans into Holland. They have offices in Turkey, which organizes contract options that the factory management then fulfils.

7.3.7 Agricultural Commodity Suppliers (ACOS)

ACOS is a major Italian agricultural commodity export company that established a new bean processing centre in Nazareth, Ethiopia, in 2005. At first ACOS management were highly sceptical about investing in Ethiopia due to the political situation, the problems associated with recurrent droughts and the perceived low quality of the beans.

However, the new country manager spent two years working with the parent company to test the existing varieties for their processing quality and develop business plans for capturing market share and gaining licences to set up the new business operations. Once given the green light, ACOS has moved into the market aggressively, and aims to be the leading bean export company in Ethiopia within two years. Being a major international processing company that supplies leading brand names such as Heinz and Kirill Mischieff, ACOS will not only introduce greater competition but will also set new and improved trading standards into the local marketing system that meet international food quality standards. As part of this program to formalize the existing marketing system, ACOS has built a state of the art pulse storage and processing centre at a cost of USD 3 million with a current capacity of 12 thousand tonnes. If the business plans work according to their plans, they intend to extend the storage capacity to 24 thousand tonnes within 3 years.

ACOS aims to process and export 25 thousand tonnes of the white beans from the estimated 40 thousand tonnes of beans that are exported from Ethiopia. These beans are destined for European canning plants to supply the lucrative baked beans markets. Traditionally ACOS has sourced its beans from Canada and US, but in the past 10 years has established lower cost production centres in Argentina and China. Currently they process 30 thousand tonnes of white pea beans a year. Eighty per cent of this comes from the USA and Canada and 20% from China. However, this market is highly competitive and ACOS recently established three new processing plants in China, which indicates where the bean market is heading.

To support its Ethiopian operations, ACOS has asked the government to allocate 600–1000 ha of land which they could use for their own seed and grain production. This would allow ACOS to produce 25% of their exports via a nuclear farm and then work

with co-operatives, producer unions and out-growers to provide the additional suppliers. The scheme would also include a seed supply system to maintain product quality and yields.

Although ACOS is buying local varieties, their processing factories are set up to process specific types of beans and the company has already imported stock seed for preferred varieties. For white beans, ACOS is seeking support to produce AVANTI and CHRISTOD; and for red beans ACOS would like to multiply McMillan. These varieties are currently mainly grown in the US and Canada, and therefore require testing and formal release documentation through the national research system before it can be introduced to farmers for production and supply.

At present, the National Bean Program of EIAR has been unable to support the introduction, multiplication and delivery of these types as they are overwhelmed with testing other varieties, including newly introduced varieties introduced by Poortman Plc, another international procurement company.

Challenges encountered by ACOS

1. According to ACOS Ethiopian beans have a lower price on the world market because of their perceived poor quality.
2. Although farmers do not use chemical sprays on white beans, as field losses caused by insects are generally low, the beans can, however, suffer from insect damage in storage and whilst physical levels of damage are still low, any signs of blemish make the beans unattractive to export buyer. At this stage in the process of exportation, the levels of damage are not high enough for traders to downgrade prices based on insect damage. As most farmers and traders do not indulge in speculative trading, the product is transferred from the farm to the major trading houses fairly quickly and this rapid transfer of beans helps to reduce levels of insect damage.
3. According to ACOS the lack of inputs and low rainfall means that Ethiopian beans are small in size and this makes them less suitable for premium canning products. ACOS is therefore seeking to replace the existing varieties with newly introduced varieties that are used globally. However, they have been delayed in transferring seed to farmers because of legal requirements from the Ministry of Agriculture. ACOS is thus seeking to accelerate the varietal release system through negotiations with EIAR.
4. ACOS is also concerned that most farmers are poorly organized and is seeking opportunities to build relations with cooperatives and farmers unions to increase direct bulk supplies from farmers to their factory in Nazareth. At present, this is

proving difficult due to poor organization and financial/management skills of many farmers organizations in the country.

ACOS suggested that the major competition for Ethiopia is China. In anticipation of this market shift, ACOS has opened two plants in China in 2002 and 2003. Both plants are located in Tianjin, which has good communication routes to Beijing (approximately 100 kilometres north) and close to the port of Xingang, one of the largest ports in the Far East. The Ethiopian suppliers have the advantage of being nine days closer to the market compared with China, but must be able to compete on both price and quality if they are to increase market share in the next five years.

