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INTRODUCTION
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NEED/IMPORTANCE OF THE STUDY
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ENSET VALUE CHAIN ANALYSIS: THE CASE OF DIRE ENCHINI WOREDA, OROMIA REGIONAL STATE, ETHIOPIA

ABEBE UMA
STUDENT
DEPARTMENT OF RURAL DEVELOPMENT & AGRICULTURAL EXTENSION
INSTITUTE OF CO-OPERATIVES & DEVELOPMENT STUDIES
AMBO UNIVERSITY
AMBO

DR. J. PAUL MANSINGH
PROFESSOR
DEPARTMENT OF RURAL DEVELOPMENT & AGRICULTURAL EXTENSION
INSTITUTE OF CO-OPERATIVES & DEVELOPMENT STUDIES
AMBO UNIVERSITY
AMBO

ABSTRACT

Value chain analysis was conducted for a variety of purposes. The primary purpose of value chain analysis, however, is to understand the reasons for inefficiencies in the chain, and identify potential leverage points for improving the performance of the chain, using both qualitative and quantitative data. This study aimed at analyzing value chain of enset in Dire Enchini District, West Showa Zone, Oromia Region, Ethiopia. The study area, Dire Enchini District, was selected purposively because of the potential for enset production. Out of 18 kebeles and 1town kebele in the district, two of them namely Homi Hane and Waldo Hine are purposively selected based on the area under enset cultivation. A total of 144 respondents were selected from the two kebeles randomly using simple random sampling technique. In addition to 144 sample respondents, key informants were selected from the other value chain actors including; input suppliers, collectors, wholesalers, retailers, consumers and support services like; cooperatives and extension. Such key informants were selected at various levels using simple random sampling from selected kebeles. For the purpose of this study, 6 input suppliers, 6 collectors, 6 wholesalers, 12 retailers, 30 consumers and 14 persons from support services were selected. The input suppliers composed of: two cooperatives (one from each kebele), two experts from District agricultural office and the other two were private input suppliers. The data were collected from both primary and secondary sources. The primary data for this study were collected from farmers, traders, input suppliers, support services and consumers. Data were analyzed using Descriptive statistics such as percentage, mean and standard deviation. It was found that in the study area there are many actors were involved in enset value chain analysis, from input supply to the consumers playing different roles. They were, input suppliers, producers, collectors, wholesalers, retailers and consumers. Collectors purchased enset product from producers in distant areas and sold at district markets to wholesalers. Wholesalers purchased enset product from collectors and producers and sold to retailers and consumers. Retailers purchased enset product from producers, collectors, wholesalers and sold to consumers. Enset product produced in the study area passes through several intermediaries. The linkage among value chain actors was to some extent weak and informal in type. There was no responsible body who is working for effective and efficient linkage between value chain actors. Farmers trusted relative farmers and shared information and experiences among themselves. Limited availability and lack of input supply by cooperatives, existence of disease, marketing problem, inadequate extension service, shortage of land, shortage of credit service, were the main challenges faced in the area. On the other hand, increased farmer's interest on enset production system, availability of high yielding and potential soil and favorable climatic conditions, sustainable sales of enset product, high consumer demand, infrastructure and district location were the available opportunities that encourage the development of enset value chain. Each of the 'Kocho' and' Bulla' value chain actors added value to the product as the product transferred from one actor to another. Traders (collectors, wholesalers, and retailers) operating expense was small in amount but the profit margin they got was more than the producer farmers. The traders simply bought from the farmer and sold to consumers. But they took high amount of profit share than the farmers who did all the works from producing enset to processing of enset.

KEYWORDS

Enset, Value Chain, Value Chain Analysis, Value Chain Actors, Value Chain Opportunities and Constraints.

INTRODUCTION

African economies are increasingly confronted with changing food and commodity markets, due to globalization, economic liberalization and urbanization (Heike, 2005). As a result, consumer preferences change. This poses new opportunities but also challenges to small-scale producers, traders and processors along agricultural value chains. To address this situation, development agencies, donors and NGOs are placing more emphasis on enabling farmers to increase their level of competitiveness, to produce for an identified market, rather than trying to sell what they have already produced and also seeking new market opportunities that offer higher levels of income. Such goals can be achieved through better economic coordination and institutional linkages. Farmer organizations can play a key role of organizing economic activities beyond local boundaries. They can build up relationships with various chain actors and securing commitments from various actors to cooperate on mutually beneficial actions and investments and thus create value chains (Bezabih & Mengistu, 2011).

The cultivation of different crops around homestead was regarded as a strategy of many high land farmers to diversify their subsistence and cash needs. Diversification of crops also helps to stabilize yield and income and avoid risk of crop loss from diseases and pests incidences, and market price fluctuation and hence food security in a given region. Enset (Enset ventricosum) is one of the indigenous root crops widely cultivated for its food and fiber values in south and southwest highlands of Ethiopia (Taye, 1996). Enset was previously cultivated only in the south and southwestern parts of Ethiopia, but recurrent droughts have led to the expansion of enset cultivation to other parts of the country (Brandt et al. 1997). It is one of the most drought tolerant crops sustaining the lives of many Ethiopians during drought periods. It has been suggested that the Ethiopian population who depended upon enset as a staple food have never suffered from famine, even during the Ethiopia's tragic drought and famine prone decades of the 1970s and 1980s. Several authors have noted that enset tolerates short season drought that have seriously damaged annual crops, especially cereals (Bayush, 1991; Shigeta, 1990).

