Cluster Area Development with the Basis on Organic Agriculture
To Support The Competitiveness on Acceleration to
Enter the Asean Economic Community Market
(Case Study in Semarang-Indonesia)

Hadi Sasana\textsuperscript{a} and Indah Susilowati\textsuperscript{b}
\textsuperscript{a} Facuty of Economics and Business, Diponegoro University (UNDIP)
Jl. Prof. Soedarto,SH. Semarang 50275, Indonesia
\textsuperscript{b} Corresponding author’s email: indah-susilowati@rocketmail.com

Abstract

In the globalization era, qualified human resources, good infrastructures, and the use of information technologies have been considered the most important factors to accelerate the development of region. Nowadays people are moving very fast and their lifestyle becoming dynamic. There is phenomena that people now is more aware to go back to the basic, including in agriculture sector.

The aim of this study was to analyze the development of cluster-based area related organic agriculture in order to accelerate the improvement of regional competitiveness in the era of ASEAN economic community. The research method applied was qualitative and quantitative analysis approach. The results indicated that there is increase number of farmers, for both individually or group. As the consequence, there is a shift in their main job from traditional to the organic farming. The organic farming groups are suggested to develop organic agriculture such as vegetables or other horticulture plants. Utilization of the intensive information technology is necessary. In order to support the competitiveness on acceleration to enter the Asean Economic Community Market, indeed need a high commitment among the stakeholders (Academician, Business, Government and Community, A-B-G-C).

Keywords: cluster, competitiveness, regional, agriculture, Indonesia.

1. INTRODUCTION

Since in 2001 Indonesia has been applied regional autonomy policy, where every region of county tried to look for strategy exactly to increase their community prosperity. The logical consequence of regional development on autonomy era and globalization today, a logical consequence of regional development in globalization era and the current autonomy is faced throughout the region in the national territory with the increasingly sharp competition level directly in the marketing of goods and services, both in the domestic market and international level.

The competitiveness of regions has significance in the domestic and international markets seized. An area that is able to compete with other regions in producing and marketing the goods and services referred to have high competitiveness. The region must find and recognize the potential that will be developed and may have an impact on increasing the welfare of local community especially with the opening of the free market that allows imported products entered into the area, surely the effort area should be done more tangible and measurable.

Semarang district is one area of Central Java province in Indonesia whose territory already applied organic farming system. The system of organic farming in the area mostly horticultural products. Study of Porciuncula and Luzviminda (2014) in Fillipina mentioned
that organic farming was a lifestyle change in society to live more healthily by consuming natural foods. In addition to more healthy, organic produce vegetables also have a higher economic value than agriculture accounting. Organic farming is not for developed countries but can be successfully applied in other situations. In developing countries, organic agriculture can contribute to foreign exchange income, productivity and sustainable socio economic development (Partap and Saeed, 2010). Study results of Gopal Naik and Vishnuprasad Nagadevara (2014) mentioned that the cultivation of peanuts legumes through cluster organic farming brings many advantages than agriculture konvensioanal. Nuts care costs lower, the price is relatively higher than the market price of conventional agriculture and the advantages that gotten is much higher. Cluster theory has been well received for the development of the region through the development of the industry.

Organic farming in Semarang district is being continuity, by forming organic farming clusters that is membering from organic farmer groups. However there are some important problems in organic cluster in Semarang, such as there is still the low ability management of the Manager, technology is still modest, the limitations of technical expertise, human resource of old farmer, and the narrowness of the land ownership. This study aims to determine the cluster development strategy for organic agriculture in order to strengthen regional competitiveness improvement.

2. LITERATURE REVIEW

Organic farming excludes the use of agro-chemicals inputs of production system, minimizing environmental pollution, promoting the reuse of recycled sewage plant residues and organic agriculture, and increase biodiversity, and increase the productivity of the land. Organic agriculture and agribusiness can improve rural livelihoods so better, and sustainable development through job creation and increase the income of the farm. Organic farming is not for developed countries alone but it can be successfully applied in other situations. Own organic farm products lower the risk of contamination due to chemical substance, organic products are free of residues of pesticides and other synthetic substances which are commonly used in conventional agriculture, such as inorganic fertilizers (Rodrigues, 2014).

Organic agricultural policy reform and the rising market, as well as a conducive climate require a competitive agricultural industry, tough, and environmentally friendly. Farmers maximize profits with cost control, attention to detail, product quality achievement of high results and focusing on the company's margins (Wilson, 2014). Partap and Saeed (2010) stated that Governments should encourage farmers to adopt organic farming through incentive schemes by creating related infrastructure to meet the organic farming necessity. Facilities and infrastructure are such as roads and bridges, irrigation, agriculture and other. In addition to the physical infrastructure are provided by the Government, many institutions involved in training to build the farmers skills.

