

## Challenges of Mango Fruit Marketing: A Case of Selected Kebeles in Assosa District, Benishangul Gumuz Region, Western Ethiopia

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### Abstract

The major objective of this study is assessing the challenges of mango fruit marketing in Assosa District, Western Ethiopia. There are 74 rural kebeles under Assosa District, from them 19 kebeles were selected based on the presence of mango fruit production which is 25% of total population. Among these, 7 of them were already incorporated in mango fruit cooperatives and the remaining 12 were not. Data were collected from 369 (155 households were from a member of mango fruit cooperatives and 214 were not) mango producing households through questionnaire and focus group discussion with selected 4 cooperative leaders from different kebeles, managers of mango fruit union, 4 mango producers who aren't a members of mango fruit cooperatives and 2 representatives of Assosa District Agricultural office. Thematic content analysis was used to analyze data collected through focus group discussion. Finally, it was found that basic challenges in marketing of mango fruit includes: lack of market price information, loss of ownership on determining price for their product, lack of legal intermediaries in the market, lack of transportation, absence of nearby market, insufficient application of promotional tools, problems encountered during post-harvest process (pests and disease), problems in supply of chemicals and fertilizers, lack of support from government, and stiff competition specifically between unions and brokers. In addition, regarding farmers group, mango fruit producers who aren't members of cooperatives were facing much more problems than farmers under cooperative in marketing their product.

**Keywords:** Marketing, cooperatives, union

### Introduction

**Background of the Study:** Fruit crops play an important role in the national food security of people around the world. They are generally delicious and highly nutritious, mainly of vitamins and minerals that can balance cereal-based diets. Fruits supply raw materials for local industries and could be sources of foreign currency. Moreover, the development of fruit industry will create employment opportunities, particularly for farming communities. In general, Ethiopia has great potential and encouraging policy to expand fruit production for fresh market and processing both for domestic and export markets. Besides, fruit crops are friendly to nature, sustain the environment, provide shade, and can easily be incorporated in any agro-forestry programs (MoARD, 2009).

Mango is one of the second potential fruit crop product in Ethiopia next to banana, which is the first fruit crop produced in large quantity and produced mainly in West and East of Oromia, SNNPR, Benishangul Gumuz and Amhara regional states. Currently, mango sub-sector is a good entry point for tackling poverty and that the market for mangoes in Ethiopia is significant and growing and mango value chains is spurring development, introduces technologies, create employment and reduces poverty among the communities (Honja, 2014).

As stated by Desta (2005), Mango production in Ethiopia is in fluctuated conditions because of different reasons. Therefore, the main purpose of this study is to assess the challenges of mango fruit marketing in Assosa District, Benishangul Gumuz regional state, Ethiopia.

**Statement of the Problem:** Ethiopia has a variety of fruit crops grown in different agro ecological zones by small farmers mainly as a source of income as well as food (Nega Mateows, 2015).

There are research results which indicate challenges of mango fruit marketing. A study conducted by Hussen and Yimer (2013) stated problems with marketing of mango as: most of the respondents sell their products at nearby local market. Most of the time the producers sell their product for consumers and sometimes for retailers and these respondents replied that market fluctuation faced them. They specify two reasons for this. One reason is maturity stage and harvesting time of mango fruit is similar within the area. This condition increases the supply at that time, and the demand is less compared to that of the supply. In this situation the price of the fruit becomes less and less. The other reason is mango fruit supply from southern Ethiopia decreases the value of local mango production because this imported mango price is cheaper so that the consumers will buy the cheapest product related to cost. The least of the respondents replied that they sell their commodity on the farm. Market fluctuation did not face them. They did not worry about transportation. They sell their product by fewer prices than other products.

A study conducted by Tewodros, Kebede and Tamado (2014), reveals that production constraints of mango in Harari Regional State includes erratic rainfall (scarcity of irrigation water), insect pests and diseases, lack of knowledge and skill, and postharvest. In addition, as per Tewodros et al, (2014), absence of good marketing system that could benefit or attract the growers is the additional bottleneck raised. As a result, the growers reflected their tendency towards cultivation of other cash crops like khat (*Catha edulis*) by uprooting the exiting trees. In assembly, and particularly in wholesale markets, they are treated as temporary clients without access to the credit and other facilities extended to contractors. Without adequate access to market information, they also face high price uncertainties. Lack of capital and limited access to institutional credit lead producers to rely on relatively high-cost informal credit sources and advances from fruit contractors.