Enset (Ensete ventricosum Welw. Cheesman) is a perennial crop belonging to the Musaceae family. It has been used as a food crop for thousands of years only in Ethiopia, where it was once domesticated. It is an important staple crop for over 20 per cent of the Ethiopian population living in the southern and southwestern parts of the country (Brandt et al.1997). Enset has multipurpose uses and nothing will be left from the plant and can be a dependable source of income. Thus, farmers in enset growing areas describe the importance of enset by saying that it is everything for us our food, cloths, houses; cattle feed and plates (Birmeta et al.2004). The major foods obtained from enset are kocho, bulla and amicho. Kocho is the bulk of the fermented starch obtained from the mixture of decorticated (scraped) leaf sheaths and grated corm (underground stem base). Bulla is the small water-soluble starchy product that may be separated from kocho during

processing by squeezing and decanting the liquid. Amicho is the fleshly inner portion of the enset corm, which may be cooked and eaten separately, tasting similar to potato.

STATEMENT OF THE PROBLEM

Value chain analysis is essential to understand relationships and linkages among buyers and suppliers and a range of market actors in between (Wenz and Bokelmann, 2011**)**. Bammann (2007) illustrated that the value chain concept helps to trace product flows; show value addition at different stages; identify key actors and their relationships in the chain; identify enterprises that contribute to production, services and required institutional support; identify bottlenecks preventing progress; provide a framework for sector-specific action; identifies strategy to help local enterprises to compete and to improve earning opportunities and identify relevant stakeholders for program planning. Enset value chain analysis plays an important role in the livelihood and food security of the densely populated area of Homi Hane and Waldo Hine where there is an increasing trend of low input supply, traditional enset farming system and traditional marketing practices. Recently, the demand for production and consumption of enset is increasing tremendously in the study area (Dire Enchini District). The main reasons for the existing demand are availability of conducive soil characteristics for enset production and climatic conditions, search for alternative cereal crop for consumption, soil conservation, and its leaf need for livestock fodder.

Even though there is a huge demand and potential of agro-ecology for enset production in the study area, the farmers are still facing different problems related to, input supply, modern enset farming system, market information for selling enset and accesses to market. Therefore, this entails a need for more comprehensive study which rigorously examines enset value chain analysis in the study area. There is no comprehensive study made so far to understand the whole enset value chain analysis in the study area. This is the first study of its kind which analyzes the entire value chain from input supplier to the consumer. This study has the benefit of an integrated/holistic approach that tries to analyze the dynamics of input supply, producer, access to marketing information, access to market and consumption of enset in the study area. Through such an approach, potential areas or entry points can be identified further to upgrade value chain analysis. It also provides a holistic picture of existing challenges and opportunities in the enset value chain, identifying and taking appropriate intervention measures for improvement.

OBJECTIVES

To understand opportunities and constraints in addressing the existing problems and to increase competitive advantage of the enset production in the area, this study was designed with the following specific objectives.

1. To identify the major enset value chain actors in the study area.
2. To assess the roles of enset value chain actors in the study area.
3. To study the linkages among various actors in the study area.
4. To identify the opportunities in the enset value chain in the study area.
5. To identify the constraints in the enset value chain in the selected area.

RESEARCH QUESTIONS

The study tries to answer the following questions:

1. Who are the actors involved in the value chain processes and what they actually do?
2. What does enset value chain look like and who is more benefiting from enset value chain?
3. What are the key opportunities in enset value chain in the study area?
4. What are the constraints in the enset value chain?

SIGNIFICANCE OF THE STUDY

The study analyzes the entire enset value chain analysis from input supplier to the consumer. Therefore, the primary goal of this study was to assess and generate information on enset value chain analysis and identify the major enset value chain actors in the study area. The study also aimed to analyze the opportunities in enset value chain analysis in the study area and identify the constraints faced by enset value chain actors. The results of the study will be helpful to improve enet production and marketing practices for high value realization. Effective value chain management would minimize production cost and increase market efficiency, thereby enhancing the profitability of the enset farmers. The information generated will also help a number of organizations; research and development organizations, traders, producers, policy makers, extension service providers, to assess their activities and redesign their mode of operations and ultimately influence the design and implementation of policies and strategies.

RESEARCH METHODOLOGY

The study was conducted in Dire Enchini District, West Show Zone, Oromia Regional State, central part of Ethiopia. Enchini town is the capital city of Dire Enchini District and it is located 40 km south west of Ambo town. The district is located between 8^{o} 1'N to 8^{o} 46 N latitude and 37^{o} 35' E to 37^{o} 38'E longitude. The study area, Dire Enchini District, was selected purposively because of the potential for enset production and there is no research conducted before on the related issues. The area under enset cultivation was 3,610 hectares (District Agricultural office Report, 2014). In the second stage, out of 18 kebeles and 1town kebele in the district, two of them namely Homi Hane and Waldo Hine were purposively selected based on the area under enset cultivation. Enset was cultivated in 210 hectares in Homi Hane and 190 hectares was covered by enset in Waldo Hine (WOARD, 2014). Then the sample respondents were stratified into male and female headed households. A total of 144 respondents were selected randomly using simple random sampling technique. In addition to 144 sample respondents, key informants were selected from the other value chain actors including; input suppliers, collectors, wholesalers, retailers, consumers and support services like; cooperatives and extension. Such key informants were selected at various levels using simple random sampling from selected kebeles. For the purpose of this study, 6 input suppliers, 6 collectors, 6 wholesalers, 12 retailers, 30 consumers and 14 persons from support services were selected. The input suppliers composed of: two cooperatives (one from each kebele), two experts from District agricultural office and the other two were private input suppliers. The data required for the study were collected from both primary and secondary data sources. Primary data were collected from main value chain actors such as farmers, collectors, wholesalers, retailers, consumers (household and institutions), and support services providers. For primary data collection, semi-structured interview schedule was used after pretesting. Pretesting was done to identify and avoid vague and sensitive questions. Attempt was made to train enumerators practically about how to approach respondents and collect the needed data. The primary data were collected using four development agents (enumerators) working in the district. They are hired and trained on how to conduct and approach the sample members. The researcher preferred development agents because they have intimate relationship with enset growing farmers.

