

Cocoa Value Chain - Implication for the Smallholder Farmer in Ghana

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ABSTRACT

The study sought among other things to examine the detailed map of Ghana's cocoa value chain (GCVC), the major constraints and opportunities to growth and expansion of GCVC, and proposes strategies to at least mitigate the identified constraints. Questionnaires were used to collect primary data from respondents, mainly smallholder farmers and also historical data of Ghana's cocoa industry were used extensively in the analysis. Diamond model was used to determine the relative competitive position of Ghana's cocoa. The study revealed the existence of some actors along the value chain not fully recognized by industry players in the cocoa supply chain. It also revealed that lack of access to working capital and farm inputs, aging farmers, high illiteracy rate are the major constraints facing the smallholder farmers. It was again noted that lack of access roads to farming communities, delayed payments and long waiting of trucks at the port due to off load for shipment are major constraints of the Licensed Buying Companies (LBCs).

Keywords: Cocoa value chain, supply chain management, smallholder farmers, Ghana

1. INTRODUCTION

Many individuals have tried in diverse ways to emphasize the importance of cocoa to the socioeconomic development of Ghana. Ghana's cocoa has been described cocoa as the backbone of Ghana's economy (Osei, 2007). Helena et al, (2009) put it in simple terms that "*Cocoa is Ghana, Ghana is Cocoa*". Like most cocoa producing nations, cocoa is a major contributor to Ghana's gross domestic product (GDP) and foreign exchange earner for the country. Approximately 86% of the world cocoa production is grown by small landholder farmers and the remaining 14% by the modern large scale organizations. Smallholder farmers are confronted with numerous challenges in a transitional economy like Ghana's cocoa sector as it cautiously liberalizes the industry. There are no incentives for farmers to reinvest into quality improvement and expansion since prices are fixed. Today, Ghana exports a bulk of her cocoa in the raw form with only about 40% of the produce being processed locally. Cocoa farmers in Ghana continue to rely on the traditional methods such as the hoe and cutlass method of farming. Competition among farmers is non-existent. The License Buying Companies (LBCs) compete only for volumes purchased as prices are predetermined by government. In addition, the FOB prices paid to farmers by Ghana's immediate neighbors, Togo and Côte D'Ivoire are higher than in Ghana. It

is therefore not surprising when the story of cocoa smuggling was unearthed in the video footage by the popular Ghanaian investigative journalist, Anas Aremeyaw Anas' at Ghana-Côte D'Ivoire boarder. In as much as Ghanaians lamented over the revelations at the time, the fundamental causes of such negative behaviors along the country's cocoa supply chain need to be examined and addressed. These will lead to an improved Ghana's cocoa value chain (GCVC) profitability which will trickle down to the smallholder farmers. It is in recognition of this challenge and the huge benefits Ghana stands to gain an improved cocoa industry that inspired the researchers to undertake the study

The main purpose of this study was to develop a detailed map of Ghana cocoa value chain (GCVC), determine the major constrains and opportunities to growth and expansion of Ghana's cocoa supply chain. Again, the study also aimed at identifying the organizational and institutional linkages to the smallholder farmers and to establish their overall implications for them.

2. LITERATURE REVIEW

According to Kaplinsky (2004), cocoa provides livelihoods for millions of people in over 50 countries in Africa, Latin America, the Caribbean and Asia. During crop years 1998/99 to 2007/08 global cocoa production increased from around 2.8 million tonnes to 3.7 million tonnes, with an average annual growth rate of 2.7 percent. Consumption showed similar patterns, with an average annual increase of 2.9 percent, from 2.9 million tonnes to 3.7 million tonnes. According to Kaplinsky (2004) farming and harvesting of cocoa pods, and the extraction, fermentation and drying of cocoa beans necessarily occurs on or very near the farm, and has few scale economies. Most cocoa growing occurs on small or medium-sized farms for example, in the Ivory Coast during the 1980s, there were around 600,000 small and medium sized farmers with farms of between five and 20 hectares. After harvesting and preliminary processing, cocoa beans are roasted and ground into liquor, before being converted into cocoa butter or cocoa powder. The butter is utilized in chocolate manufacture, whilst the powder is destined for the catering markets and for liquid drinks. Prior to the partial liberalization in Ghana, the market was complete monopolized by the government which through the CMB was the only authorized domestic buyer and exporter of cocoa. Cocoa processing, or grinding, entails the transformation of dried cocoa beans into a variety of processed products including cocoa paste or liquor, cake, powder and butter. Processors have quality standards and expect COCOBOD, their suppliers to meet these standards. Ghana processes about 298,000 tons (about 40 percent of its cocoa bean production) domestically and exports the processed materials. Government of Ghana is the sole exporter of cocoa. Ghana cocoa value chain as it is organized today is quite unique from the global due to the distinct nature of her liberalization it resembles a stabilization fund. The main players are farmers, LBCs and COCOBOD. In addition, various government and business groups providing extensions and inputs to farmers as well as bank and credit facilitators are important actors on the market.

