

Full Length Research Paper

Marketing practices and challenges of Mung Bean in Ethiopia Amhara Regional State: North Shewa Zone in focus

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Mung beans are grown widely for use as a human food (as dry beans or fresh sprouts), but can be used as a green manure crop and as forage for livestock. This study assessed the marketing practice and challenges of Mung bean in the Amhara Region, North Shewa Zone. Descriptive analysis techniques were used for conducting this research. From the nine selected districts, 1,350 producers, 115 traders and 10 experts/professionals were taken as a sample using convenience sampling techniques. The interviewer administered questionnaire and field observations were employed for the fruit of this study. The finding showed that, although the North Shewa Zone has prospected potential in producing Mung bean and supplied to Ethiopia commodity exchange market, currently its production amount is low due to production and marketing challenges. The unpredictable rainfall, prevalence of pests and diseases, lack of input supply and development, and lack of proper storage and handling were among the identified production challenges. On the other hand, it is identified that low level of local consumption, inappropriate market chain, lack of market information, price impulsiveness, lack of stakeholder's commitment, limited market promotion and lack of finance were major marketing problems for Mung bean products. In line with this, season and quality were the main determining factors of the price of the product. Lower bargaining power of producers relative to traders makes them to earn less out of it.

Key words: Commodity market, Ethiopia commodity exchange, Mung Bean.

INTRODUCTION

As the theoretical and practical experiences teach us having efficient domestic agricultural commodity marketing system plays a decisive role in accelerating the growth

and development of the agriculture sector. Add to this, it makes the participants in the value chain such as producers, traders, and ultimate consumers' beneficiary

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as per their role and efforts exerted in the system. For this and many more other reasons, the Ethiopian government strives to design agricultural policy to enhance motivation among the local farmers and be economical capable enough by minimize challenges of capacitating and provides agricultural production activities while cushioning consumers from price risk.

Ethiopia is sufficiently endowed with different natural and man-made resources that contributes a lot for continues development especially in the agricultural sector. It has also verities of climatic zones suitable for the production of a variety of exportable commodities to acquire foreign currency to support its sustainable development in sectors of the economy. Together with this the country tries to modernize agricultural marketing in the country; the ECX and ECEA (Ethiopia Commodity Exchange Authority) are playing their pivotal roles to expand the types and quantities of traded commodities like coffee haricot bean, sesame and currently try to register some other commodities through ECX. These include emerging commodities like Mung Bean Haricot beans, and Sesame, to mention a few.

Ethiopia Commodity Exchange (ECX) announces the entrance of a new commodity, Green Mung Bean, into its trade floor. Green Mung bean is the sixth product that ECX is trading. Coffee, sesame, white pea beans, maize and wheat have been traded in ECX so far. Studies show that 150,000 to 200,000 quintals of Mung bean, known in Amharic as 'Masho', is produced per year in Ethiopia. Mung bean is mostly produced in Amhara regional state particularly in some areas of North Shewa and South Wollo as well as in some woreda's of Benishangul Gumuz regional state. Though this being the case, Mkung bean like other food crops, the small and small cooperative farmers produce for personal and family consumption and sometimes for commercial purposes in the previous few years. Despite increases in the potential export market, Mung bean production at the country level is no considerable improvement in quantity as well as quality of production to provide it for the central market with the help of Ethiopia commodity exchange (ECX). Therefore, in this study attempts will be made to assess the marketing practices and challenges of cash crops with due emphasis on Mung bean, emerging commodity in ECX market.

THEORETICAL FRAME WORK

Even though organized and integrated commodity exchanges have a long history, for more than a century, it remained largely confined to industrialized nations. However, with market liberalization and increasingly affordable information technology since 1990, commodity exchanges have mushroomed around the world (UNCTAD, 2007). It is defined as an auction market

where contracts on commodities are available for purchase or sale at an agreed price and for delivery on a specified date (Parvez, 2009). It is an association or a company or any other body corporate organizing trading in commodities for which license has been granted by regulating authority. As the theoretical experiences teach us having efficient domestic agricultural commodity marketing system plays a decisive role in accelerating the growth and development of the agriculture sector. Agricultural commodity exchanges market in Africa, launched shortly after market liberalization in the 1990s, but only South Africa succeeded in making its exchange sustainable. Despite the initial stage of success, Zambia and Zimbabwe suspended their operations following unusual price fluctuations and subsequent government intervention .Other exchanges established in the 1990s include the Kenyan Agricultural Commodity Exchange (KACE) which no longer support actual trades but exist with donor support and the Uganda Commodity Exchange (UCE) which does coordinate trades but not been able to attract sufficient trade volumes to be self-sustaining. Since 2004, more and more countries have been launching exchanges-notable ones include Malawi in 2004, Nigeria in 2006, Zambian exchange, ZAMACE, established in 2007 and the Ethiopian Commodity Exchange (ECX) in 2008 (Shahidur, 2010).