7.3.8 Poortman (London) Ltd

Poortman is another international trading house that has shown interest in sourcing white beans from Ethiopia. In 2005 Poortman invested in white bean seed supplies which it then sold onto NGOs with an initial intention to develop contract agreement to buy from farmers. Poortman was however unable to finalize these arrangements and it is reported that the company was not active in the buying season.

8 Major findings

Market volume and value

The market volume for haricot beans, based on production and export figures from CSA (2005) of the two bean types in Ethiopia, was approximately 185 thousand tonnes with a market value in excess of USD 50 million in 2005. Market trends indicate strong potential for growth in the regional market for red beans to supply bean deficit countries such as Kenya and export market for white beans into Europe and other overseas destinations. The larger domestic market is more focused on food security and, although stable, is not growing rapidly.

Market diversification

Ethiopian bean farmers are supplying three major market types: domestic, regional and export. All of these markets provide significant employment and income to the bean growing community. These markets could be made more efficient with potential to expand if additional foreign private, government and foreign public investments are made in upgrading the bean 'value chain'. Key areas of investment include: variety development and supply, on-farm productivity enhancement, farmer organization, trade support and marketing.

Given the current split in the production systems, we suggest that in the next three years investments in the bean sector should focus on red bean production in the southern Rift Valley, i.e. south of Lake Ziway to supply domestic and Kenyan markets; and to invest in white beans in the region to the north of Lake Ziway to consolidate supplies to export processing markets.

Investments in beans is pro-poor

Beans are a highly pro-poor commodity that provide not only a nutritious product to support food security, but also offers new options for smallholder farmers to enter higher value European markets. The product also supports the livelihoods of many other off-farm employment opportunities, and clearly supports the livelihoods of poor women traders in the numerous wholesale and retail markets throughout the country. Any interventions that supports increased production and marketing of this crop is therefore highly likely to provide direct benefits to the more vulnerable groups in the Ethiopian rural and urban communities.

Cost advantage

Ethiopia is a highly disciplined nation, with skilled farmers who work at fairly low costs. Farmers are therefore likely to respond to strong signals by government to boost production of export beans. The main competitor is China, another low cost producer, which is aggressively exporting to bean buying countries. Due to their lower costs, it is likely that many traditional producers from locations such as the US and Canada will find it cheaper to import rather than produce beans in the future, unless trade barriers and subsidies offset the flow of lower cost produce. This is one of the useful or pernicious effects of globalization as having free trade can have good or negative outcomes depending on whether you are a producer or consumer. However, the main point is that if Ethiopia can retain competitive costs with China, it will be able to make considerable inroads into the European markets that are currently being supplied by Canada and USA.

Competitive advantage

In addition to the cost advantage of Ethiopia in the export of white beans compared with growers in most other countries, the other key advantage is time to market. Currently it takes nine weeks for sea shipment from China to EU markets whereas it only takes three weeks from Ethiopia. This reduces transportation costs and provides greater flexibility in delivery to other clients and processing factory timetables.

Price and market volatility

Several traders commented on the recent volatility in the bean markets. Whereas bean prices had been relatively stable in the past, the recent increase in bean prices for both the red and white bean types, in March and April of 2006, was thought to be caused by a number of factors. The main factor was the drought in the 2005 *Meher* season, which reduced production and seed supplies.

In the red bean market, the loss in production coincided with intense buying from Kenyan traders through the southern border town of Moyale. Farmers were receiving ETB 115/qt in the early part of the season but prices subsequently increased to ETB 150/qt and then doubled to ETB 300/qt. Farmers and traders are, however, not entirely sure about the direction of the Kenyan market, many do not fully understand what is driving this market and they are also not sure if it will continue. No efforts had been made to find out more about the market options and there is no market intelligence to indicate next season's requirements. Whilst the farmers are enjoying this new windfall, there is no marketing strategy to increase or exit this market and this could be addressed with basic studies of this market.

In the white bean markets, the limited amount of quality seed and early production coincided with several new players in the market who were buying aggressively. This may have caused several traders to default on their contracts, which set up a passion for buying at the end of the season. The farmers will certainly respond to this new signal in the white bean market unless drought once again reduces their production abilities. To monitor such effects it would be very useful to repeat this study after two years to determine how the Ethiopian prices have fared against other world producers, such as the US, Canada and China.