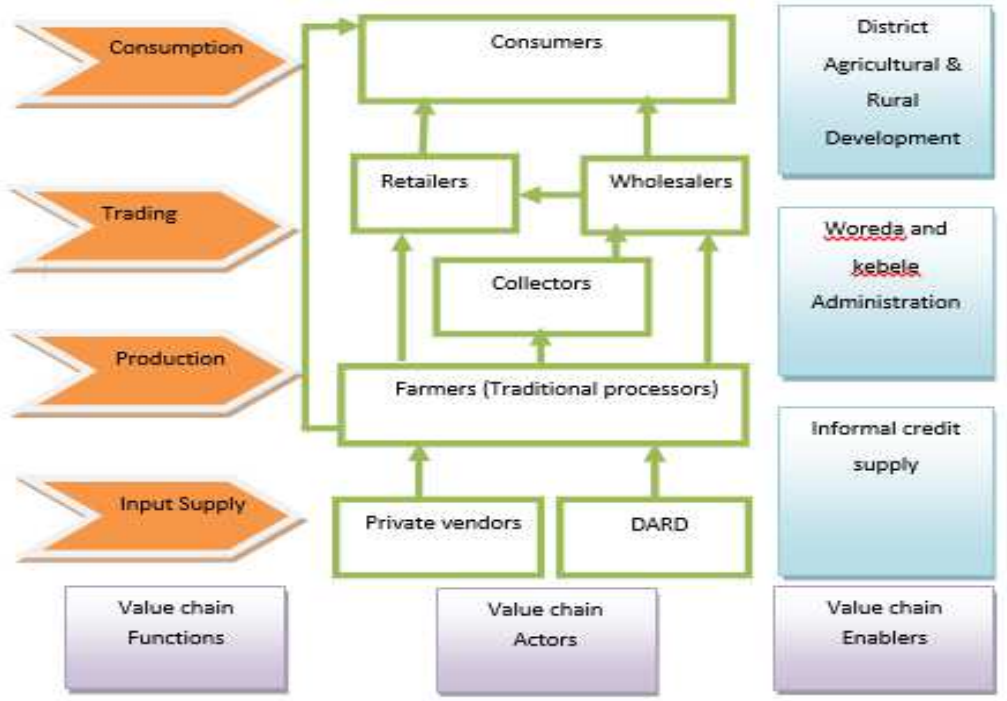
Secondary information that could supplement the primary data was collected from published and unpublished documents obtained from different government organizations**.** To make the communication easier during collection of data from the respondent members, the interview schedule was prepared in English and translated to Afan Oromo before final administration. The schedule was checked for clarity and consistency. This was followed by coding of answers and data entry into the computer for analysis. Analysis of the data was done by using Statistical Package for Social Science (SPSS version 20) computer package. Descriptive statistics was used to compare and analyze the collected data.

RESULTS AND DISCUSSION

ENSET VALUE CHAIN ACTORS AND THEIR ROLES

According to McCormick and Schmitz (2001), the value chain visualizes the flow of the product from production to end consumer through various actors. It also helps to identify the different actors involved in the enset value chain and to understand their roles. Consequently, the value chain actors and their roles in Dire Encini District are depicted in Figure 1.

FIGURE 1: ENSET VALUE CHAIN ACTORS AND THEIR ROLES



Source: Computed from Field Survey (2015)

Actors are those involved in producing, processing, trading or consuming a particular agricultural product. They include direct actors who are commercially involved in the chain (input suppliers, producers, traders, retailers, consumers) and indirect actors who provide financial or non-financial support services, such as bankers and credit agencies, business service providers, government, researchers and Extension service.

A. INPUT SUPPLIERS

At this stage of the value chain, there are many actors who are involved directly or indirectly in agricultural input supply. In the study area, DARD and private input suppliers are the main sources of input supply. The survey results implied that farm implements are supplied by private vendors as well as through the Agricultural office. Regarding fertilizers, all farmers used only animal manure, house wastes and residues which could be obtained from their own livestock backyard. In the study area, farmers did not use chemical fertilizers, like DAP, Urea for enset cultivation. Hence, the cost of inorganic fertilizers was nil.

DISTRICT OF AGRICULTURE AND RURAL DEVELOPMENT OFFICE (DARD)

Regarding the delivery of inputs like farm tools, technical support or advice, district office of Agriculture and Rural Development was playing a great role. Both Homi Hane and Waldo Hine kebeles have primary cooperatives. But the cooperatives did not supply inputs for enset growers. The input used for enset cultivation was supplied by DARD. Development agents are the main players in input supply activities at grass root level. They also played facilitation role in collecting farmers input requirement or demand, submitting it to DARD and input distribution.

PRIVATE INPUT SUPPLIERS

Inputs such as improved enset variety, credit service, technologies, among others had been obtained from different sources. According to the respondents surveyed and key informant interview, private input suppliers are playing an important role by supplying agricultural inputs used for enset cultivation. The private vendors supplied ploughing materials, hand hoe, and sickles for enset cultivation.

