

Implementation Of Cocoa Supply Chain In The Covid 19-Pandemic Era. Case Study : East Java Indonesia

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Abstract

Cocoa is one of commodities which have developed in Indonesia for many years. East Java also has a priority program to develop the cocoa farming as long as south part of East Java. Cocoa has a crucial function as a raw material from industry. Many foreign industries have been operating in Indonesia included in East Java to develop cocoa industry in Indonesia. Indonesia is one of the countries in the world as the largest cocoa producer in the world. Several districts in East Java were developed cocoa farming supply chain from upstream to downstream, where there is a process of procuring cocoa through cocoa plantations and then processing it into processed cocoa and its derivative products such as chocolate with various product variants. Many products from processed chocolate products from cocoa can strengthen Food Security Status, Agri-Food Supply Chain and Food Supply. This study aims to analyze the implementation of the cocoa supply chain in East Java in The Covid 19-Pandemic Era. This study uses a qualitative methodology with the Robert K. Yin case study method. The results of this study indicate that the implementation of the cocoa supply chain at the informants in East Java is in accordance with the characteristics and objectives of each informant and the cocoa supply chain process from upstream to downstream despite variations in implementation but supply chain process was disrupted by the Covid 19-pandemic especially at the early of

Covid 19 Pandemic which was happened the lockdown and the occurrence of decreasing of Purchasing power of society so it can decrease the chocolate and cocoapowder consumption, but at the new normal era the earning can be gained again because of many strategies which include increasing efficiency to reduce cost of production as well as done by Informant 1 and also keep fighting to conduct healthy protocol for Covid -19 in Informant 2 and also keep fighting by working from office during Covid 19 pandemic is still conducted by Informant 3.

Keywords: Implementation, Supply Chain, Cocoa, East Java, Indonesia, Covid 19 Pandemic, Food Security Status, Agri-Food Supply Chain, Food Supply

INTRODUCTION

The outbreak of the COVID-19 pandemic is expected to have an intense impact on the global chocolate industry, including global trade, consumption, and manufacturing or production. Owing to the government's initiatives such as complete or partial lockdown in various countries, out of the home consumption of chocolate has decreased significantly. To restrict the spread of the COVID-19, hotels, restaurants, coffee shops, and offices have been closed.

A more adverse impact on the global chocolate demand is expected owing to the global recession triggered by the indirect and direct impacts of the COVID-19 pandemic. Reduced [household](#) incomes could translate into lower demand for chocolate in volume terms. All the chocolate manufacturing companies' are suffering during the time of COVID-19. Disrupted supply chain and reduced demand are some of the major factors that manufacturers are facing due to COVID-19. Once the pandemic situation settles the companies will find it imperative to change with time and innovate to remain relevant. There is a seismic effect of the COVID-19 pandemic on businesses across the world, but there are lessons that can come out from it. This is an opportunity to fine-tune business contingency and continuity plans, but it is also a chance to decide what things are mainly important and find new ways in which to grow (databridgemarketresearch.com; 2020).

The spread of the COVID-19 pandemic has led to lockdowns in Europe and other international markets. Mainstream chocolate consumption is stable, but the craft chocolate segment is having difficulties. In cocoa-producing countries, lockdowns may

disrupt the supply chain. Local initiatives make the cocoa sector stronger. The uncertainty of COVID-19 makes it even more important to follow the developments in the cocoa and chocolate market (<https://www.cbi.eu/news>: 2020).

Indonesia is predicted to see the second-deepest drop in cocoa production volume this season, compared to other producing countries, due to the pandemic pressure on demand and operation, according to the International Cocoa Organization (ICCO). The world's sixth-largest cocoa producer will see output dip by 20,000 tons year-on-year (yoy) to 200,000 tons between the 2019 and 2020 season, which runs from October to September, according to an ICCO report made available to The Jakarta Post on Oct. 2. The decrease is the second-deepest behind Côte d'Ivoire and is on par with Nigeria, both of which are also among the world's top 10 cocoa producing countries (The Jakarta Post, 2020).

Indonesia's continuous rise in COVID-19 cases is a lingering risk for the country's agriculture industry, which has helped cushion the pandemic's impact on the economy. On Monday, the country recorded more than 307,000 confirmed cases of the virus. The sector, the

second-largest contributor to Indonesia's economy, managed to grow 2.19 percent yoy in the second quarter this year, while the economy shrank 5.32 percent yoy, according to Statistics Indonesia (BPS) (The Jakarta Post, 2020).