The power of the new entrant

Although ACOS have only been working in the white bean market for one full season, their purchasing power is already clear in the marketplace. The buying capacity of ACOS has taken many of the more mature traders by surprise. In the past season, ACOS purchased somewhere in the region of 10–15 thousand tonnes of white beans, through direct purchases from the farmers unions and soaked up additional supplies from other major traders. The new processing factory has equipment for cleaning, de-stoning, colour separation machine and mechanical final quality inspection lines. This is the first such enterprise in the country and they are setting an entirely new standard into the market.

The approach being used by companies such as ACOS and Arba and Tinyaky is clearly of value to the farming community and it is interesting that these companies are sinking real costs into the farming business in Ethiopia, rather than simply seeking to benefit through increased trading knowledge and connections. The ability of farmers however to link into these new buyers remains limited as farmers are poorly organized and service providers, including the government extension, have limited capacity to train farmers in basic business skills and collective marketing.

Improving farmer organizations

If farmers are to share the benefits of the growing bean markets, additional efforts should be undertaken to build the capacity of farmers groups to be more productive and market responsive. To scale up such efforts, investments will be required to provide training materials and coaching to the extension service and to leading NGOs to undertake this task. The private sector should also play a role in such exercises such that new networks are developed with a commercial perspective and clear market signals.

Strengthening trade associations

Markets are not only a function of producers and final buyers or end users, but depend

upon effective intermediaries. Whilst considerable effort and expense have been given to farmers and large buyers, additional effort should be made to supporting more efficient trading groups and to build national plans that support more efficient procurement, delivery and sales of the product.

Improving market information

Lack of market information was often mentioned as a constraint to business decision making. Few traders were aware of prices and demand profiles for white beans in international markets and no traders we met fully understood the increasing demand for red beans in Kenya. A cost-effective approach to address such issues would be to re-introduce a basic public market information system into Ethiopia. There are already several designs for such services that could be used to provide a basic MIS service and these could be adapted to provide more effective links between the farmers groups, traders and commodity exchange options that are being developed by the Ministry of Agriculture.

New rules of the game for national breeding programs

The national bean program has spent the past 10 years developing new hybrids that are high yielding and resistant to pests and diseases. This program has a number of new varieties awaiting release and promotion with the farming community. However, the new formal companies such as Poortman and ACOS have entered the market with their own varieties, which have been selected for their processing qualities.

The private sector is now requesting the national program to release these varieties alongside the locally developed varieties. Whether they support a fast track approach for germplasm that has been improved in other continents or whether they incorporate these genes into their own, well-tested, background materials is an interesting challenge for breeding programs.

The advantage of direct multiplication, distribution and farmer sales is that, if these imported varieties perform reasonably well in Ethiopia, the quality is likely to incur a market premium which will filter back to the farmers. The disadvantage of such a system is that the skills and experience of the breeding team is less involved as they may feel that they risk becoming gatekeepers rather than developers. This is likely to be a dilemma for many African breeding programs and the Consultative Group on International Agricultural Research (CGIAR) unless there are exceptional reasons for only integrating external varieties, such as extreme locations for production or extreme or specific pest and disease pressure that would eliminate a new variety.

At present ACOS has made the request to the breeding program to test and certify and release the imported varieties so that it can be multiplied by farmers for production purposes. Given that it can take up to eight years for a new variety to be tested, certified and distributed, ACOS is seeking to develop a fast track approach so that within two years their preferred varieties are being produced by farmers to sell into the export factories. Sugar cane producers have 600 ha of beans being produced on fallow land but this is for the Poortman varieties, and ACOS would like similar treatment for their varieties. To meet the increasing demand for white seed beans, EARI have embarked on a new 50 ha plot to accelerate the production of new EARI varieties. Considerable efforts are therefore being made to support greater investment in the bean markets, but it is as yet unclear whether this support will be in favour of private sector selections or national stock.