As researches like Mahmood (2005) state, very few mango researches have been done so far especially on marketing aspects of mango in the country. This motivates the researcher to studying the challenges of Mango fruit marketing in the study area.

**Research Questions:** The study was done to answer the following questions:

- How is the real practice of mango fruit marketing in the area?
- What are the major problems in mango fruit marketing?
- Which groups of farmers are in a good marketing position?

**Objectives of the Study:** The general objective of the study was to assess the challenges of mango fruit marketing in selected kebeles of Assosa District.

**Specific Objectives:**

- ✓ To describe the practice of mango fruit marketing.
- ✓ To identify the major problems of mango fruit marketing.
- ✓ To observe which group of farmers are in a good market position.

**Delimitation of the Study:** This study was focused on challenges of mango fruit marketing, and it was conducted in selected Kebeles of Assosa District. The target of this study was two groups of mango fruit producers, farmers who are a member of mango fruit cooperatives and farmers who are not included in cooperatives.

**Methodology of the Study**

**Research Design:** The study used descriptive research design to describe the real practice of marketing and major challenges of mango fruit marketing in selected rural kebeles of Assosa District.

**Data Type and Sources:** The researcher used both primary and secondary types of data from different sources. The primary Data sources for this study were producers of mango fruit (farmers) in selected kebeles of Assosa, selected

cooperative leaders, Assosa District agricultural office, and union. Secondary data were collected from Assosa District Agricultural office.

**Sample Design:**

**Sample Size Determination:** Based on mango producers, the researcher classifies kebeles in to two. That is, farmers included in mango fruit cooperatives and out of them. Among 74 rural kebeles of the District, 28 of them were included under mango fruit cooperatives and the remaining 46 kebeles were not. Since 25% of the total population is always representative, the researcher selects 19 kebeles among 74.

To determine the number of kebeles selected in each group ratio is used. It becomes 7 kebeles from kebeles included under cooperatives and 12 from Kebeles who are not included in mango fruit cooperatives.

According to data from Assosa district Agricultural Office (2016.), under selected 19 kebeles there are 4783 households, in which 2,005 of them are from kebeles included under cooperatives and the remaining 2,778 are not.

This study has used a simplified formula provided by Yemane (1967) to determine the required sample size at 95% confidence level.

$$n = \frac{N}{1 + Ne^2}$$
$$n = \frac{4783}{1 + 4783 * .05^2} = 369$$

Where:

n- Is the sample size

N- The population size (number of farmers who produce mango in different kebeles)

e- The level of precision.

Sample size from each kebele was calculated proportionally. 155 households from kebeles under cooperatives and 214 households from kebeles out of cooperatives

**Sampling Technique:** Stratified random sampling method is used, because there are two groups of mango fruit producers (farmers who are incorporated in the cooperatives and the others not). Then simple random sampling is used to select respondents from the strata because bias is generally eliminated and the sampling error can be estimated in this technique (Kothari, 2004).

**Methods of Data Collection:** The primary data were collected using both focus group discussion and structured questionnaire.

**Methods of Data Analysis:** The survey data were encoded to MS-Excel file, and transferred to SPSS version 20. Both descriptive statistics and inferential statistics were employed. For analyzing the collected data through focus group discussion, thematic content analysis was used by dividing the data in to themes or categories.

**Instrument Validity and Reliability:** Before piloting the questions, validity were checked by experts. Adjustments were made regarding readability, relevance, language and comprehension. To confirm the internal reliability, the statistical software package and SPSS were used to determine the Cronbach's alpha values, and it becomes 72.

