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# DEVELOPMENT OF SMALL AND MEDIUM SCALE FOOD INDUSTRY: A STRATEGIC PLAN TO SWIFT THE RURAL ECONOMICS GROWTH IN ACEH

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**Abstract**

The management of rural area in Indonesia involves a complex array of interactions among factors including the domains of agriculture, community development, environment conservation, and food security program, and economy as general. The main problem stays on debate is the gap of economic growth between rural and urban area. Most of countries attempt to boost development in rural area to narrow the gap through providing public infrastructure, education, health services and relocate industry far away from the city. One of industrial sector important in the rural area is food industry because of its relationship to generate the positive economic growth, reduce imbalance of population density (re-urbanization) and more stability of the region. Providing infrastructure and facilities in rural area will reduce the cost of production of the enterprise from that region and thereby make the industries more competitive. This paper is a review of literature attempts to analyze the importance to assist and support small scale food processing industries as strategic planning to develop rural area. Particularly, this paper aims to explore the benefit of strengthen the rural area development in view of social economic structural change, income distribution and technology spillover in food processing industries.

**Keywords:** food processing industry, rural area, poverty, sustainable development and Aceh.

## Introduction

Rural and urban areas are two regions with different community structure, economic activities and growth of development. Urban area is characterized by upper development growth; industry concentration, more public facilities such as school, shopping centre, transportation, hospital, leisure place and restaurant, with economic activities mainly in industry and service sector. In contrast, the rural area's characters are vice versa; limited public facility and mostly the people are involved in agricultural sector. However, rural area is predominantly comprised about 80 up to 90% of the country total wide (in Indonesia case: around 91%).

Rural area plays an important role as supplier of many resources such as food, fiber, timber, quarry and mining. It is marked by the natural condition and custom, specific economic structure and activities as well as distinct demographic and social characteristics. They are relatively unpolluted environment, fresh weather, wealth of natural sources (green, water, and forest), biodiversity and attractiveness of landscape. The rural populations produce 60% of the food consumed by them, whereas 90% of urban populations depend on the market for their food [1]. Due to the attractiveness, there are many magnitude and options in rural area for use of the economic and non economic purposes. Therefore, it needs a comprehensive consideration and sustainable development concept. China is an example of country that success in developing their rural region. There is a great advance in the agricultural and rural development since the reforms and opening-up in 1978. Agricultural sector has not only fed its population of 1.3 billion, but has also contributed to international agricultural development and food security [2]. Other researcher [3] reveals that the impressive development of rural enterprises since the beginning of the 1980s has changes the rural economic structure. Between 1978 and 2001, the rapid growth of their gross output valued at an annual rate of 24.4% has radically changed the traditional picture of rural economy dominated by agriculture.

Different result of rural development program has reported in India, where the approach of poverty deteriorating emphasized to women through program called Swarnajayanti Gram Swarojgar Yojana or SGSY [4]. The women are grouped with 10 members and they are trained to improve skill enable them to start their own non-farm business. However, since this program is a supply driven instead of demand driven and also due to short of duration, the program look like not meet to the aims. Not available input locally, finishing and marketing are massive problem faced by small rural enterprise under the program. That is one important thing to evaluate the development concept of rural area to not only focuses on a corner of view but it should rally on many aspects include providing basic need facilities, improving management skill, education, finance, and the role of model.

**Disparity of Rural and Urban Development**

Significant disparities of development levels between urban and rural area exist and identifiable easily in most countries in the world. [5] identified that generally, the disparities are the result of three sets of factors: natural differences, socio cultural conditions and policy decisions. Natural factors, such as differences in biosphere, climatic conditions, endowment with natural resources or geographical location, such as distance to harbor or a centre of commerce, determine the potential for economic development of an area or a region. Some conditions, such as climate and natural endowments, are largely in variable, while others can be improved through providing infrastructure (roads to overcome seclusion and irrigation to overcome waterless condition).