Ethiopia commodity exchange is anticipated, rewards quality services to producers and reduces transaction costs of market participation thus increasing returns to market activity. It enables quick capital turn around, increases market volumes, reduces risk related to counter party default and prices, increases market participation, increases information and transparency for all market actors (UNCTAD, 2005). The Agricultural Growth Program (AGP) is a major component of the growth and transformation plan (GTP) in the country level and its objective is to increase productivity and market access for key crop and livestock products with good potential for agricultural growth. It aims to achieve a greater balance between targeted supports to the poorest rural households in food insecure.

The growth and transformation plan (GTP) of Ethiopia consists of firstly, agricultural Production and Commercialization to strengthen the capacity of farmer organizations and their service providers to scale up best practices and adopt improved technologies in production and processing, and to strengthen marketing and processing of selected commodities through engagement with private sector stakeholders; secondly Small-scale Rural Infrastructure Development and Management to support construction, rehabilitation and/or improvement, management of small-scale rural infrastructure to improve productivity and further develop and increase the efficiency of key value chains through improved access to markets. The market prices so determined do not also sufficiently discriminate poor quality from good quality.

Standardized grading and quality differentiating system is also missing. Trade agreements between collectors, wholesalers and exporters are largely non-standard where either side can back out his or her promises without much difficulty (World Bank, 2010).

A set of constraints spans the pulses value-chain in production, aggregation and trading, and demand sinks/export. Productivity is below potential due to low input usage, especially chemical fertilizers inability to increase yields, limited availability of seed, limited familiarity with the variety of existing seed types, and limited usage of modern agronomic practices (Ferris and Kaganzi, 2008). The link between the producers and the export markets is weak, due to the large number of ineffective intermediaries operating in the value chain (Dawit, 2010). The fragmentation of intermediaries between the producer and consumer markets creates a lack of transparency in markets (Ferris and Kaganzi, 2008).

METHODOLOGY

The driving force for conducting this research was to assess the mung bean marketing potential and associated challenges in the framework of Amhara Region, with special emphasis on North Shewa Zone. To this effect, descriptive research method is used. To get safe and sound reliable information both qualitative and quantitative methods were employed (Bekele and Shiferaw, 2007).

Description of study area

North Shewa is one of the 10 zones in Amhara Region, Ethiopia. The name is also called Semien Shewa. It takes its name from the kingdom or former province of Shewa. The zone is bordered on the South and West by the Oromia Region, on the North by North Wollo, on the Northeast by the Oromia Zone, and on the east by the Afar Region. Based on the 2013 Census conducted by the Central Statistical Agency of Ethiopia (CSA), this zone has a total population of 1,837,490, an increase of 17.72% over the 2007 census, of whom 928,694 are men and 908,796 are women. It has an area of 15,936.13 square kilometers. Semien Shewa has a population density of 115.30. While 214,227 or 11.66% are urban inhabitants, a further 112 or 0.01% are pastoralists.

Sample size and sampling techniques

The total population of the study was farmers and traders who are in the commodity market chain. In the research area under consideration, North Shewa Zone, there are 27 Districts/woredas. Among these, only nine of them were selected purposively as the part of the study based on the number of producers of these cash crops, particularly, the Mung bean as well as their active participation in the market chain. With regard to the number of farmers, we took 150 farmers as a quota from each district and selected respondents by using convenience sampling techniques (a two stage non-probability sampling techniques). The logic behind was to make the samples more purposive and to get reliable and dependable information about the subject.

We took 115 (38 whole sellers and 77 retailers) traders who are engaged in the market chain from all selected districts. This is

because the traders are not scattered in all districts and work throughout the region. In this particular study, the interviewer administered questionnaire, and interview guide was used as the major data collection instrument. The interviewer administered questionnaires were used to collect the intended information from the head of household as well as traders. In doing so, questionnaires were prepared in 'Amharic' since almost all respondents' mother tongue is Amharic. The detail of each instrument is presented as follows.

Interview guide

To gather the necessary and required information from the experts, we used interview as a means. It gives flexibility to the interviewer and allows one get the detail of the issue under investigation. It gives room for the experts to share their immense experiences on the issue (i.e. value chain analysis). In doing so, we chose the convenience time for the interviewee to avoid unnecessary burden and maintain their emotional stability while they are engaged in the interview

To achieve this mentioned objective, the researcher had collected and reviewed relevant documents and information from both primary and secondary sources. The primary data were collected through interviewer administered questionnaire from the commodity traders in different districts. Likewise, interviewer administered questionnaires were used to gather the data from farmer/producers.