9 Areas of intervention for research, development and the private sector

Areas of intervention	Specific interventions
Socialization of marketing studies	<ul style="list-style-type: none"> The results from this survey and other marketing interventions to be socialized through a marketing meeting with colleagues in Ethiopia <p>Recommendations:</p> <ul style="list-style-type: none"> Hold one-day meeting to discuss marketing studies and options through development project interventions. Update the bean studies within main marketing periods. Evaluate rapid desk study of market situation for canning beans in the Republic of South Africa (RSA) and Europe.
Support to breeding	<ul style="list-style-type: none"> The EIAR breeding program is under considerable pressure to release newly acquired germplasm and to multiply new varieties. EIAR support is required to: <p>Recommendations:</p> <ul style="list-style-type: none"> Fast-track the evaluation and certification of new commercial varieties that have been imported from USA and other locations for production and export from Ethiopia. Accelerate the production of bean seed to supply the markets. Evaluate the canning quality of beans, through linkages of EIAR with other leading agencies in RSA and Europe.
Seed production	<ul style="list-style-type: none"> Although EIAR is developing systems to bulk produce quality seed of new varieties, this work needs additional support through the establishment of farmer based seed supply groups for white beans in the northern areas and red beans in the southern areas of the Rift Valley. ACOS is seeking support to develop farmer groups for seed production of new varieties of white and red varieties, which the company has imported into Ethiopia with a view to developing these varieties for market linkage. Seed groups to supply commercial buyers such as ACOS and Poortman can be developed on a contractual basis if organizations can be found with the skills to organize production schemes. <p>Recommendations:</p> <ul style="list-style-type: none"> Farmer groups should be supported to produce high quality seed to provide inputs into the bean export industry. Build supplier database, such that seed can be informally registered if not considered within a formal seed certification systems, such that farmers are able to benefit from premium prices. Despite high demand for white seed in the southern Rift Valley, we would recommend that only red beans are distributed into the south to support the Ethio–Kenyan market. Only white seed are multiplied in the northern Rift Valley area to support export production.

Support to extension. Provision of best practice literature, medium-term training through a learning alliance in market facilitation

Building marketing capacity

Ethiopia is beginning a program of investment in market extension. Whilst this is not a new idea, its application in Ethiopia is relatively new to most of the government department staff and to many NGOs in the country. Despite the need for this change there are few best practices available to these agencies and few opportunities to attend training courses that build their capacity.

Recommendations:

- IPMS consider purchasing copies of the recently published *market facilitators guide* to provide agencies in Ethiopia with access to information related to the basic market skills required by marketing extension officers for enabling smallholder farmers to access local and export markets. See downloadable copies at http://www.ciat.cgiar.org/africa/pdf/eri_guide2/contents.pdf
- Finalization of the Rapid Guide to Market appraisal. This new guide provides a method for rapid market chain analysis. The guide requires testing in Ethiopia, based on studies of target products for the IPMS project.
- Training to be provided to the Ministry of Agriculture extension officers to develop skills in market facilitation and to EIAR staff in market analytical techniques to improve their understanding of markets. This training should be provided through an interactive training program, providing time for the participants to review, test and adapt the tools and methods in their working environment.

Grain production

- **Farmer organization**

Both ACOS and Poortman want to work with investors from the public sector, to organize farmers into contract buying arrangements for their supply. These farmers should be in groups that can provide a standard quality and quantity. Preferably using the new varieties that they have developed or purchased in US that can supply the processing factories directly.

Recommendations:

- Ministry of Agriculture extension staff and NGOs should be supported with capacity building to enable them to establish commercial grain producer groups to supply the newly emerging formal commercial sector.
 - This training should also be given to EIAR who are keen to play a leading role in market driven R&D, to accelerate success in the export markets.
 - Short-term CLUSA¹ training program may prove to be a rapid means of building local capacity.
-

