

Model of Agro-Food

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**Model of Agro-Food and Beverages SMEs
Development based on Environmentally Friendly
Strategy for Pasuruan Acceleration of Economic
Development as a Regional Agropolitan in Java
Economic Corridors**

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Abstract

One of the activities was the focus of economic development for the Java Economic Corridor Acceleration and Expansion Master Plan for the of Indonesian Economic Development (MP3ED) is a food and beverages industry with the largest value of investments which located in Pasuruan regency. Food and beverage industry is the highest contributor to GDP Pasuruan coming from the manufacturing sector.

Pasuruan regency' potential to contribute significantly to Indonesia's economic development acceleration and expansion has the map featured industrial development guide based on core competency areas. Industries that could potentially be featured in Pasuruan is an industry that adds value to primary commodities, namely agriculture. This study aims to analyze the increase in value-added agricultural commodities through the development of SMEs in the agro-processed food beverages Pasuruan based environmentally friendly. The method used in this study is the use of AHP analysis, SWOT and value chain.

The results obtained in this study is the production of agricultural-based chipping Pasuruan priority as a superior product with core competence lies in the number of centers very much. Formulation of the concept of development of the food and beverage industry in Pasuruan focused on the development of human resources in the form of education and training programs, in terms of formal education, design, management and production techniques
Keywords: Development, Economic, Environmental, Model, and Small Medium Enterprises (SME).

1. Introduction

Acceleration and expansion is Indonesia's requirement economic development to support its transformation into a developed country target by 2025. The Acceleration and Expansion master plan of Indonesia Economic Development (MP3EI) provides the building blocks to make Indonesia become one of the 10 major economies in the world by 2025. To reach this target, so many millions of people will be lifted out of poverty, and given better access and chance to get quality education, employment, higher living standard and medical care.

The implementation of MP3EI will include 8 main programs which consist of 22 main economic activities. The implementation strategy of MP3EI will focused to develop the regional economic potential in 6 (six) Indonesia Economic Corridors: Sumatra Economic Corridor, Kalimantan Economic Corridor, Sulawesi Economic Corridor, Java Economic Corridor, Bali - Nusa Tenggara Economic Corridor, and Kepulauan Maluku - Papua Economic Corridor.

Indonesia's economic acceleration and expansion development are based on the development of existing and creating new growth centers. This development strategy is essentially focused on integration of the regional and sectoral development approaches. The developing new growth centers purpose is to explore regional strengths, to optimize agglomeration advantages, and to reduce spatial imbalance of economic development throughout the country. As the important aspect of this strategy is each region will develop their own specific local products.

Java corridor acceleration and expansion of economic development will focused on the themes of as "Driver for National Industry and Service Provision". This themes is formulated in consideration of the National Action Plan for Greenhouse Gas as a national commitment which recognizes the global climate change. To support this target, support the conservation of water and the environment is a special strategy will be implemented to further develop Java Corridor industries.

The food and beverage industry is a significant contributor to the GDP of Indonesia. In 2008, the industrial production value of food and beverage reached USD 20 billion, and has grown at an average of 16 percent every year thereafter. This industry absorbs the largest labor force among other manufacturing industries. In 2010, this industry absorbed a labor force of 3.6 million people, an increase of 3.8 percent from 2009. From January to August 2010, the food and beverage industry increased its export value by 16 percent for the food industry and by 13 percent for the beverage industry relative to the same period in the previous year. Production for this industry contributes approximately 22.3 percent of total manufacturing production in Java Corridor making it the second largest manufacturing industry after the machinery.

The development of food and beverage industry which majority are small and medium industries bring serious problems to the environment [1]. Limitations of capital owned by a majority of small and medium industries do not have wastewater treatment plants [2]. On the other hand related to acceleration and expansion of Indonesia economic development 2011-2025, the product should have a competitive advantage to be able to compete in the global market [3]. This was mainly done through the eco-benefits programme in which cleaner production was promoted to industries as a preventative strategy to deal with current and future environmental problems as well as offering them better efficiency, economic and social benefits [4].

Cleaner production, as a strategy for improving environmental performance while bringing economic and social benefits, is closely linked to the goals of international environmental governance via the key principles of sustainable development set out in the United Nations Rio Declaration on Environment and Development [5]. Cleaner production policies are also stressed

as important means of achieving sustainable development in Agenda 21, adopted at the UN Conference on Environment and Development (1992) [5].

The issue of linkage between environment and development can be more successfully resolved if CP becomes a core strategy for implementing Multilateral Environmental Agreements (MEAs). This is because CP fosters economic development while simultaneously improving environmental performance. More specifically CP aims to reduce the consumption of natural resources per unit of production, the amount of pollutants generated and their environmental impact, while making alternative products and processes financially and politically more attractive [6].

