

# Indonesia's coffee and cocoa agribusiness opportunities in Regional Comprehensive Economic Partnership trade cooperation

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**Abstract.** Following the agreement of the ASEAN Economic Community (AEC) in 2015, it has been approved that cooperation between ASEAN and the other five partner countries, namely China, Japan, Australia, New Zealand, and Korea, has been bound in new economic partnerships, Regional Comprehensive Economic Partnership (RCEP). The main objective of RCEP is to empower economic integrity and enhance the economic development of respective member countries. Coffee and cocoa are two of Indonesia's important estate commodities for exports. A study focusing on coffee and cocoa agribusiness development to take advantage of RCEP was conducted in several production centers of rural areas. This paper aims to analyze the role of coffee and cocoa business in RCEP trade cooperation by: (i) understanding and analyzing trade on RCEP using RCA and RO, (ii) reviewing trade development in RCEP toward Indonesia's coffee and cocoa performance using Gereffi analysis. This study was conducted in North Sumatra and South Sulawesi provinces. The study revealed an opportunity for coffee and cocoa to increase their market in the RCEP region but only with its high quality. Coffee and cocoa should be well prepared with significant, integrative, and comprehensive improvement. The government is suggested increasing the production and productivity of coffee and cocoa through intensive extension and closely working with the farmers.

## 1. Introduction

The Regional Comprehensive Economic Partnership (RCEP) is an expansion of trade cooperation between ASEAN countries with 5 (five) partner countries, namely China, Japan, South Korea, Australia, and New Zealand. The cooperation agreement has been agreed upon and signed on November 15, 2020. Referring to the AEC Blueprint, the 4th pillar, namely ASEAN integration with the global economy, ASEAN initiated the establishment of RCEP based on philosophical concepts and strategies for the potential of economic development from market integration for 2.06 billion people (29% of the world's population) and Gross Domestic Product (GDP) value at around USD 20.71 trillion (29% of world GDP) [1].

The main objective of the establishment of the RCEP is to expand and strengthen the basis of economic cooperation among the countries involved, within the framework of developing a free trade area (free trade area) in the Asia-Pacific region. This cooperation is expected to strengthen the economic integration and the economic development of the member countries. At the beginning of 2016, India



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was enthusiastic about joining RCEP [2], but eventually withdrew for certain reasons and left the other fourteen RCEP member countries to cooperate and develop their respective economy. Currently, Indonesia's exports to RCEP from its export to the world have reached 56.2%, while Indonesia's imports from RCEP countries were higher at 70% of Indonesia's imports from the world. Important to note that RCEP countries are the main sources of foreign investment (Foreign Direct Investment/FDI) at 48.21%. To improve Indonesia's participation in this cooperation would not only through the regional value chain (RVC) of RCEP but also the global value chain (GVC) [3–8].

Obviously, the performance of agricultural products could be improved through the agreed scheme of trade cooperation. Coffee and cocoa are considered strategic commodities and main sources of income for smallholding farmers in Indonesia. Cocoa is one of the main commodities imported by RCEP countries, especially Malaysia, while coffee is another commodity favored by world consumers as well as RCEP countries, especially New Zealand. Coffee can provide a distinctive taste according to the location of origin where coffee grows in Indonesia. Both commodities are mainly produced by smallholder plantations which have a large portion in Indonesia's agricultural exports. RCEP collaboration is expected to improve the Indonesian people's plantation economy by increasing several embedded components characterized by these products, namely safe for consumption by meeting food safety standards, only produce high quality, maintain continuity for sustainability, and market it with lower prices compared to that of imported products [9].

A study on coffee and cocoa agribusiness to take advantage of the RCEP collaboration was carried out in several smallholding production centers in rural areas. This study was conducted in North Sumatra and South Sulawesi provinces. The study was focusing on issues related to productivity, quality, continuity, and aspects of competition with large holding plantations. This paper aims to analyze the role of coffee and cocoa businesses in RCEP trade cooperation. The analysis was particularly emphasized in understanding the trade scheme on RCEP using RCA and RO and using Gereffi analysis to review trade development in RCEP toward Indonesia's coffee and cocoa performance.

