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GENERAL MANAGEMENT

Increasing the Additional Value of Coffee Cultivation Results in Brebes Regency with a Value Chain Analysis Approach

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Abstract

Coffee is still one of the important plantation commodities in the Indonesian economy. According to the United States Department of Agriculture (USDA), Indonesia is the fourth largest coffee exporter after Brazil, Vietnam and Colombia in the world market. Indonesia's coffee exports in the 2011-2015 period reached 471.24 thousand tons per year or 6.51% of the total world coffee exports. In Brebes Regency in 2017, coffee production reached 495.6 tons. In Brebes, although the price of roasted beans can reach IDR 220,000/kg, most of the new coffee business people enjoy selling cherry coffee, which is very cheap, of around IDR 5,000/kg. For this condition, it is necessary to conduct in-depth research and analysis on how to find cost driver activities which are part of the value chain analysis in an effort to increase the additional value of coffee agribusiness. This research was conducted in the coffee center of Brebes Regency, namely Salem District, Paguyangan District, Bantarkawung District, and Sirampog District. Data were collected by interview, direct observation, and Focus Group Discussion (FGD). Based on the research results, there are at least 4 value chain activities in coffee business activities in Brebes Regency, namely cultivation activities, harvesting activities, green beans processing activities, roasting activities, grinding and packaging activities. The cost driver of the value chain analysis is the roasting process, which has an additional value of 142.4%., from the green bean price of IDR 90,750/kg to IDR 220,000 roasted bean.

Keywords: *coffee, coffee farmer income, value chain analysis, cost driver, activity*

Introduction

The agricultural sector is the leading sector in formulating Indonesia's development strategy. From 2014 to 2016, the performance of the agricultural sector has been able to boost the national economy. One of the most important sub-sectors in the agricultural sector is the plantation sub-sector. In 2016, the sub-sector with the highest contribution to GDP was the plantation sub-sector, which was 3.46%, followed by other sub-sectors, such as food crops sub-sector by 3.42%, livestock by 1.62%, and horticulture by 1.51% (Bantolo, 2017). The GDP of the plantation sub-sector is obtained from leading commodities, one of which is coffee.

Coffee is one of the mainstay commodities of plantations that has a significant contribution to the Indonesian economy, namely as a foreign exchange earner, source of income for farmers, producer of industrial raw materials, job creation, and regional development (Sutriono, 2009). Until now, coffee is still one of the important plantation commodities in the national economy. The coffee commodities in question are robusta coffee and arabica coffee. From the total coffee production in Indonesia, 90% is Robusta coffee and 10% is Arabica coffee. However, the composition of Arabica coffee increases every year, while the composition of Robusta coffee decreases, both in terms of the cultivation area and production. From the total coffee traded in the international market, 70% is Robusta coffee, and 30% is Arabica coffee (Hariance et al., 2015).

According to data reported by the United States Department of Agriculture (USDA), among ASEAN countries, Indonesia is the second-largest coffee producer and exporter after Vietnam. In the world market, Indonesia is listed as the fourth largest coffee producer after Brazil, Vietnam, and Colombia. As the fourth coffee exporter in the world, Indonesia produced an average coffee export volume of 471.24 thousand tons per year or 6.51% of the total world coffee export volume in 2011 to 2015 (Center for Agricultural Data and Information Systems, Ministry of Agriculture, Coffee Outlook, 2016).

Considering the large role of coffee farmers as one of the driving forces of the people's economy (Pakpahan, 2004), great hopes are placed on the arrangement of the economic environment of coffee farmers, coffee farmers' organizations, the market orientation of coffee farmers, and the performance of coffee farmers. Therefore, it must be studied further to realize whether coffee farmers can carry out their role or not. Although Central Java is not the dominant coffee producer in Indonesia, there are several districts in Central Java that gives quite contribution to the planting and production area. Temanggung Regency is one of the regencies that are important in coffee cultivation and production in Central Java. Data on coffee commodities for each district in Central Java is shown in the following table:

No	Residence	Plant Area (Ha)		Crop Production (Tons)	
		Arabica Coffee	Robusta Coffee	Arabica Coffee	Robusta Coffee
1	Temanggung	1,841.78	9,561.55	1,109.42	7,536.49
2	Semarang	246.81	3,446.51	55	1,424.00
3	Wonosobo	1,833.73	1,779.14	152.3	670.15
4	Kendal	139.55	2,860.41	43.3	1,350.61
5	Jepara	-	2,254.78	-	1,272.91
6	Banjarnegara	557.2	1,921.08	169.16	853.44
7	Pati	-	1.953.94	-	1,227.35
8	Magelang	577	1,361	11	1,043
9	Purbalingga	57.59	1,457.88	3.7	578.6
10	Batang	277.84	889.34	120.86	640.28
11	Pemalang	393.84	401.96	219.3	288
12	Brebes	0.5	983.63	-	184.3
13	Pekalongan	205	530.95	46.41	363.02
14	Kudus	17.65	604.11	9.28	344.46
15	Boyolali	354.66	361.23	80.11	160.75
	Total	6,503.15	30,367.51	2,019.84	17,937.36

Table 1: Crop Area and Coffee Production by District in Central Java Province, 2018
Source: Central Java in Figures 2018 (processed)

Table 1 shows that the total coffee plantation area in Central Java reached 36,870.66 Ha of arabica and robusta coffee, while the total coffee production in Central Java was 19,957.20 tons in 2015. Temanggung Regency ranks first in terms of total planted area and coffee production, highest in Central Java in 2015. Furthermore, Brebes Regency ranks 12th with a total plant area of 984.13 ha and total coffee production of 184.3 tons. In recent years, the coffee agribusiness in Brebes Regency has begun to appear. In Brebes Regency, coffee-producing locations are in Sirampog District, Paguyangan District, Bantarkawung District, and Salem District.

Based on the condition of plantation area and crop production in Brebes Regency, it tends to increase, but its impact in increasing coffee farmers' income is still very small. The reason is because the knowledge of farmers about how to maintain coffee plants is still very low. Coffee is marketed in the form of dry rice coffee (green been) traditionally, in which there has been no involvement from the Brebes Regency government program. The buyers who play the most role are middlemen who provide loans before the coffee is harvested. The prices received by farmers ranged from IDR 16,000 to IDR 35,000 per kilogram of coffee. Coffee that has been collected from middlemen from the Districts of Salem, Paguyangan, Bantarkawung, Sirampog, and surrounding areas is then sold in the commodity markets of Ajibarang, Temanggung, or Wonosobo.

In Brebes, pickled coffee (cherry coffee) is priced quite cheaply by collectors, which is IDR 5,000/kg. In fact, based on another preliminary study, it turns out that coffee from Brebes after being roasted into roasted coffee by other regions costs IDR 150,000/kg and when it is grounded into ground coffee, the price reaches IDR 225,000-250,000/kg.

Based on the description above, it is necessary to conduct in-depth research and analysis on how to conduct value chain analysis and find cost drivers for the coffee process business value chain activity. With this analysis, it is hoped that the right strategy will be found to increase the income and welfare of farmers. Specifically, the objectives of the research in the first year are:

1. Identifying all coffee agribusiness value chain activities in Brebes Regency
2. Determining the cost driver activity of the coffee agribusiness value chain in Brebes Regency
3. Formulating main strategy to increase the income and welfare of smallholder coffee industry players.

Literature Review

Coffee Agribusiness Potential and Development

Coffee is one type of plantation plant that has long been cultivated and has high economic value. World coffee consumption reached 70% from Arabica coffee and 26% from Robusta coffee species (Rahardjo, 2012). The world's appeal and popularity of coffee is due to its historical, traditional, social, and economic importance in addition to its unique taste (Ayelign et al, 2013). In addition, coffee is a natural source of caffeine (Nawrot et al, 2003). Caffeine is a substance that can reduce increased fatigue and alertness (Smith, 2002). Although currently there are more than 120 coffee species that have been identified, only one species, namely Coffea canephora or robusta coffee which is cultivated close to the quantity of Arabica coffee worldwide (Hoffman, 2014).