Pasuruan regency can contribute significantly to the acceleration and expansion of Indonesia's economic development if it has the map featured industrial development guide based on core competency areas. Industries that could potentially be featured in Pasuruan is an industry that adds value to the primary agricultural commodities. This research aims to analyze the improvement value-added agricultural commodities through the development of SME agro-processed food and beverages in Pasuruan.

2. Research methods

The data used in this research is primary and secondary data. The Methods of data collection are as follows:

1. Primary data collection was done by filling the questionnaire and interviews by experts as well as direct observation. The primary data of expert opinion regarding the selection and election of cluster development strategies knowledge management strategy.
2. Secondary data collection is done by tracking internal data, research, magazines, and journals.

Research data collection based on the needs of the system is done through literature study and field survey. Field survey focused on expert opinion (expert survey) with in-depth interviews (in-depth interviews), questionnaires and field observation. Data collected intentionally (purposive sampling) of multiple system actors such as staff of the Department of Industry and Trade Pasuruan, academics, and industry practitioners related.

There are several analysis used in this research, namely:

- Analytical Hierarchy Process (AHP) is made to see the truth of scientific results of SWOT analysis and focus group discussions with applying Software Expert Choice, which aims to determine the SMEs Cluster Agro processed foods and beverages Featured in Pasuruan.
- Economic Analysis of Value Chain geared to recognize the added value, market opportunities using Four Diamond Porter approach that begins by mapping the chain (chain binder) on clusters of SMEs are classified as seed priority main ranking, with an outline describing the stages from input to marketing product reaches the consumer then each value chains identified what the strengths or competencies.

3. Results and discussion

3.1 Determination and analysis of priority featured product

Indonesian agricultural development in the future, should always be directed to be able to optimize the benefits of regional resources in a sustainable manner. Therefore agricultural development policies should be designed in a regional economic perspective.

Agricultural development in the context of the region's economy is increasingly relevant to the enactment of Law number 22 and number 25/1999, which are then presented in PP No. 2/2000.

This means that only the central government plays a role in designing the macro level planning, while local governments target to design execution in accordance with the conditions of the region. In such a perspective of wisdom, required local governments really afford to make the most resource management that are specific to the location.

Determination of feature products through Focused Group Discussion (FGD). Before the first FGD prepared secondary data as supporting data sources involved in setting priorities Featured Products (PUP). Institutions which involved as resource persons in the FGD is representative of Pasuruan regency government, Chamber of Commerce and Industry of East Java Province, SME & Cooperatives Department of Pasuruan, Department of Industry and Trade Pasuruan, Department of Agriculture and Food Security Pasuruan, SME food and beverage, academics, and users.

In determining the feature product, there are two different views. One part of government wants the chipping as priority commodities. On the other side of government wants a fruit juice as a feature product priorities. The differences arise because of the different perspectives on priorities superior product. The differences arise because of the different perspectives on priorities superior product. Alignments to drink fruit juice because the product is developed based on local resources such as agricultural products Pasuruan. Thus more economic benefits can be perceived by the people of Pasuruan, while chipping product has a strong image associated with Pasuruan regency. In addition, the chipping industry absorb labor, with the highest number of business units in Pasuruan and = are _ export-oriented. Bayes Method based analysis tools priority weighting calculation Featured Products Pasuruan is as follows.

Table 1: Ranked featured SME food and beverage products in Pasuruan

No.	Type of Industry	Ranked
1	Processed fruit and vegetable chips	1
2	Juice Drink	2
3	Traditional Instant Drink	3
4	Coffee	4
5	Civet Coffee	5
6	Jamb Fruit	6
7	Processed Fish	7

Core competence is determined by identifying the various competencies. Competency selection criteria are as follows: prospect value added (K1); contribution to regional development (K2); social impact and equity (K3); availability of resources, technology, infrastructure and support institutions (K4); classification factor (K5); healthy environment (K6); ability industrial organization (K7), and level of competitiveness (K8).

