



An Overview of Haricot bean production and trade in Ethiopia

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*Abstract: Among the various pulse crops grown in Ethiopia haricot bean is one of the major food and cash crops where majority of its production cultivated under smallholder farming system and mainly produced in the lowlands area of the country. Haricot bean (*Phaseolus vulgaris* L.) is one of the most important pulse crops grown in Ethiopia in terms of both area and quantity produced. Given the importance of this crop to the economy, it is important to examine the trade volumes and productivity trends. Secondary data from the Central statistical Authority and Ethiopian custom & revenue Authority were used for the study. Results indicated an increase in haricot bean production from 457,412 tones (t) to about 552,564 tones (t) between 2014 and 2021. Interims of area coverage overall decrease in area coverage from 326,466- 311,584 ha from 2013/2014-2020/2021. Regarding the production percentage Oromia took the lion share (44%) of haricot bean production in the country, followed by Amhara (32%), Southern nation (22%) Benishangul-Gumuz and Tigraye 1.6% of total production. The result also reveals exports increased in total value from 31 million USD in 2016 to 624 million USD in 2020, quantity of 58 thousand Metric tones in 2016 to 923 thousand Metric tons in 2020. Therefore, the government should invest in modernizing bean breeding program and the national agricultural research system should continue their efforts in generating improved agricultural technologies and recommendations such as crop variety, agronomic practices, crop protection measures as well as other technical advices and practices*

Keywords: Haricot bean; production; productivity; Trade; Ethiopia

Introduction

In Ethiopia, agriculture is the leading sector which contributes to nearly 34% of the country's gross domestic product (GDP) and 71% of employment. Crop production makes up 72% percent of the total agricultural GDP, of which cereals production covered 79.9 %, pulses 13.2 % and oil seeds 6.9 %. [1]. Ethiopia has diverse agro-ecology that permits different agricultural systems and production of different crops. The existence of this diverse agro-ecology together with diverse farming systems, socio-economic, cultures and climate zones provided Ethiopia with various biological wealth of plants, animals, and microbial species, especially crop diversity [2].

Among the various pulse crops grown in Ethiopia haricot bean is one of the major food and cash crops where majority of its production cultivated under smallholder farming system and mainly produced in the lowlands area of the country. Haricot bean (*Phaseolus vulgaris* L.) is one of the most important pulse crops grown in Ethiopia in terms of both area and quantity produced. The crop is cultivated in different parts, mainly Oromia, Amhara and Southern Nations Nationalities and Peoples Region (SNNPR). Their share of the national common bean production is 51% for Oromia, 24 % for Amhara and 21% for SNNPR [4]. It is the second-largest crop in pulse production and the third export commodity from the total export value of agriculture in Ethiopia [5]. It is also an important cash crop because of its fast maturing characteristics that enable households to get cash income required to purchase food and other household needs when other crops have not yet matured [3]. In addition to this it is also widely intercropped with maize and sorghum to supplement farmers with additional income and to maintain soil fertility [10].

Besides, it has immune growing potential of foreign exchange earnings due to rising demand from the international market over the last recent years. However, the production and marketing of haricot bean were not modernized as compared to other countries [8]. In response to this, Ethiopian government has made special attention for modernizing and transforming subsistent-oriented to market-oriented production system by providing improved agricultural extension services, high yield improved seeds, established agricultural marketing institutions in different parts of the county as explained in the Growth Transformation Plan –II (GTP-II) which is the current five-year development plan of the country [11].

Therefore the objective of this study was to analyze the trend of Haricot bean production, productivity and trade volume.