Moreover, interview guide line was used to gather the required information from the experts in the district. The relevant secondary data were obtained from different literatures, journals, articles, and ministry of trade annual report forum paper, national and regional report documents at different time.

In the selected woredas, we interviewed 38 wholesalers, who have licensed for grain trading. Surprisingly, there are no traders who registered as a wholesaler to trade Mung bean independently. Thus, almost all those registered wholesalers have been trading mung bean together with other grains. For this study we interviewed 77 retailers from the nine selected Woredas. Regarding the brokers it is difficult to get a formal broker who works permanently rather he/she participates in the market chain as an informal mediator. We use projective techniques to identify them in the market and to get appropriate information from them.

The data gathering instruments employed in this study, (structured questionnaire and interviewee guide lines) were pilot tested in order to make essential corrections and maintain the validity of the instruments.

Accordingly, both instruments were revised based on suggestions and recommendations collected during pilot survey. After the data were collected, the researcher perused over certain successive procedures. Firstly, quantitative data collected through structured questionnaire were analyzed by using various feature of Statistical Package for Social Science (STATA) including frequency table, percentage, and graphs. And then the data collected through interview were analyzed qualitatively by combing with compatible questioners.

RESULT AND DISCUSSION

Socio-economic characteristics of the respondents

As stated in the methodology part of the paper, the study mainly depends on the primary data collected from nine District of North Shewa Zone respondents of two groups. These groups are farmers, who produce the commodity,

Table 1. Respondents experience in producing mung bean.

Starting years of producing mung bean	Respondents	
	No.	Percentage
<2 years	545	40.37
3-7 years	712	52.74
>8 years	93	6.89
Total	1,350	100

Source: Own Survey, 2014.

and traders, who participate in the trading activities of the commodities specifically in Mung Bean. The group of traders includes wholesaler, retailers and brokers. Each respondents group has its own socio-economic characteristics. This has been summarized as an entry point to the main objectives of the study. The difference of each group may arise from financial capacity on the share of the market, on their social situation; occupation, age group, sex, educational level, marital status, on the type of problems faced in the market, the distance from the market, information availability, weather condition to produce the commodities, etc. The socio-economic characteristics are discussed separately for each group.

The socio-economic characteristics of producers

Like any other areas of the country, in North Shewa zone the main activities of the farmers are producing different commodities which gave them optimal profit with regard to the production areas. In the selected nine districts, there was large number of households who produce various types of agricultural commodities such as Mung Bean, Haricot bean, Sesame, Teff, Onion, Potato, etc. For this study we take 1350 producer as sample respondents from the total population under the consideration area.

The majority (93.2%) of the respondents are male headed household while the remaining 6.8 percent were female headed household. This explicitly indicates that the vast majority of the household who are engaged in the production of the Mung bean are male dominated. This could be strongly linked with the cultural justification. To substantiate, in the rural part of Ethiopia most of the agricultural practices are performed by males (Hussien, 2009). Similarly, the interviewee, the value chain experts, in the zone stated that most of the rural cash crop production is handled by the male headed household. Moreover, the majority of them (55.04%) are uneducated and only 3.04 percent of them completed higher level of education. Regarding the marital status of the respondents 95.2 percent of them are married and the rest (4.6 percent) are single and widow.

Furthermore, most of the respondents are found on the

age group of between 21 and 40, and their average family size is between 4 and 8. Producers are involved in producing different types of commodities like Mung bean, Haricot bean, Sesame, Onion, Teff, and other commodities based on the weather condition of each district (Table 1)

Regarding the production experience of mung bean, 52.74 percent of the respondents replied that they have 3-7 years of experience, while 40.3 percent disclosed that as they had less than two years of experience. The remaining 6.89 percent of the respondents had more than eight years of experience. From this we can figure out that the vast majority of the farmers/producers have short experience in producing and supplying mung bean to the market. Almost all participants explained that they started producing this commodity in the expense of other grain such as teff, sorghum, and wheat because of its comparative advantage.

There are different other commodities produced by the zone selected district farmers in addition to mung bean. As can be observed, many of the producers are producing other commodities in addition to mung bean such as teff, onion, sesame, haricot bean, and others like wheat, barley, maize, sorghum, tomato, etc. Although there are slight variations among districts on their production, the major agricultural commodities produced by the farmers in their order of importance are teff (35 %), onion (21%), sesame (15%), haricot bean (13%) and others (16%).