## 2. Materials and Methods

### 2.1. Materials

The data used is data sourced from the WITS database and interviews with relevant stakeholders. The respondents selected for each province are: (a) relevant agencies, (b) exporters, (c) large/small traders, (d) processing industries, (e) retailers and (e) producers/farmers (groups). In addition, to see how far the connectivity between countries is, it takes respondents who are relevant to related commodities.

### 2.2. Methods

Revealed Comparative Advantage (RCA) and Regional Orientation (RO) are used to understand the scope of the RCEP trade, while Global Value Chain (GVC) analysis by Gereffi and Stark is used to analyze the development of agribusiness [10–12].

The RCA index value can be used to indicate a country's product to comparative advantage. This index is the ratio of the share of a country's commodities to the country's total exports to the share of world commodity exports to total world exports. Regional Orientation Index (RO) to show whether the exported products are more oriented to certain regions or to other destinations. The formula for the RCA and RO index is as follows:

$$RCA = (X_{cg}/X_c)/(X_{wg}/X_w)$$

where:

- $X_{cg}$  = Export of goods g by country c to ASEAN/RCEP
- $X_c$  = Total exports of country c to ASEAN/RCEP
- $X_{wg}$  = World exports of goods g
- $X_w$  = Total world exports

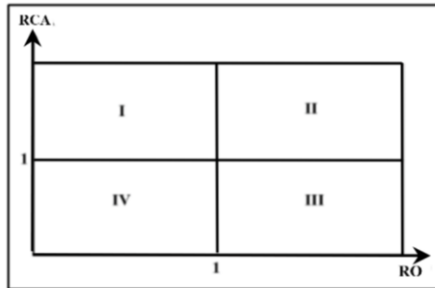
$$RO = (X_{cgr}/X_{cr})/(X_{cg-r}/X_{c-r})$$

where:

- $X_{cgr}$  = Export of goods g by country c to region r

- $X_{cr}$  = Total exports of country c to region r
- $X_{cg-r}$  = Export of goods g by country c out of region r
- $X_{c-r}$  = Total exports of goods g to outside the region r

From the two indices above, when combined through the Cartesian quadrant, it becomes four combinations as shown in Figure 1 below.



Note:

- I : High potential welfare improvement, namely  $RCA > 1$  with  $RO < 1$
- II : Trade creation, namely  $RCA > 1$  and  $RO > 1$
- III : Trade diversion, namely  $RCA < 1$  and  $RO > 1$
- IV : Possible potential welfare improvement, namely  $RCA < 1$  and  $RO < 1$

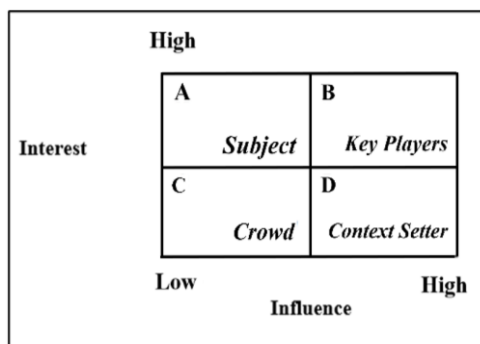
**Figure 1.** Diagram of the combination of RCA and RO.

There are six basic dimensions used in GVC which are divided into global (top-down) and local (bottom-up) elements (see Figure 2). The first set of dimensions refers to international elements, defined by industry dynamics at a global level. The second set of dimensions describes how each country participates in the GVC.



**Figure 2.** Six dimensions of GVC analysis [11].

In addition, to take a detailed look at the six dimensions of GVC, specifically in one of the dimensions related to industry stakeholders, a stakeholder analysis is carried out which describes how local value chain actors interact to achieve industry improvement. The interests of each stakeholder can be seen from the main tasks of each stakeholder. Meanwhile, authority is the power of stakeholders to influence applicable regulations and policies related to these values, and then a diagram is drawn up as shown in Figure 3 [13,14].



Note:

- Key Players : A high level of interest and authority, meaning that they are players or implementers of agribusiness managers and are able to control the existing system.
- Subject : Interests that are quite large, but have little authority, meaning that the main actors in agribusiness and have the sincerity to manage, but do not have the power to influence the applicable regulations.
- Context Setter: Little interest and great authority, meaning in the management of agribusiness as macro planning and has a very large authority in ratifying programs.

