Effectiveness of Cooperatives in Coffee Value Chain: An Analysis in Sasiga District of Oromia Region, Ethiopia

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• Ethiopia—the birthplace of Arabica coffee—grows a wide variety of highly differentiated, exemplary coffees, most of which are shade-grown without chemical inputs by small-scale farmers.

• Coffee production in Ethiopia is the driving force since over a million coffee farming households and about 25% of the total population of the country is dependent on production, processing, distribution & export of coffee (World Bank 2009).

• Ranking eighth in the world and first in Africa, Ethiopia’s annual coffee production is approximately 280,000 metric tons (MT), almost half of which consumed domestically, often in the culturally rich traditional coffee ceremony.

• Ethiopia produces around 4% of world production and more than 30% of the total production in Sub-Saharan Africa and the government favors the export of high grade coffee and restricts its sale on the domestic market (MoARD, 2009).
Background

• Coffee producers are locked into production chains: their produce reaches consumers in different countries having passed through the hands of intermediaries. Each of these intermediaries adds value to the final product. The concept of the value chain describes input and output relationships and identifies key actors who play a critical role in coordinating production in the chain.

• Value chain actors are those involved in supplying inputs, producing, processing, marketing, and consuming agricultural products (Getnet, 2009; ECX, 2009). They can be those that directly involved in the value chain (rural and urban farmers, cooperatives, processors, traders, retailers, cafes and consumers) or indirect actors who provide financial or non-financial support services, such as credit agencies, business service and government, researchers and extension agents.
Statement of the Problem

• Value chain analysis extends traditional supply chain analysis by adding values to each stage of chain. This can result in which value at one stage seen as being at the expense of value at another. Over the past decades, the coffee industry has witnessed dramatic falls in the producer (farmer) share of retail price.

• Coffee cooperatives with washing stations were inefficient, with some even running at a loss, the washed coffee was often of poor quality. The processing problems primarily flowed from poor technical and management operations. In many cases, cooperative farmer members received better prices and payments in cash for their cherries from nearby private washing stations. The cooperatives were selling to traders and in a few cases directly into the auction for below-premium prices.

• The government recognized the serious problems that the coffee cooperatives faced, especially in terms of delayed payments from the private traders, and permitted them to sell directly to buyers without going through the auction. This change is approved in 2001, but the cooperatives were not in a position to take advantage of this reform.
Statement of the Problem

- There are several problems in coffee value chain in the study area like: Procedure of processing had not been maintained and upgraded through exchanging sufficient knowledge and skill between actors. Moreover, poor quality processing that created higher costs and reduced the quality of the beans reaching the markets (EAFCA, 2008); Availability of loan funds to rural processors and traders to invest and operate their businesses is practically less intended for poor linkages in the value chain actors. (MoARD, 2009).

- Majority of cooperative members have a minimum awareness regarding to coffee value chain and inadequate knowledge and skills on quality coffee production systems among value chain actors. Hence, no attention is given for linking with actors. Due to this existing coffee production system suffered from poor returns.

- Although coffee is an economically important commodity for country and individuals. However, studies conducted on the effectiveness of coffee cooperatives in coffee value chain are scanty. In light of this, the research tried to analyze the effectiveness of cooperatives in coffee value chain in Sasiga Woreda, Oromia region in general and attempts to explore the linkage between cooperatives and other actors in coffee value chain; and factors affecting the coffee value chain in particular.
Objectives of the study

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• To examine the linkages between cooperatives and other actors in the coffee value chain,
• To analyze factors influencing the effectiveness of cooperatives in coffee value chain, and

Sampling

Sample Frame
• The study was conducted in Sasiga Woreda coffee cooperatives. Using census method all five coffee cooperatives were selected (See Table 1).

Sample size
• From five coffee cooperative one hundred thirty four respondents were selected by using probability proportional to size of membership.
• In addition, in this study actors in coffee value chain were selected and incorporated purposively due to having direct relationship with the activities of coffee value chain. They include, management committee (5* 5=25), wholesalers (5), Promoters (5), local consumers (10), private traders (2), Oromia coffee union staff (5), private exporter (1), and ECX staff (2).