Production potential

Ethiopia endowed various agro ecological zones and diversified natural resources, which has been known as the home land and domestication of several crop plants. Pulse crops are important components of crop production in Ethiopia's smallholder's agriculture, providing an economic advantage to small farm holdings as an alternative source of income, and food security. Moreover, some of them have also played an important role in the export sector generating foreign currency for the country. The major varieties of pulses grown in Ethiopia are: Horse beans, chickpeas, haricot beans, lentils, dry peas, vetches and mung bean.

Mung bean is a recent introduction in Ethiopian pulse production grown in limited area in smaller quantity. It has green or yellow skin and sweet in flavor. It is drought resistant crop compared to other pulse crops. However, its consumption is not widespread like the other pulses in the country. Reliable information is lacking on the potential and actual production levels of mung bean at the national scale in Ethiopia. The main production areas of mung bean in Ethiopia are Amhara Region North, Shewa zone and some parts of Benishangul Gumuz.

Like any other part of Ethiopia, Amhara region North,



Figure 1. Zonal pulses and Mung Bean production trend from 1998-2006 E.C.

Shewa zone is endowed with varied agro ecological areas and rich in diversified natural resources. The small holders in the region cultivate several crop plants, including mung bean. Regarding the area coverage and production trend of mung bean from the year 1998 to 2006 E.C. in the study area is presented below in form of graphs. The unexpected changes of weather condition and the market price fluctuation have a significant contribution for the Mung bean area coverage fluctuations (Figure 1).

In 2004 E.C. there was a significant increment because of higher price expectation since there was high demand in the previous year. However, the area coverage declines after a year which is due to its price fluctuation and the area covered by other competitive commodities which gives high return to producers.

The production potential of agricultural products might measure and determined by the level of production per quintal and the level of crop productivity. Mung bean production and productivity level upturns from year to year, even if small growth rate, more specifically, from 2001 to 2003. But from 2004 onwards, the volume of production increases at fastest rate and it reaches to more than 130,000 quintals in 2006. However, the productivity remains below potential due to low input usage and bad weather conditions (Table 2).

This growth in Mung bean production in the region could mainly be attributed to improvement in productivity (increase yield per hectare) and partly due to good distribution and amount of rainfall. The expanding of area

coverage also contributes for the growth of Mung bean production in the region.

Marketing chain

The market supply of Mung bean starts from small farmers. This supply does not pass directly from producer to the final consumer. Rather it is separated from the demand of consumers in time, place, form and size of the product. As defined by Swamy et al. (1999), marketing is the performance of business activities that direct the flows of goods and services from the producer to consumers. The major market participants identified in Mung bean marketing in North Shewa zone are producers, local assemblers, wholesalers, brokers and retailers. There are no large scale farms in the regions producing this commodity. That means small holder producers are the only suppliers of mung bean.

Farm traders are the main buyers of the grain in the country side. Trading is a part time job for the purpose of gaining additional source of income. Assemblers play an important role in the marketing system by pushing up the produce from the remote rural surplus markets to the towns, deficit areas and urban centers where the produce is demanded. Wholesalers are the central figure in the market channel. By definition the wholesalers of the given commodity are involved in wholesale trade, rarely selling directly to consumers. But in mung bean marketing, in the area the job of wholesalers and retailers is mixed up.

Table 2. Zonal mung bean area coverage, production and productivity.

Year	Zone Mung Area/hect	Zone Mung Production	Mung bean productivity
1998	2.75	8.25	3
1999	1,853.60	28,890.50	15.59
2000	2438	18349.28	7.53
2001	540.875	6060.4	11.20
2002	304.7	2069.75	6.79
2003	772.36	11490.71	14.88
2004	7518.37	108975.9	14.49
2005	5015.85	71802.55	14.32
2006	7086.99	107519.7	15.17

Hence, traders licensed as 'retailers' are doing the wholesaling activities too, and traders licensed as 'wholesalers' are doing the job of retailers seriously. This is probably due to fear of high income taxes, as traders assume they will be levied less tax if they say that they are retailers. The mung bean wholesalers get their supplies from producers, assemblers and from retailers and working with a combination of other grain. These are the major actors involved in the transaction of mung bean; among the possibilities the following is the possible channels in the market,

Producer – consumer
 Producer –Retailer- consumer
 Producer –Assembler-Wholesaler-consumer
 Producer –Assembler-Wholesaler-Retailer – consumer
 Producer –Assembler- Retailer – consumer
 Producer –Agent -Wholesaler-Retailer – consumer
 Producer –Primary (regional) Wholesaler-Secondary (Terminal Market) Wholesaler - Retailer – consumer
 Producer –Assembler-Wholesaler-Exporter
 Producer -Wholesaler-Miller (Processor) - consumer
 Producer –Primary crop –Secondary Crops/ Unions - Retailers – consumers

Price determinant factors in mung bean marketing

While the objective of any seller is to realize as a high price as possible, the objective of a buyer is to purchase the commodity at the lowest possible price. In open market economy, the market governs this two conflicting interests. The market determines the value of agricultural products based on the prevailing supply and demand condition. However, it was observed during the study and the previous studies of Muhammed (2006) and Addisu (2004) that there is no single price for the commodity, rather several factors co-exist due to a multitude of factors such as season (time of selling), quality of the product, sales location and functioning of the market, etc.