Globally, cocoa farmers have faced COVID-19 health risks and supply setbacks as international lockdowns restricted the influx of manpower, fertilizer and seedlings to cocoa farms and plantations. Meanwhile, the weak global economy induced by the COVID-19 outbreak is also expected to have a negative impact on the demand for commodities, including cocoa, the report notes (The Jakarta Post, 2020).

The ICCO is forecasting a 1.2 percent yoy decline in worldwide production to 4.72 million tons for the 2019 to 2020 season, compared to the previous season. In Indonesia, the challenge for farmers has been receiving state-sponsored seedlings in a timely and precise manner. Indonesia's top two cocoa producing islands are Sulawesi and Sumatra, which contribute nearly 90 percent of total output, Agriculture Ministry data show.

On the demand side, Indonesia's cocoa grindings – the industry's benchmark to measure demand – is expected to dip by 7,000 tons yoy to 480,000 tons this season, ICCO data show. "Although at the time of writing economies were gradually opening, a speedy recovery is not expected," says the ICCO of the global cocoa demand outlook. The fall in domestic cocoa demand is also driven by falling chocolate demand as retailers closed shop while Indonesian cities imposed large scale social restrictions (PSBB). A case in point, publicly-listed chocolate producer PT Wahana Interfood Nusantara (COCO) saw its sales drop by half due to the lockdowns. The company's revenue fell 47 percent yoy to Rp 47.6 billion (US\$3.2 million) during the January-June period. "Many malls were closed such that tenant COCO customers were unable to run as usual and thus, demand plummeted," wrote the company in a letter to the bourse on Sept 1. The company, however, noted an uptick in online sales during the Idul Fitri holidays, when many Indonesians customarily bake pastries and cakes. Going forward, the Indonesian Cacao Industry Association (AIKI) expects cocoa demand to recover next year "to the same level as before the pandemic (The Jakarta Post, 2020).

Empirical research that has become an empirical basis for research on the cocoa supply chain has been carried out both domestically and abroad.

Mahajan and Tomar (2020) looks at the disruption in food supply chains due to COVID-19 induced economic shutdown in India and use a novel dataset from one of the largest online grocery retailers to look at the impact on product stockouts and prices and find that product availability falls by 10% for vegetables, fruits, and edible oils, but there is a minimal impact on their prices. On the farm-gate side, it is matched by a 20% fall in quantity arrivals of vegetables and fruits and then show that supply chain disruption is the main driver behind this fall. To compute the distance to production zones from our retail centers and find that the fall in product availability and quantity arrivals is larger for items that are cultivated or manufactured farther from the final point of sale. Results show that long-distance food supply chains have been hit the hardest during the current pandemic with welfare consequences for urban consumers and farmers.

Hobbs (2020), provides an early assessment of the implications of the COVID-19 pandemic for food supply chains and supply chain resilience. The effects of demand side shocks

on food supply chains are discussed, including consumer panic buying behaviors with respect to key items, and the sudden change in consumption patterns away from the food service sector to meals prepared and consumed at home. Potential supply-side disruptions to food supply chains are assessed, including labor shortages, disruptions to transportation networks, and “thickening” of the Canada–U.S. border with respect to the movement of goods. Finally, the paper considers whether the COVID-19 pandemic will have longer-lasting effects on the nature of food supply chains, including the growth of the online grocery delivery sector, and the extent to which consumers will prioritize “local” food supply chains.

Yuli (2013) explain the contribution of cocoa plantations to farmers' income is an important issue in the development of farming scale. Cocoa plant is an annual crop that is able to produce once a year only. To earn income every month, farmers apply intercropping patterns to their cocoa farmers. The application of intercropping patterns in farming has a connection with the cost component incurred to cultivate the crop.

Adewuyi (2014) has study to guide business practitioners and policy makers on how to improve their agribusiness supply chain operations if they want to compete in the global market. The study examined analysis of the global value chain of cocoa and garment value chains in Nigeria.

Murtiningrum, Tajuddin Bantacut (2016) explain that Cocoa agroindustry development in West Papua Province requires an update with the strengthening of cocoa institutions between farmers, farmer groups, collectors, wholesaler, related institutions and universities. The cooperation can create new business forces, expand market reach, and quality assurance products. The added value generated by cocoa commodities in West Papua Province has not been optimal due to weak industrial development strategies and the ability to build downstream industries. Added value for cocoa farmers can be increased if the cocoa processing process is developed simply using appropriate technology, so that cocoa farmers can produce downstream cocoa products that have higher economic value.