Coffee comes from Africa. In the Coffee Book: Anatomy of an Industry from Crop to the Last Drop, it is implied that coffee was discovered in 575-850 AD by the Galla tribe in Ethiopia. The discovery was made by utilizing coffee as a type of energy-boosting food "energy bar". Coffee itself was only known by the world community after the plant was developed outside its original area, namely Yemen in the southern part of Arabia, through Arab merchants (Rahardjo, 2012). In 1699, the Dutch East Indies government brought Arabica coffee to Java and it developed well, so this Arabica coffee was also known as Java Coffee (Java Coffee). Due to its excellent quality, Arabica coffee has been an important export commodity for more than 100 years.

In 2013, the International Coffee Organization (ICO) gave a range that the world market requires 8.77 million tons of coffee grounds (ICO, 2015). The Indonesian coffee processing industry was able to make a significant contribution to the country's foreign exchange from an export value of around US$ 469.4 million in 2017, an increase of 10% compared to the previous year. Exports of domestically processed coffee products are dominated by instant coffee, coffee extracts, essences, and coffee concentrates which are spread to several main export destinations in ASEAN Iran and the United Arab Emirates. In the world, Indonesia is known for its special coffee

through various variants of coffee and civet coffee. Arabica coffees known from Indonesia include Lintong coffee and Toraja coffee. With the unique aroma and taste of coffee, Indonesia has a great opportunity to increase its coffee trade in the world. Some of the opportunities faced by the Indonesian coffee industry today are as follows (Kustiari, R., 2016):

a. Demand for coffee products is very high with a potential domestic market of more than 200 million people.

b. Export opportunities open to various countries in the world

c. Abundance of natural resources and geographical location.

d. The demand for coffee products always increases every year.

e. Availability of workshops for agricultural tools and machines such as coffee bean crusher, coffee peeler, and drying floor.

Coffee Development Policy

Based on sources from the Directorate General of Plantation regarding the National Coffee Development Policy, the background is that coffee plantations are dominated by smallholder plantations and are one of Indonesia's important commodities that have an important role, among others, as a foreign exchange earner, so this commodity needs to be further developed to increase coffee production and quality. Currently, Indonesia is the third major coffee producer after Brazil and Vietnam.

The area of coffee plantations in Indonesia is 1,292,965 ha (in 2011) with a production of 633,991 tons and about 96% is cultivated by the people. Indonesian coffee is classified into two types of coffee, namely Arabica coffee and Robusta coffee. The advantage of Arabica coffee is that this coffee has a distinctive taste so that the market is special, while Robusta coffee is a commodity that has strategic value in the context of empowering the people's economy. The prospect of Indonesia's coffee commodity is very large because it is supported by the availability of coffee development land and Indonesia has geographical and climatic advantages that produce coffee that has a taste and aroma that preferred by the world community.

The problems faced in the development of coffee, among others, are that because 96% of this plant is cultivated by the people, the cultivation technique is not in accordance with the recommendation/ good agriculture practice (GAP); low crop productivity due to the use of random seeds; weak farmer institutions; low additional value received by farmers due to the export in the form of coffee beans, as well as limited capital. However, the hope for developing this commodity is quite high because the coffee cultivation system will be adapted to GAP, efforts to improve the barganing position of Indonesian coffee in the international market, and increasing the competitiveness of Indonesian coffee through efforts to certify sustainable coffee plantations.

Related to the explanation above, which is supported by an increasing trend of world coffee consumption, while on the other hand, Indonesia has advantages over some of the aspects mentioned above, a general policy on coffee development is drawn up. The general policy is to synergize all potential coffee plant resources in order to increase business competitiveness, added value, productivity and product quality, through the active participation of stakeholders and the application of an organizational structure that is in accordance with needs based on science and technology and supported by good governance.

Value Chain Analysis

Porter (1985) argued that a firm's business is best described as a value chain. A company will make a profit if the total revenue exceeds the total costs incurred from creating and delivering the product or service. Value chain analysis (VCA) aims to identify where low-cost advantages or disadvantages exist along the value chain (Irvine, 2015). This includes understanding the flow of materials and additional value activities between different parts of the value chain (Rushton, 2015). Furthermore, it extends supply chain principles that focus on driving downstream materials and products from suppliers and realizing capital flows from upstream (Mangan et al., 2012).

Value chain management (VCM) involves the collaborative allocation of resources, within and among respective businesses in the chain to provide additional value at lower costs and at a faster rate than competing supply chains. Collaborative relationships facilitate the flow of information (both inbound and outbound) as well as products and services (Lee et al., 2007).