## Results and Discussion

### Descriptive Analysis:

**Table1: Mango fruit sales pricing**

Variable description	mean	Std. Deviation
I know sales price of mango at market before I sale my mango fruit	2.15	1.125
I decide sales price of mango fruit	1.43	0.716
Sales price of mango determined by demand and supply at market	3.10	1.461
Sales price of mango fruit determined by buyers	3.59	1.062
Sales price of mango determined by buyers and sellers negotiation	2.73	1.375
Union determine sales price of mango	2.95	1.723
Sales price of mango determined by mango fruit cooperative	1.92	1.445
I sale in cash	4.51	0.501
I sale in credit	1.74	0.767
I sale in advance payment	1.74	0.623

Concerning about getting price information before providing mango fruit to market ( $\bar{x}$  =2.15, std. Deviation = 1.125). Mean= 2.15 approaches to 2 (rare) it indicates that majority of respondents agree that they may get sales price information rarely, which means most of them provide their product to buyers blindly without knowing the price. They don't know whether they get benefit or not by existing price. The result also shows that there is lack of centralized information source that provide current sales price of mango at national / regional level. Value of std. Deviation indicates the existence of variability among respondents. It is due to the existence of two groups which was households who incorporate under mango fruit cooperatives who get price information from union and that contribute for mean to become 2.15.

Almost all respondents agree on the absence of opportunity to determine sales price for their product as per the value that we observe from mean value which is 1.43 approaches to 1 (never determine price of their produce by themselves). Value for Std. Deviation is 0.716; it indicates that variability among respondents experience on determining price for their product by themselves is similar, and it insures that there are another bodies who determine the price for what have been produced by farmers. This result leads us to think about '*is sales price determined by others fair?*'

Under the 3<sup>rd</sup> item which is Sales price of mango determined by demand and supply at market ( $\bar{x}$  =3.10, std. Deviation =1.461). Still there is lack to determine sales price as per the market nature, because respondent's feedback shows that average result which is, sometimes sales price of mango determined by what is delivered to market. In other side, there is somewhat increased variability among respondents response with sample mean, and is due to the existence of heterogeneous respondents with different experience.

Value for sales price of mango fruit determined by buyers approaches to 4 (always sales price of mango fruit determined by buyers) which is 3.59. As we observe in the first item most of respondents do not have information about current sales price, so they accept what buyers told them and sale as per buyers' interest. Concerning about variability of respondents feedback, it is somehow less, which is (std. Deviation = 1.062). It means that majority of respondents agreed up on determination of price by buyers.

Regarding the buyers and sellers negotiation to determine sales price, (sample mean = 2.73, std. Deviation =1.375). As per this result buyers and sellers negotiation has also a little contribution to be used as a tool to determine sales price, it is average, mean that sometimes mango producers try to negotiate on price that provide by buyers but not as such bring change because of information lack. The result of standard deviation shows that there exists somewhat

large deviation among each respondent’s feedback and mean value. This result is supported by Nega Mateows (2015); the result found out that traders have better exposure to price information than the producers. This may be because the traders have better access to mobile phones and other means of getting market information.

Mean and standard deviation scores are 2.95 and 1.723 respectively, for issue that sales price of mango determined by union. The mean value approaches to 3 (sometimes union determine sales price). It indicates that not for all rather for specific groups of farmers specifically in 8 corporates under union get price information from the union. And the value of standard deviation shows the existence of sound difference among respondents response due to their difference in category. According to the research conducted by Nega Mateows (2015), only in rare cases the producers set the price. The selling strategy of the respondent farmers is open to any buyer which refers that farmers are not beneficiaries of setting price for their produce.

Concerning about ways of accepting the price of their product, most of them receive in cash (mean=4.51, std. Deviation=0.501). Here, the mean value indicates that majority of respondent’s sale in cash and its std. Deviation is small value which indicates the existence of small variability among respondents experience. In addition to this, mean value and std. Deviation for selling in credit and in advance payment is (1.74 & 0.767 and 1.74 & 0.623 respectively). It shows that mean value for both ways approaches to 2 which is rarely they sale in credit and advance payment. Std. Deviation value is also minimum because most of them sale their mango fruit in cash.

