



3rd Global Conference on Business and Social Science-2015, GCBSS-2015, 16-17 December
2015, Kuala Lumpur, Malaysia

Adding Value to Prime Commodities of Agro-Industry in North Aceh Regency Indonesia

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Abstract

Increasing the value of agro-industries of Aceh using the input-output models will produce some objective function and variable constraints. The independent variable is the actual production and potential production of agricultural commodity and overall yield of agro-industrial products and raw materials. The steady state models and simulation models support of agro-export through Krueng Geukuh. The analysis showed that several centers of production of raw materials are very sensitive to a decrease in productivity of commodity areas. According to the output coefficients for each commodity, the biggest are: animal feed, industrial cocoa and spices. While industries such as cocoa, coffee, coconut, pepper, turmeric and cloves are relatively small, but still larger than one. Therefore, there needs to be additional study as which agro-industrial systems are capable of providing added value to the trade system of Aceh.

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Peer-review under responsibility of the Organizing Committee of the 3rd GCBSS-2015

Keywords: Agro-industry; Index of Technology; Main Commodities

1. Preface

Aceh Logistic Performance Index is one measure of economic progress in four areas (the east coast, the west coast of southern, central Aceh and Regional buffer free port of Sabang in Aceh Besar. Studies on Prospects Commodities In Relation With Agroindustry Development will enhance performance of trade and economic development of this

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region. It is understood, according to the review of the logistic system that will lead to local agro-industry growth relies on growth centers such as the city of Lhokseumawe, Banda Aceh, Langsa, and Meulaboh.

Agro-industrial development should promote the potential of the region and the ability of its people. Comparative advantages in the form of natural resources need to be accompanied by increased competitive advantages, which are realized through the creation of human resources and agro-industrial societies that are increasingly professional. For North Aceh Regency society, especially people living in and around the port of Krueng Geukuh, empowerment should target agro-industries. Agro-industrial societies around the region need to continue to be fostered and accompanied by human resource capacity which is more advanced, independent, prosperous, and equitable. Natural and human resources around the North Aceh district should become the basis for the future development of agro-industries. Thus the need to formulate an agro-industry development policy leading to increased added value of agricultural products as well as the ability of people to be able to use natural resources in an optimal and sustainable way. In addition to the development of agro-industries, the regional not agricultural centers can be utilized for engineering appropriate technology to improve business productivity, farmers' income, and the welfare of rural communities, as well as the remove of backwardness.

Opportunities to develop agro-industries in rural areas, among others, include various aspects such as environmental strategy, demand, resources and technology. Builders agro-industry should be applied toward the development of sustainable agro-industries. Agro-industries need to be built and developed which will be noticed as an aspects of the management and conservation of natural resources.

Agro-industry stems from the input set of technologies which are expected to provide added value to the products of agricultural mainstays of Aceh. The agro-industry will also change the nature by which raw agricultural products are turned into products that have more value and have a wider market. The development of the port of Krueng Geukuh would be one solution in the repair of supply networks for exports of agriculture products from this region. There should be industry for the guarantee of the supply of goods and to control the amount of export goods that relate to the delivery capacity of the port Krueng Geukuh. Agricultural products that are seasonal and perishable can be inflows and outflows contributing to the system's agro industry.

Literature Review

For the core economies, the technology index is a simple average of an innovation subindex and an information and communication technology (ICT) subindex, both of which are comprised of hard and soft data. As innovation sub index presented here is different from the “innovative capacity index” constructed by Michael E Porter and Scott Stern in. That measure seeks to explain the underlying factors that contribute to innovation as measured by patents. The innovation subindex here seeks to explain the elements of innovation, such as patents, that are linked measurably to growth (Jeffrey D Sachs, 1998).

The specific results of the nonlinear least squares regression were as follows, with the average annual percentage change in GDP GAP relative to the United States still as the dependent variable in the following equation (Robert J Barro's, 1991):

$$\text{Growth} = \text{Constant} + B1 \times 1980s \text{ non-core} \times \{N1 \{0.5 \times \text{ICT subindex} + 0.5 [(1 - N2) \text{innovation subindex} + N2 \times \text{technology transfer subindex}]\} + (1 - N1) (\text{macroeconomic index} + \text{institutional index})\} + B2 \times 1980s \text{ core} \times \{C1 \{0.5 \times \text{ICT subindex} + 0.5 [C2 \times \text{innovation subindex} + (1 - C2) \text{technology transfer index}]\} + (1 - C1) (\text{macroeconomic index} + \text{institutional index})\}$$

Technological core economies

$$\text{Core technology index} = 1/2 \text{ innovation subindex} + 1/2 \text{ ICT subindex.}$$

Technological non-core economies

$$\text{Non-core technology index} = 1/8 \text{ innovation subindex} + 3/8 \text{ technology transfer subindex} + 1/2 \text{ ICT subindex.}$$

To construct the technology-in-trade variable, we first calculated the average value of non-primary product exports as a proportion of GDP throughout the 1990s. To ensure the broadest possible reference base, we calculated this not just for the GCR sample, but also for the more than 100 countries for which detailed international trade data are available. Non-primary exports were defined to include most processed textiles and manufactured goods, but not mining products or processed raw materials.xi (World Bank, 2015).

Added value of agriculture product industry are (Knothe, G. et al, 2014):

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