Auke Boere – Yared Sertse – Lelena Abayneh – Hiwot Taddesse

Ethiopia as an export country for GREEN MUNG BEAN

(Vigna Radiata)

CONTENT

1. MAJOR TRENDS IN MUNG BEAN TRADE 2
2. MUNG BEAN IN ETHIOPIA 3
2.1 Production in Ethiopia 3
2.2 Smallholder production 4
2.3 Commercial Farms 5
2.4 Production Corridors 6

Ethiopian-Netherlands Trade for Agricultural Growth (ENTAG)
Shayashone (SYS)

1. MAJOR TRENDS IN MUNG BEAN TRADE

Worldwide there is a steady trend towards more imports and exports of mung bean (see Table 1 and 2). There does not seem to be much problem in meeting the increasing demand though, since there is a large group of countries producing mung bean and for many of them production levels are also increasing, including for top producer Myanmar. About 75% of Myanmars exports of mung beans is going to India, which suggests that they do not play an impossibly significant role in the exports to other Asian countries where mung bean is imported on an increasing scale. Strikingly, the largest importer of mung bean, India, is almost similarly for 76% dependent on Myanmar, at least when measured in USD value. In terms of USD value, Ethiopia is the 9th exporter of mung bean to India, after Kenya and Tanzania, but before Uganda, South-Africa, Malawi, Zambia, Egypt and Sudan.

India, Myanmar, China and Australia are the top four producers of mung bean in the world accounting for 81% of the global export market. At the same time, India is also the leading consumer and is therefore still heavily dependent on imports, mainly from Myanmar, but increasingly also from other countries.

When combining TradeMap and Ethiopian Revenue and Customs Authority (ERCA) data, in 2015 1,322,972 tons of mung bean were imported worldwide, which would mean that Ethiopia (with 17,267 tons) exported about 0.013 % of the world total.

Kenya and Tanzania are the leading producers in Africa, but Ethiopia is becoming more important and is likely a top 5 producer in Africa. Ethiopia produces almost entirely for export, with the exception of a few consumption cases in the North Western parts of the country adjacent to Sudan, where the crop is used as a sauce, and some government deliveries to relief areas in Afar and Somali areas.

According to TradeMap, the countries listed in Table 3 imported mung bean from Ethiopia in 2015. India and Indonesia are clearly the most important export markets for Ethiopia, with Belgium a distant third.

Table 4 makes clear that some Asian countries both import as well as export mung bean, notably China, Indonesia, Thailand and UAE. It also shows that Ethiopia is only an exporting country, with only negligible consumption of mung bean in Ethiopia itself. The same is true for all other African countries, European countries, Argentina, Australia, Afghanistan and Uzbekistan; all of them are net exporting countries without significant domestic consumption of mung bean.

TABLE 1
Top 5 exporting countries for mung bean worldwide (USD '000)

EXPORTERS	EXPORTED VALUE IN 2011	EXPORTED VALUE IN 2012	EXPORTED VALUE IN 2013	EXPORTED VALUE IN 2014	EXPORTED VALUE IN 2015
WORLD	890,346	817,678	913,361	1,250,511	1,297,874
2. MYANMAR	438,392	392,570	518,653	716,952	691,926
3. CHINA	204,122	183,940	178,134	214,738	227,995
4. AUSTRALIA	98,454	82,430	63,580	35,262	134,454
5. INDONESIA	12,949	27,959	16,790	35,476	46,106

TABLE 2
Importing countries mung bean worldwide (USD '000)

IMPORTERS	IMPORTED VALUE IN 2011	IMPORTED VALUE IN 2012	IMPORTED VALUE IN 2013	IMPORTED VALUE IN 2014	IMPORTED VALUE IN 2015
WORLD	933,630	837,639	976,522	1,230,907	1,321,604
1. INDIA	387,203	390,700	469,768	585,534	687,185
2. JAPAN	136,587	98,472	81,989	99,583	114,512
3. VIETNAM	14,762	12,720	22,923	70,208	112,486
4. UNITED STATES OF AMERICA	41,725	30,668	31,234	35,215	43,818
5. CHINA	16,269	27,165	12,615	15,622	42,698
6. INDONESIA	59,673	49,130	86,715	80,684	40,017
7. MALAYSIA	22,619	17,532	20,443	22,077	32,974
8. THAILAND	17,074	10,705	21,725	30,025	29,764
9. SRI LANKA	20,950	10,256	11,111	13,639	27,027
15. NETHERLANDS	9,688	6,044	6,377	7,823	9,420

TABLE 3
Main importing countries of Ethiopian mung bean[1]

IMPORTERS	USD
1. INDIA	9,342,000
2. INDONESIA	7,641,000
3. BELGIUM	1,700,000
4. SAUDI ARABIA	267,000
5. UNITED KINGDOM	88,000
6. PAKISTAN	32,000
7. ITALY	21,000

[1] Likely also United Arab Emirates and Kenya imported some mung bean from Ethiopia in 2015, since they also did so in the years before, but their import figures for mung bean could only be traced back until 2014 and 2013 respectively.