Porter (2001) stated the geographical concentration of the cluster is between companies that are intertwined and in collaboration, among others, involve a supplier of goods, providers of services, related industries, as well as a number of agencies that specifically serve as a supporting or complementary. The cluster significantly increases the ability of regional economy and the wealth of the community, because in many ways they act as incubators of innovation. According to Porter region must develop a competitive advantage based on the capabilities of innovation, and economic vitality is the direct result of local industry competition that is able to explain in a clear purpose, process, and by whom the plan was performed. Therefore, in planning the development of important to pay attention to the process of drafting the plan itself, the stakeholders involved, the strategies used, as well as a variety of things that can support or impede the efforts of development planning and its implementation.
Cluster system facilitates problem solving is going on, because all that is related to the production of a group in one area of the region which has been determined. Identifying problem so it is easier and faster handling in China shows that with. This makes agricultural production in the form of clusters in China continues to rise (Xiaobo et al., 2017). Cluster system can create the structure of the business networks between the parties involved in the production of goods or services which can be seen as one of the models of increasing regional development (Söylemezoğlu, 2014). Study Söylemezoğlu and Doruk (2014) in Turkey showed geographic proximity and facilities that the company integrates well. Creating cluster system of milk producers in Turkey is reaching for success.

According to Nogales (2010) stated the formation of farmers cluster as a powerful approach to help promote the agricultural sector in developing countries. Research Eades and Brown (2006) in America showed that cluster organic farming brings positive benefits. What if between workers/farmers, supporting organizations, and the company mutually cooperates well, then the organic crop production will continue to expand. Clusters farming can also improve market access and information. Cluster policy becomes important, especially for small scale farmers and agribusiness, because it allows them to engage in higher productivity, more market-oriented, and able to increase value-added production.

3. RESEARCH METHOD

Cluster phenomenon has caught the attention of economists to engage in the study of the problem of location that creates a new paradigm of economic geography and called the **new economic geography**. The selection of sample location research selected by the method of **multiple stage** sampling, so that elected Subdistrict Getasan of Semarang, Central Java, Indonesia. Determination of the respondent's purposive sampling method sampling based on location, and competence. The number of respondents in this research sample as many as 60 people consisting of three people: 3 people of Academy, 50 people of Business, 4 people of Government and Community, (Academy, Business, Government, Community: ABGC). A method of extracting primary data is through interviews with questionnaires, indept interview, and Focus Group Discussion (FGD).

Methods of analysis used: (1) analysis of Strength, Weakness, Opportunity and Threat (SWOT), and (2) the Analytical Hierarcy Process (AHP). **Mix approach** method between qualitative and quantitative approaches (Creswell, 2007) to address the research objectives and identify phenomena that occur in clusters related to the institutional conditions of cluster, as well as increased competitiveness strategy. Details of the objectives, methods, and the expected outputs from this study are shown in table 1 below.

<table>
<thead>
<tr>
<th>Research Goal</th>
<th>Research Method</th>
<th>Output/ Performance Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification, profile mapping, and characteristics and cluster sample</td>
<td>Qualitative analysis, <strong>desk analysis</strong> and quantitative (descriptive statistic)</td>
<td>Profile and <strong>business model</strong> cluster and SMEs sample</td>
</tr>
<tr>
<td>Identification map strengths, weaknesses, opportunities, and threats facing the cluster sample</td>
<td>Quantitative analysis (descriptive statistics) and qualitative (interviews, FGD, and <strong>indepth interview</strong>)</td>
<td>Engineering model: institutional conditions and competiveness cluster</td>
</tr>
<tr>
<td>Identification factors that influence the success of</td>
<td>Descriptive statistic analysis and qualitative through questionary</td>
<td>Engineering model: cluster competiveness</td>
</tr>
</tbody>
</table>
cluster development, and strategize early in-depth interview and FGD. Potency and strategy way of development

Arranging development strategy area basically on cluster Qualitative analysis through interview, FGD, and in-depth interview and quantitative as well as Analytic Network Process. The model of development strategy area through strategy application of cluster

4. RESULT AND DISCUSSION

Semarang district is geographically located at 110°14'54.75" up to 110°39'3" East longitude and 7°3'57" up to 7°30' South latitude. Extensive of Semarang district is 95,020.67 Ha or approximately 2.92% of Central Java province, administratively it consists of 19 districts, 208 villages. The condition of the Semarang district mostly hills and has a relief of the mountains and volcanic plateaus in the core. The height of Semarang district is located in the range between 1,450 meters-1,318 above sea level (a.s.l), with the lowest altitude in the Candirejo village of Pringapus subdistrict, and highest in Batur village of Getasan Subdistrict making it suitable for produce products of agriculture and horticulture.