B. PRODUCTION STAGE

Enset producers are the major actors who perform most of the value chain functions starting from farm land preparation on their farms or procurement of the inputs from other sources to post harvest handling and marketing. The major value chain functions that enset producers performed include ploughing, planting, weeding, controlling pest/disease, harvesting and post-harvest handling. Conducive agro-climatic conditions make enset production highly effective and competitive and provide vast opportunities in study area. Unfortunately, as noted by key informants, these opportunities have not been exploited by the farmers due to the lower price they received for their produce in the market. The survey results showed that all farmers in the study area used traditional farming techniques and local variety of enset. On an average 1.25 ha of land was held per household. Labour was used for enset cultivation from land preparation to harvesting of crops. The family labour force (owned labour) consisted of the highest per cent in enset cultivation. Members of household have different responsibility for different enset farming operations. For example in the study area land preparation and planting enset were mostly handled by men. However, females performed majority of enset farm operations like weeding, harvesting, processing and cooking.

C. PROCESSING

Processing is the act of converting enset into enset products such as Kocho, Bulla and Amicho. According to the respondents and key informant interview, enset processing is labour intensive, and is usually done by women using traditional tools, although men help with cutting and harvesting the mature plant. Processing involves: Cutting and harvesting the mature plant, digging and lining a pit for fermenting the pulverized corm or root, scrapping (decorticating) the outer sheaths of the stem to remove edible parts.

D. MARKETING STAGE

Enset products kocho, bula, and enset by product fibres and enset leaves are traded within and outside the district. These products are traded mainly in Guder town, Ambo town, and Addis Ababa city. The results of the household survey showed that the average quantity of kocho produced per household during 2014/2015 production season was 11.88 Qt (as depicted in Table 1). The average quantity of kocho consumed and sold was 5.38 and 6.21 at per house hold respectively in the study area.

TABLE 1: AVERAGE AMOUNT OF KOCHO PRODUCED, CONSUMED AND SOLD AT HOUSEHOLD LEVEL

Descriptive stat.	Total amount of kocho produced (Qt)	Total amount of kocho consumed (Qt)	Total amount of kocho sold (Qt)
Mean	11.88	5.38	6.21
Standard Deviation	4.37	2.61	3.93

Source: Computed from Field Survey (2015)

The results of the household survey showed that the average quantity of bulla produced per household during 2014/2015 production season in the study area was 9.78 qt as depicted in Table 2. The average quantity of bulla consumed and sold was 1.62 and 5.6 at per house hold respectively in the study area. This implied that the largest proportion of bulla was sold to the market respectively in the study area.

TABLE 2: AVERAGE AMOUNT OF BULLA PRODUCED, CONSUMED AND SOLD AT HOUSEHOLD LEVEL

Descriptive measures	Total amount of Bulla produced (Qt)	Total amount of Bulla consumed (Qt)	Total amount of Bulla sold (Qt)
Mean	9.78	1.62	5.6
Standard Deviation	3.26	0.93	2.64

Source: Computed from Field Survey (2015)

E. COLLECTORS

Local collectors are those who collected enset product from farmers in village markets and from farms for the purpose of reselling it to wholesalers, retailers and consumers. They use their financial resources and their local knowledge to gather enset products from the surrounding area. Collectors are one of the actors in the enset value chain in the study area. According to the survey, there are few local collectors in the study area who are responsible for trading of kocho and bulla from production areas to wholesalers. Local collectors bought the enset products in large sacks. Then repacked in small sacks, transported and sold to wholesalers.

F. WHOLESALERS

Wholesalers are mainly involved in buying enset from collectors and producers in larger volume and supplied them to retailers and consumers. They also stored the product, usually for a maximum of two (2) months. Survey results indicate that wholesalers were the main buyers of enset products in the study area. They have better storage, transport and communication access than other traders.

G. RETAILERS

Retailers are key actors in enset value chain in the study area. They are the last link in the value chain connecting the consumers. In the study area, retailers mostly bought from wholesalers and sold to consumers. Sometimes retailers directly bought from the producers also. Consumers usually buy the product from retailers as retailers offer according to the requirement and purchasing power of the buyers. It was observed that during the market survey retailers sold kocho, bulla, enset leaf and enset fiber. Amicho was not sold by retailers in the area.

H. CONSUMERS

Consumers are those purchasing the products for consumption. Enset consumers are of two types; rural and urban consumers. The former include producer farmers who consume themselves and urban consumers are those who live in the district town. Urban consumers purchased enset product directly from producers, wholesalers, and retailers. Majority of the consumers purchased from retailers. Farmers also form a important segment of the rural consumers since they consumed part of their produces. Among the total sample of respondents all were found to use enset products for consumption.

ACTORS' LINKAGE

Linkages are defined as a business relationship between two parties of the value chain and could be formal and informal. Linkage analysis involves not only identifying which organizations and actors are linked with one another but also identifies the reasons for those linkages and whether the linkages are beneficial or not. The type of linkage in the study area was mostly informal type mainly among supportive actors in the value chain. There were no formal and structured linkage mechanisms in the study area. It was evident from the table that majority of the farmers (90.97%) had no linkage with other actors. Only 9.03 per cent had informal linkage with other actors. As noted by sample respondents and key informants there was poor horizontal linkage types; between producer, input suppliers, wholesalers, retailers, local enset processer and consumers. Regarding vertical linkage, there was no vertical linkage among value chain actors directly involved in enset value chain in the area. It was observed from the study that various reasons were mentioned as linkage constraints, specifically; lack of understanding the benefit of linkage, lack of responsible body who is working on facilitation of linkage among the actors, lack of budget for giving training to producers and actors about linkage, lack of institutional support to create linkage, etc.