**Table 2. Mango fruit sales distribution channel**

<b>Variable description</b>	<b>Mean</b>	<b>Std. Deviation</b>
I sale for consumers directly	2.95	1.500
I sale for wholesalers	2.76	1.556
I sale for retailers	2.33	1.193
I sale directly through union	2.67	1.594
I sale through brokers	3.29	1.383
I sale mango fruit on farm (tree)	2.53	1.566
I sale at market	2.59	1.222
I use cart to bring mango at market	1.31	.763
I use car to bring mango at market	1.47	1.035
I carry on my back to bring mango at market	3.14	1.538

The experience of farmers for selling to direct consumers is average, which is explained by descriptive measurements becomes (mean= 2.95 and std. Deviation = 1.500). From the mean value, we can understand that more than half farmers directly sale for consumers. But when we see its variability with each individual respondent’s feedback, the difference is high, and it indicates that they have other means to sale their fruit or they only have opportunity to sale in this way and if it’s not succeed they don’t have any means to sale. In other side, as mango fruit is a perishable good, we can also predict why farmers obliged to sell for direct consumers as it is difficult to reach at customers.

Wholesalers are one party to buy mango fruit from producers. As per respondent’s response, mean and std. Deviation become 2.76 and 1.556 respectively. It means that sometimes mango producers sale their fruit to wholesalers who works out of Assosa District or Benishangul Gumuz regional state. Measure of variability here is also high, it indicates that the existence of different incidents among farmers to sale their fruit.

The other option provides farmers to know their alternatives to sale mango were for retailer, who purchase directly from farmers or wholesalers and sale to consumers. In our case we talk about retailers who exist in Assosa District. The mean and std. Deviation value for this item were 2.33 and 1.193 respectively. The mean value approaches to 2

which indicates that farmers rarely sale their products to retailers. As per the study area's case, retailers who sale mango to direct consumers may have somehow less opportunity to win the market because as we see the first alternative of farmers to sale their product was to direct consumers which score more than half. So other retailers especially here in Assosa District may have less opportunity because farmers by themselves sale directly to consumers. Under this situation market share at Assosa will be divided for farmers as well as for retailers and it becomes small for all. So retailers share become less due to that the existence of the same target customer with minimum number for surrounding farmers and retailers as well. Regarding its variability, it is somewhat less as compared to the previous one, so most of the respondents agreed that they sale rarely to retailers.

Concerning the channels used to provide mango fruit to customers union is one, that include cooperatives under is with a number of farmers. As stated by respondents, mean and std. Deviation is 2.67 and 1.594 respectively. The mean value is more than average, which shows that the respondents sale their mango to different parties outside the region through union. Mean that farmers through their cooperative provide/sale their product to unions, and unions provide it to others (wholesalers, factories who process mango fruit, even export to other countries). So, farmers who are incorporated under cooperatives get such opportunity to sale their product through union, not only they but farmers nearby kebeles to farmers who are under cooperatives, and who have more mango also sale their products. In other side, the variability becomes large-due to the existence of many respondents who are not under mango fruit cooperatives, they sale through other alternative channels.

The other channel to sale their fruit were through brokers and respondents answer mean value = 3.29, and std. Deviation = 1.383. As compared to other channels, its mean value is greater than others; it indicates that most of the respondents sale their products through brokers. It is more than 3 (most of the time they sale through brokers). Value for measures of dispersion is less than what we have in selling trough union; it is because the main way of selling for farmers who are not included under cooperatives might be selling through brokers.

Issues regarding the place where farmers sale their products may have different alternatives, one is at farm or on tree. As per respondents feedback mean = 2.53, and std. Deviation = 1.566. Due to different reasons farmers obliged to sale their products on tree whether it is with significant benefit or not. In order to sale in this way, buyers are expected to go there at farm place to purchase. In relation with this issue, we can be sure of that there must exist intermediaries who bridge farmers with purchaser and there must also exist road to transport mango produce to buyer's place, if no farmers must search another alternative. So, the mean value shows that not always or often but sometimes farmer's sale their product as it is on mango tree. Here, variability is high; it might be due to the existence of different ways of selling product.

Another alternative for selling mango were bringing it at nearby market the mean score for our case were = 2.59 and std. Deviation = 1.222. The result shows here, most of respondent's sale mango at market than on tree, that we already seen in the above paragraph. Whether farmers area of place suitable or not for transportation, if there exist market one can bring mango by cart, even if it is backward and needs more effort by carrying also. The variability also less as compared to the previous alternative, that's why respondents feedback not as such varied as compared to mean value. But still its value is not as such high.