Crowd : Small interest and authority, meaning that they must always be informed because they always consider all activities to be carried out and have little interest in agribusiness because they are reluctant to be subject to agribusiness activities.

**Figure 3.** The level of interest and influence of stakeholders in the value chain.

### 3. Results and discussion

#### 3.1. Policy development and implementation of the agricultural sector in Indonesia and RCEP

The RCEP agreement will cover trade in goods and services, technical and economic issues, intellectual and investment, as well as dispute resolution mechanisms. As expected, ASEAN still has to play a key role in leadership and centrality in this agreement [15].

The Ministry of Agriculture as the supervisor of 630 tariff posts for agricultural products has fulfilled the commitment to submit offers of 91.2% or 575 tariff posts, with details as follows: (a) Category A (0% at the date of Entry to Force (EIF)) with 414 tariff posts, (b) Category B (within (10) years from EIF) 129 tariff posts, (c) Category C (within (15) years from EIF) with 32 tariff posts, and (d) The categories that are not offered are 55 tariff posts. Along with developments that show a decrease in the number of tariffs, non-tariff barriers often appear (or often called Non-Tariff Measures/NTMs) which are obstacles to trade between countries where this is often suspected to cause distortion, thereby reducing the benefits of international trade. NTMs are still widely applied in ASEAN to inhibit imported products because tariff policies are considered no longer able to inhibit imported products. Of the total 5975 measures in ASEAN, 33.2% are SPS; 43.1% TBT; 12.8% export measures.

Indonesia is faced with strict regulations on NTMs from 5 ASEAN partner countries which range from 736-2596, while ASEAN countries range from 2-1037, while Indonesia's NTMs only amount to 293. This means that the 5 partner countries provide treatment for NTMs that distort trade within the scope of RCEP. These various protections have resulted in distortions so that products from ASEAN countries are relatively difficult to enter the 5 partner countries.

#### 3.2. Competitive position of some of ASEAN member and partner countries in RCEP.

The competition for agricultural commodities from ASEAN countries for RCEP market destinations shows some differences which are shown in Figure 4. The figures clearly show the RCA and RO index of several RCEP member countries on selected 2-digit HS code commodities.

The competitiveness of Indonesian agricultural commodities has not been seen in the direction of the RCEP orientation. According to Thailand and Vietnam, there are trade creations for fruits (08) and vegetables (07), while Vietnam for fruit (08), cereals (10) and their products (11). Most of Indonesia's agricultural commodities are included in the "high potential welfare improvement" and "possible potential welfare improvement". Figure 4 shows that Indonesian coffee and cocoa have entered the high potential welfare improvement group. This means that it is possible that Indonesia participating in the RCEP cooperation area cannot direct its exports to the RCEP area even though Indonesia has a comparative advantage. This situation may reflect the weakness of cooperation to promote intra-regional trade. Thus, the proposed RCEP can change the situation so that Indonesian exports can be more regionally oriented by providing more preferential treatment.