TABLE 4
Trade Balance Mung Bean importing / exporting countries (USD)

PARTNERS	BALANCE IN VALUE IN 2011	BALANCE IN VALUE IN 2012	BALANCE IN VALUE IN 2013	BALANCE IN VALUE IN 2014	BALANCE IN VALUE IN 2015	EXPORTED VALUE IN 2015	IMPORTED VALUE IN 2015
WORLD	-43,284	-19,961	-63,161	19,604	-23,730	1,297,874	1,321,604
MYANMAR	438,392	392,565	518,653	716,925	691,553	691,926	373
CHINA	187,853	156,775	165,519	199,116	185,297	227,995	42,698
AUSTRALIA	97,521	81,352	62,595	33,427	132,367	134,454	2,087
KENYA	-614		-2,177	12,971	27,269	27,517	248
TANZANIA, UNITED REPUBLIC OF	419	-548	689	14,340	22,860	22,866	6
ARGENTINA	406	7,740	4,531	5,853	19,177	19,398	221
AFGHANISTAN	-17,436	-16,955	-26,068	-41,796	11,413	11,414	1
UZBEKISTAN	19,055	19,320	33,995	56,759	11,190	11,246	56
UGANDA	4,513	5,143	2,456	8,215	6,635	6,825	190
INDONESIA	-46,724	-21,171	-69,925	-45,208	6,089	46,106	40,017
ZAMBIA	-23	266	191	977	3,738	3,742	4
POLAND	1,197	2,572	2,655	3,197	2,985	3,769	784
SOUTH AFRICA	573	504	-1,926	-1,493	2,576	3,191	615
UNITED ARAB EMIRATES		-11,362	-16,421	-10,471	1,529	5,900	4,371
LITHUANIA	120	241	1,190	330	1,224	1,239	15
EGYPT	14,396	8,818	9,140	29,178	896	905	9
MALAWI	45	-1,106	638	2,404	650	684	34
ETHIOPIA	158	437	3,470	2,649	591	598	7
MADAGASCAR	10	156	75	104	581	581	
GREECE	-344	-413	415	308	412	448	36
MOZAMBIQUE	453	389	4,160	2,898	300	335	35

2. MUNG BEAN IN ETHIOPIA

2.1 PRODUCTION IN ETHIOPIA

According to ERCA, Ethiopia has seen steady growth in both volumes (net weight) and FOB-value of mung bean exports. As Table 5 shows, the net weight of mung bean exports tripled between 2011 and 2015 from 6.33 million kg to around 17.3 million kg. FOB-value also increased multiple times, with a record high of 610 million ETB in 2014 and around 450 million ETB in 2015.

Pulses are important food and cash crops in Ethiopia. The country produces over 2.8 million MT of pulses per year. The annual value of pulse products in Ethiopia can be estimated to be around 2 billion USD. Faba beans, chickpea and haricot bean are the most prominent pulses crops, accounting for over 67% of the total pulse production. Mung bean and soybean are fast emerging pulses, particularly in the lowland areas with quadruple and doubling production growths within five years.

Ethiopia generated USD 194 million from the exports of pulses in 2015. The most prominent export pulses are haricot bean (USD 116 million), chickpea (USD 25 million) and faba beans (USD 26 million). Looking at the export trend for the last five years, mung bean has the highest export growth trend showing more than a three-fold increase from USD 6.5 million in 2011 to USD 21.5 million in 2015. Figures 1 and 2, and Table 6 show the overall production, export and market trends of the major pulses and mung bean.

TABLE 5
Export mung bean Ethiopia 2011–2015 (weight and FOB-value; ERCA)

	2011	2012	2013	2014	2015
GROSS WT (KG)	6, 347,403	18,585,720	11,702,382	25,476,795	17,313,589
NET WT. (KG)	6,334,000	18,542,909	11,673,285	25,290,043	17,267,450
FOB VALUE (ETB)	138,399,690	299,112,115	256,228,238	610,233,996	449,196,917

Mung bean has seen a recent surge in Ethiopia where official production data started to appear on the national statistics in 2012/13. The crop is grown almost solely for export. Over the last three years, mung bean production has grown by more than three-fold from 8,000 to 27,000 MT in 2015.