The second factor (socio-cultural): such as values and traditions either encourage or discourage the economic mobility, innovation and entrepreneurship has sometimes a dynamic change in rural area. The third set of factors is made up from policy decisions. Formally policies are made by government; however many practices in rural area the local policies and regulations are determined by informal leader's attitude (religion leader, clan or mass organization leader). Behind these, we suggest two other factors which are out of human control such as disaster (flood, earthquake, volcanic and tsunami) and the disproportional impact of information technology. These are determinants of the development gap since the ability of people between rural and urban area is not same to recovery its impacts.

One of the main impacts of the development gap between urban and rural area is urbanization. Actually the labor flow is not a problem as long as the city can absorb it. However it is a common case that villagers come to urban or city without enough skill, education and experience to work. Consequently unemployment rate increase and create new poverty in the city, social problems like non dwelling people and crime case.

[6] showed a decline percentage of rural population to the total population in India, Brazil, Kenya and other developing countries at average decreasing growth 20, 9, 16 and 12% respectively during 1970-2020 for the urbanization reason.

Development in Aceh is not different, development of rural area means deteriorating of the poverty. This can be understood since most of people involve in agricultural sector or food processing in the rural area. Primarily the structure of food industry in rural area are micro and small enterprises which have scarce capital, lack of technology, low productivity and efficiency and limited access to the market information. The emphasis of rural development is a multipurpose and comprehensive approach to make the area a better place to live and work for inhabitant. Poverty limits the opportunity of many people to develop their capabilities and thereby limits their choices to what they can do in their lives and to how they can participate in the development. On the other word, poverty bordered people to catch their frontier productivity to improve their welfare and their own community as well. United Nation survey in 1996 counted that people life below poverty line in Indonesia is 12.3% in rural area and 9.7% in urban. It was increase after crisis and survey in 1998, and showed higher percentages at 22% in rural and 17% in urban [5].

Besides the experiencing a lack of financial resources (money and assets), the poor in rural area has difficulties accessing services that essential for a healthy life such as clean water supply, health care and education. The reason for this lack may be that the given services are not available or that the poor cannot afford the services or because the services are not entitled to rural poor people. As per presented in Table 1, three basic service needs are accessed by a lower percentage of the population in the rural area than that of in urban.

**TABLE 1**. Percentage of population has access to the basic services in selected countries, 1990-1996

| Country | Safe Drinking Water | | Adequate Sanitation | | Health Service | |
|---|---|---|---|---|---|---|
| | Urban | Rural | Urban | Rural | Urban | Rural |
| Afghanistan | 39 | 5 | 13 | - | 80 | 17 |
| Cambodia | 65 | 33 | 81 | 8 | 80 | 50 |
| China | 97 | 56 | 74 | 7 | 100 | 83 |
| India | 85 | 79 | 70 | 14 | 100 | 80 |
| Indonesia | 79 | 54 | 73 | 40 | 99 | 91 |
| Japan | 100 | 85 | 85 | - | - | - |
| Malaysia | 96 | 66 | - | - | - | - |
| Mongolia | 100 | 58 | 100 | 47 | - | - |
| Philippines | 92 | 80 | 88 | 66 | - | - |
| Rep.Korea | 100 | 76 | 100 | 100 | 100 | 100 |
| Thailand | 94 | 88 | 98 | 95 | 90 | 90 |
| Average | 86 | 61 | 78 | 47 | 92 | 73 |

Sources: [5]

Percentage of people has access to safe drinking water only 61% in rural area and 86% in urban, for adequate sanitation 47% in rural and 78% in urban, while health services 73% in rural and 92% of population in urban. As a whole, Afghanistan has a lowest percentage of rural population to access safe drinking water, on the other hand Republic of Korea having nearby 100% both in urban and rural area to access the three basic services needs. The percentage of rural population in Indonesia to get the access is only half of the percentage in its urban.