According to Lundstedt and Pärssinen (2009) farmers are generally liquidity constrained and need credit in order to maintain or expand production. Ghana's cocoa yield has been on average 25 percent below the average yield level of the ten largest cocoa producing countries and approximately 40 percent below the average yield level of neighboring Côte d'Ivoire. Reasons put forward to explain Ghana's low yield levels are the relative old age of cocoa trees, the

absence of widespread row planting, and pests such as black pod and mistletoes – explanations related to resource constrained farming practices. Constraints on input use, ranging from regional differences in factor prices to capital market imperfections, appear to underlie the different outcomes observed (Teal et al, 2002). Teal et al (2002) further stated that there is suggestive evidence to support the idea that land prices constrain extensive expansion and growth of cocoa farms in the Ashanti and Brong Ahafo regions.

3. METHODOLOGY

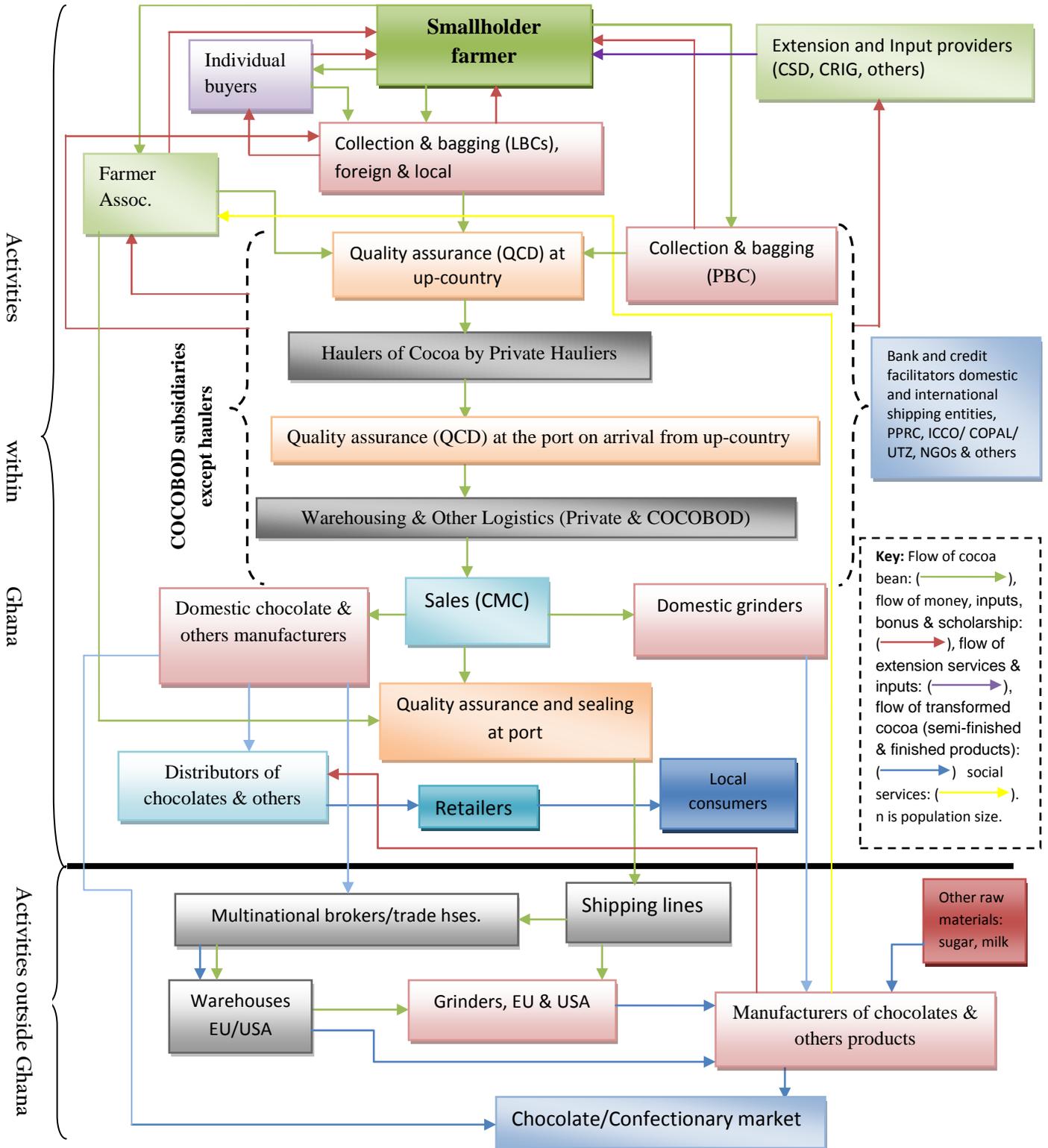
The research strategy adopted by this study is the survey strategy. The study population comprised smallholder cocoa farmers in Ashanti region, the Purchasing Clerks, District Officers of Licensed Buying Companies, management of retail shops/super markets, and Management of cocoa processing companies in Ashanti region, the Quality Control manager of Ashanti region COCOBOD, port managers of Quality Control Division and port officers of Licensed Buying Companies in Ghana, and managers of cocoa marketing company (CMC). 5 districts of the 27 districts in the Ashanti region were randomly selected and 5 communities purposively chosen in each district. The study employed the multistage sampling method in order to achieve the objectives set out above. This study adopted both primary and secondary methods of collecting data. Questionnaire was the only instrument used to collect the primary data for which nine different questionnaires were administered to nine groups of respondents. Secondary data related to the objectives of the research were sourced from the ICCO web site.