The Amhara Region, particularly Eastern Amhara, is the most prominent producer of mung bean, accounting for over 95% of the national production share. However, the crop is expanding to other regions as well by commercial farmers, namely Tigray, Benishangul Gumuz, Gambella and Western Amhara, as an important rotational crop to sesame and cotton.

Mung bean thrives best in well-drained sandy loamy soils and are not tolerant to wet, poorly drained soils. The crop can grow in range of altitude from 5–1600 m above sea level. Early maturing varieties will do well in the drier parts of arid and semi-arid soils, while the later maturing varieties will require rainfall above 250 mm per season. Heavy rainfall results in increased vegetative growth with reduced pod setting and development. Mung beans are drought tolerant and will give reasonable yields with as little as 650 mm of yearly rainfall.

2.2 SMALLHOLDER PRODUCTION

Smallholders

There are two major value chains for mung bean: smallholders and commercial farm value chains. As indicated in Figure 5, the smallholder value chain has four layers: farmers → collectors (traders and cooperatives) → aggregators (regional traders and unions) → exporters. Average farm gate price of mung bean (Shewa Robit area) for the last three years was USD 900/MT while export price per MT was USD 1250. The selling window for mung bean for smallholders is often immediately after harvest, and lasts for maximum of 3 months. Smallholder farmers sell to cooperatives and local traders or aggregators.

As evidenced from the field research the top three major constraints for smallholders to scale-up production are:

1. lack of finance
2. unavailability of sound storage technology
3. erratic rainfall.

The most important opportunities are:

1. increasing demand and better price;
2. relatively small input intensity;
3. early maturing;
4. mung bean sales are a cash source.

FIGURE 1
Legume production map of Ethiopia

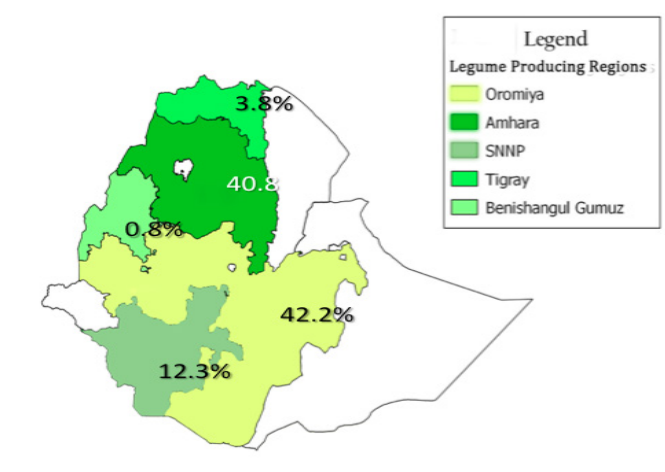


TABLE 6
Mung bean production in Ethiopia 2010/2011–2015/2016

FISICAL YEAR	AREA IN HECTARES	PRODUCTION IN QUINTALS
2015/16	27,085.92	271,589.80
2014/15	14,562.00	140,676.54
2013/14	10,692.38	80,640.10
2012/13	32,909.63	293,334.93
2011/12	39,964.58	362,939.17
2010/11	14,670.04	179,052.29

FIGURE 2
Ethiopia's Production of mung bean by smallholder farmers

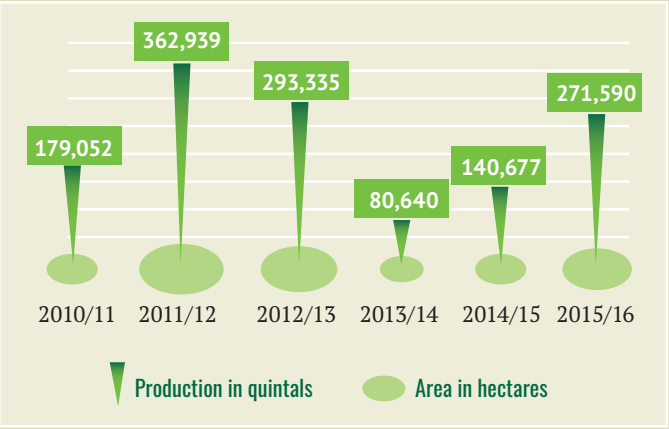


FIGURE 3
Production trend Mung Bean in Ethiopia (Net weight in kg)