VALUE CHAIN GOVERNANCE

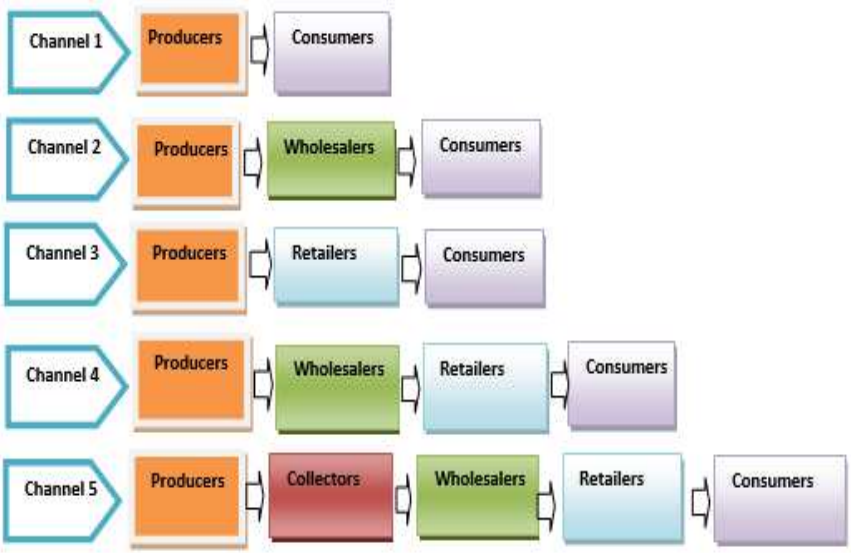
Value chain governance is the most important value chain actor playing facilitation role to determine the flow of products and level of prices. In the study area, the wholesalers in different markets were well networked but their linkage was informal. For Example Kocho and Bulla wholesalers in Dire Enchini district have network (telephone communication) with wholesalers in Guder, and wholesalers in Guder also have network (telephone communication) with Addis Ababa wholesalers. These traders exchanged information on enset product prices, local supply situation and the prospects of harvest potential of the product in their area. Then, they agree on the price at which they have to buy from the producers. Except this networking and business relation, there was no formal collateral when the transaction takes place.

The smallholder farmers are not organized and are not governing the value chain. Hence, they are price takers and hardly negotiate the price; otherwise the product could not sell. The major source of market information was fellow farmers who sold enset product during the previous market days. The use of mobile is increasing in the study area; this facilitated in getting information on market price from the wholesalers and fellow farmers. Access to television was very much limited in the study area. Also the farmers have not listened to the information aired through radio.

MARKETING CHANNELS

Enset product market channels connect producers, traders (local collectors, wholesalers and retailers), and consumers as shown in figure 2. The starting point in the enset product market channel was producers. The final users of the products were the consumers. In the study area, five channels have been identified in the enset value chain analysis. Enset products passed through various channels until it reaches the consumers.

FIGURE 2: ENSET PRODUCT MARKETING CHANNELS



Source: Computed from Field Survey (2015)

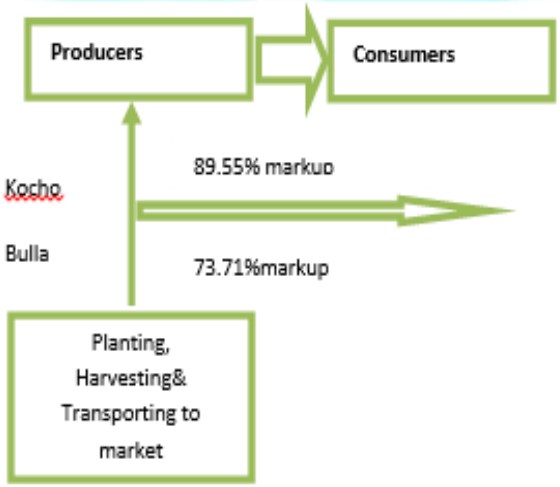
- The first channel was the shortest channel in which producers directly sell enset products to the consumers. This occurs when the farmer brings small quantity of the products to market and when the farm is closer to the district town.
- In the second channel, producers sell enset products directly to the wholesaler, and in turn the wholesaler sells to the consumers by adding value on the price of the producers.
- In the third channel, producers supply enset products directly to retailers and in turn the retailers sell to consumers by adding some value in the price of producers.
- The fourth channel is the most common type of enset product market channel, where producers directly supply enset products to the wholesaler, wholesaler sells to the retailers by adding some value on the price of producers, and retailers sell to the consumers by adding value on the price of the wholesaler.
- In the fifth channel, producers directly supply enset products to local collectors, and in turn the local collectors sell enset products to wholesalers by adding some margin on the price they paid to the farmers, wholesaler sells to the retailers by adding some value on the price of local collectors, retailers sells to the consumers by adding value on the price of wholesaler.

PRICE STRUCTURE AND COST ANALYSIS -MARKUP COSTS

It was observed from the study that bulla and kocho has five marketing channels. The producers did not sell amicho in the market. They used amicho for their own consumption. The other non- food enset products like fiber, leaves, rope and mats were directly sold to the user.

Channel 1: The producers did all the work for producing kocho and transporting to markets for selling directly to consumers. The producers had the highest share (89.55 %) in channel 1 for kocho and 73.71 per cent for bulla.