Regardless of the complexity of the VCA, this analysis procedure can be carried out by applying the following procedures: First, the operating process of a company is divided into various activities or specific business processes. Second, analysts attempt to charge each activity and these costs can be in the form of time and money. Third, the analysts transform that cost data into information that may yield a competitive advantage or disadvantage. In this case, value chain analysis can help companies determine and pursue the type of competitive advantage it has (Anderson and Elloumi 2004).

Value chain analysis (VCA) provides a rational and systematic framework for describing and evaluating the roles and relationships of people and organizations (Bolwig et al., 2010; Rushton, 2009. value chain (Rushton, 2009). Value chain analysis also consists of people as the main focus which allows understanding of their role, motivation, and behavior in context with cultural, social-economic, and other drivers (Irvine 2015). The role of motivation and behavior of people -people in the value chain can be understood by considering their cultural, socioeconomic, and personal beliefs and needs (Rushton and Leonard, 2009).

The value chain is characterized as a collaborative and interdependent demand, including the company's internal business and external environmental policies (FAO, 2011; Porter, 1985). It extends supply chain principles that focus on pushing materials and products downstream from suppliers and realizing capital flows from upstream (Mangan et al., 2012). Value chain analysis – VCA refers to the process by which a company determines the costs associated with the company's activities from purchasing raw materials to production and marketing. VCA aims to identify where there is a low-cost advantage or disadvantage along the value chain. Michael E. Porter (2008) developed an analytical tool approach called value chain analysis.

According to Porter (2008), the basic categories of value chains are grouped into two general groups, namely main activities, and supporting activities. The main activities include physical creation, marketing, delivery, and after-sales support of the company's products or services. The main activities consist of five categories, namely inbound logistics, operations, outbound logistics, marketing, and sales and service. Meanwhile, supporting activities include the provision of infrastructure or inputs that enable the main activities to take place continuously. Supporting activities include purchasing, technology research and development, HR management, general administration, and human resource management.

Value Change Analysis (VCA) can enable the description of key people, relative paths and flows in the value chain, enabling strengths and gaps to be identified, resource priorities, and the basis for participation in value chain activities

(Hartwich et al., 2005). VCA enables an understanding of people's behavior, and hence their decision making, which can result in changes to activities and risk profiles in the value chain (Rushton et al., 2009).

VCA is a tool to examine the current state of the chain and identify a better future state (Jones and Womack, 2002). VCA can also be applied to the concepts of waste minimization and material flow efficiency which contain the additional feature of strong inter-organizational relationships (Taylor, 2005). In addition, VCA is able to identify broader and more relevant dimensions in business scenarios where there is growing importance to incorporate social and environmental impacts into "mainstream" business strategies (Fearne, Garcia Martinez, and Dent 2012). Value chain analysis can help companies determine and pursue the type of competitive advantage it has (Anderson and Elloumi 2004).

Methodology

This research was conducted in Brebes District, namely in Salem District, Paguyangan District, Bantarkawung District, and Sirampog District. The data collection methods in this study consisted of interview, observation, literature study, and focus group discussion. During the (a) Interview, the data taken by interview were data about coffee farmers' responses to market and technical aspects, and coffee farmers' responses to the potential and development of coffee agribusiness. Furthermore, during the (b) Observation, data were taken by direct observation in the field. These data are coffee agribusiness potential, coffee agribusiness development data, natural resource potential and human resources, the number of coffee plantations, and market potential. The next data collection method is (c) literature study and extracting written information from relevant official sources. Data taken by literature study is the production of coffee plantations. Furthermore, the last method employed is (d) Focus Group Discussion (FGD), in which the data taken from a group of people led by a moderator who encourages the participants involved to speak openly and spontaneously about matters that are considered important related to the research title. Furthermore, the data analysis in this study used Value Chain Analysis, (VCA). This analysis was carried out through the following stages (Anderson and Elloumi 2004):

a. Identifying the Value Chain activities. Value chain activities must be identified to see and describe how the value chain map
b. Determining strategic activities. This step was performed to identify activities in which the company has both current and potential advantages.
c. Tracing activity costs and determining cost drivers for strategic activities. Cost Driver is a factor that changes the total cost. Therefore, the goal at this stage is to identify activities in which the firm has both a current and potential cost advantage.