Brokers at the village level	<ul style="list-style-type: none"> • Trader organization <p>Despite considerable effort being provided to farmer for production of beans, there is also benefit to be gained from building the capacity and linkage for the small-scale rural traders.</p> <p>Recommendations:</p> <ul style="list-style-type: none"> • NGOs/government extension should be supported to build the capacity of trader groups, to enhance their abilities in record keeping, computer management systems, access and use of market information. • Effort should also be placed in enabling this level of trader to share knowledge of market conditions and to gain additional access to credit in order to develop bean production and supply in their areas of activity.
Urban brokers	<ul style="list-style-type: none"> • National trader association <p>There are two organizations that could play a role to build the capacity of the bean traders in Ethiopia, the government led ESE or the private sector bean and millers associations. These organizations should be upgraded in order to support this important, pro-poor growth market.</p> <p>Recommendations:</p> <ul style="list-style-type: none"> • NGOs/government extension/other agencies, should be supported to build the capacity of a national bean trader association, to enhance their management and trading capacity. • This may include short term training for members and establishment of a low profile centre to manage their affairs more effectively, with access to internet and export information of prices to enhance their abilities to negotiate with more sophisticated traders.
Support to export trade	<ul style="list-style-type: none"> • National statistics <p>There were considerable differences in the levels of export for pea beans quoted by the different Ministries and these discrepancies should be reviewed to align data and make in more readily available in a standardized and regular format.</p> <p>Recommendations:</p> <ul style="list-style-type: none"> • Government agencies should be supported by IFPRI and or other agencies with capacity building to gather, collate and disseminate accurate production, processing and export information in this emerging formal commercial market.

Support to market information services

- Virtually all of the traders interviewed indicated that lack of market information was a major impediment to their trading abilities. They found it expensive and difficult to collect domestic prices and we found no traders with international prices.

Recommendations:

- Agencies such as IPMS should liaise with other projects such as the Chemonics marketing project and IFPRI to devise and deploy a simple, low cost market information service to improve the symmetry and access to market information for beans in the domestic and international markets.

- One option that is available as a commercial market information product is TRADENET, www.tradenet.biz, which is a dedicated software that allows for uploading and simple transfer of information through selected media such as internet, emails, radio MP3 files and mobile phone messaging. This product could be tested for 1–2 years in Ethiopia, with support from IPMS to cover installation, training and maintenance costs.

Support to policy reform to accelerate the sharing of improved genetic materials

- Current germplasm development in Ethiopia as with other countries in Eastern Africa, is a slow process. New approaches should be investigated to accelerate the introduction of beneficial genetic materials.

Recommendations:

- Seed and genetic materials policy should be reviewed with the view to allowing clean, market led materials to be shared across more countries, more quickly. Whilst all efforts should be made to avoid potential risks associated with unsanitary materials, there should be new approaches to increase sharing of improved materials into Africa and then within African countries so that poor farmers can more quickly share the benefits of improved genetic materials and thereby new market opportunities.

- The CGIAR should also consider taking on a new role within the genetics framework of being able to share commercially desirable products rather than taking the germplasm improvement route which is time consuming and costly, compared with direct importation. New tools could be developed to address this situation from both a genetics and GIS based approach.

Policy reform to strengthen regional markets

- Current exports into Kenya are considered to be informal and therefore undesirable. Efforts should be made to strengthen this trade and formalize it to the degree required to receive additional government and donor support.

Recommendations:

- Studies must be undertaken to evaluate the benefits and potential for increasing the trade of red beans into northern Kenya. This would encourage greater commercial links between the two areas and may offer new opportunities for other commodities.

- Restrictive policies should be removed to encourage similar activities such that farmers and traders are better able to exploit regional market options.
-

Policy reform to strengthen market information

- Virtually all actors in the market chain indicated that they were unable to access market information and that this was an impediment to their business development.

Recommendations:

- Studies should be undertaken to evaluate the benefits and costs of introducing a low-cost market information service into the Ethiopian agricultural markets.
- Policies should also be developed to re-introduce market information through SMS and mobile phone technologies as this is clearly the instrument used by traders and farmers associations to undertake their business transactions.