4. FINDINGS AND DATA ANALYSIS

4.1 Value Chain Participants in Ghana Cocoa Supply Chain

Figure 1 is the detailed map of Ghana cocoa value chain. The smallholder farmers produce for the Cocoa Marketing Company (CMC) through the License Buying Companies (LBCs). There exist non-registered individual not recognized by the formal structures. These individuals buy from the farmers when they need cash. Quality of cocoa beans from up-country is ensured by the quality control division of COCOBOD.

Figure 1: Detailed Ghana Cocoa Value Chain Map



Source: Authors' own construct 2011

4.2 Identification of Major Constraints and Opportunities

Of the 250 respondents, 48.4% said they have never been to school before. Those who had non-formal education were 35 representing 14%. Also 6.4% said they finished primary school. 22.8% said they have completed JHS/JSS/Middle school. 6% said they have completed SHS/SSS/Ordinary Level and 2.4% said they had tertiary education. When the smallholder farmers were asked what they consider the biggest threat/constraint as farmers, of the 250 respondents, 78 said cocoa diseases were their biggest threat representing 31.2%. Those who said lack of funds was their major threat/constraint were 67 representing 26.8%. Only 6% considers bush fire was their biggest threat.

On the issue of how they finance their farming activities, a total of 162 respondents said they finance their farms on their own or through family members representing 64.8%. Only 12 respondents said they finance their farms by bank loans representing 4.8%. On the question of how they get inputs (fertilizer, weedicides, pesticides, knapsacks etc.) 70% said they get them on their own and from relatives. Also 41 respondents said through the government representing 16.4%. Only 7 respondents said their inputs are supply by the LBCs and 16 said their associations provide them with their inputs. When the PCs were asked of their biggest operational constraint/challenge, access to cocoa communities topped the list with 54.2% of the respondents. 29.2% said their biggest constraint/challenge was competition posed by other buyers. Least constraint to the PCs was lack of logistics representing 5.2%. The port officers of QCD of COCOBOD, in response to the same question, 50% of them said volume of daily work was their biggest challenge. Lack of trust among actors (25%), possible infestation on transit (37.5%) and effects of rain/dew/moisture came up (37.5%) were some the reasons in responding to the question of why further checks after cocoa have been certified by QCD are carried out.

4.3 Opportunities for Growth and Expansion of Ghana Cocoa Industry

4.3.1 Availability of supply

In the area of availability of land for production, Ghana has almost exhausted the available land. The country however still has huge growth potential in the area of yield per hectare. Ghana's current yield is about half West Africa yield potential. What it means is that Ghana can double current supply without adding a single piece of land tenure system is well structured.

4.3.2 Infrastructure and Logistics

Smallholder farmers complained among other things faulty weighing scale used by PCs (cheating) and lack of access to government subsidized fertilizer and other chemical. Road infrastructure especially in the cocoa growing areas needs improvement to increase access to cocoa bean. The quota system for daily shipment and long waiting at the port are cost to the LBCs and to COCOBOD which is alternately passed to the smallholder farmer.