Methodology

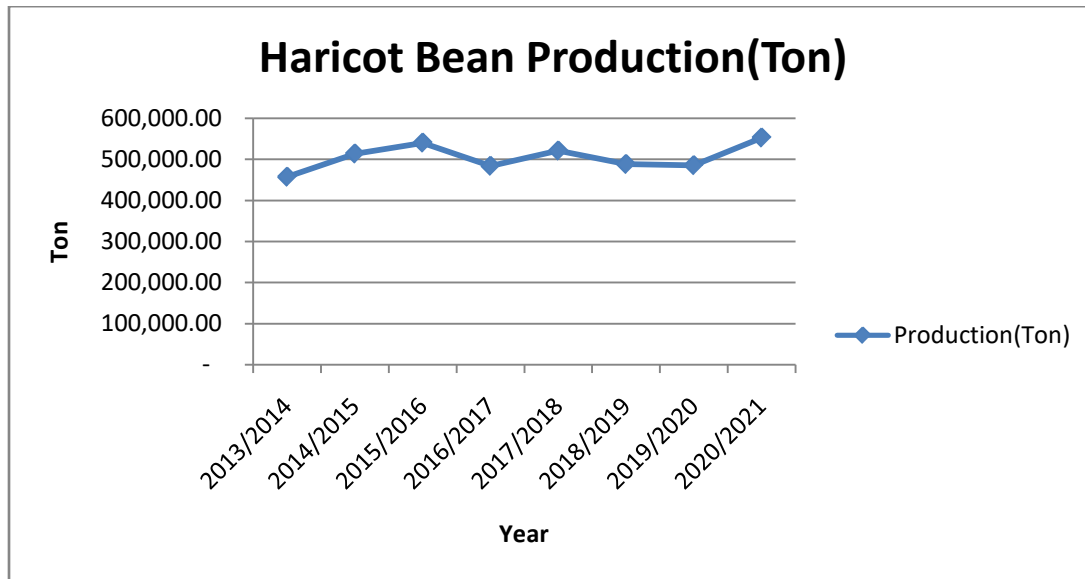
The study was used review of secondary data from CSA 2014-2021. Results of analysis were summarized and presented in the form of line graphs to show trends and Pie chart to show proportions.

Results and Discussion

Haricot bean production volume in Ethiopia

The result reveals an increase in haricot bean production from 457,412 tones (t) to about 552,564 t between 2014 and 2021. There was high increment from 457,412 in 2014 to about 540,239t in

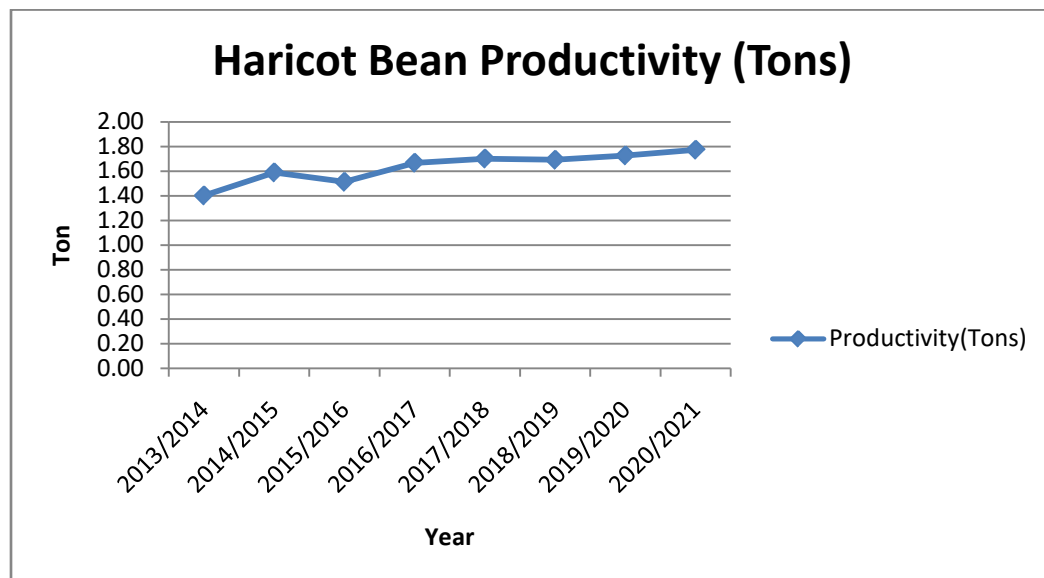
2016 and decrease between 2016-2017 from 540,239-483,923 tones (t). And 2019-2020 from 488,320-485,505 tones (t) the volume of bean produced declined in this year due to external and internal factors. The overall increment of volume of production resulted from numerous collaborative research work done so far. According to [6] during 2010/11 to 2014/15 the volume of production generally shows an increasing trend.