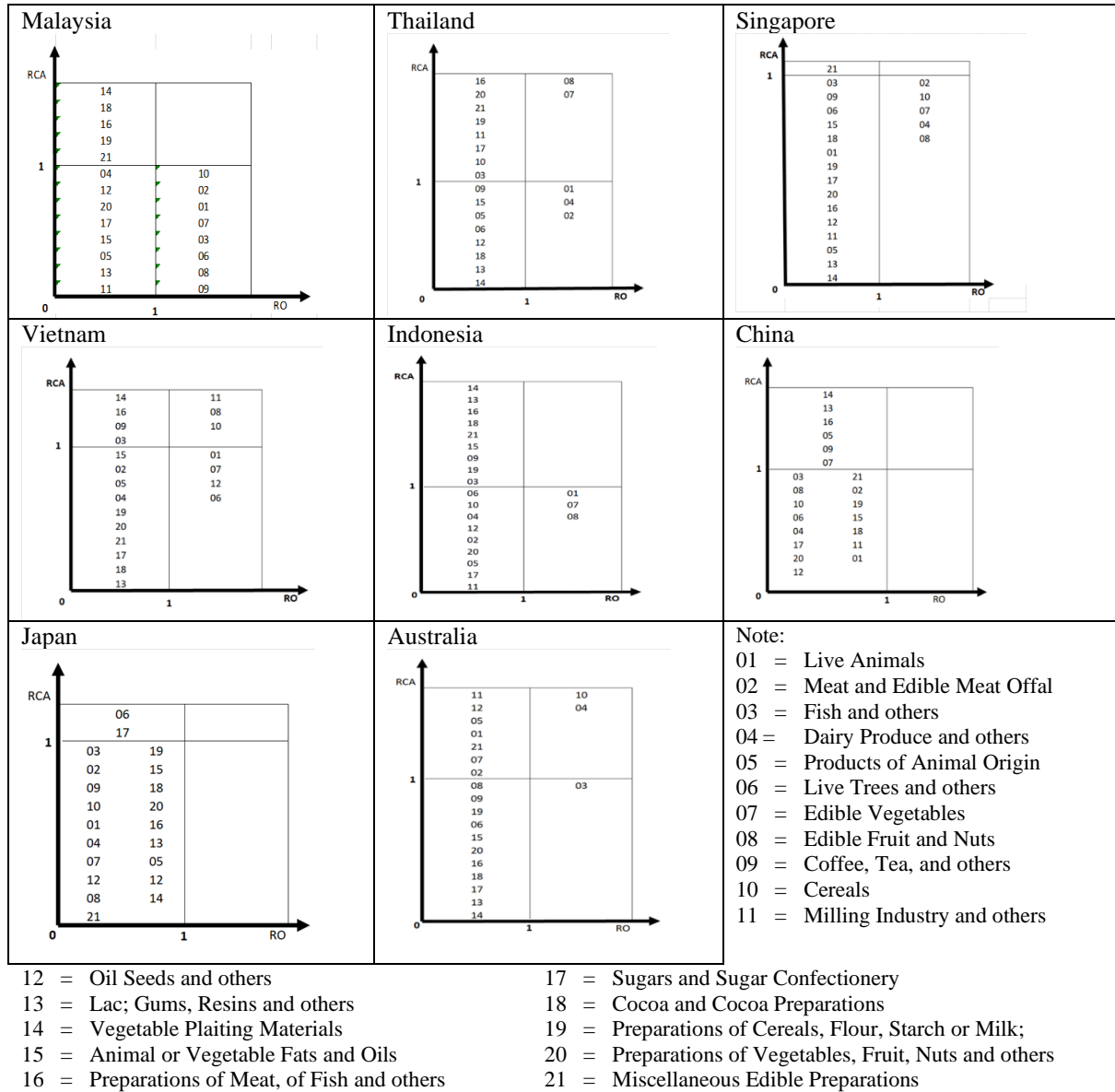
#### 3.3. Global Value Chain (GVC) in RCEP cooperation

3.3.1. *Coffee.* Indonesian coffee has a trade value of USD 23.7 billion. Its main imports are outside RCEP up to USD 21.7 billion where the main exporters also come from RCEP countries, namely Vietnam, Indonesia, and China with each reaching USD 2433; USD 755; and USD 453 million. Indonesia's main export destinations to RCEP countries are Japan and Malaysia which amounted to USD87 and USD71 million, respectively, while Indonesia's main competitor, Vietnam also has main export destinations within the scope of RCEP, namely China, Japan, Korea, Australia, Philippines, and Thailand, which amounted to USD 56 million to USD 184 million. To compete with Vietnamese coffee, Indonesia needs to improve the quality of coffee cultivation in order to meet consumer demand, especially foreign consumers. Indonesia contributes about 7% of total world coffee production and has around 6% of global exports [16].