Results And Discussion

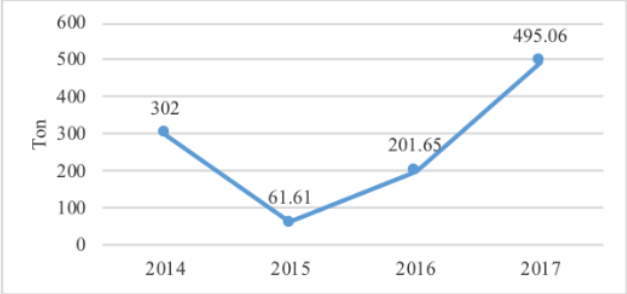
Existing Condition of Coffee Cultivation and Production in Brebes Regency

Brebes Regency consists of 17 sub-districts, 297 villages, and 5 sub-districts with various potential economic resources. One of the potentials of Brebes Regency is the existence of coffee plantations spread across several sub-districts in Brebes Regency, including Salem District, Bantarkawung District, Sirampog District, and Paguyangan District. The following table 2 is a description of the coffee-producing areas in Brebes Regency in 2015 - 2017.

District		Plant Area (Ha)				Crop Production (Ton)			
		2014	2015	2016	2017	2014	2015	2016	2017
1	Salem	609.84	920.25	920.00	957.00	193.00	42.55	185.00	471.00
2	Bantarkawung	25.00	25.00	25.00	25.00	7.00	13.50	13.50	15.25
3	Paguyangan	4.56	4.06	4.50	27.52	101.05	3.11	1.80	3.00
4	Sirampog	4.38	4.38	4.38	4.38	0.45	2.45	1.35	6.35
Total		643.78	953.69	953.88	1.013,9	302.00	61,61	201.65	495.6

Table 2: Coffee Producing Districts, Brebes Regency, 2014 - 2017
Source: Brebes in 2018 figures

Based on table 2 above, the area and production of plants tend to increase, although in some years it has decreased even though it is small, such as the plant area in 2015 was 920.25 ha decreased to 920.00 Ha in 2016. Meanwhile, regarding the crop production in 2014, it reached 193.00 tons and decreased to 42.55 tons in 2015. However, plant area and plant production increased again from 2016 to 2017. Salem District has an area of coffee plantations of 957.00 Ha with a plant production of 471.00 tons. Bantarkawung sub-district has a plant area of 25.00 ha with a plant production of 15.25 tons. Paguyangan District has a plant area of 27.52 Ha with a plant production of 5.00 tons and Sirampog District has a plant area of 4.38 Ha with a plant production of 6.35 tons. Coffee that grows in Brebes Regency is generally arabica and robusta coffee, where arabica coffee is a plant that usually grows at an altitude above 1000 meters above sea level such as in Dawuhan Village, Sirampog District and Tretepan Hamlet, Pandansari Village, Paguyangan District, while robusta coffee usually grows at an altitude of fewer than 800 meters above sea level such as in Wanatirta Village, Paguyangan District and Capar Village, Salem District.



Graph 1: Brebes Regency Coffee Production Year 2014 – 2017 (Tons)
Source: Brebes in 2018 figures

The table and graph above show that the development of coffee production in Brebes Regency has increased. In 2014, the coffee production was 302 tons, then decreased to 61.61 tons in 2015. Furthermore, in 2016 it reached 201.65 tons and increased to 495.6 tons in 2017. This further shows higher potential of coffee plantations in Brebes Regency.

Coffee Business Value Chain Activities

Cultivation Activities

One of the potentials in Brebes Regency is the existence of coffee plantations spread across several sub-districts in Brebes Regency, namely Salem District, Bantarkawung District, Sirampog District, and Paguyangan District. Among these four sub-districts, almost all cultivate robusta coffee because it is below 1000 masl, except for the Sirampog sub-district which cultivates Arabica coffee because it is above an altitude of 1,300. The economic nature of this farming activity is almost all cost centers. Coffee farmers will start earn income when they start to harvest and sell their product in the form of coffee logs or cherry coffee.