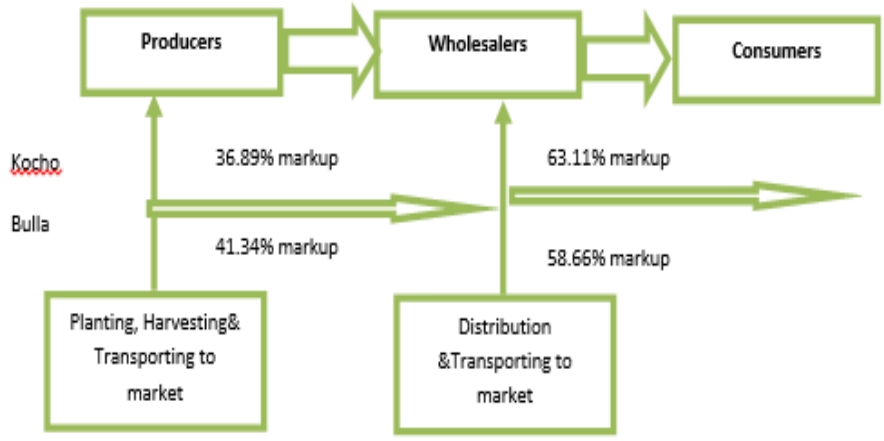
FIGURE 3: VALUE CHAIN 1



Source: Computed from Field Survey (2015)

Channel 2: Wholesalers bought kocho from producers for sale. Producers added a value of 36.89 per cent for kocho and 41.34 per cent for bulla. Wholesaler added a value of 63.11 per cent for kocho and 58.66 per cent for bulla. In this case, wholesaler earned higher profit since they sold the products directly to the consumers.

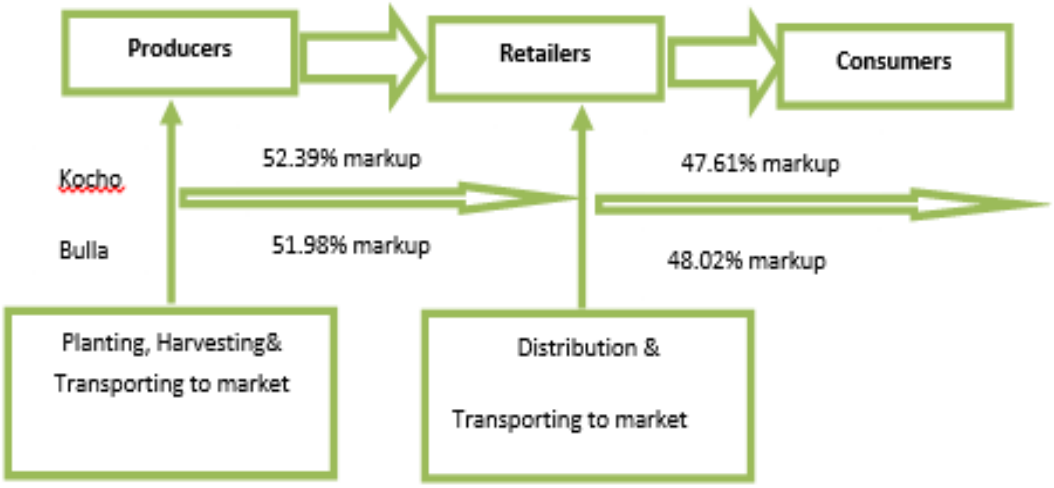
FIGURE 4: VALUE CHAIN 2



Source: Computed from Field Survey (2015)

Channel 3: The producers sold the product directly to retailers. In VC3 (Sell to retailers Chain), retailers bought kocho brought to them for sale by the producers. Retailers added a value of 47.61 per cent for kocho and 48.02 per cent for bulla. In this channel the producers earned high profit than the previous channel (channel 2) because they sold the products directly to the retailers.

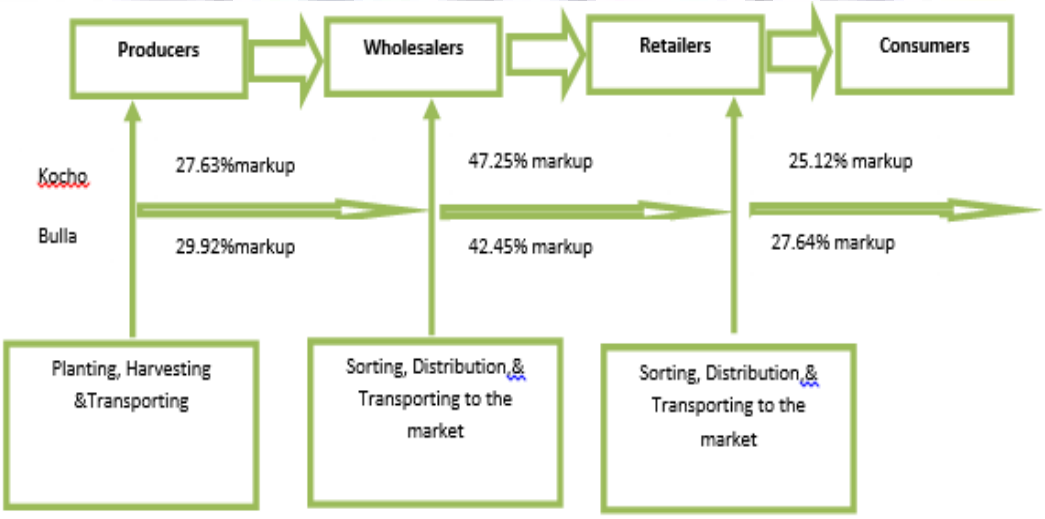
FIGURE 5: VALUE CHAIN 3



Source: Computed from Field Survey (2015)

The chain length was increased in VC4 (Sell to WH Chain) with 2 intermediaries. It is illustrated in Figure 4.16. Producers added a value of 27.63 per cent for kocho and 29.92 per cent for bulla. Wholesaler added a value of 47.25 per cent for kocho and 42.45 per cent for bulla and retailers added a value of 25.12 per cent for kocho and 27.64 per cent for bulla. In this case, wholesaler earned higher profit since they bought directly from the producers.