Adnan Engelen & Rusthamrin H. Akuba (2016) explain that People's cocoa farming has several shortcomings and needs improvement related to aspects of cultivation maintenance,

harvest / post-harvest, processing, and marketing. This study aims to conduct an in-depth analysis of the cocoa value chain in Boalemo Regency, provide a database for reference the development of cocoa commodity value chain in Boalemo Regency, develop recommendations for a comprehensive development strategy (input for master plan) for cocoa commodities in Boalemo Regency.

Yana Amilia Paramardani, Dewi Susilowati, & Dewi Susiloningtyas (2016) explain that Cocoa farmers in Jember regency are faced with the difficulty of finding a market to sell cocoa at a decent price. The choice of farmers is only limited to intermediary traders and certain institutions that distribute cocoa to the processing industry.

Haynes et al (2012) conduct Qualitative interviews with participants in the cocoa (*Theobroma cacao*) supply chain in Costa Rica and the United States were conducted and supplemented with an analysis of the marketing literature to examine the prospects of organic and

Fairtrade certification for enhancing environmentally and socially responsible trade of cocoa from Costa Rica. However, most individuals said that they were seeking better product differentiation and marketing than has been achieved under the organic and Fairtrade systems. Many suggested that more direct recognition of individual growers and the unique value of their cocoa throughout the production chain would be more helpful than certification for small companies in the cocoa supply chain. These findings suggest new marketing techniques that convey an integration of meaning into the cocoa and chocolate supply chain as a differentiation strategy. The integration of meaning may provide a promising new strategy to achieve the ephemeral economic, environmental, and social benefits of sustainable development and trade. This involves integration of the story of producers' commitment and dedication; shared producer and consumer values of social and environmental responsibility; and personal relationships between producers and consumers. This marketing approach could enhance the ability of smaller companies to successfully vie with their larger competitors and to produce cocoa in a more environmentally and socially acceptable manner.

Cajavilca and Tostes (2019) explain the purpose of this paper is to examine the role and contribution of San Martin and

Chazuta subnational governments in promoting development and internationalization of the cocoa and chocolate value chain from the stakeholders' perceptions. This paper has been developed by using a qualitative approach with an exploratory and descriptive scope. The results showed that stakeholders of both value chains perceive that the subnational government's actions taken to develop and internationalize these value chains are poorly valued and insufficient

De Boer et al (2018) explain the inclusiveness of smallholder cocoa farmers in the international cocoa value chain is addressed in the context of institutional voids through linkages with different business models in the region of Bali, West-Sumatra and West-Sulawesi. Being the third highest producer of cocoa, local farmers have a high dependency on cocoa cultivation; however, they lack policies that foster and reward sustainable high-quality cocoa according to international standards. The paper aims to discuss these issues.

Irvany et al (2020) explain the aim of this study was to evaluate determinants of four diversification practises by cocoa smallholders in West Sulawesi, Indonesia: (1) growing other crops, (2) keeping livestock, (3) off-farm work for wages (4) off-farm self-employment, and the impact of diversification on welfare of community members.

Sebastian Hadinata & Maria Merry Marianti (2020), explain Issue/Problem. Focus on downstream policy and its impact on cocoa supply chain. This research aims to know the value chain of cocoa in Indonesia and know the impact of downstreaming of cocoa processing industry in Indonesia. This research uses literature study method on cocoa industry in Indonesia. Result 1) Industrial downstreaming policy makes Indonesia's cocoa industry better. 2) By processing domestically, the benefits obtained are obtaining added value of raw material products, strengthening industrial structures, providing employment, attracting investors, and increasing business opportunities in Indonesia. 3) Downstream policy benefits the government because of the cost efficiency carried out.

Siti Yuliaty Chansa Arfah (2019) Analyzes the description of agribusiness system in each sub-system, and determines the strategy that feels right for cocoa farmers in Central Sulawesi. This research aims to study the cocoa agribusiness system in Central Sulawesi and formulate a strategy for cocoa agribusiness development in Central Sulawesi.

Based on the description above, it is important to do how the implementation of the cocoa farming supply chain in East Java, Indonesia, and ensure that the sustainability of the cocoa supply chain runs smoothly in the long run for improve the welfare of cocoa farmers and the competitiveness of the cocoa-based industry especially in the Covid 19-Pandemic era.