4.3.3 Consistency of Quality

Maintaining quality is expensive in terms of the direct costs of the Quality Control Division of COCOBOD, which is at the centre of all these, and from loss of revenue from beans rejected at the local level as sub-standard and waste. "According to one multinational manufacturer, even a

lower quality cocoa bean can be used as long as its specifications are known and consistent. It is however not possible to adjust the manufacturing process to compensate for fluctuations in waste percentages” (USAID, 2006).

4.3.4 Legal/Policy Environment

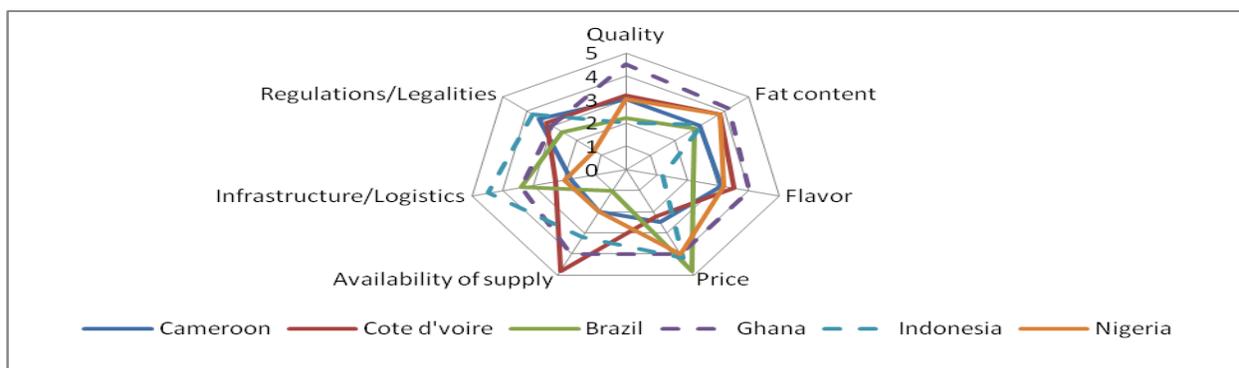
In Ghana, the government has more influence over the production chain though the systems have been partly liberalized. In a liberalized cocoa markets, the price that farmers receive for their products is largely determined by the world market price. This indicates that farmers may receive higher, but more insecure earnings, due to on the one hand volatile world market prices and on the other hand country-specific production and economic conditions. A long term negative consequence of trade liberalization may thus be that farmers will not be protected in periods of low market prices, since it is, as mentioned, hard to adjust governmental policies according to volatile market prices. The monopolistic marketing of Ghana’s cocoa takes away competition which improves on efficiency.

4.3.5 Flavor / Fat Content

Percentage of fat content refers to the amount of fat or cocoa butter that can be extracted from the beans during processing. A high fat content is preferable of which Ghana is ranked high. Flavor can be accentuated with proper fermentation but is primarily a genetic trait of the cocoa bean itself. Again Ghana is place high in flavor and fat content. This makes the demand for flavor beans relatively inelastic and is not significantly affected by changes in price. Stronger flavor beans are required for higher quality food and pharmaceutical cocoa products.

4.3.6 Competitive Position Of Ghana Relative To Other Major Producing Countries

Ghana’s biggest competitive advantages include its superior quality cocoa bean and which serves as overall global benchmark for many exporting countries. The country is also seen to have high production capacity (availability of supply). However in terms of yield per hectare and legal/regulatory structure Ghana scored low. As the largest producer of fat-flavor beans, Ghana currently occupies a strong position with few competitors in this segment of the global market.



Source: Authors’ own construct 2011

5. DISCUSSIONS OF FINDINGS

5.1 The Map Of Ghana's Cocoa Value Chain

The detailed map of Ghana's cocoa value chain indicate four basic flows; money, cocoa bean and products, inputs, services and bonuses. Smallholder farmers exchange cocoa bean for money, inputs and bonuses. Extension services come from government agencies. From the findings, farmers can either sell to LBCs or Famer Associations. The non recognized individuals who could be farmers themselves or business men and women also impact the lives of the famer in either way. These individuals can only sell to the LBCs in the country since non licensed companies are not permitted to sell to the CMC. They however can also look elsewhere for higher returns. This can lead to smuggling of cocoa out of the country. The three tie quality assurance of Ghana cocoa is vividly captured. If quality assurance is a source of cost in the value chain then there is the need to reevaluate the quality checks in the value chain.