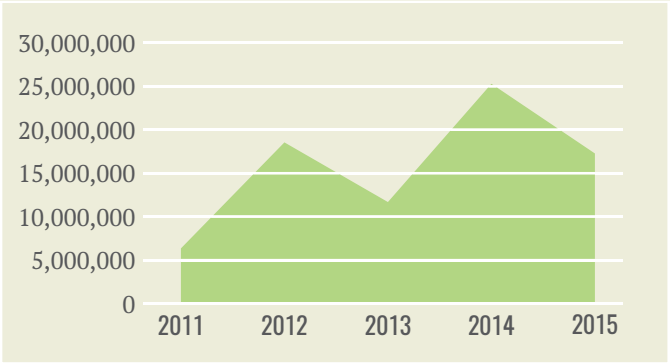


FIGURE 4
Production trend mung bean Ethiopia in USD

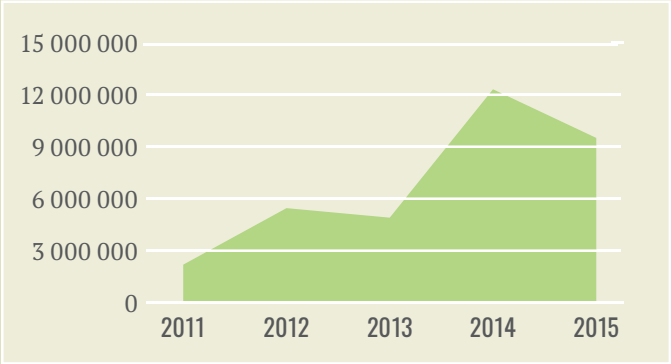
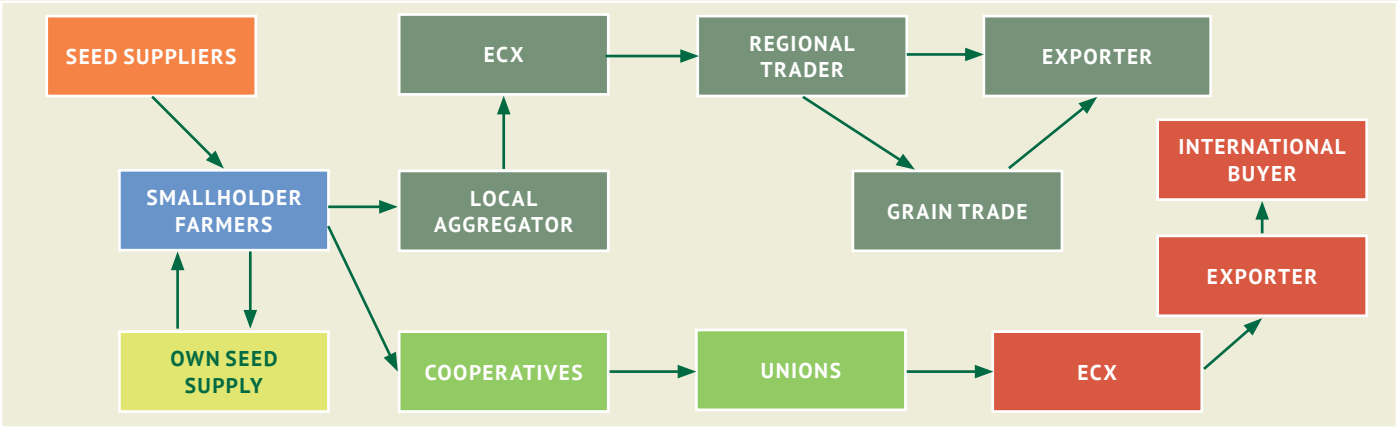