In terms of coffee cultivation in Brebes Regency, it is generally very simple. There is no special treatment in the process of maintaining coffee plants, some even do not carry out plant maintenance at all, meaning the plants are allowed to grow until the coffee trees bear fruit and the harvesting process can be carried out. The coffee harvesting process generally begins in April. Farmers usually harvest regularly by first picking coffee cherries by prioritizing the ripe or red fruit, then the orange and green fruits will be picked in the following week.

Coffee farmers are the main actors in the process of cultivating and developing coffee in Brebes Regency. The size of the productivity of the coffee plant is highly dependent on the performance of the coffee farmers. The long and arduous process is a test of patience for coffee farmers to take care of their coffee plants. Working as a coffee farmer is not just about planting coffee plants and harvesting them, but requires extensive knowledge about the process of selecting superior and quality seeds according to the land to be planted, knowledge of how to maintain and fertilize the plant, knowledge of how to stimulate fruit and productive pruning, knowledge of good harvesting that produces the best quality coffee while keeping the plant healthy.

Post-harvest processing conducted very simply by most coffee farmers in Brebes Regency. Many of them even sell coffee that is still in cherry form after harvesting to collectors in the local area. Some of them carry out the post-harvest process in the form of green beans, roast beans, and even packaging of coffee powder as was done by one farmer in Dawuhan Village, Sirampog District, and Capar Village, Salem District. However, post-harvest coffee processing equipment they use is still very simple and can only produce in a limited capacity.

Coffee Harvesting Activities

Harvesting is an activity that provides income for coffee farmers. Harvesting is a procurement activity or the first input in the coffee processing process. The critical point of added value in this harvesting activity is the time and quality of the harvest. Farmers will get a pretty good price if they can harvest red coffee (cherry coffee), which is up to IDR 5,000/kg. However, if there is still a lot of green or random quality that is harvested, then the price of this coffee is only around IDR 3,000/kg. Farmers also carry out random harvests on green fruit for reasons of harvest efficiency. The topography of the land in the hilly area makes it difficult for farmers to harvest. So they harvest at once, not just the red ones.

The coffee cherry harvest was initially sold to buyers outside the region from Temanggung Regency at a price that was less attractive because it was still in the form of wet coffee beans at a price of around IDR 3,000. This price is very low and does not provide significant welfare and only enough for the harvesting cost.

Green Bean Processing

Once there are farmers who have tools to peel wet coffee beans and dry coffee beans, they can finally increase their ability to sell coffee products in the form of green beans. The coffee peeling process equipment used in Brebes Regency is:

Pulper, which is a tool used to peel the outer skin of red wet coffee (Cherry coffee). In this case, coffee farmers in Dukuh Gucci, Dawuhan Village, Sirampog District, received a pulper aid grant from Brebes Regency Agriculture Office.

Huller, which is a coffee grinder used to clean coffee from the epidermis, so that it will produce coffee in the form of green beans that are ready to be sold or ready to be roasted.

The coffee processing process in Brebes Regency is carried out using several methods, namely:

Full wash/ Semi full wash, which is a washing process by soaking it in water, peeling it off until the mucus is gone, and immediately drying it in the sun. The drying process is done for about 3 weeks.

Natural Process, this process is done by drying the coffee cherries directly with the skin still intact. This natural process will make the cherry naturally ferment and the coffee skin will peel off by itself. This process usually takes about three months.

Honey Process, which is the process of drying coffee using a little water, usually the coffee mucus is still attached to the coffee cherries so that it looks sticky on the coffee beans. This process takes about a month.

Material Forms	Quantity (kg)	Price (Rp)	Percentage	Total per 1000 kg (1 ton)	Income Difference (Rp)
Coffee cherries	1,000	5,000,	100 %	5,000,000 (A)	B-A 4,075,000
green beans Grade 1	1,000	75,000	20 %	2,475,000	
Grade 2	1,000	65,000	50 %	5,362,500	
Grade 3	1,000	25,000	30 %	1,237,500	
Total grade 1-3				9,075,000 (B)	

Table 3: Price Comparison of Cherry Coffee and Green Beans
Source: Primary data, 2018

According to empirical calculations, 100 kg of wet coffee will be 16-17 kg of green beans. This means that every 6.06 kg of wet will produce 1 kg of dry. Based on the calculations using the above conditions, farmer groups in 2017 received an additional value of IDR 4,075/kg. In general, the increase of additional value through this process is 81.5%

Roasting

Besides being sold, green beans can also be further processed into roasted beans. The tool to process green beans into roasted beans is called a roaster. A roaster is a tool for roasting coffee beans that have been dried or in the form of green beans to produce coffee in the form of roasted beans. The roaster used is a manual roaster with a very small capacity, less than a kg of cooking, and able to sell in the form of roasted coffee (roast beans). In general, the price of roasted beans is around IDR 220,000/kg. This roasting process activity is able to increase the additional value significantly, which is around 142.4 %.