Table 2: List of core competencies chipping vegetable / fruit Pasuruan

No.	Competencies	Description
1	The prospect of value-added	the presence of chipping vegetable and of fruit SMEs provide added value to various apicultural/plantation/cultivation of plants that have revenue opportunities for the community.
2	Contribution of regional development	the presence of chipping vegetables and fruits SMEs which used local materials is to realize the ideals
3	Social impact and equity	The development of chipping vegetables/ fruits SMEs that are almost evenly distributed as labor absorption from the local community
4	The availability of resources	the presence agricultural areas, plantations and crops technology, infrastructure SMEs make chipping vegetable / fruit is easy to and support institutions obtain raw materials. On the other hand the development of tourism in Pasuruan an adequate infrastructure for the marketing of various products. chipping vegetable / fruit. In general SMEs chipping vegetable / fruit already know the technology of making chips with excellent quality and without preservatives. Institutions which support chipping of vegetable/fruit SMEs are the Department of Trade and Industry, Department of Agriculture and Food Security, the Department of Cooperatives and SMEs, Indonesian Institute of Sciences and academics.
5	classification	the classification of chipping vegetable/fruit SMEs is so spacious considering Pasuruan has many agricultural potential can be processed into a variety of chips.
6	Healthy environment	The development of chipping vegetables/ fruits SMEs does not have an impact on the environment because of the solid waste generated is organic waste that can be composted, while the wastewater produced is not dangerous because it does not use chemicals (preservatives and additives) in the production process.
7	The ability of industry organization	The development of chipping vegetables/ fruits organizations SMEs would have an impact on the growth of new concept of cluster management (upstream to downstream).
8	Competitiveness	chipping of vegetable/fruit products has enough good competitiveness because it /does not added preservatives

3.2 Analysis of the value chain, the development and strengthening of core competencies

Based on data from the Department of Agriculture, vegetable and fruit crop production are largest in two districts in East Java is in Malang and Pasuruan with very diverse types include vegetables / fruits are consumed fresh or processed. Agricultural development policy in East Java Province aims: (1) Develop a food security system based on production capacity, diversity of food resources, as well as institutional and local culture, and (2) Develop a global agribusiness oriented build competitive advantage with 18 products areas of competence and comparative advantage based on natural resources and human resources. This policy is expected to increase the contribution of agriculture to the national economy of East Java.

Principal development strategy aimed at improving competitiveness through increased value added, productivity, efficiency and deepening of the structure [7]. Operational development strategies implemented gradually and directed the development of an environment conducive to the spread of industrial cluster approach and to the remote areas and islands that exist in East Java.

Chip manufacturing

industry generally fall within a small group or a household scale. Agro-industry value chain vegetable chips / fruit, comprising: providing raw, processing, and enterprise networks.

Supply of Materials

Suppliers of raw materials agro chips vegetable / fruit growers and traders are vegetable/fruit. The role of technology providers (government) in the form of equipment stripping, cutting, and frying, and all service providers in the procurement process of materials in the upstream industry is supportive and critical. Until recently, commodity vegetable and fruit growers have a core business, yet intensive cultivation, scattered locations. Farmers can sell directly to the processor or through middlemen.

Vegetable/fruit that has been cooked have a higher resale value. But some farmers are still selling immature and sell to traders at the village. Merchant village selling vegetables / fruit with wholesale systems and varying quality. In the future, if there is a partnership between the processor with farmer groups, then the quality of vegetables / fruits will be met and farmers will be efficient in the market. Value-added sales of chips with optimum maturity and directly to the processing is to obtain a higher price and increase the knowledge about the quality of the vegetable / fruit based on the level of maturity of the vegetable / fruit.

Processing

Chips processing of vegetable / fruit includes stripping, cutting, washing / soaking, giving sweeteners and dyes (not done by all processors), frying and flavor delivery. There are three types of processing were found at the site, namely: (1) Processing at the factory level by performing all processing as described above, (2) processing at the household level to join the business group, and partnered with a factory.

Processing is done at the household level only until the frying; (3) Processing at the household level, which does all the processing as mentioned above. Quality vegetable crisps / fruit vegetable maturity level is determined, and the presence or absence of additional sweeteners or dyes as well as the quality of cooking oil.

Quantitatively the value-added processing is the amount of income received by employers on company business scale, around IDR 6600 for every 1 kg chips vegetable / fruit. Some of the added value that can not be computed numerically include employment opportunities opened up by the agro-industry (accounting for 20 economic and social benefits the environment), increasing the skills of workers and their own employers, business networks and access to a variety of educational, technological and market opportunities are accumulated into a worthwhile investment at the individual and local level [8].

Business Network of Agro Side Materials Suppliers and Product Marketing Sustainability of primary industries chips vegetable / fruit is largely determined by the upstream industry (raw material suppliers) and downstream (product marketing side) [9]. The main function of raw material suppliers establish continuity of the main industries in production [10]. There are at least four pathways employer chips in the acquisition of raw materials namely: (1) Buying directly from farmers, (2) Buying directly at market vegetable / fruit (3) Buying through village traders, and (4) Buying through district collectors .

Another issue that is felt when the price employers chips vegetable fruit increased the quality of the vegetable/fruit declined. Faced with this situation employers are trying to build a network with the suppliers. But not found a partnership with a supplier industry entrepreneurs. Most entrepreneurs build a network with a subscription system fixed to the merchant. Its main purpose is more to maintain adequate availability of raw materials [11]. For suppliers, this network is important for the smooth running of its business with container vegetable / fruit in large quantities.