Therefore, Indonesia is one of the emerging markets because one of the countries that have a large cocoa production in the world can contribute to cocoa production and then compete in the global cocoa value chain in the world especially at The Covid 19-Pandemic era.

LITERATURE REVIEW

COVID-19 Impact on Chocolate in Food and Beverages Industry OVERVIEW

Chocolate is a confectionery product manufactured from the processing of cocoa beans. The outbreak of the COVID-19 pandemic has forced governments across the world for lockdowns which are causing supply chain disruptions in the chocolate industry. The demand for cocoa grindings has reduced because of the reduction in global chocolate consumption. Cocoa grinding is a major ingredient used in chocolate production (databridgemarketresearch.com; 2020).

The lockdown effect on chocolate consumption

Consumers rushed to the shops to stockpile on essential items to get through the pandemic. Chocolate might not be an essential item, but it is a source of indulgence and comfort that consumers

look for in times of uncertainty. In Europe, the majority of chocolate is sold at supermarkets and other grocery shops. These retail outlets remain open, with e-commerce quickly gaining market share. The chocolate market is expected to survive the current lockdowns without too much damage ([https://www.cbi.eu/news: 2020](https://www.cbi.eu/news:2020)).

Consumption patterns are changing and will continue to change. This is in part due to the prospect of a global economic recession in 2020. Consumer stockpiling has already led to a general growth in private-label and lower-priced items. This also applies to the chocolate market. At the same time, the current lockdowns have kept consumers away from higher-end and seasonal products. Easter chocolate sales showed disappointing results in countries like France and Belgium. This time of year is usually the peak of chocolate consumption ([https://www.cbi.eu/news: 2020](https://www.cbi.eu/news:2020)).

All in all, the craft chocolate sector and small chocolate businesses are affected the most. The FineCacao and Chocolate Institute (FCCI) recently carried out a survey to better understand the impact of COVID-19 on small chocolate businesses. The survey revealed that the cancellation of industry events is a major source for the decline in craft chocolate sales. Lower consumer demand, of course, also plays an important role ([https://www.cbi.eu/news: 2020](https://www.cbi.eu/news:2020)).

In response to this, smaller chocolate businesses are making great strides toward online sales. The craft chocolate community is trying to boost sales of craft chocolate by creating platforms such as the Stay Home with Chocolate. This platform, led by FCCI, Uncommon Cacao, and the Craft Chocolate Experience, uses online tools, such as live tastings and e-commerce. This supports small businesses offering high-quality and ethical chocolate products ([https://www.cbi.eu/news: 2020](https://www.cbi.eu/news:2020)).

How long can cocoa supplies last?

The main chocolate-consuming countries are at the centre of the COVID-19 pandemic. But, the impact on cocoa-producing countries is not yet clear. From country to country, COVID-19 measures will influence the availability of cocoa supplies. These measures include lockdowns and curfews, but also fostering actions, such as credit provision to farmers. Demand continuity and risk perception from

buyers, and their capacity to take in existing supplies, will define the fate of the cocoa sector (<https://www.cbi.eu/news>: 2020).

On the bulk market, the Ivory Coast and Ghana will set the tone. Together, the two countries account for over 60% of the world's cocoa production. This means that supply chain disruptions in these countries could lead to major cocoa shortages. The efforts at the origin to keep supplies flowing and COVID-19 from spreading are plenty. The collective action from cocoa and chocolate companies has been key in implementing health guidelines from governments and health authorities. It has also helped optimise local networks and digital tools to deliver technical help, provide funding for emergency response and honour long-term relationships with farmers. Local initiatives also play a crucial role. Ghanaian organisation Farmerline, for example, is currently running a health and safety campaign in 14 local languages to reach smallholder farmers. (<https://www.cbi.eu/news>: 2020).

The fine flavour cocoa segment is more prone to the immediate effects of the COVID-19 crisis. The maintenance of crops and the implementation of post-harvest protocols and logistics require labour force and capital. The consequences of COVID-19 for cocoa businesses will vary per the lockdown measures in individual countries. For example, Honduras and Guatemala are reportedly experiencing strict curfew regulations that affect the mobility of cocoa farmers. However, supplychain disruptions are not clearly visible at present. The FCCI survey reveals that small chocolate businesses have not yet experienced major supply shortages. (<https://www.cbi.eu/news>: 2020).