The major price determinant factors in mung bean, sesame and haricot bean marketing are season and quality. The majority (55.26%) of wholesalers, 54.55% of retailers and 54.74% of producers pointed out that season is the major factors that determine the price of those commodities. It was observed that the lowest price season of Mung Bean is the period where a glut in the market is created (Sep- Nov) and (Jan-march) and the highest price season is [June-Aug] where the supply is less in the market. This is in line with other grain market studies of Gebremaskel et al. (2008) that farmers sell 75-80 percent of their marketable surplus immediately after harvesting their product. This is due to the need for cash to repay their input loan and for other cash requirements such as wedding expenses, taxes and down payments for acquiring inputs for the next crop season. Therefore, this market behavior creates a surplus in the market there by pushing prices down to the lowest point. While there is shortage, the price rises up to the highest point.

The second major price determinant factor of Mung bean, Haricot Bean and Sesame (MHS) in the market is quality. According to proclamation No. 102 of 198, quality is defined as the totality of characteristics of an entity that bear on its ability to satisfy stated or implied needs. Different qualities have different prices. According to the respondents, for instance, larger grain sized Mung bean has higher prices as compared to small seeded grain size. Almost all farmers in the North Shewa Zone produce and provide green Mung bean to the market which has relatively better quality than other part of supplying areas in the country (i.e. yellow color Mung bean at Benshangul-Gumuz regional state).

The empirical analysis indicates that buyers of the commodity especially in grain market set various criteria for selection of the product in the market. Among those criteria, the dominant characteristics are identified as a grain size, grain color, test and other elements like purity (does not mix with other unnecessary things). Likewise, in the Mung bean market it was observed that traders consider seriously three parameters to identify the quality

of the commodity namely, color, grain size and foreign matter (purity).

Producers replied about the criteria used by their buyers or traders when they sell their commodity in the market. In this respect, foreign matter (mix of soil and stone), the size of the grain and color of the commodity have shares of 37.93, 31.56 and 30.51% to determine the quality of the product, respectively. On the other hand, retailers replied that they used grain size, color and foreign matter as a criterion when they buy the product which constitutes 37.66, 33.77 and 28.57%, respectively. These imply that having pure, large grain size and green color makes the mung bean more preferable in the market. In other words, having and providing the commodity with good quality will increase the price of mung bean. However, during the field study we have observed harvesting and storing problems that directly or indirectly affect the quality of the product which in turn affect the income of the producers through lowering the price.

Challenges of mung bean: Production and marketing

As many studies indicate, Ethiopia has favorable ecological factors such as suitable altitude, ample rainfall and optimum temperatures, appropriate planting materials, and fertile soil which is a fertile ground to produce variety crop types. However, following subsistence farming system under rain fed conditions makes Ethiopia among food insecure countries for several years. Despite the potentials of Mung bean production in the region there are several factors which affect the production and marketing of Mung bean. Under this section, we would like to present the main problems which were obtained from respondents and field observations.

Production challenges

The major challenges of Mung bean in North Shewa zone from production perspective are to be discussed in detail as below.

Unpredictable rainfall

The majority of the farmers/producers stated that the productivity of those commodities is highly dependent on the amount and distribution of rainfall. Indeed, the amount of rainfall required to produce Mung bean is lower than the minimum requirement of rainfall for other crops. However, the amount and distribution of rainfall is irregular and sometimes unfavorable for Mung bean production. Hence, such unfavorable rainfall challenged the production of Mung bean in terms of amount and

quality. To this end, one farmer stated the aforementioned issue as below:

.....in 2004 I have covered one third of my land by mung bean with a great expectation of a good payoff which helps me to cover children educational costs (e.g. uniform, exercise book). But due to unpredictable rainfall I lost almost all what I expected at the end of the season. This incident made me pessimist with Mung bean production payoffs. For this reason, I significantly reduced land coverage of Mung bean and add other crops to mitigate the risk

Experts also expressed that most of the farmers do not use irrigation for producing Mung bean and other crops. Therefore, the concerned body should promote the use of other alternatives like irrigation system where it is possible to tackle the problem of unfavorable rainfall. Thus, the usage of other source of water would alleviate the problem faced by farmers which will improve the production of crops both in terms of amount and quality.