The results of the GVC analysis for coffee commodities are as follows:

- (a) *Agricultural input-output structure:* Referring to SNI coffee 01-2907-2008 (national standard), coffee farmers are expected to improve their cultivation by increasing coffee productivity, improving quality through availability and application of technology, being resistant to pests caused

by climate change that can reduce crop failure, planting regeneration programs, integration of coffee plantations in the hills, and improving the quality of human resources

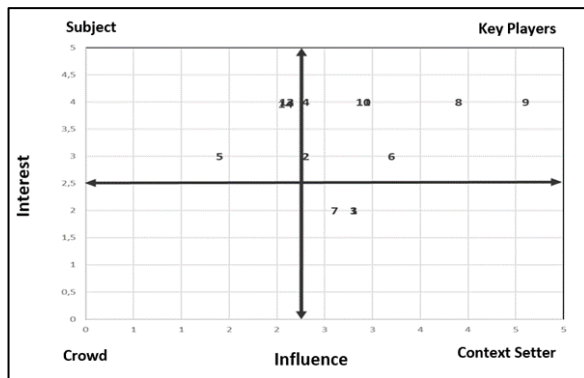


**Figure 4.** Cartesian quadrant RCA and RO index of several RCEP member countries by commodity 2-digit HS code

- (b) *Geographical scope of agriculture:* The pattern of coffee demand is good enough for Robusta, between farmers and collectors or traders and the coffee processing industry, while Arabica/specialty coffee is a premium type of coffee that has a high taste, and many traders have certificates (green buyers). The partnership is to maintain the quality of coffee with national standards from cultivation to post-harvest.
- (c) *The role of government and institutions in the structure:* Assistance, extension, and dissemination at the farmers level are strategic efforts to improve the bargaining power of farmers.
- (d) *Improvement of value-added agricultural commodity supply chain:* Improvement of productivity and quality so that the selling price will be high, and increasing the ability to make decisions to build themselves and their environment independently.



- (e) *Agricultural institutions*: Partnerships are needed in coffee agribusiness where coffee producers still have limited capital, cultivation/postharvest technology, and marketing.
- (f) *Stakeholder analysis*: Figure 5 shows that the plantation office as “key players”, linking the interests of producers and the coffee processing industry. The success of “key players” must get support from stakeholders who are included in the “context setters” (KADIN/chambers of commerce, and Bappeda/local development planning service, and BPTP/research institute) who have great authority in planning and ratifying development programs, while subject groups (Barista and Quarantine) have high interest but are limited in their authority.



Notes:

- 1 = Assessment Institute for Agricultural Technology (BPTP) of North Sumatra (NS)
- 2 = Industry and trade office of NS
- 3 = Regional Development Planning Agency (Bappeda) of NS
- 4 = Plantation Office of NS
- 5 = Quarantine Agency of NS
- 6 = PT Sari Makmur Tunggal Mandiri (Processors and exporters)
- 7 = NS Provincial Chamber of Commerce and Industry (KADIN)
- 8 = Simalungun Regency Agriculture Office
- 9 = Simalungun Regency coffee farmer group association
- 10, 11 = Coffee Collector; 12, 13, 14 = Barista

**Figure 5.** Coffee stakeholder analysis.

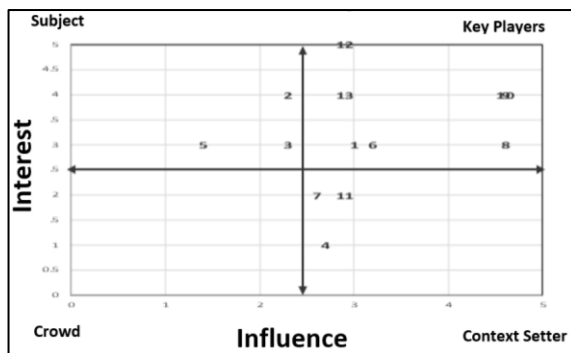
3.3.2. *Cocoa*. Cocoa and its processed products have a trade value of USD 40.6 billion. This value was comprised by non-RCEP countries of USD 36 billion, and the rest spread over 15 RCEP countries up to USD 4.6 billion. Of the non-RCEP imports of USD 36 billion, the suppliers from RCEP countries only obtained around USD 2 billion which came from mainly Indonesia and Malaysia (up to USD 698 and USD 506 million, respectively). Indonesia's cocoa exports within the area of the RCEP countries are Australia, China, Japan, and Malaysia, with values amounted to USD 44; USD 68; USD 42; and USD 246 million, respectively. What is interesting here is that the entry of cocoa imports into Indonesia, which reached USD 114 million, was dominated by processed cocoa. This shows that Malaysia prioritizes the downstream sector but lacks of raw materials as these are coming mainly from Indonesia.