5.2 Impact of Organizational and Institutional Linkage on the Smallholder Farmers

Smallholder farmers benefit in a number of ways with their relationship with the farmer associations. The cooperatives receive an additional premium which is invested in improvements to the farmers' living standards and farming productivity. A percentage of the price goes towards 'producer support and development', which the associations spend on farmer education, helping also to maintain the values and vision of the cooperative as it grows. Almost all these benefits cut across all the associations as they try to emulate each other. The bypasses of the LBCs by farmers add value to the lots of them. Usually because these individual buyers intend to resell for profit, they are likely to take advantage of these farmers. These individual buyers are legally not permitted to sell directly to COCOBOD and so they can only sell to the LBCs in the country or illegally send their consignment elsewhere for marketing.

5.3 Constrains And Opportunities To Expand Ghana's Cocoa Supply Chain

It is obvious from the results that infrastructure deficit at the up-country is a major constrain to growth and expansion. Both farmers and LBCs complained of lack of access roads to cocoa growing communities. Lack of logistics (i.e. Jude sacks) and or delay in releases of funds due them from CMC is another source of constrain. Delays at the port according to the LBCs are costs to them. Quotas also constrain the LBCs in their quest to avoid inventory cost by keeping huge volumes of stock at the up-country side.

Smallholder farmers are generally aged and also has very high illiteracy rate. These threaten the sustainability of the sector and also limit their ability to apply new technologies to enhance production. Another major threat to growth and expansion result from the inability of the government to compensate farmers who produce superior quality beans. It is not motivating farmers to reinvest into quality in line with the country's strategy. The three tier quality assurance by quality control division of COCOBOD as captured in the value chain is one of source wealthy consideration. Quality assurance is one of the major cost elements of the value chain. Consider the fact that Ghana's cocoa attract premium price the FOB paid to Ghanaian cocoa farmer is admittedly low. This is in no small way a disincentive for growth and expansion.

Yields per land size in Ghana are quite low. This situation turns to affect the profit margins of Ghanaian farmer. From the findings it averaged 1.286 per hectare. Low local content is another weakness of Ghana cocoa value chain.

6. CONCLUSIONS AND RECOMMENDATIONS

The strategic positions of cocoa to Ghana's socio-economic development to a larger extent influenced governments decisions to maintain strict regulation and dominant interest in marketing it. The study aimed at examining the detailed map of Ghana cocoa value chain (GCVC), the major constraints and opportunities to growth and expansion of GCSC, propose strategies to at least mitigate those constraints identified, determine the relative competitive position of Ghana's cocoa and to discuss the organizational and institutional linkages and its overall implications for the smallholder farmers. The detailed map of Ghana's cocoa value chain is well defined. The chain is quite long with the main activities within Ghana being handling and transportation of the bean. Only a small fraction is processed locally with a bulk exported in the raw bean form. On the issue of constraint, smallholder farmers are faced with four key constraints: First is average age of the smallholder farmers is approximately 52 years. Secondly the ratios of HH members actively working as per the number of hectares cultivated, and also high Illiteracy among smallholder farmers as 48.4% have had no formal education at all. Lack of access roads to cocoa growing communities constrained the smooth operations of both PCs and the farmers in those communities and long waiting times at the port for trucks due for takeover for shipment is constraint growth are some the major constraints facing the LBCs.

Ghana has the ability to increase FOB paid to farmer which will serve as an incentive for reinvestment and expansion of cocoa farms. Differential prices for superior quality to commensurate effort put into quality assurance will encourage farmers in that perspective. Ghana also has huge potential to maintain dominance in that market segment for high fat content-good flavor bean. The generic nature of these properties makes its demand inelastic.

Ghana has huge potential to grow and expand in terms of adding local content to the value chain. Bench marking nations such as Brazil may be over ambitious by it is in the right direction add value to GCVC. In the light of this, conscious effort must be made by government of Ghana to add value to the cocoa bean rather than exporting the raw bean. In this area bench marking other producing nation can be a way forward. Processing companies must be encourage to site in the country and the existing ones must be assist to produce at capacity.

1. Ghana can adopt a number of strategies to help mitigate its prevailing challenges. These include; Access to commercial mechanisms to transfer and adopt the needed skills, know-how, and information to improve cocoa productivity.
2. Increase access to government social interventions of free mass spraying exercise and subsidized fertilizers as we education on the importance of good husbandry practices to productivities.
3. Smallholders can bring large volumes of cocoa beans for direct sale to LBCs through or by forming farmer association. Access for such associations to sell directly to CMC or even export will bring more direct benefits to the smallholder farmers thereby increase their ability to reinvest for expansion and growth.

4. Availability and access to credit for smallholder farmers to purchase fertilizers. Smallholder farmers can achieve this on their own through farmer associations as they can leverage on their numbers.
5. Capacities of the existing processors should be upgraded and steps taken to ensure they operate at full capacities to attraction investors to boost value addition drive to the local content. Brazil can be bench marked in this case.

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