Poverty eradication in rural area is not only through commercialization of agricultural products if the market structure positions the farmer as an inferior agent [7]. The main problem is to provide the accessibility to capital. Limited capital will make slowdown or idle economic resources and activities; consequently, there is no capital accumulation. [8] studied the role of agricultural growth in poverty eradicating in Indonesia. He found that output growth of the agricultural sector has strongest effect to decompose poverty than other economic sectors (services and industry), particularly in rural area rice production and agricultural wage also the importance factor. In 1976 population living under poverty line is 38.8% and 40.4% in urban and rural area respectively which show not significant gap. Nevertheless, after 28 years (in 2004), the gap is become wider at 12.6% in urban and 19.5% in rural area. What we can learn from the result is that development growth in the rural is slower than in the urban. Average distribution of poor family by sector during 1998 up to 2002 is 59.44% (agricultural), 10.42 (industry) and 30.14 (services).

Therefore generating higher value added of the agricultural commodities through food industry is one of the poverty eradicating strategies. The processing of raw agricultural products makes the products closer to the consumer and meets to their preference. Other benefits of development the food industry in rural area are re-urbanization, income distribution, reducing waste in the city and balance economic growth in both regions. Restructuring of the food industry has led to the relocation of employment away from the major urban centers. As against this, concentration in the retailing sector has drawn business from the smaller rural towns.

Agricultural products are perishable, seasonal and bulky; the products cannot be hold to with purpose to wait a better price in the market. However the agricultural products can be processed to increase its value up to 3 or 4 times of the fresh price. For instance, making yoghurt from fresh milk through a simple working, just pastured and add bio-bacteria *Lactobacillus bulgaricus* and *Streptococcus thermophilus* than the selling price will increase three times than the fresh milk's price. In all industry, the positive impacts not only come from the value addition of the product. but multiple effect of economic growth provided by labor, supplier of intermediate inputs, taxation, distribution channel and market system. In Aceh Province, agricultural commodities are available mostly in rural area to be processed by food industries such as, marine fishery products, meat and dairy and traditional commodities like ginger, peanuts, honey, fruit etc.

Processing the primary agro-base commodities to be a higher value product is the fundamental strategic plan in many nations. For example, since 1980s, ASEAN countries have changed their economic profile from the exporter of unprocessed agricultural commodities to be an exporter of processed-agricultural and food products. Nevertheless, difference share of agricultural to the GDP exist in the countries as per shown in Table 2. Particularly in Malaysia and Thailand, the agriculture's contribution to the economy has been declining and presently stands at less than 10%. Indonesia, Philippines and Vietnam even though the trend is diminishing, but it is still more than 10% [9].

The first five-year Indonesian Master Plan (REPELITA) launched in 1969 gives highlight to the agriculture sector in order to provide sufficient food for the population and generate employment for poor rural inhabitant. In 1970, agricultural sector accounted 35% of the total GDP. However, since the country's economy growth, the share of primary agricultural products shifted to be more value added product and people consumption behavior also changes from staple to consume more processing product.

In 1990 agricultural contributed at 20% and decrease to 16% in 1996 to GDP. During financial turmoil that swept Asian countries in 1997 and 1998, agricultural sector in fact relatively survive than other sectors and plays an important backbone for Indonesian during the economic recovery.

**TABLE 2.** Contribution of Agricultural Sector to GDP (%) in selected ASEAN countries

| Country | 1990 | 1995 | 2000 | 2005 |
|---|---|---|---|---|
| Brunei | 2.4 | 2.5 | 2.7 | - |
| Indonesia | 19.4 | 17.1 | 15.6 | 13.1 |
| Malaysia | 15.2 | 12.9 | 8.8 | 8.7 |
| Philippines | 21.9 | 21.6 | 15.8 | 14.3 |
| Thailand | 12.5 | 9.5 | 9.0 | 8.9 |
| Vietnam | 38.7 | 27.2 | 24.5 | 20.9 |

Sources: [8]

Around 70% of food industry raw materials come from agricultural in rural area, hence supporting to agro-base industry in rural area will bring a stimulation development in general and particularly in rural area. It will increase farmer income, provide labor vacancies, introducing new technology and provide more efficient and lower cost production. [10] argued that social and economic progress in the rural sectors of developing and transition countries is closely bound up with innovation and competitiveness in the agro-food sector in both domestic and international economies and markets.