4.1. The Internal And External Conditions Of Organic Farming Clusters

Based on the results of field studies as well as FGD and indept interview with stakeholders (A-B-G-C), organic agriculture cluster development in district Getasan factors that have the potential to be developed, such as: geographical circumstances that support farmers' skills, which are already underway, the potential market demand is great, and some products have been certified.

Opportunities organic farming is growing very well, due to the increasing awareness of healthy lifestyle by consuming the products of organic farming. However consumers are willing to pay for quality organic food compared to inorganic food. The price of food made from organic products cost more comparable to the quality is better. The importance of the factor is consumer anxiety would be a food production process (Nogales, 2010).

Introduction of Asean free market opening access to international markets, but instead could be a threat if not ready. The internal and external conditions of organic agriculture cluster in Getasan sub-district can be seen in table 2 below.

**Table 2 SWOT of Organic Farming Cluster in Getasan Sub-District Of Semarang District**

<table>
<thead>
<tr>
<th>Strength</th>
<th>Weakness</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The ideal geographical conditions</td>
<td>1. The ability of low-menejerial</td>
</tr>
<tr>
<td>2. Good quality organic farmland</td>
<td>2. Simple still planting technology</td>
</tr>
<tr>
<td>3. Experienced and skilled Human Resources in organic agriculture</td>
<td>3. The narrowness of land tenure</td>
</tr>
<tr>
<td>4. Certified farm products</td>
<td>4. The limitation of the means of processing and marketing product</td>
</tr>
<tr>
<td>5. Government's policy Support</td>
<td>5. The capital issue</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threat</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The ever-increasing market demand</td>
<td>1. Climate change does not necessarily</td>
</tr>
<tr>
<td>2. Awareness of the needs of healthy vegetables</td>
<td>2. The attack of pests diseases that can not solve local farmers</td>
</tr>
<tr>
<td>3. The Era of trade liberalization in particular ASEAN free market</td>
<td>3. A flood of imported products</td>
</tr>
<tr>
<td>4. Support government policies in the agribusiness development</td>
<td>4. Post-harvest support facilities is limited</td>
</tr>
</tbody>
</table>
4.2. The Development Strategy of Organic Farming Cluster

Based on the results of FGD with the parties the competent (key person) in the area of research, organic agriculture cluster development efforts include some important aspects, namely: (1) production aspects, (2) marketing aspect, (3) managerial aspects, (4) infrastructure aspects, (5) aspects institutional. Organic agriculture cluster development strategy based on five aspects of such a major factor which is applied in the area of research.

a. Production Aspect

Production aspects becomes very important in order to cluster development because one of the main constraints on internal cluster is the ability of innovation of the low production due to the low level of technology, so it is not able to compete with the major industrial products. Production aspects includes all activities carried out by businessmen in the production process include the availability of raw materials, the use of technology to capital.

Through the process of observation and indept interview with key person in getting the details of the strategy to increase the quantity and quality of organic agricultural production in the areas of research, namely: (1) maintain the availability of the raw material (2) the increased use of appropriate technology (3) improved standardization of products (4) capital grant.

b. Marketing Aspect

The potential market demand is huge and continues to experience increased. But this State has not been able to optimally utilizing by farmers because of low ability of marketing (branding) of the resulting product.

Based on observations and indept interview with key person to develop marketing must be supported with details of the following strategies: (1) promotional event or exhibition held (2). partnership with third party (3). utilize information technology as a means of marketing (e-commerce)

c. Managerial Aspect

Managerial ability is one of the important factors in developing of the business. Businessmen who have good will encourage managerial effectiveness of business activity and improve the competitiveness of the business. The results of field studies demonstrate the ability of farmers to organic agriculture manjerial low. Based on the results are obtained in the indept interview details strategies to improve the quality of farmers in the area of managerial research: (1) business management Improvement (2) doing a comparative study menejerial with the more advanced of SMEs (3) Conduct training continuing managerial.

d. Infrastructure Aspect

The existence of good physical infrastructure became one of the main factors in the development of the cluster. Bad infrastructure conditions will result in inefficient and effect on the competitiveness of the product cluster.

Based on observation and interview process with key person in getting alternative strategies in order to improve the quality of infrastructure, namely: (1) complete the facilities and infrastructure (2) performs maintenance and infrastructure (3) an increase in the the utilization of information technology (IT).

e. Institutional Aspect

The existence of nonphysical infrastructure (institutional) like the Government bureaucracy and cluster management system becomes an important factor in the development of the cluster. Developed countries have the quality of a good bureaucracy able to create a business climate that supports the existence of SMEs in their country. Institutional aspects of
good will reduce transaction costs \textit{(transaction cost)} that is causing the low competitiveness of SMEs in developing countries such as Indonesia. In addition a good institutional existence will be able to create sinergisitas of all parties in the development of SMEs cluster.