Future developments for this segment will also depend on whether demand picks up. Premium supermarket products are still on offer, but speciality shops, as well as restaurants and other service channels using high-quality chocolate, are currently closed. Small chocolate businesses are reinventing themselves to deal with the current crisis. Their ability to spring back will be influenced by consumer pragmatism and loyalty (<https://www.cbi.eu/news>: 2020).

Supply Chain Management In Theory

The COVID-19 pandemic has emerged as a significant health risk, and countries around the world have responded with partial

shutdowns of their economies to slow the pace of infections. These measures have reportedly led to massive disruptions in global and domestic supply chains. The restoration of supply chains to their pre-lockdown levels will require prompt policy intervention. In this context, the vulnerability of food supply chains to disruptions needs special policy focus. Any disruption in food availability has adverse health consequences through a reduction in diet diversity and nutritional intake, which can further increase people's susceptibility to infection (Short, Kedzierska, and van de Sandt 2018 and Anríquez, Daidone, and Mane 2013). Reduced food availability with unmet demand could also result in price spikes (FAO 2020). Both have important welfare implications, especially for poor households. Consequently, an essential question for public policy is to measure the level of these disruptions and where they are more likely to occur (Inoue and Todo 2020 and Barrot, Grassi, and Sauvagnat 2020). Stringent lockdowns or a protracted epidemic can affect food supply in many ways. First, it can directly impact the transportation of food products. Second, it can impact the availability of packaged goods from foodprocessing industries as manufacturing activity slows down due to social distancing guidelines and labor shortages. Third, it can reduce future agricultural production by reducing current incomes. These issues are more salient in a developing country context where food supply chains are long and fragile (Reardon et al. 2020 and Aggarwal 2018), and millions live under poverty.

METHODOLOGY

The research method uses qualitative research by assuming case study types according to Robert K.Yin. with a descriptive approach. This is done by gathering information and observing the informants who will be interviewed, namely: the manager of the Informant 2, the manager of Informant 1, Informant 3's Manager to obtain data as material for making research. The technical analysis is one of them by matching the pattern that compares supply chain theory and supply chain implementation at the research site namely in Informant 2 , Informant 1 and Informant 3. Then also carried out a comparative study with the concept of the cocoa supply chain in the literature. The data in this study include primary data that is the result of interviews with informants and secondary data about cocoa and chocolate both through literature, journals of government agencies, mass media, and other relevant sources. The research data analysis technique is to analyze data through matching patterns between the concepts and models implementation of the cocoa supply chain in the theoretical literature and also from empirical research on cocoa supply

chains and compared to the supply chain models implementation applied by Informant 2, Informant 1 , and Informant 3.

RESULT AND ANALYSIS

COVID-19 Impact on Chocolate in Food and Beverages Industry

Chocolate is a confectionery product manufactured from the processing of cocoa beans. The outbreak of the COVID-19 pandemic has forced governments across the world for lockdowns which are causing supply chain disruptions in the chocolate industry. The demand for cocoa grindings has reduced because of the reduction in global chocolate consumption. Cocoa grinding is a major ingredient used in chocolate production (databridgemarketresearch.com; 2020).

SMALL CHOCOLATE BUSINESSES AND THE IMPACT OF COVID-19 PANDEMIC

Fine Cacao and Chocolate Institute (FCCI) conducted a survey to know the impact of COVID-19 pandemic directly from the manufacturers. More than 250 companies having revenues between USD 100K to USD 2.5 million participated in this survey. The findings of the survey include (databridgemarketresearch.com; 2020) :

- Existential Threat

One in five chocolate business is facing existential threat.20% of the respondents described the impact of COVID-19 pandemic as an existential threat, which means that these chocolate business companies may become more severe or may go out of business. More than 70% of the companies have faced more than 50% reduction in sales and further 17% of the companies faced reduction insales up to 90%.

- Shortage of Supplies

The companies are facing disruptions in the supply of raw materials along with other things which include cleaning supplies or protective gear.

- Online Sales

Even though the lockdown has been imposed by various governments across the world, postage and deliveries are still possible in various countries. Chocolate manufactures have taken advantage of this to boost the sales. 30% of the companies are willing to offer products online and owing to this few companies have seen increase in the sales. 59% of the total companies surveyed are willing to or anticipating increase in the digital marketing efforts in the future (databridgemarketresearch.com; 2020).