Prevalence of pests and diseases

Another important challenge of mung bean production is related to pests and diseases. Hence, the occurrence of such crop pests and diseases would affect the productivity and quality of Mung bean. This problem can be severe when the availability of pesticides is limited. In this regard, the interviewees stated that accessibility of pest sites significantly affect the production of those commodities in the area. Further they noted that the negative impact of pest and disease in the zone is lower than the impact of unpredictable rainfall. Likewise, the discussant noted, for the time being, pest and other related crop diseases are to be a potential problem of mung bean production.

In this respect, the expertise disclosed that most of the time farmers do not use pesticides as well as other protective mechanisms to prevent the negative impacts of pests and diseases associated with producing the Mung bean. Nevertheless, professionals in each district were trying to persuade farmers to use pesticides and other related techniques to lower their fear as well as to enhance the volume of production and quality of mung bean and other crops produced by the farmers.

Lack of input supply and development

Obviously, the production of crops is highly contingent on the availability of improved inputs like seed, fertilizer, and so on. However, very little efforts were made to improve commodity varieties by agricultural research institutes particularly on Mung bean. As compared to Mung bean,

sesame and haricot bean give a recovering consideration in identification of seed varieties in various agricultural research institutions to mend productivity and to win massive external competition.

Furthermore, extensive extension service does not exist for Mung bean to enhance its productivity as well as its quality. In this regard, farmers and experts ascertained that Mung bean is produced in the very traditional way. Besides, the availability of essential farming inputs like fertilizers and improved seeds is limited. These are among the shortfalls of mung bean production contrary to its economic contribution. Therefore, the concerned bodies should strive to modernize the production method and to enhance the availability of essential inputs to maximize the level of output. As it can be observed from the data, the majority (84%) of the respondents disagreed on availability of the essential inputs for Mung bean production. This result supports the above remark that we made.

Lack of proper storage and handling

According to Self-Help Africa it is important to focus on improving post-harvest activities such as collecting, storage and handling to improve the quality of Mung bean. This in turn help farmers to have a substantial bargaining power in the market and for a better market return.

By doing so, the small farmers will have a chance to uplift their scale of operation in the long run. However, the responses indicated that the usage of proper storage by farmers is around 51 percent. This implies that almost half of the producers do not have proper storage and handling. This is partly because they do not have the knowledge of proper storage and its impact on the quality as well as marketability of Mung bean. Similarly, the majority (75.6%) of the trader also disagreed with the statement that there are enough storage facilities for Mung bean and other commodities. For more information on this issue one can refer to Table 2.

Furthermore, the interviewees also explained that due to lack of well-organized warehouse/store they used to store somewhere in their home in congested manner. For instance, a certain amount of the products are exposed to excessive sun light as well as rain falls. As a result, its quality become deteriorates and may not be preferred by traders. Consistently, the discussant also expressed that there is a shortage of storage space which is a considerable problem for the producers and traders.

Marketing challenges

Obviously proper marketing for commodities is crucial for the benefit of market participants such as producers, traders and the final consumers. Therefore, identifying

problems linked to the marketing of Mung bean helps to design and implement efficient marketing strategies. To this end, various marketing issues were included in the survey. Thus, the major problems like low level of local consumption, poor coordination among traders, extended market chain, lack of market information, price impulsiveness, lack of market promotion, and lack of commitment will be presented hereafter.

Low level of local consumption

The level of consumption for a certain commodity is one of the determining factors for its production. However, level of consumption is driven by other factors like the value of the commodity and the knowledge of such value by consumers and others. Indeed, the nutritional value of Mung bean is substantial as it can be seen in Figure 2.

The food science experts indicated that Mung bean is rich in vitamins protein minerals. Moreover, some studies acknowledged that this crop is rich in fiber which is important to decrease cholesterol in blood that would expose people to heart attack.

Although the nutritional value of Mung bean is high currently it has low level of consumption in the local market. This is partly because the product is not widely known by the local people. Even producers do not know its nutritional content and how to use it. This awareness problem is responsible for low level of demand in the local market. Hence, when producers produce more output given low local demand make them to hold the product for long time which in turn leads to the deterioration in the quality of the product. For this reason, producers earn less income as low quality of product is reflected in the price. This forces producers to produce less of it.

When we come to the usage of the product producers used it for food in traditional ways mostly as boiled Mung bean. However, it can be used for food in different ways and for non-food purposes. For instance, in some countries of Asia it is used as cosmetics to beautify and protect skin in the face by preparing a powder from it. All in all, promotion seems very necessary to increase its demand locally that would imitate producers to produce more output and improve the income of market participants.