Based on observation and interview process with key person in getting alternative strategies in order to improve the institutional aspects of the cluster in the area of research, namely: (1) Increasing the Government's role in cluster development (2) Fixing system institutional cluster (3) Provide training and ongoing coaching against the Cluster Manager.

Analysis of cluster development strategy based on five main aspects according to the respondents of the SMEs business principals of organic farming in the framework of cluster development of organic farming in Getasan sub-district of Semarang district, shown in Figure 2.

\textbf{Figure 2 analysis of main aspect into development of organic farming cluster in Getasan Sub-district according to Businessman}

<table>
<thead>
<tr>
<th>Priorities with respect to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal Pengembangan klaster umkm Kab. S\text{\textit{MG}}</td>
</tr>
<tr>
<td>Pemasaran</td>
</tr>
<tr>
<td>Produksi</td>
</tr>
<tr>
<td>Kekembagan</td>
</tr>
<tr>
<td>Infrastruktur</td>
</tr>
<tr>
<td>Managerial</td>
</tr>
<tr>
<td>Inconsistency = 0.07</td>
</tr>
</tbody>
</table>

Source: Primary Data 2016

Based on the results of the analysis of AHP in Figure 2 can be seen that the order of priority of the main aspects of cluster development strategy for organic farming according to farmers i.e.; (1) Marketing Aspect (2). Production Aspects (3). Institutional Aspects, (4). Infrastructure Aspects (5). Managerial Aspects. Overall, based on the results of the analysis in order to cluster development of organic farming in Getasan according to respondents (key-person and businessmen) has a similar view of the main aspects related that should be enhanced i.e. marketing aspect.

The next stage is done in analyzing organic agriculture cluster development in Getasan district namely formulating policy strategy priorities thoroughly based on the main aspects and policy alternatives that are used in this research. Analysis of cluster development is policy priority according to the principals of business/organic farmers in the area of research presented in Figure 3.

\textbf{Figure 3. Analysis Result of Development Strategy of Organic Farming Cluster in Getasan Sub-District According to Businessman}
According to the results of the analysis of AHP in Figure 3, the results of the consistency of the whole policy priorities analysis ratio i.e. amounting to 0.05, meaning the results of this analysis are consistent and acceptable. Three top policy priorities in order according to businessmen is 1.) Marketing cooperation with third parties 2.) Exhibition and 3.) Standardization of the products.

Election results for the priorities of the strategy according to businessmen have in common with key-person where a sales cooperation with third parties become the most optimal strategy in developing the cluster. Research Labmann (2007), about the strategy of organic agriculture producers in Thailand, stated that the importance of organic products produced for export.

According to the trade sales cooperation will provide the certainty of a product that should be produced, so as to effectively enhance the performance of farm businesses. The priority of the strategy is further exposition, with exhibits of products of organic vegetables in Getasan district will be known by many prospective buyers. The third strategy is priority then doing the standardization of products in order to attract and is able to improve marketing. The development of the organic agricultural sector through the support of the Government with the support of the national regulation on organic farming, provide subsidies, provide organic farming facilities, and educational or training activities on principals of agriculture organic.

5. CONCLUSION

This study aims to examine the cluster development of organic agriculture in order to strengthen regional competitiveness improvement. Based on the results and discussion can be concluded that:

(1) Conditions of SWOT organic agriculture cluster:
   Strength: the geographic Conditions, government policies, community support, the experience of farmers, and ideal land.
   Weakness: simple cropping Technology, limitations of the means of the product processing, the ability of menejerial low, the narrowness of the land ownership, the limited venture capital.
   Opportunity: increasing product demand, awareness of the needs of healthy vegetables, ASEAN free market era, support government policies in the development of agribusiness
   Threats: climate change, pests and disease, a flood of imported products, post-harvest support facilities limited

(2) The major cluster development Strategy for organic: (a) marketing aspect, (b). production aspects, (c). institutional aspects, (d). infrastructure aspects (e) managerial aspects.
ACKNOWLEDGEMENT

We deliver thanks to research institutions and Diponegoro University research funding with the help of research, and the respondents in areas of research that are willing to assist researchers.

REFERENCES


http://iimb.ac.in/research/sites/default/files/Paper%2016%20Naik%20and%20Nagadevara.pdf


www.fao.org/docrep/012/i1560e/i1560e.pdf


Rodrigues Rochele de Quadros. 2014. "Microbiological contamination linked to implementation of good agricultural practices in the production of organic lettuce in Southern Brazil". *Food Control* 42, page 152 - 164.

http://ageconsearch.umn.edu/record/236912