Cocoa Industry and Supply Chain in Indonesia

Amid the impact of the Covid-19 pandemic, the cocoa processing industry was able to make a significant contribution to foreign exchange. This was reflected in the export value of processed cocoa products of USD549 million in January - June 2020, an increase of 5.13% compared to the same period last year. According to the Minister of Industry Agus Gumiwang Kartasasmita "Of the cocoa processing industry production, as much as 80% of the output is intended for the export market. In 2019, processed cocoa products contributed to an export value of more than USD 1.01 billion," that currently the cocoa processing industry has been able to produce various variants, such as cocoa liquor, cocoa cake, cocoa butter and cocoa powder. The main exported processed cocoa product is cocoa butter which is distributed to main export destination countries such as the United States, the Netherlands, India, Estonia, Germany and China, So it can optimistic that the cocoa processing industry in the country can develop well because it is supported by Indonesia's potential as the third cocoa bean processor in the world with a total installed capacity of 800 thousand tons per year from 13 companies (IDN FINANCIALS, 2020).

Implementation of Cocoa Supply Chain in East Java

1. As the income of the middle class increases, the trend of chocolate consumption also increases.

National chocolate consumption in 2010 was only 60 grams/capita/th. It is currently increasing by 500 grams/capita/th. From the explanation of this issue, the source explained that in the past the stigma of the community of chocolate is still "exclusive goods or expensive goods" that have not been reached by some circles of society in contrast to coffee that has melted down among the community. With the education about chocolate over time, people began to use chocolate a lot and the price of chocolate is also more affordable as in ancient times.

2. Consumer guidance on the safety of food products. Products that are widely circulated in the community with an "affordable" price such as 500 rupiah from the manufacturer usually contain essence and dyes. This is an important concern and requires education and obligations / responsibilities by the Plantation Office of East Java Province to educate how to create safe food products.

OPPORTUNITIES TO INCREASE COCOA COMMODITY PRODUCTION

According to Dinas Perkebunan (Plantation Office) in East Java, Cocoa farming condition in East Java with an area of 57,760 ha with production of 32,308 tons and total exports of 98,135 tons. The potential in cocoa development in East Java: production of 32,483 tons processed downstream products 224 tons / year there are 6 farmer group / MSMEs. Cocoa beans sold 32,259 tons as industrial raw materials and also exported. Production opportunities in East Java are with the consumption of chocolate that continues to increase while production is predicted to stagnate (Pulau Gading and Ghana), in addition, the potential of cocoa land in East Java is still available and the potential for downstream management in East Java. According to Dinas Perkebunan (Plantation Office) in East Java, The development program in the

plant sector is included in the program "Nawa Bakhti Satya" at the 6th service of East Java Agrowhich proclaims "Tanam-Petik-Olah-Jual" "Plant-Pick-Process-Sell", there are two targets,

namely the development of plantation commodities and the increase in added value (processing):

farmer group such as butter, powder and candy. Explanation of the potential and opportunities for cocoa development in East Java is also inseparable from several supporting factors, namely:

1. On Farm: superior seed supply facility, replacement with superior clones, welcoming gold/damaged plants
2. Facilitate fermented products
3. Off farm: product capacity development and unit development by new downstream
4. Socialize the consumption of chocolate
5. Institutional revitalization of cocoa farmers (Association, Poktan (group of farmer), Gapoktan)

In this study analyzes the implementation of the cocoa supply chain in East Java. There are 3 informants in this study. In general, the three informants carried out the cocoa supply chain independently from upstream to downstream and were already running well and effectively. But in the Covid 19 Pandemy, there are any difficulty to manage supply chain optimally be cause of

the effect of lockdown during Covid Pandemy 2019 in 2020 and also the purchasing power of society decrease in the Covid 19 Pandemy so it cause effect for the chocholate consumption from society.

Implementation of Cocoa Supply Chain in Informant 1

Informant 1 operates a cocoa supply chain from upstream downstream independently that affects the welfare of cocoa farmer at the regency takes cocoa from cocoa farmers and buys high prices for fermented cocoa beans and self-processed cocoa beans with a machine consisting of several units which are sufficient to produce downstream products and marketed in Informant 1 's Galery and Galeri Gemilang. Standing on Informant 1 from government land there are plantations and UPH, the Production Processing Unit. Informant 1 could be a pilot for other regencies, especially from the plantation and agriculture services. Cocoa plantations in for conservation of their main land and maintaining springs so that agriculture can be success also to keep the price of cocoa in cocoa farming can stable with the existence of UPH of Informant 1.