FIGURE 5
Value chain smallholder producers mung bean



2.3 COMMERCIAL FARMS

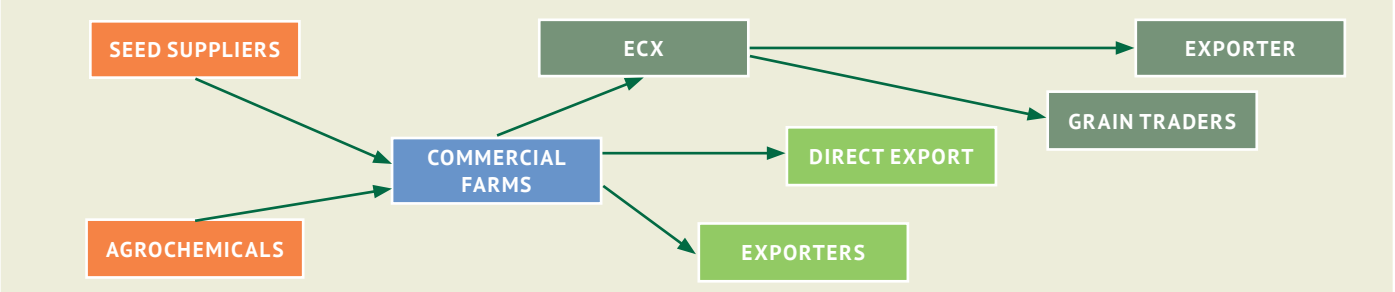
The value chain for the commercial farmers has three layers, or sometimes one layer where the famers directly export. The major production corridors are Gambela, Benishangul Gumuz and Western Amhara. There are over 700 commercial farmers in these areas with an average holding of 1250 ha. In the past most of these commercial farmers were focusing on cotton and sesame, the former for emerging domestic textile industry while the latter as an important export commodity. But recently they have been switching to beans, mainly soy and mung bean, for three reasons:

1. The international market price for mung bean especially is high (sometimes higher than sesame).
2. Both soybean and mung bean need smaller input and farm intensity and are hence less costly.
3. Rotational impact on soil fertility is valuable. Presuming the international market for mung bean will remain positive, the shift towards mung bean is a likely scenario.

TABLE 7
Commercial Farmers in Gambela and Benishangul-Gumuz

WEREDA	REGION-ZONE	TOTAL NO. OF FARMS	TOTAL SIZE OF FARMS (ha)	AVERAGE SIZE (ha)
ASSOSA	BG-Assossa	2	2000	1466
BULEN	BG-Metekel	1	116	116
DANGUR	BG-Metekel	18	15,991	888
GUBA	BG-Metekel	94	45,958	516
MANDURA	BG-Metekel	2	488	244
MAO KOMO	BG-Mao Komo	4	6,950	2508
PAWE	BG-Metekel	8	1649	206
WENWEBERA	BG-Metekel	1	500	500
ABOBO	Gambela-Agnwak	358	262,150	736
ITANG	Gambela-Itang	166	196,112	1181

FIGURE 6
Value chain commercial farmers mung bean



2.4 PRODUCTION CORRIDORS

There are three important mung bean production corridors within Ethiopia: East Amhara, North Western Amhara and Benishangul–Gambela Corridors. The Eastern Amhara is the largest production area at this point in time. This corridor includes areas like Shewarobit, Ankober and Jir and has important strategic advantage of proximity to port Djibouti. Kombolcha town, the corridor's business hub, is located only 480 kms from the port. Production mostly takes place during the Belg season (April–June). Mung bean does not have a serious competing crop in this production belt at the moment, as it is grown together with teff and sorghum mostly, which are both consumption crops, while mung bean is purely produced as a cash crop for the export.

The North Western Amhara corridor includes the fertile lands of North Gondar that encompasses areas such as Belesa, Metema and Hamusit. This corridor is traditionally a sesame, cotton and sorghum belt with mixed type of agriculture – both smallholders and commercial farming. Mung bean and soybean production is increasing in the area partly because of a favorable market price for mung bean, but production is still low (official figures are lacking unfortunately). Compared to the East Amhara Corridor, this area is further from port but the major advantages are that it can be accessed both though port Djibouti and Sudan (800–900 kms each). The other advantage of this corridor is the fact that it is the major belt of other key Ethiopia's export commodities such as sesame (60% of the national production), chickpea (40% of the national production), spices like cumin and other beans such as faba. At the same time, this means that in this production belt mung bean has fierce competition from the above-mentioned cash crops.

Production in Benishangul–Gambela Corridor is mostly from commercial farmers. There are over 700 commercial farmers in this corridor growing different crops such as rice, cotton, sesame and soybean. Recently mung bean is getting stronger ground because of the favorable market and its function as a rotational crop with less input intensity. Also in this production area, mung bean will have to compete with other cash crops like sesame, soy, chickpea and cotton, although as a rotation crop production combinations with these crops can be made. The Benishangul–Gambela corridor has the key advantage of bulk production at large scale level. Most of the commercial farmers export directly, but often they also sell to local exporters. Getting required volume might not be a major barrier. A major disadvantage of the corridor is its location from seaports approximately 1500 kms.

FIGURE 7
Mung bean production corridors in Ethiopia (smallholder and commercial)