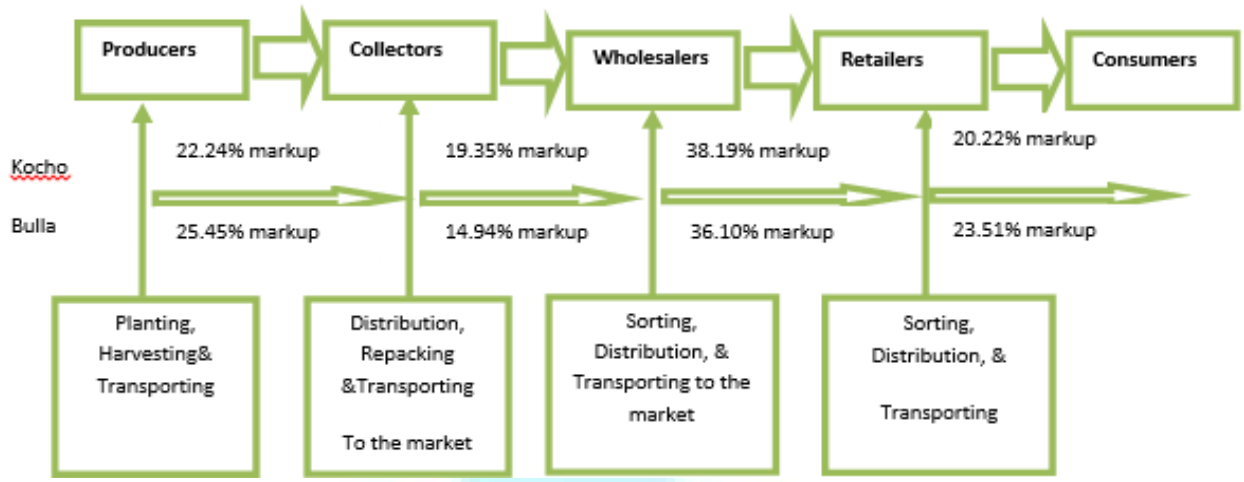
FIGURE 6: VALUE CHAIN 4



Source: Computed from Field Survey (2015)

The chain length was further increased in VC5 (Sell to collector Chain) with 3 intermediaries. Producers added a value 22.24 per cent for kocho and 25.45 per cent for bulla. Collectors added a value of 19.35 per cent for kocho and 14.94 per cent for bulla. The wholesalers added a value of 38.19 per cent for kocho and 36.10 per cent for bulla. The retailers added a value of 20.22 per cent for kocho and 23.51 per cent for bulla. In this case the highest profit was earned by wholesaler, due to small operational cost. Producers, collectors and retailers are earned relatively lower profit.

FIGURE 7: VALUE CHAIN 5



Source: Computed from Field Survey (2015)

OPPORTUNITIES IN THE ENSET VALUE CHAIN ANALYSIS

1. FAVORABLE LAND AND CLIMATIC CONDITION

There exists favorable climate and fertile land for the production of enset. The survey results showed that all the respondents (100%) had mentioned the availability of favorable land with high fertile soil and climatic condition as an opportunity to grow enset in the area. The key informants also revealed that the soils in the area are fertile and enset producer farmers do not apply fertilizer and they are free of fertilizer cost. The area also has favorable environmental conditions for enset production. It has an altitude ranging between 2200 to 3023 m.a.s.l. The annual temperature ranged between 6°C and 24°C, and annual rainfall between 100mm – 1800mm which is appropriate for enset production.

2. PRESENCE OF HIGH CONSUMER DEMAND

Enset producers were not using improved enset variety and used traditional farming system in the area. There was high consumption of enset products in the study area and neighboring areas. There was also growing demand for food self-sufficiency and food security in the area. In the area there is an opportunity for enset producers to use improved varieties and increase the income to meet the growing demand.

3. SUSTAINABLE SALES OF ENSET PRODUCT

Enset plant is able to withstand or quickly recover from difficult conditions (drought and climate changes) and can be stored for long periods. Also it can be harvested at any time of the year so that the product is available for consumption throughout the year.

4. HIGH PRODUCTIVITY POTENTIAL OF ENSET

The carrying capacity of enset crop was higher as compared to the carrying capacity of other cereals and pulse crops. Thie indicated that enset plant is extremely important over cereal and other crops to assure food and material needs of the community in the study area. As it was observed from the study area, yield of enset crop per unit area was high as compared to cereals and pulse crops. Under normal condition, the food security of the study area was self-sufficient due to the high enset production throughout the year. The high yield from small plot is one of the best opportunities for the producer farmers and for those who has small area of land. Ghimiray et.al (2007) confirms that higher yield potential is considered as an important factor particularly for farmers' innovation not only because it provides food security at household level but also because surplus production can be sold to generate cash for other expenditure.

5. MARKET AVAILABILITY (CLOSENESS OF DISTRICT TO MARKET)

The district is located 28 km from Toke kutaye district (Guder town), 40 km from Ambo town and 152 Km from Addis Ababa city. The district geographical location nearness has better advantage to the town and cities like Guder, Ambo, and Addis Ababa and was one of the most important opportunity for the enset producer farmer to sell their products (Bulla, Kocho, Amicho, Fiber and fresh enset leaf) as well. It is also the most important opportunity for the traders (retailer and wholesaler) to easily buy the enset product from the district market of the study area without much transportation cost.