Inappropriate market chain

A successful and sustainable pulse presupposes that value chain actors were well integrated and function as a unified system in a way that maximizes the welfare of all actors involved from production up to consumption. The mung bean value chain in the study area, however, was far from efficient and fraught with several challenges.

Apparently, the experts indicated that most commodity

Nutritional values of Mung Bean

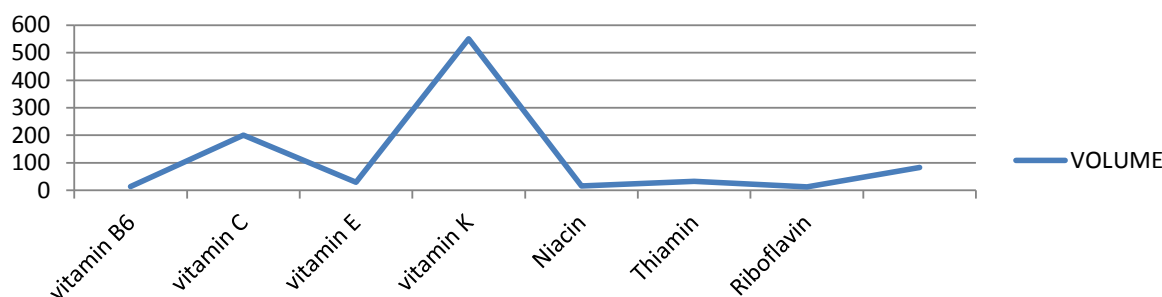


Figure 2. Nutritional contents of Mung bean. Source: Emmanuel Development Association (EDA) in 2010.

traders (individuals, associations and cooperatives) were not part of a formal trading organization like ECX. Consequently, very poor business coordination amongst traders has been observed. It was difficult for these informal traders to gather information and access various opportunities. Moreover, these traders are seasonal and trade more than one type of commodities in addition to Mung bean. Furthermore, the experts disclosed that these traders are not formally registered for Mung bean trading. Due to this, traders are irresponsibly bid lower price for producers by weakening their bargaining power. As a result, the brokers and agents were reaping more profit margins from the sales of Mung bean than the producers.

Furthermore, as per the responses from interviewees the market chain arrangements for those commodities uptight with several challenges like the existing extended marketing channels coupled with poor interventions that can improve the performance of the chain in the current marketing structure. Besides, they indicated that there are various marketing actors formally and informally engaged especially in Mung bean marketing.

The extended supply (value) chain of Mung bean reduced the profit margin of producers and thereby hindered their incentive to produce more. The quality of the product was reduced through excessive handling. Obviously, quality of the commodity was an important parameter that determines the price. In most cases, exporters reject substantial amount of commodities with low quality based on their quality standards, which impinges both the profitability of exporters and ultimately the prices paid to farmers.

The demand signal was lessened due to the multiple middlemen that make producers unknowledgeable about the preferable quality and the level of demand for the product in end markets. Therefore, the presence of formal and specialized Mung bean traders is necessary for the benefit of market participants. Furthermore, the producer pointed out that establishing separate market center for

Mung bean product helps them to figure out the correct information which increases the bargaining power of the producers. Besides, it was important to differentiate and control the licensed traders from informal traders.

Lack of market information

Farmers and traders had been unable to access regular market information. This had been considered to be a major problem in developing marketing plans and in price discovery. This lack of information has been increasing both in transaction cost and resistance to risk taking. All market chain actors argue that a simple price and volume information system based on the key trading towns would make a considerable difference in their marketing decision making. Smallholder producers remained in a low bargaining position due to the absence of market information on the current status of local and international price. Regarding this issue, respondents from the two groups farmers and traders rated the availability of market information particularly price information.

The majority (53%) of the producers and 44% of traders disagreed on the availability of market information. That is enough to determine the product price. However, 16 and 37% of the producers and traders agreed that market information is available, respectively. It implies that, taking the variation among selected areas into account, in the study area there is information gap among market participants which opens a great opportunity for those who have better information especially for some traders. This leads market inefficiency.

Price impulsiveness

Recent shifts in prices and demand for commodities had led to increased risk and volatility in both prices and volumes of traded commodities. The commodity market

data shows that the prices and the volume of the commodity were fluctuating. The decision that was made without enough information on stock levels resulted in a wrong speculation of price that exposed farmers and wholesales for price risks. For instance, in a recent field trip assessment held in Amhara region, it was learned that cooperative unions and private traders of sesame purchased the product immediately after the harvest season at a high price based on last year's price; but the price was reduced thereafter. This has resulted in holding back of the produce and their capital was tied up. Price dictation by the brokers in sesame and holding back of produces by regional enterprises during peak season could not enable benefit from very good sesame price on international market.