Source: CSA 2013/14 - 2020/21 Crop production survey report

Haricot bean productivity in Ethiopia

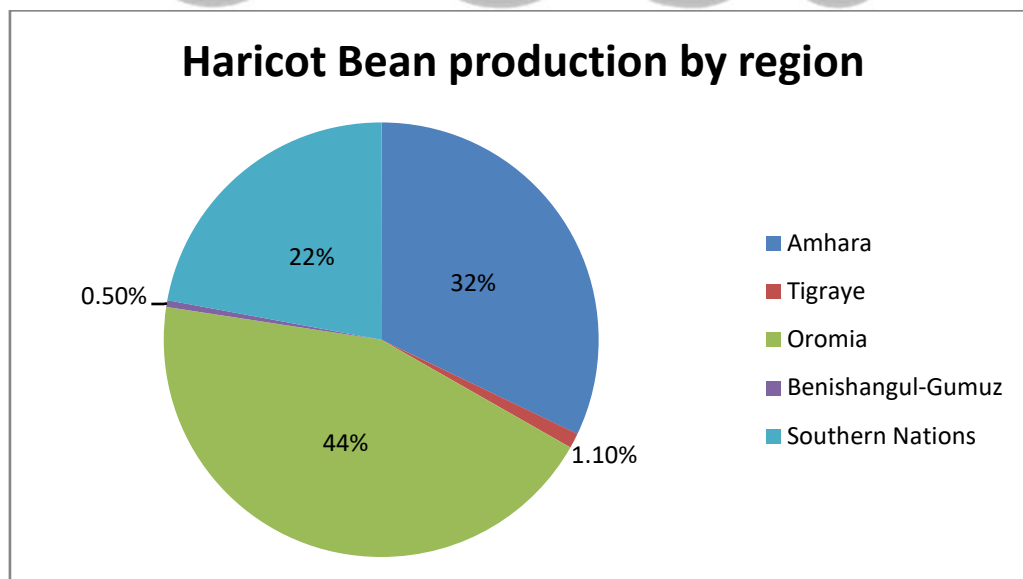
The result shows an overall increase in haricot bean productivity from 1.4 tones (t) to about 1.77 t between 2014 and 2021. The overall increment of productivity of common bean is due to generation and introduction of high yielding and disease tolerant bean varieties and recommendations such as crop variety, agronomic practices, crop protection measures as well as other technical advices and practices to farmers in collaboration with Ethiopian institute of agricultural research, international organizations and other stakeholder and better market access channels were key benefits. Even though there is an increment in productivity [6] the average national productivity of haricot bean was 1.77 ton/ha. According to [7] cite EIAR (2014) in research experimental plots indicates that 2.5-3 ton/ha can be obtained this shows there is still high yield gap at national level and research site. In response to increased demand for the product at the international level and a global fight for food security, to minimize yield gap determined efforts were being made to increase productivity.



Source: CSA 2013/14 - 2020/21 Crop production survey report

Haricot Bean Production by region

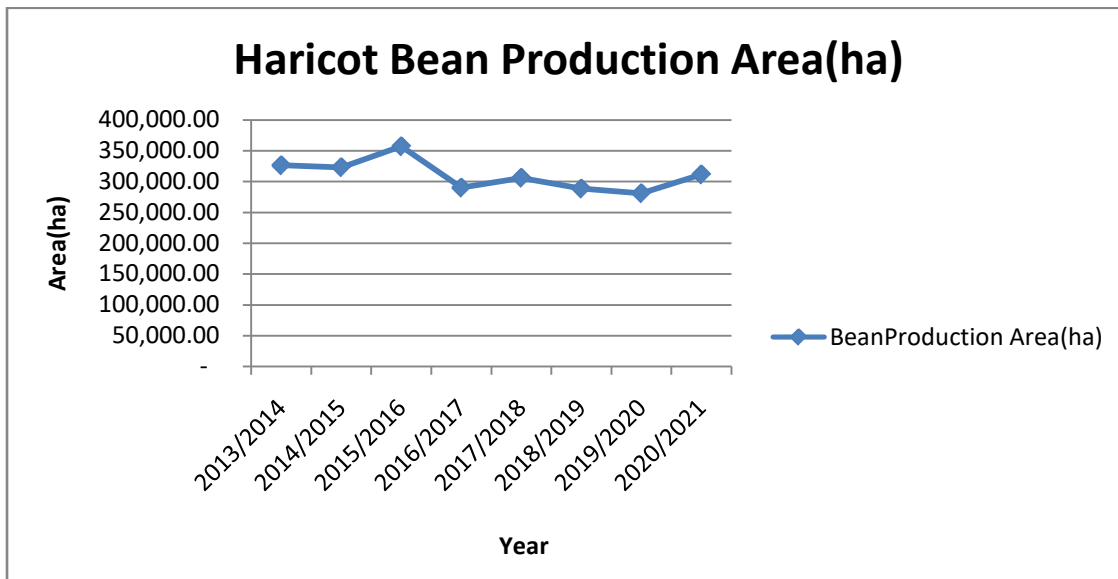
Regional Distribution of beans production Haricot beans are grown throughout Ethiopia and are an increasingly important commodity in the cropping systems of smallholder producers both for food security and income. According to the 2020/21 agricultural sample survey result, Oromia took the lion share (44%) of haricot bean production in the country, followed by Amhara (32%), Southern nation (22%) Benishangul-Gumuz and Tigraye 1.6% of total production.