1. CLUSA – NGO, Co-operative League of the USA.

References

- Alemu D and Adam Bekele. 2005. Evaluating the marketing opportunities for the Ethiopian beans. (Unpublished report).
- Alemu D and Demelash Seifu. 2003. *Haricot bean marketing and export performance: Constraints and opportunities*. Research Report No. 54. EARO (Ethiopian Agricultural Research Organization), Addis Ababa, Ethiopia.
- Ayele Haile. 1990. Importance of haricot beans export to the Ethiopian economy. In: IAR. Research on haricot bean in Ethiopia: Assessment of status, progress, priorities and strategies. Proceedings of a national workshop held in Addis Ababa, 1–3 October, 1990. Institute of Agricultural Research, Addis Ababa, Ethiopia.
- CSA (Central Statistical Authority). 2002. Statistical abstract. CSA, Addis Ababa, Ethiopia.
- CSA (Central Statistical Authority). 2005. Statistical abstract. CSA, Addis Ababa, Ethiopia.
- Ferris RSB and Robbins P. 2004. *Developing marketing information services in eastern Africa: Local, national and regional market information–intelligence services*. ASARECA/IITA monograph 9. IITA (International Institute of Tropical Agriculture), Ibadan, Nigeria.
- Government of Ethiopia. 2006. A plan for accelerated and sustained development to end poverty (PASDEP). Addis Ababa, Ethiopia. 278 pp.
- Holtzman JS. 2002. Rapid appraisals of commodity subsectors. In: *A guide to developing agricultural markets and agro-enterprises*. World Bank, Washington, DC, USA.
- Spilsbury J, Jagwe J and Ferris S. 2003. Evaluating the marketing opportunities for beans and its products in the principal bean growing countries of ASARECA. Uganda report. (Unpublished FOODNET document). Available at: www.foodnet.cgiar.org
- World Bank. 2006. Interim country assistance strategy, Ethiopian Country Management Unit, Report No 35142-ET. 56 pp.
- www.Poortman.com

Appendix 1 Checklist for a bean rapid market appraisal

Topic	Subtopics	Questions and/or comments
Personal information	Name	For established firms, obtain a business card or mobile phone number for future reference
	Physical address	
	Telephone	
Type of business	Value addition	How does the respondent add value to the product, where is this in the market chain? Does he or she change its form (processor), move it (transporter), store it (wholesaler), sell it (retailer), or consume it? Does vertical integration exist?
	Physical functions	
	Experience	
Demand	Quantity	-Quantity sold normally, e.g. per day, week
	Type of buyer	-To whom do you sell?
	Seasonality	-Do the volumes of sale change over time?
	Variety	-Are there different varieties?
	Consumer preferences	-If so, what is their respective demand or preference?
	Price data	-What is the price variation as per differences in varieties? -Do changes in prices occur over time? -If so, why? -Are there problems selling the products? -If so, what are they?
Supply	-Source by area	-Where are your supply areas (geographically)?
	-Source by type of person	-Who do you buy from? -Where do you buy from? (Meeting point)
	-Price	-At what price do you buy the variety?
	-Quality	-Does the price change over time? If so, why? How? -Do you have problems getting products? If so, what are they?
		-What is the quality of the product along the chain?
Quality	-Perishability	-What is the product's shelf life?
	-Post harvest issues	-How much do you usually store?
Storage	-Quantity	-For how long?
	-Time	-Do you have storage problems?
	-Storage problems	-Do you experience storage losses?
Marketing costs	-Forms	-What are your marketing costs?
	-Proportions	-What is their proportion?
Grading and sorting	Grading incentive	-Do you grade or sort? -Do better grades fetch higher prices?

Market information	–Sources –Spatial arbitrage	–Do you get market information, e.g. on prices? –If so, who from and how? –Is there a relationship between prices in different areas at given times?
Price formation	Market power	–Who determines the price? –How is the price determined? –If the firm or individual is a price taker, find out why
Institutional and legal framework	Associations	–Do you belong to an association? –Are there any market regulations? If so, what are they and how do they affect your business?
Market structure	Competition	–Number of sellers –Is there price competition? –Is there non-price competition? If so, what for (e.g. interlocking markets)
Credit availability	Sources and type	–Are there any credit institutions? –Do you use them? –What are their rates of interest?