Lack of stakeholder's commitment

Previously, we sort out some challenges like absence of mung bean market center, the participation of informal traders, less local demand for the product, not traded in ECX, and so on. These all indicate that there is a long way to go to make mung bean production and marketing better for market participants in particular and for the nation at large. Moreover, lack of enough support from officials to formalize the trading activities that reduce uncertainty in the market for the advantage of the farmer and trading community.

In support of the above idea there were open ended questions included in the survey to seek the degree of stakeholder's involvement for the benefit of producers and traders. In this regard, stakeholders like Emmanuel Development Association (EDA) and ECX have done some work. However, the respondents mentioned the limitations of stakeholders' involvement as below. There is very little support from the government side particularly agricultural sector in providing the necessary inputs. Despite ECX and EDA limited participation they still do not accomplish enough work for the betterment of Mung bean producers and traders. The trade office at woreda level has not done enough to bring informal traders in to formal.

Limited market promotion

Market promotion is essential to boost demand that would motivate both producers and traders to have a larger market base. However, the promotion on agricultural products particularly in Mung bean is considerably low. Here, we should bear in mind that Mung bean is not widely known by local people making; it is less demanded in local market. To this end, the respondents disclosed that there are efforts made by Non-Governmental Organization, Emmanuel Development

Association (EDA) to diversify Mung bean usage as a food. A case in point, EDA to break the consumer resistance and bring the paradigm shift in the consumption culture; it exhibited the product by preparing as a soup, boiled, sprouted, and cooked. However, this effort is not enough to bring more demand. Thus, other stakeholders should also try to promote Mung bean to create more demand for it.

CONCLUSION AND IMPLICATIONS

Producers/farmers produced and handled the Mung bean through the traditional way without getting technical assistance from the professionals. They did not use modern agricultural inputs such as quality and improved seed, pesticides, and appropriate fertilizers. These directly or indirectly affect the quality of the product and its productivity. Due to this reason, the farmers lose their bargaining power in market and do not get what they deserve.

In the existing Mung bean market, there is no efficient and productive system that supports the farmers to improve the livelihood as well as to obtain the value what the market offers and these expose them to deal with the illicit traders. As a result of this, informal traders/ brokers got the wide opportunity to manipulate the market and set unfair price that discourages the producers and makes highly beneficiary from the informal trade. This practice would result in a repercussion not only on the farmers' fate but also on the competitiveness of the nation in the international market. Due to lack of appropriate market information, farmers were not selling their products according to the market price. They did not produce or get involved in market oriented production that would help them to tap the market opportunity as it could and should be.

The mung bean marketing system and market chain should be productive to bring considerable change on the marketability of the product and the productivity. Accordingly, the following recommendations were drawn.

1. Provide agricultural inputs to improve productivity: The Zone Agricultural Office along with the practitioner and non-governmental organizations should provide the necessary capacity building program for all stakeholders in the market chain with respect to providing and using selected seed types, fertilizers, pesticides, etc.
2. Improve bonds between traders and farmers: All concerned parties at all levels should exert their effort to develop a win - win relationship between producers and buyers; in doing so, empowering the farmers by providing timely and accurate market information regarding the price, quality of product, and alternative market.
3. Develop Market access to producers: The Regional and Zonal trade office collaborated with Ethiopia Commodity Exchange Authority and Ethiopia Commodity

Exchange (ECX) should widen the market opportunity in the local as well as international by promoting the products' using various promotional Medias.

4. The government must reinforce and motivate export: Evolving the export sector will motivate foreign exchange earnings and will create a stable demand pull of this type of commodities, thereby acting as a catalyst for the export sector. Exporters should be supported through creating conducive business environment aimed at bolstering exporters' scale, knowledge base, as well as business awareness.

5. The marketing chain should be re-arranged: An extended and unnecessary marketing channels crates cost for the participants in the commodity sector. So it is important to minimize the channel which is value added for any of the market participants.

6. The negative implications of a complex marketing chain are that (a) the quality of the product is reduced through excessive handling and (b) the demand signal is lessened due to the multiple middlemen separating producers and users so smallholders are unknowledgeable about the quality and type demands in end markets.

7. The relatively market actors working in a highly fragmented manner, coupled with lack of awareness of the inability for large-scale traders to track products implies high transaction costs for aggregators and traders.

Therefore, the presence of formal and specialized Mung bean traders who make membership sit in Ethiopian Commodity Exchange (ECX) as well as in the local market gives advantages to producers.

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Conflict of Interests

The authors have not declared any conflict of interests.

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