Source: CSA 2013/14 - 2020/21 Crop production survey report

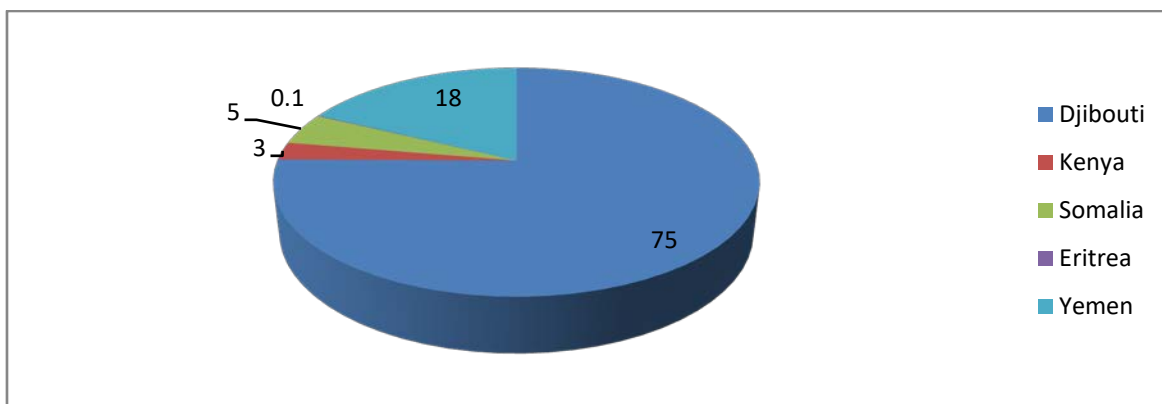
Haricot bean area coverage

According to CSA data from 2013/2014-2020/2021 overall decrease in area coverage from 326,466- 311,584 ha. This later decrease exponentially from 357,300.ha in 2015/2016 to about 290,202 in 2015/2016.



Haricot bean trade volume in Ethiopia

According to ERCA 2021 data shows that haricot bean exports increased in total value from 31 million USD in 2016 to 624 million USD in 2020, quantity of 58 thousand MT in 2016 to 923 thousand MT in 2020, The main destination markets in terms of earnings over the 2016-2020 periods were Djibouti (75%), Yemen (18%), Somali (5%), Kenya (3%) and Eritrea (0.1%). According to[7] haricot bean exports increased in total value from 19 million USD in 2005 to 134 million USD in 2014, quantity of 43 thousand MT in 2005 to 171 thousand MT in 2014, exhibiting a growth of more than threefold.



Source: ECRA 2021 data

Conclusion and Recommendation

Haricot beans (*Phaseolus vulgaris*) are the most important legume crop in Ethiopia. Over 300 000 ha are grown annually by smallholders with an average farm holding of 0.3-0.4 ha. The crop has been grown as a food crop for a long period and has been known as an export crop for more than four decades. For smallholder farmers mainly due to its short maturity period (less than 3 months) that helps for meeting the immediate household food demand, serves as a sources of protein contents in different types of traditional dishes and low input requirements of the nature of the crop [9].The result of the study shows there is an overall increment in volume of production, productivity and volume of trade in specified period of time. The result also reveals there is high yield gap between research site and at national level. Due to high demand for international market and to minimize yield gap the government should invest in modernizing bean breeding program and the national agricultural research system should continue their efforts in generating improved agricultural technologies and recommendations such as crop variety, agronomic practices, crop protection measures as well as other technical advices and practices.

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