The other main issue under this variable were, way of transportation to bring mango at market. Mean value for respondents who bring mango to market by cart were = 1.31 and std. Deviation = .763. The mean value indicates that almost all respondents apart from using cart for transporting mango to market, and the dispersion value also ensure this. Because, it is small value. the other option to transport mango to market were using car, the result were mean = 1.47, and std. Deviation = 1.035. The mean value indicates that as compared to cart farmers use car as means of transportation to bring mango to market. This may happen the suitability of car to transport, its carrying capacity or etc. but the variability were high than what we have for cart. It may be its convenience for some groups who can pay transportation cost.

The last option to bring mango to market was by carrying the mango from the farm area to the market. The mean value for this was higher than others which is = 3.14, and std. Deviation = 1.538. The mean value shows that most of the respondents use man power to bring it to market. But the variability is high compared to cart and car.

**Table 3: Mango fruit sales promotion**

Variable description	Mean	Std. Deviation
I sale in discount	3.72	.741
I gave extra mango	4.49	.501
I gave free price mango	4.33	.470
I advertise my mango to increase my sale	2.19	.877

There are many promotional tools; some of them are more appropriate for agricultural products including sale in discount, giving extra, giving free price are somehow seen in these areas. So, according to respondents, most of them believe that they sale in discount. It is indicated by mean = 3.72, and std. Deviation = .741. The mean value approaches to 4, which means respondents consider that they sale most of the time by making discount. The Value of std. Deviation insures also variability between mean value and each respondent's response was minimum.

About giving extra mango, mean value = 4.49, and std. Deviation = .501 tells us about the agreement of respondents on it. Almost all respondents gave extra mango for whom they sale whether for direct consumers or not, when they buy from them. The deviation among values is also small, which indicates that their mutual concurrence on it.

Regarding giving free price of mango, mean = 4.33, and std. Deviation = .470. The mean value indicates that always they gave free price mango for different outsiders. The deviation is also small, which indicates almost all respondents gave free price mango for their surrounding ones.

The last issue here was about asking whether those respondents advertise their mango fruit to increase their sale. The mean value were = 2.19, approaches to 2, which means they advertize their product rarely. And this is not the intention of small number of respondents rather measures of variability indicates that most of them agree on this issue because its value is small.

**Results of Focus Group Discussion:** As participants in focus group discussion described that the producers (farmers) who are not the member of the union didn't set the price of mango product rather the price is fixed by brokers and traders who buy the mango product. For the producers who are the member of the union the union set the price of the mango products. As the participants in focus group discussion declare that the farmers who are the member of union sell their product by fair price rather than the producers who are not the member of union. Generally, they declare that the producers' sale their products by low price due to this they didn't get benefit from mango products specially the producers who are not the member of the union.

**The Major Problems Regarding Selling of Mango Fruit:** As participants of focus group discussion indicate, the following are basic problems in selling of mango fruit: Marketing related problems, transportation problems, problems encountered during post-harvest process (pests and disease), problems in supply of chemicals and fertilizers, lack of support from government, stiff competition specifically union with brokers.

### **Conclusion and Recommendations**

As per the findings discussed above, the researcher concludes that there are many challenges in relation with marketing. It includes; lack of market price information, loss of ownership on determining price for their product, lack of legal intermediaries in the market, lack of transportation, absence of nearby market, insufficient application of promotional tools, problems encountered during post-harvest process (pests and disease), problems in supply of chemicals and fertilizers, lack of support from government, stiff competition specifically union with brokers. In addition to this, from the existed two groups of mango fruit producers, farmers who are incorporated under mango fruit cooperatives through union have more advantage to get market access, and price information than those who are not included under cooperatives.

Based on the above findings, the researcher has forwarded the following recommendations:

- Mango processing factory has to be established in Assosa Town as it is central to all surrounding rural kebeles;
- New cooperatives should be organized for farmers who are not included in existed cooperatives under union;
- Central system has to be developed by trade and transport office of Assosa District to set price, and to provide price information for farmers;
- Strengthen the existed union
- Legalize intermediaries to make them accountable for their doings;
- Benishangul Gumuz Regional State also has to initiate investors to invest on Mango, and create awareness about Mango production in the region
- As the area is potential for mango fruit production, the government has to work on fulfilling infrastructure especially transportation and central market place for sale in each kebele.

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