Data Source & Method of Data Collection
• Primary and secondary data were used. Primary data were collected from respondents and the secondary data were collected from records of different books, reports from government bodies, Journals, Thesis, Internet sources that are appropriate for the study
• The primary data necessary for the study were collected from sample respondents by using semi-structured interview. For data collection, five enumerators, who have acquaintance with socio economic concepts and knowledge of the culture of the society as well as Oromifa language proficiency were selected, trained and employed. The interview schedule consisted of different type of questions, related to the topic of the research and relevant variables to gather the needed information. Qualitative data were collected through personal observation, focus group discussions, and key informant interviews.
Method of data analysis

Descriptive Analysis
• In this study, data were analyzed using different quantitative and qualitative procedures and methods.
• Descriptive statistics like mean, percentage, frequency and minimum and maximum values were used by employing statistical software called Statistical Package for Social Science (SPSS). Version 16.0.

Econometric Model - *Binary Logistic Regression*
• binary logistic regression model is employed to examine the effectiveness of cooperatives in coffee value chain. The built model can be used to approximate the mathematical relationships between explanatory variables and the dependent variables. This model is used because the dependent variable is binary (0, 1).
The purpose of mapping is to outline the different stakeholders from crop to cup. This process includes various actors – coffee farmers, intermediaries like local traders, curers, exporters (international traders), roasters, retailers (like hotels, restaurants, and cafés), and finally, the consumers in the domestic and international markets.
Figure 2: Type of Linkage by the primary cooperatives with other actors in coffee value chain
Summary of Findings

Linkage Pattern
• There is a strong vertical linkage and subsequent institutional linkage among the coffee value chain in Sasiga coffee cooperatives. Strong business linkage where private coffee seed multipliers and input supplier plays a major role in supplying the necessary input to farmers. Marketing, business development and technical support linkage is another major chain support facilities observed in Sasiga coffee cooperatives.
• Even though this is at its initial stage, it is showing promising results as Oromia coffee union is playing critical role in terms of creating and finding the best market opportunity for primary cooperatives. Technical support services are obtained from different actors from union, primary cooperative, agricultural office and cooperative office. These supports includes but not limited to: training on top of storage preparation, harvesting mechanism, quality keeping, and record keeping and planning on the overall cooperatives activities and members in particular.
• In Sasiga coffee cooperative, there are multilateral horizontal linkages among different actors. These are characterized by the linkage structure where primary cooperatives are liked to many other primary cooperatives and share their experience to the extent of sharing resources (capital).

Socio-economic characteristics of Respondents
• To describe the socio economic characteristics of the survey respondents, the majority of them are male respondents (79%). As far as the marital status is concerned, most of them (90%) are married. The religious composition of the respondents, 25.4%, 72.4%, 1.5% and 7% of respondents found to be followers of Orthodox Christians, Protestants Christians, Muslim and others respectively. As regards to their ethnic background, 100% of them are from Oromo ethicist background. Regarding their education status, more than 70% of them are illiterate.
Results of Descriptive Analysis

• The descriptive analysis showed that, about 62.7% of the respondents received any form of training related to coffee value chain. The study also revealed the majority of the farmers have trusted their cooperatives. This variable is found to be statistically significant in influencing the effectiveness of the cooperatives in coffee value chain.

• Despite the fact that market information is a very important variable having positive effect on the cooperatives effectiveness in coffee value chain, only 46.3% of the sampled respondents in the area have access to timely market information.

• Cooperatives offer better prices as compared to other market actors as witnessed by 72.4% of the respondents. However, the same study witnessed that the prices offered by cooperatives is not sufficient for members coffee product as viewed by 56.7% of the sampled respondents.

• On top of this, the opinion of 82.8% of the respondents showed members obtain payment from their cooperatives on time. They have also sufficient transport facilities as evident from 84.3% of the sampled respondents.

• The capacity of the management committee of the cooperatives in managing the cooperative was viewed as positive by many respondents (87.3%).