Implementation of Cocoa Supply Chain in Informant 2

Informant 2 is privately owned and does upstream downstream cocoa, but the gardens themselves are insufficient so they buy a lot from traders in East Java and Central Java. Ingredients for chocolate are also partly bought cocoa powder from a partner chocolate factory. Integrated with the concept of chocolate education tourism and children. Will export chocolate abroad.

In Indonesia, many process cocoa into chocolate processed products. One of the places that

produce various processed chocolate is Informant 2. In addition, Informant 2 provides educational tours for the community related to the processed chocolate itself. Some of the products produced include chocolate bars, chocolate blocks, bulk chocolate, etc. In addition Informant 2 is also a place to steam cocoa beans to be dried and sold. Activities in the processing of chocolate products is the process of drying and testing cocoa beans and also the process of processing cocoa powder into various processed chocolate.

The chocolate product of Informant 2 educational tour has the brand "GuSant". Chocolate "GuSant" is not only sold in the domestic market but also in the international market. Chocolate bar products production education tourism Informant 2 has 12 variants, including chocolate apples, crispy chocolate, dark 67% chocolate, dark 90% chocolate, love milk chocolate, love original chocolate, milk chocolate, orange chocolate, original chocolate, white chocolate, chocolate apple seeds love, and chocolate original seeds love. Products that are in great demand by visitors are crispy chocolate and original chocolate while dark chocolate products are products that are still rarely in demand by visitors. This is because the chocolate taste is so bitter that visitors do not like it.

Informant 2 receives chocolate stock from within own district itself also from outside the city. Most suppliers will deliver chocolate beans to Informant 2 or can be sent or taken by Informant 2. So commitment between outside producers is important. Cocoa beans must be tested with test parameters in terms of determining taste and to comply with SNI standards.

The covid pandemic itself against Informant 2 has a positive

and negative impact. Positive impact in the form of increasing employee productivity because social distancing is applied in work, thereby reducing communication between employees. But the negative impact is an increase in employee individualism.

Supply chain flow from farmers groups and individual farmers, then from district to perhutani then transportation to Informant 2 and to consumers.

Informant 2 focus from outside producers is not fermented seeds. Fermentation there treatment takes 3 times 24 hours. The effect of fermentation, inside the seeds have mucus, so that the whole and the skin of the juice becomes thin and clean. When there is a small handle called a match meter that will be discarded because of a foreign object. Because the chocolate produced by Informant 2 is semi fermented so it needs a blend between fermented and non fermented seeds. Fermented seeds have higher acid and choco flavor is more visible. But the non fermentation because it has not been processed, so the bitter taste is still high. Bitterness is a component of taste. So it is necessary to find the taste that is in accordance with the desired taste.

The impact of Covid on brown village activities has several types. Ahead of the new year preparations and the Long holiday, brown villages are increasing handwashing places, trash cans, increased spraying with disinfectants, and so on. This is a form of responsibility for government policy and the provision of a clean atmosphere. As last year chocolate village tourism in 2019 won first place in CHSE (Cleanliness, healthy, safety and environmental).

Implementation of Cocoa Supply Chain in Informant 3

Informant 3 is a non-government-funded private institution in operations, relying on self funding

from the downstreaming of research results including cocoa research, namely establishing its own

cocoa plantations and processing them with self-assembling machines and doing their own

marketing. Conducting the supply chain of the downstream cacao itself from the plantation itself,

but as the market demands a shortage of materials so it buys from farmers in other areas. Requires

fermented crop cocoa. Many product variants. The majority are sold from the outlets themselves

and from visitors and other traders.

Informant 3 is one of its business units is the production of chocolate and coffee sold mainly

through offline. Where Informant 3 has many outlets.. The outlet is used as a series of tours in

Informant 3 if visitors visit it as a center of visitors. From the processing plant, Informant 3 has 2

main sources, the first purchase is made in farmers or farmer groups or collectors or it can be in

its own garden or PTPN garden. After obtaining these results and then processed, and marketed

through existing outlets, the center of the gift (can not meet the demand from outside Jember

because of limited production capacity), sold to processors (especially intermediate products, such

as cocoa powder, cocoa fat), last sold to traders / resellers in the form of intermediate products or

end products. The second source is maklone, so Informant 3 only make products to order, either

the formulation from Informant 3 itself or from the buyer. From this maklone cocoa or its products

are exported to Japan and there are purchased by importers and there sold to the end consumer.