## Food Processing Industry

Food processing industry includes all food-related industries, from simple starch production or slices cassava to completely ready meals that can be eaten directly or just put it in few minutes in microwave oven. Benefits of the food processing also include toxin removal, preservation (health), easy marketing and distribution tasks; meet to the consumer's taste and preference and the consistency of food quality. In addition, it increases seasonal availability of many foods, enables transportation across long distances, and makes many kinds of foods safe to be eaten by de-activating pathogenic microorganisms. Hence the processing of raw agricultural commodities is an important phase in food supply chains as a stage of its system from farm to table.

About 80% of food industries comprise of small and medium enterprise (SMEs). They are usually organized as a family business, or have a single proprietor. However, as the enterprise expands, a partnership normally evolves, leading location of the enterprises. Operating under scale of economic is a constraint to sell their product to a competitive market and compete to large scale industries. In order to be able to compete in the market, SMEs food industries need a level of playing field, but the regulatory environment often discriminates against them. They have limited access to infrastructure and services, either because of their status or because of the higher cost for small operations. In addition, entrepreneurs need to have market information about inputs and outputs, and that implies access to sources of information and the capacity to use them. In brief, the knowledge base of small and medium-sized entrepreneurs needs to be developed and enhanced. View from different perspective, [11] investigate government support to small scale food industry in Malaysia and concluded that firm who get assistance from government agencies, have a better performance in term of efficiency and productivity. While [12] reveals an important role of food export to the Australian economy. He argued that in recent years the global market for processed food has been shifting towards developing countries.

[13] is one of the comprehensive studies on Indonesian food manufacturing. Using panel data from 1996 to 2002, he concluded that the food processing industry has important contribution to the Indonesian economy as source of national income, generating employment, import substitution, technology spillover and support food security program. Manufacturing sector's share to the Indonesian GDP is 25.35% (food manufacturing go halves at 47.04%) in 1996 and increase to 52.70% in 2002 to total manufacturing output.

[14] studied the Indonesian manufacturing sector using stochastic frontier analysis and found that average technical efficiency of food sector laid at 0.508 that means only half potential production capacity is utilized. Ownership is key factor contributed to the technical efficiency of food manufacturing sector and elasticity on material is higher than elasticity to capital. This is an indication that food sector is lower capital intensity than other sub sector (textile, chemicals and metal products). Financial crisis in 1997 makes capital intensity sub sector collapse or have negative growth while non capital intensity sub sector (agricultural and agro-food industry) more immune to the crisis since they use local input and also though it is the consumer driven.

The trend of Indonesia food trading from 1990 until 2002 is depicted in Fig.1. During the period there is no significant surplus of food trade balance so that generally we can say that Indonesia has no longer catching-up self-sufficiency in food security.