Grinding and Packaging

The growth mindset of farmers to develop a packaged coffee product can finally be processed into ground coffee. The average selling price of ground coffee is IDR 250,000/kg. Based on this condition, the additional value of this activity is 13.6%.

The overall model of coffee business activities in Brebes Regency can be described as follows:

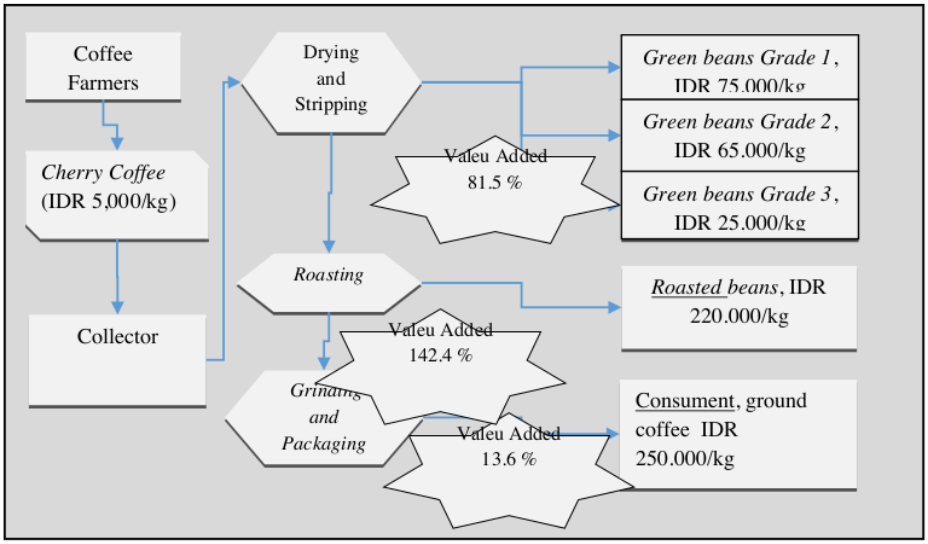


Figure 1: Value Chain and Coffee Supply Chain in Brebes
Source: Primary data, 2018

Cost Driver Activity

Currently, the processing of cherry coffee to ground coffee is still focused on the quantity and quality aspects. However, there are still many unexplored and unattended for other aspects such as hygiene, quality of raw materials, quality of processes, product quality, management aspects, institutional aspects, and many other aspects. Based on the activity analysis above, it appears that the biggest contribution to getting additional value is by the roasting process. However, business actors still have limited equipment for this process. If roasting is done outside (another area, namely Tegal) the cost per kilogram is very expensive, which is IDR 50,000/kg, even in Purwokerto it is IDR 100,000/kg. The price of this process is more expensive than the raw materials. The price of green beans, which was originally worth an average of IDR 65,000, if it has been roasted and ground per 100 grams, is sold at IDR 22,000. This means 1 kg is sold to IDR 220,000. If this additional value can be utilized by farmer groups, then the group will also be able to increase the purchase price of cherry coffee from local farmers.

Conclusion

Based on the research results, there are at least 4 value chain activities in coffee business activities in Brebes Regency, those are cultivation activities, harvesting activities, green beans processing activities, roasting activities, grinding and packaging activities. The cost driver of the value chain analysis is the roasting process, which has an additional value of 142.4 %., from the green bean price of IDR 90,750/kg to IDR 220,000 roasted beans. Although roasting is a cost driver activity, business actors still have limited equipment for this process, thus the roasting process is still done outside through toll manufacturing at other companies. Business managers in Brebes Regency must have a strategy to be able to carry out their own roasting process to increase additional value and welfare of the local farmers.

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