• One of the critical factors influencing the effectiveness of the coffee value chain is whether there exists sufficient input supply, financial support and timely delivery of the products. In these regard, 53%, 70%, 53%, and 82% of the respondents responded positively on the mentioned variables. These figure showed that coffee value chain in Sasiga coffee cooperatives seems to be more effective as far as these explanatory variables are concerned.
Factors influencing the Effectiveness of Cooperatives in Coffee Value Chain

- The discussion on econometric analysis of the factors influencing the effectiveness of the coffee value chain gives a good understanding of the strength of factors that affect the coffee value chain. In the regression analysis, eight variables were used to explain the effectiveness of coffee value chain in Sasiga coffee cooperatives. The Negelkerke R Square is used to measure the proportion of the total variation of the dependent variable explained by the predictor variable. Accordingly, in this study 89.5% of the variance in the dependent variable “effectiveness of cooperatives in coffee value chain” is explained by the variance in the predictor variables.

- Out of the total eight variables included in the model, it was found out that only six of them have statistically significant partial effect on the effectiveness of cooperatives in coffee value chain. Accordingly, Trust($X_{24}$), Technology($X_{16}$), and Training ($X_7$) has significant positive partial effect on effectiveness of cooperatives in value chain at Wald $\psi^2$ $p$-value of less than 0.01, Market Information($X_9$) is also has significant positive effect at $p$-value of 0.05. while Timely delivery of products($X_{19}$) and Financial Support ($X_{23}$) have statistical significant positive effect on the effectiveness of Cooperatives in coffee value chain at $p$-value of less than 0.10. Other variables such Engagement in coffee processing ($X_3$) and product ordering ($X_{20}$) activities though they are not statistically significant have some positive partial effect on the effectiveness of cooperatives in coffee value chain.
Conclusion

• The focal point of this paper was to analyze the effectiveness of cooperatives in Coffee value chain in Sasiga woreda. Based on the specific objectives of the thesis the following conclusions were drawn from the data analysis. Linkage between the actors in coffee value chain is characterized by both vertical and horizontal linkage. This linkage is characterized by a fair and good relationship among actors.

• There are different roles and mandates of service providers that ensure the effectiveness of the Sasiga Coffee cooperatives, but should work in a more synergetic way to maximize the effectiveness of the coffee value chain.

• The business linkage like supply of inputs and chemical are some of the important components of vertical linkage between actors. In addition marketing and technical linkage was found to be other critical components in the coffee value chain in Sasiga coffee cooperatives.

• Only six variables were found statistically significant factors that influence the effectiveness cooperatives in coffee value chain. Accordingly, variables such as trust, technology, market information, training, timely delivery of products, finical supports were found to be critical factors influencing the effectiveness of cooperatives in coffee value chain.
Recommendations

• Since the strength of the linkage among chain actors is one of the most determining factors for the effectiveness of the coffee value chain greater attention should be given by all stakeholders to design strategies on how to smooth their relationship and avoid any bottlenecks such as lack of trust, bribery practice and designing efficient customer service.

• Another factor that influence the effectiveness to coffee value chain whether or not the members received any form of training related to cooperatives and their production, marketing and etc. This training should be the major component of the service provided to members. This could be done in collaboration with other service providers and NGOs that deliver such kind of training in a more professional and adequate manner.

• Credit facility and the size of working capital owned by members are also significantly affecting the effectiveness of coffee value chain. Thus, sufficient credit facilities should be available in a timely manner to cooperative members. Microfinance institutions play a crucial role in this regard and strategies should be designed to link microfinance with the cooperatives and appropriate repayment arrangement and loan size should be negotiated in line with the business-financing requirement of the members of the cooperatives.

• Access to market information is a very important variable affecting the chain effectiveness. Dissemination of market information like price levels, linking farmers with the market is believed to enhance the chain effectiveness. Efforts have to be made to link farmers to the market and appropriate infrastructure should be in place.

• Regarding the prices paid by cooperatives to their members, the prices should be fair enough to compensate farmers for their cost of production as well and some profit margin. This could reduce the amount of leakage that is lost where farmers sell their product to informal markets. On top of this prompt payment is very important for farmers.

• Even if the capacity of many cooperative committee members is viewed as positive by many respondents, greater care must be taken in the recruitment and selection of these committee especially focusing on their character and ethical standards to reduce abusive and corrupt practice.

• Input supply to producers is found to be very important in determining the effectiveness of the coffee value chain. Thus, government (woreda level agriculture and development Offices) needs to work hard in supplying inputs such as fertilizer, seed and chemicals needs.
Thanks a lot