6. AVAILABILITY OF BASIC INFRASTRUCTURE

Regarding infrastructure development and availability in the area, the district has all weather road. This has created an opportunity to transport and supply enset products to the market. The surveyed district also has infrastructure facilities like electricity and telecommunication.

CONSTRAINTS IN THE ENSET VALUE CHAIN

1. PRODUCTION

Enset farming systems is a major source of livelihood for all the respondents in the study area. The identified production constraints were lack of: improved varieties, appropriate agronomic practices, treatment of disease /insect pests, mechanically efficient processing devices, extension service, market information, linkage and storage practices.

2. DISEASE/ INSECT PESTS

Result of the survey indicated that bacterial wilt disease in enset was **a** very serious problem in all enset growing communities in the district. Farmers in the district have adopted the enset-based agricultural system and use the crop to feed their families as well as their livestock during dry season when there is scarcity of grass. The sustainability of enset production is threatened by enset bacterial wilt disease, since enset has high significance in day to day life of the whole peasant households cultivating this crop as staple food. According to discussions with the respondents and key informants, regular harvesting of leaves for animal feed and sale was a source of income. This was done especially by women. The spread of disease was through contaminated tools. In general, spread and incidence of enset bacterial wilt disease was more pronounced during the rainy season than in the dry season (Dereje, 1985). All interviewed farmers confirmed enset bacterial wilt disease was the major constraint for enset production in the study area.

3. IMPROVED VARIETIES

Lack of supply of improved enset variety was a major problem in the study area. All the respondents reported lack of access and supply of improved enset varieties as a major constraint. Due to lack of improved enset varieties, the farmers in the study area were forced to cultivate local enset varieties. Therefore, using local enset varieties was the main constraint for producers since this contributed to decrease in the yield of enset from time to time.

4. FARMERS MARKETING CONSTRAINTS

The majority of producer farmers identified that there were market problems in their area. The major enset marketing constraints were: low price for enset products, lack of modern storage facility, lack of transport facility, insufficient market information, non-involvement of cooperatives in the marketing of enset products and poor linkage.

5. TRADERS MARKETING CONSTRAINTS

The major marketing constraints mentioned by traders were: limited power of price setting, poor storage facility, problem in information flow, lack of sufficient working capital, high transportation costs, lack of institutional support with respect to credit and low product quality.

6. EXTENSION SERVICE

Lack of extension service was the major constraint in enset value chain analysis in the study area. No special farm advice specific to enset production, enset marketing, modern enset food preparation techniques, pre and post-harvest handling of enset and use of enset for animal fodder have been given in the study area**.** From the results given in table 4.26 it was observed that 57.64 per cent of farmer's did not access enset extension services for the last three years. Farmers in the study area reported that even the DAs did not have sufficient knowledge or skill regarding the enset production.

7. PACKAGING

All sampled respondents reported that enset product packaging in modern business context was not practiced in the study area. However, chain actors used dried leaf sheaths, sacks, and plastic materials for packaging of enset products from production to consumption center. From the key informant interview, it was informed that this style of packaging was the main source of post-harvest loss.

8. LAND

Shortage of land was the main problem of the farmers. It is reported in table 4.7 that 52.08 per cent of the respondents belonged to the land size category of 0.5-1 hectare. This situation directly reduces enset production and forces the farmers with limited production capacity.

9. INPUT SUPPLY

All the respondents had reported input supply as one of their major problems. It is also observed in table 4.17 that all the farmers used local enset varieties. The other main problem regarding input supply was the absence of involvement of cooperatives in supplying inputs required for enset production.

10. CREDIT AVAILABILITY

High interest rates and non-availability of the required amount of credit were the main constraints in the study area.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations are made to improve enset value chain in the study area.

- More area specific information on enset cultivation and storage should be provided by the district agricultural office.
- Capacity building training programmes should be organized regularly to increase the knowledge and skill of DAs.
- Creating the linkage between value chain actors; both horizontal and vertical formal linkage should be taken in to consideration.
- Encouraging cooperative organizations to collect the enset products from the producers since cooperatives are not involved at present. This will help the farmers to get better price for their products.
- Scientific research focusing on control measures of enset bacterial wilt should be given priority in the study area
- Economical support should be given to farmers through formal credit agencies.
- Ensure the availability of improved enset varieties.
- Market information services have to be established or strengthened to provide information for producers.
- Developing the modern enset processing technology closer to production areas should be given attention as this could benefit the farmers for increasing the quality of the product.

CONCLUSION

In the study area there are many actors involved in enset value chain analysis, from input supply to the consumers playing different roles. They were: input suppliers, producers, collectors, wholesalers, retailers and consumers. Enset products produced in the study area passes through several intermediaries, like collectors, wholesalers and retailers, before reaching the consumers. The intermediate buyers purchased the enset products from the farmers at a lower price and they sold to the end user at a higher price. The linkage among value chain actors was to some extent weak and informal in type. Each of the kocho and bulla value chain actors added value to the product as the product was transferred from one actor to another. Traders (collectors, wholesalers, and retailers) operating expense was small in amount but the profit margin they got was more than the producer farmers. The traders simply bought from the farmers and sold to consumers. But they took high amount of share profit than the farmers who did all the works from producing enset to processing of enset. Encouraging cooperative organizations to collect the enset products from the producers since cooperatives are not involved at present. This will help the farmers to get better price for their products by avoiding the intermediaries. Developing the modern enset processing technology closer to production areas should be given attention as this could benefit the farmers for increasing the quality of the product.

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