The Impact of COVID-19 on the Supply Chain in Informant 3 :

A. Planting Material Products

A. Sales of planting materials decreased due to reconfiguring the central government's budget from cocoa production to counteract covid-19.

B. Distribution of planting materials outside java island is constrained by limited aircraft fleet.

c. Quarantine services of seeds and cocoa seeds are shorter in time,

d. Restrictions on the activities of outside seed certification personnel have complicated the certification process

B. Downstream Products

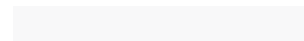
A. Demand for cocoa powder products is on the rise.

B. Sales of chocolate candy products declined.

ANALYSIS

In general, the three informants, namely Informant 1, Informant 2, Informant 3 have carried out the cocoa supply chain well from upstream to downstream, from the raw material of cocoa beans from farmers and then processed it by themselves and also processed it themselves and also processed it marketing cocoa production through galleries and self-owned outlets, especially directly to end consumers, although in varying implementation these three informants can be used as a pilot implementation of supply chains in East Java. Cocoa supply chain implementation in the three informants in East Java in general has been in accordance with the theory of the Supply Chain although there are variations in the implementation and also varying parties involved in the supply chain.

Tabel 1. Cocoa Supply Chain in East Java Indonesia in The Covid-19 Pandemic Era



	Informant 1	Informant 2	Informant 3
Supply Chain Disruption in the Covid-19 Pandemic	<p>The Covid 19 pandemic has also affected the continuity of business in Informant 1. When the pandemic closes from March to Eid al-Fitr. New norms reopen but visitors are quiet because the purchasing power of the community is decreasing during the pandemic. During the pandemic closed, the product expired, So it suffered losses. During the pandemic, it is more important to reorganize production capacity by increasing efficiency. Multiplying chocolate powder products and already sold in the market both in Informant 1 region and other cities until Surabaya. It emphasizes Marketing plus online facility for all products and it can increase profits.</p>	<p>In Informant 2 during the Covid 19 pandemic also has positive and negative impacts. The positive impact managed to break the lock down period around March to June 2020. It had closed during the lockdown but then the new normal period reopened so that many tourists came even around November 2020 opened a new building namely Cocoa seedling gardens and flowers gardens in a building such as green house. The social distancing impact of employees becomes individual but on the one hand productivity increases so that it is still generates profits for the Informant 2.</p>	<p>In Informant 3 also experienced a lockdown during the pandemic and reduced the number of tourists to Informant 3, but employees remained in during the pandemic and continued to conduct nursery activities and other cocoa upstream activities. It emphasizes to produce many chocolate powder products and sell in the market.</p>

The Covid 19 pandemic has also affected the continuity of business in Informant 1. When the pandemic closes from March to Eid al-Fitr 2020. New norms reopen but visitors are quiet because the purchasing power of the community is decreasing during the pandemic. During the pandemic closed, the product expired, So it suffered losses. During the pandemic, it is more important to reorganize production capacity by increasing efficiency. Multiplying chocolate powder products and already sold in the

market both in the city from Informant 1 and other cities until Surabaya. It emphasizes Marketing plus on line facility for all products and it can increase profits.

In Informant 2 during the Covid 19 pandemic also has positive and negative impacts

The positive impact managed to break the lock down period around March to June 2020. It had closed during the lockdown but then the new normal period reopened so that many tourists came even around November 2020 opened a new building namely cocoa seedling gardens and flowers gardens in a building such as green house. The social distancing impact of employees becomes individualis but on the one hand productivity increases so that it is still generates profits for the Informant 2.

In Informant 3 also experienced a lockdown during the pandemic and reduced the number of tourists to Informant 3 , but employees remained in during the pandemic and continued to conductnursery activities and other cocoa upstream activities. It emphasizes to produce many chocolate powder products and sell in the market.

CONCLUSION

The implementation of the cocoa supply chain at the informants in East Java is in accordance with the characteristics and objectives of each informant and the cocoa supply chain process from upstream to downstream despite variations in implementation but supply chain process was disrupted by the Covid 19-pandemic especially at the early of Covid 19 Pandemic which was happened the lockdown and the occurrence of decreasing of Purchasing power of society so it candecrease the chocolate and cocoa powder consumption, but at the new normal era the earning canbe gained again because of many strategy which include increasing efficiency to reduce cost of production as well as done by Informant 1 and also keep fighting to conduct healthy protocol for Covid -19 in Informant 2 and also keep fighting by working from office during Covid 19 pandemic is still conducted by Informant 3.

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