The results of the GVC analysis for cocoa commodities are as follows:

- (a) *Agricultural input-output structure*: Productivity of 0.8 tons per hectare still needs to be increased so that the installed capacity of the cocoa industry can be achieved. Farmers' difficulties include: (a) the condition of the plants that are on average old; (b) the average age of the farmers is old; (c) lack of available manpower, especially in terms of maintenance; and (d) limited capital. Intensive assistance or counselling as well as technology dissemination for both cultivation and post-harvest by involving cocoa experts who will conduct training, demonstrations, rehabilitation, establishment of farmer nursery entrepreneurship, composting business, and entrepreneurship counselling. The effect of pest attacks can reach 60 percent of the total national production.
- (b) *Geographical scope of agriculture*: The price lag is not too significant, farmers prefer to sell in non-fermentation, even though the quality standard of Indonesian F cocoa beans has been regulated in SNI Cocoa Beans 01–2323–1991. The SNI standard contains definitions, classifications, quality requirements, sampling methods, test methods, labelling requirements, packaging methods and recommendations.
- (c) *The role of government and institutions in the structure*: the government already has a pretty good role by aiding planting seeds
- (d) *Improvement of value-added agricultural commodity supply chain*: The government provides assistance with fermentation equipment through farmer groups so that farmers can sell in the form

of fermentation where the difference between fermented and non-fermented prices ranges from IDR 2,000 to IDR 3,000 per kilogram.

- (e) *Agricultural institutions*: Partnership needs are needed for cocoa agribusiness because cocoa producers still have limitations in terms of capital, cultivation/post-harvest technology and marketing.
- (f) *Stakeholder analysis*: Figure 6 shows that the plantation office, coffee farmer group, collector, and processors as key players, linking the interests of producers and the cocoa processing industry. The success of key players must get support from stakeholders who are included in the context setters (KADIN and Bappeda) who have great authority in planning and ratifying development programs. The "subject" groups (Food Security Service, Industry Service, and Quarantine) appear to have a fairly large interest but are limited in their authority. Given that cocoa is a commodity that reflects the people's economy (1.7 million households) and good market prospects, there are no stakeholders in the "crowd" group.



Notes:

- 1= Plantation Office of South Sulawesi (SS)
- 2= Maros Regency Agriculture and Food Security Service
- 3= Industry and trade office of SS
- 4= Regional Development Planning Agency (Bappeda) of NS
- 5= Quarantine Agency of SS
- 6= PT Mars Indonesia (Processors and exporters)
- 7= SS Provincial Chamber of Commerce and Industry (KADIN)
- 8= Coffee farmer group association
- 9= Coffee farmer group association
- 10= Coffee farmer group association
- 11, 12, 13, 14= Cocoa Collector

Figure 6. Cocoa stakeholder analysis

#### 4. Conclusions

Indonesia has the opportunity to increase its participation in RCEP cooperation (through tariffs and non-tariffs) if comprehensive and integrative reforms are carried out by cutting various sub-sector interests into strong cooperation with transparent connectivity of economic activities. Indonesian agricultural products are estimated to be able to dominate the domestic market which is the target market for exporting countries in the ASEAN region and ASEAN partners. However, increasing efficiency in the production, processing, and marketing processes is expected to help accelerate domestic market dominance and at the same time encourage efforts to penetrate the global market because of quality products that are competitive and profitable.

Indonesia needs to continue to strengthen itself by improving the quality of various mainstay agricultural products so that it can dominate the domestic market and at the same time open up opportunities to penetrate the global market, especially in the RCEP collaboration. In this regard, it is also recommended that improvements in various aspects of superior commodities/products can be carried out in an integrative, innovative, resilient, and inclusive market-oriented (competitive) manner. Connectivity and collaboration between stakeholders by facilitation that is able to increase product competitiveness to enter the regional and global market.

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