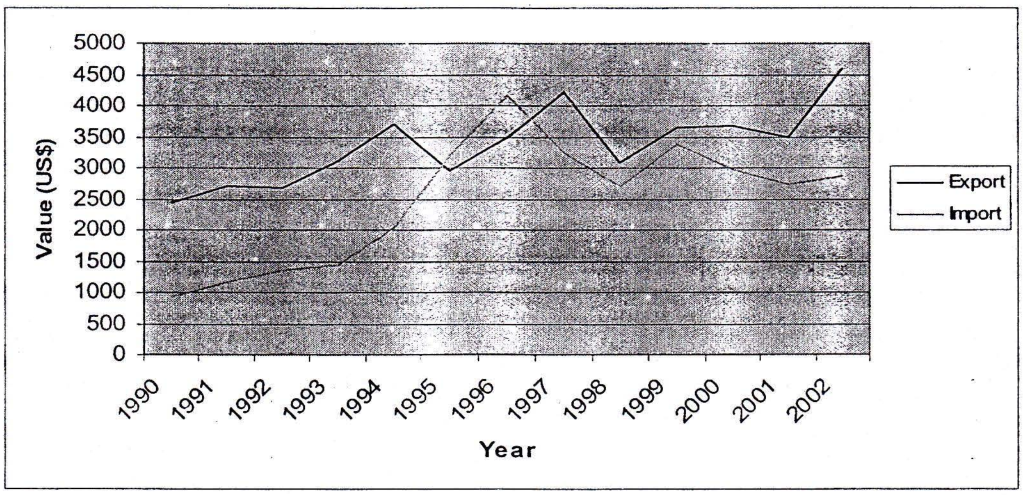


**Figure 1**. Trade food balance in Indonesia during 1990 to 2002 Source: [13]

During 1990 -1995 the value of food export has emerging higher than import, while from 1995 up to 1997 import is greater than export and then the trend was fluctuating where value of export little bit greater than import.

Advantage of income and population growth as well as changes in lifestyle resulting from urbanizations have increased the demand for food, generated changes in food habits, food purchasing and consumption patterns [15]. The agricultural development aimed continuously promoting a balance agricultural growth in relation to the industry growth; specifically to maximizing agricultural income by utilizing national resources efficiently and enhancing agricultural contribution to the economy. One of the vital functions of the agricultural sector is its position as a source of raw materials for the manufacturing sector mainly to the food processing industry. Developing agriculture in general, and agro-food commodities in particular, which has had long focused on how agriculture can give best contribution to overall economic growth and food security. Furthermore, it also aimed to ensure that food is supplied to people in many place, and for this purpose the food have to be transported, storage and packaged. This is the departure point of rapid growth of mankind's knowledge in food processing. Food processing sector has rapid expansion and plays significant role in economic growth of many nations world wide (see:16, 17 and 18]. To consider that gap development between rural area and urban area is still wide in Indonesia and Aceh Province as well, a sustainable development strategic by improvement of food processing industry is one of the strategies. A sustainable development focuses on competitiveness, involving the scaling-up, zero-waste industry operation, using renewable energy, rationalization and intensification of agribusiness as a production, innovation and marketing chain. According to [19] sustainable development means meets the current needs without compromising the ability of future generations to obtain their own needs. The development of SMEs food processing industries potentially can increase farmers' incomes, creating job vacancies in rural area, and support the development of advanced food processing innovation.

**Improvement of Food Processing Industry**

It is clear that there is a burly linkage between agricultural and food processing industry (FPI) in the rural area. More development of FPI in rural area will give a positive impact on economic growth as a whole. With added value created by the processing industry and the retail sector, the economic activities will outward appearance a sustainable cycle and social power of primary producers will be progressively transformed.

The development of sustainable agriculture will opened up new prospects for rural development with agro food industries. New investments have been undertaken in less developed regions financed. Furthermore, to be more competitive and to increase food exports, it is necessary to reduce costs production and fulfill the quality and safety of the product. The increasing vertical integration between agriculture, food industries and food distribution, and horizontal concentration will stimulate the growth of food industries in rural area as base of agricultural production. Below are several aspects of improving SMEs food industry in rural area.

**Technology assistance.** From many empirical studies on industrial performance, technology is a major determinant to increase productivity and efficiency of such firms. It is not reliable to expect innovation of technology from the small scale industry due to they have no R&D budget and doing production process traditionally. Technology and its diffusion are considered a key development factor within rural agro-food districts. Continual process of adaptation and improvement of technology is one method of achieving a competitive advantage.

Food processing industry is different to other industries in term of products characteristic, consumers and impacts of biotechnology and information technology to the business environment. Small scale and medium food industry cannot compete to large scale industry which use modern and automation machinery. By using new technology, the SMEs able to improve productivity and efficiency let them allocate the input factor efficiently. New technologies, including biological control methods and precision farming techniques, will optimize the use of raw material, labor and intermediate inputs, including water and energy at minimum negative impact to environment. Food products are produced to be consumed by human, so that the products have to fulfill such standard to quality and safety through good manufacturing practices.