Appendix 2 Bean production in selected countries

Beans, dry Production (t)	Year					
	2000	2001	2002	2003	2004	2005
Algeria	419	734	864	1096	1000	1000
Angola	75,110	89,030	57,895	66,121	76,000	108,116
Benin	85,613	78,353	100,462	81,823	93,789	93,789
Burundi	187,437	248,914	245,289	245,000	220,218	220,218
Cameroon	174,848	172,588	170,000	170,000	170,000	170,000
Chad	71,621	83,349	78,000	78,000	78,000	78,000
DRC	122,000	114,492	107,440	108,390	109,340	110,300
Congo, Republic of	3365	3400	3752	3800	3800	3800
Djibouti	0	0	2500	1500	1500	1500
Egypt	33,019	40,645	52,908	54,730	50,355	53,000
Eritrea	1420	4022	445	286	603	188
Ethiopia	147,210	210,961	101,324	117,499	175,457	176,000
Kenya	331,426	331,426	480,792	428,796	277,501	300,000
Lesotho	14,300	7860	6900	8000	8,000	8000
Libya	1000	1000	1000	1000	975	1000
Madagascar	74,080	75,050	70,380	75,000	82,500	82,500
Malawi	58,227	60,000	94,037	109,832	79,422	80,000
Mauritania	10,150	7600	9990	10,000	10,000	10,000
Morocco	11,750	12,000	12,000	11,900	12,000	12,000
Niger	8000	8000	9000	9000	9000	9000
Rwanda	215,347	242,157	246,906	239,394	198,224	199,648
Réunion	900	900	900	900	900	900
South Africa	87,078	104,302	62,307	68,345	85,117	71,684
Sudan	31,000	50,000	25,000	30,000	30,000	30,000
Swaziland	1516	1200	1200	1200	1200	1200
Tanzania	260,000	270,000	270,000	280,000	280,000	290,000
Togo	41,769	41,335	44,672	44,500	44,500	44,500
Tunisia	550	375	104	104	104	104
Uganda	420,000	511,000	535,000	481,000	545,000	545,000
Zimbabwe	49,000	50,000	50,000	52,000	52,000	52,000

Appendix 3 Import–export figures for beans in Ethiopia and the wider region

Beans, dry Imports—Quantity (t)	Year				
	2000	2001	2002	2003	2004
Burundi	100	166	3,400	1,155	8,069
Comoros	2	4	6	18	25
Djibouti	0	216	689	2,966	19,912
Eritrea	3830	3830	1600	2	5500
Ethiopia	878	500	20	415	32,800
Kenya	3431	4185	1771	1895	5454
Madagascar	203	37	660	139	1,168
Malawi	26	25	1	2764	366
Mauritius	1434	1124	1231	2389	1,451
Rwanda	990	7831	5235	7648	2009
Seychelles	2	2	0	3	63
Tanzania	68	163	1000	141	4975
Uganda	44	0	679	521	12,542
Zambia	1431	3472	3961	7650	2652
Zimbabwe	817	467	14,896	23,121	14,442

Beans, dry Imports—Value (USD × 10 ³)	Year				
	2000	2001	2002	2003	2004
Burundi	43	38	782	719	708
Comoros	1	2	2	9	7
Djibouti	0	65	211	962	10,965
Eritrea	7000	7000	3800	1	2000
Ethiopia	450	400	13	218	14,700
Kenya	4727	2673	1196	1631	2268
Madagascar	89	18	280	72	315
Malawi	23	15	1	1765	206
Mauritius	752	474	560	1239	786
Rwanda	260	3350	2400	4000	1162
Seychelles	7	7	0	6	47
Tanzania	55	85	5,000	85	2400
Uganda	31	1	287	254	6498
Zambia	898	1765	3730	2422	1183
Zimbabwe	848	413	8449	12,700	6040

Beans, dry Exports—Quantity (t)	Year				
	2000	2001	2002	2003	2004
Djibouti	0	0	2988	3825	3270
Ethiopia	24,095	20,000	49,137	38,995	42,748
Kenya	147	12	452	14,008	1060
Madagascar	1093	1327	1698	754	860
Malawi	270	1502	695	594	1173
Mauritius	1	5	21	3	0
Rwanda	0	0	42	0	0
Tanzania	3,409	13,428	10,495	15,714	5443
Uganda	19,673	1711	7493	4669	13,090
Zambia	139	147	44	1	3
Zimbabwe	2622	30	620	237	229
Beans, dry Exports—Value (USD × 10 ³)	Year				
	2000	2001	2002	2003	2004
Djibouti	0	0	865	1128	904
Ethiopia	8668	2809	14,118	12,031	12,022
Kenya	62	7	178	4,388	395
Madagascar	399	588	749	388	276
Malawi	360	459	333	268	407
Rwanda	0	0	6	0	0
Tanzania	2082	6235	4419	7561	4110
Uganda	2518	506	2075	1484	4097
Zambia	88	96	7	1	1
Zimbabwe	1910	37	456	105	153