Territorial purchase of raw materials by entrepreneurs who live outside the centers of production relatively wider, but not to exit the district [12]. More built network with collectors or those who have access to the broad and rapid market vegetable/fruit. Although there is no written agreement regarding assuredness, but reassurance purchase price for qualified quality specifications, have led to half a partnership relationship[13]. There is a processing company that build the network with KUWAM group (Women Business Group). The company gives assurance to accommodate production intermediate and perform advanced processing, packaging and sales. While the group guarantees the availability of semi-finished materials in quantity and quality of the agreed volume. This relationship is closer business partnerships.

On the marketing side, entrepreneurs build a business network with store retailers / agents within and outside the region and sell directly to consumers. Payment system implemented by the system and the cash to pay upfront, and pay cash delay, consignment and selling, entrusted to employers[14]. Employers also build a network with financial institutions and the Department of Industry, Trade and Cooperatives.

Help financial institutions provide soft loans, while the Department of Industry, Trade and Cooperatives help promotion through exhibitions, auction markets, explore and mediate market entrepreneurs with buyers [15]. In the case of large employers already pointed out that exports as the origin of other cities (Jakarta) In the long term, this relationship is expected to pave the way for the expansion of the market up to the level of exports.

3.3 Analysis of industrial development action plan chipping vegetable/fruit in Pasuruan

Mapping which is based according to the SWOT analysis, the chipping industry conditions vegetable / fruit in Pasuruan can be described as follows:

Table 3: SWOT analysis of the industry chipping vegetable / fruit in Pasuruan

STRENGTH (S)	WEAKNESS (W) Capital; Management;
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The prospect of value added labour absorption; Adoption power and innovation; Quantity and quality assurance; There are many production centres; Marketing distribution network; Local	Infrastructure; Information technology; Direct export access; Competitiveness; Power innovations; Design; Legality of SMEs.
OPPORTUNITY (O) Export and local market still open; Expansion; Industrial district policy; Restructuring policy; Exportation tool potential.	THREATS (T) Season change; Price fluctuation; The free market; Environmental impact; Imported products; Monopoly of material supply.

Based on the mapping industry conditions chipping vegetable / fruit in the District Pasuruan as described above, the agreed action plan and strategy development based food and beverage industry are the core competencies as outlined in Table 4. below:

Table 4: Action plan for the development of industrial chips is processed vegetables / fruits in Pasuruan

Period	Program	Plan Technical Activities	Institutions involved
Short term	Planning development of human resources quality financing facility	Restructuring masterplan Higher Assistance SME management	Higher education Improvement of Entrepreneur Related institutional
	Financing facility	Capital efforts Capital investment SMEs empowerment trough community development	Bank Higher education Related institutional
	institutional	Developing of marketing centre Entrepreneur SME display	
Mid Term	Institutional	Development of business associations	Related institutional Entrepreneur Associations
	Improvement of domestic market	Developing of marketing network in Related Various regions institutional Ease of dealing business licenses, l Entrepreneur making it easier to conduct training. Association	Related institutional Entrepreneur Associations

			Facilitate the processing of SME Higher product barcodes that can penetrate Education modern retail network.	
		Machinery production	Technology transfer of Production processing equipments. Training e-commerce of information technology Developing SME websites that are Entrepreneur integrated with related official website Association or district. Developing SME directory of Education Pasuruan by district	Related institutional Entrepreneur Associations
		Information Technology	Comparative studies Participation in international exhibitions	Related institutional Entrepreneur Associations
Long Term	Improvement export			

4. Conclusions

Realising the economic and environmental potential of the food and beverages industry in Pasuruan will require business and government to be far more efficient in the use of limited resources than has ever been the case in the past. There are a number of tools and mechanisms to use, and there are broad directions to take – the challenge is to prioritise actions in accordance with the limited human and financial resources available.

Changing the culture of industry will take time and much effort. It will require the cooperation and teamwork from all those interested in clean and green food business. Effective partnerships between industry, community and government will need continued nurturing to firstly increase awareness of the benefits of environmental friendly and then to convert awareness into action. Environmental friendly food and beverage is more than an idealistic goal. The community and the markets expect it — the environment will demand it. If we get it right, the potential rewards are great, not only for but for the long term future of Pasuruan.

Based on the review of the core competencies beverage food industry in Pasuruan, it can be concluded that:

- The main products is agricultural-based chipping with core competencies in the number of highly centers.

- In order to develop the food and beverage industry in Pasuruan, formulated the concept of human resource development in the form of education and training programs, in terms of formal education, design, management and production techniques.
- The action plan can be drafted is to define a standard human resources capabilities, increased capacity building, internal efficiency and external efficiency.
- Plan of action drafted a multiplier effect to bring the benefits of the various parties involved in the food and beverage industry.

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