**Financing scheme.** Mostly entrepreneur in the SMEs have a limited access to get capital to improve the performance of their firm. Actually Indonesian government has launched many schemes through state and public bank to increase the accessibility of small scale industry to get a credit. However, since bank pursue a standard requirement to apply the credit, many potential businessmen unable to get the scheme. For instance, they have to show latest three months bank transaction, collateral asset, cash flow and future working plan which is difficult for small businessmen to provide it. However, simple financial prerequisite should be following by management assistant. Sometimes, the budget spent out not effectively or out of the planning when they apply the credit.

**Management.** Primarily the small-scale industries are operated under a one-man rule in which the manager or the entrepreneur (who invariably is also the owner) handles all aspects of the business. The entrepreneur is personally in touch with production, workers, customers, creditors and fellow small businessmen, an arrangement which allows close contact with people and provides for flexibility in daily operations. So that, good governance and the working environment of the firm are absolutely depend on the manager (owner). Good enterprise governance need a management skill which a shortage endowment in small scale food industry in rural area. Government through the related agencies should supports development of effective rural small scale industry design to ensure that best practice methods and appropriate management of technologies are used in agribusiness and agro-industry as a comprehensive effort including its implementation and monitoring. The management assistant hold close to provides personal skill upgrading as well as information assistance and its interpretation, selection, operation and management of its postproduction facilities and services for handling, processing, preserving, transporting and marketing of food and other agricultural products. Regulation have to be arranged to protect the farmer or small producer from unfair trade practice supports agro-industries and key supply chain actors, from producers through retailers, in developing reliable raw material supply chains. More than the production stage, promotion the agro-enterprise products in local and national market will encourage consumer trust to buy the product. Other management assistant could be extended to understanding about diversification opportunities, agricultural management, marketing and finance; development initiatives, publications on farmer-market links, supply chain management, certification of quality and organic products.

**Marketing.** Behind the production problems, one of the constraint factors of small scale industries to have competitiveness in market is that they have limited access to the market and market information. Efficient company will produce what the market request (market driven) not bring to the market what they produce (supply driven). Without any assistant and distinct government regulations, the industry will difficult to survive in high competitive market. The assistance include providing information about market, current supply and demand trend, competition level, price, distribution channel, input supply chains and retail activities and market related problems. Developing a new market is an important for food industry rather than to compete in the traditional market. Marketing institution like farmer cooperative can positioned as marketing agent to secure intermediate input supply and plays as distribution channel as well. Several large state-owned industries have been appointed as a foster-parent of a group of small enterprises, to provide them financial, technical and marketing assistance. Food companies have sought to increase growth by new products development, brand strengths and market expansion (domestic and international). For instance Malaysia government assists the small scale food industry by program called *Konsep Payung* (umbrella concept). Firms that are participating to this scheme can market their product to large scale companies registered within this program. Farmers market (pasar tani) also an effective marketing assistance for small food industries, because they can meet to the raw material supplier and sale their products in the market.

## Conclusion

Improvement food processing industry in rural area is one of strategic development to slim the gap between rural and urban region in Aceh province. The strategic development has show significant positive impacts in many nations in purpose to boost the rural economic growth. Food processing industries in Indonesia and in Aceh province as well mostly are small and medium scale enterprise (SME). Improving SME food processing will provide benefit through; job generation, distribution of economic growth, low waste in urban, decrease urbanization, regional stability and sustainable development. Policy maker should aware to improve the performance of the rural agro-base industry as one of the effort to narrow development gap than the urban area. Effective and efficient assistant include financial, technology, management and marketing training will robust productivity and competitiveness of the small scale food industry in the rural area. Efficiency and competitiveness of small scale food processing industry can only be achieved and improved through effective actions taken to the key elements affecting and determining them.

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