Development strategies of the agropolitan area in Cilacap Regency

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Abstract. Various concepts of development dimension have been developed and applied in Indonesia. One of the regional development strategy concepts is the regional development based on the character of agropolitan resources. This research is intended to analyze the implementation of spatial planning of the Cilacap Regency, to describe distribution of agropolitan area and development strategy of its area. The analysis models used in this research are GIS, descriptive, SWOT and AHP. The study showed that the agropolitan cluster area is directed at Majenang, Wanareja, Karangpucung, Cimanggu and Dayeuhluhur Sub-district. Gandrumangu and Cipari Sub-district have a potential area to involve in agropolitan. Based on SWOT analysis, agropolitan area in Cilacap need S-O strategy to improve its performance. The strategies to improve agropolitan are regulations on developing agropolitan areas and controlling land conversion; human resources development; mitigation of climate change; strengthen agricultural institutions and farmers' regeneration; credit/investment programs for agricultural businesses; expand the partnership network; promote the leading commodities; and procurement / build of agricultural infrastructure. Based on AHP analysis, the main strategy to develop agropolitan area is the local government needs to make regulation on developing agropolitan areas and controlling land conversion immediately.

1. Introduction
Regional development is carried out to develop, preserve, protect and / or coordinate the integration of the development of strategic area values in supporting regional spatial planning. The interrelation and interaction between regions in developing the region exposed to the condition of transportation infrastructure (such as roads, bridges, ports, airports, etc.), electricity, and telecommunications (telephone and internet networks) and others where the availability is very necessary with good and equitable conditions.

One of the objects of regional development is agricultural development. Many strategies for agricultural development, but one of them is agropolitan area. This area based on local vision and mission and also becomes the basis of long-term development planning.
One of the agropolitan areas in Indonesia is located in Cilacap Regency. This regency has a variety of superior commodities, both in the food crops, horticulture and livestock subsectors. The production of agricultural commodities in Cilacap Regency has the potential to satisfy local needs as well as those outside Cilacap Regency. Cilacap Regency has superior potential in food crop commodities such as paddy rice, corn and soybeans. Main commodities of horticultural crops include chili for the horticulture sub-sector, vegetables and banana plants for the fruit horticulture plant sub-sector. In addition, there are other sub-sectors of plants that have the potential as leading commodities, including *d redes* coconut, nutmeg, and cloves. Main livestock commodities include beef cattle, goats, broilers, ducks and quails. Cilacap Regency has abundant natural resources and contributes greatly to the welfare of the community.

Agricultural development areas in Cilacap must consider the Cilacap’s spatial plan (the objectives, policies, regency spatial planning strategies, regency spatial structure plans, regency spatial plans, regency strategic zoning plans, directions for district area spatial use, and provisions for controlling spatial use of district areas) [1] [2]. Cilacap’s spatial plan covers 20 years from 2011 to 2031. Regional Medium-Term Development Plan or RPJMD of Cilacap Regency is provincial regional planning document for a 5-years period from 2017 to 2022 [3]. This area also ensures the preservation of natural resources, the function of the environment, public safety and harmony with the Strategic Plan for Regional Development.

Now, agropolitan area development strategic areas include: Agropolitan Cluster Development Areas are directed with the main commodities made from bananas, coconut, sugar palm, lemongrass, and cassava. The agropolitan cluster is directed at Majenang, Wanareja, Karangpucung, Cimanggu and Dayeuhluruh Sub District [3] [2]. However, this can change according to current factual conditions. The local government is necessary involve to provide recommendation for spatial planning and management Agropolitan. Advice from agricultural local officer become influential in development strategy of agropolitan area at Cilacap Regency. This research is intended to analyze the implementation of spatial planning of the Cilacap Regency, to describe distribution of agropolitan area and development strategy of its area.

2. Method
The research method is divided into data collection and data analysis methods. The data collection method was carried out by field survey and Focus Group Discussion. Field surveys are implemented by direct field observations or in-depth interviews with local governments, businesses and the community. Interviews were conducted with the Agricultural local government (Department of Agriculture and Department of Food and Plantation). In addition, interviews were also conducted on businesses agriculture as many as seven people.

First of all spatial analysis with territorial techniques. This analysis technique used regional policy documents such as the Spatial Planning Document of Cilacap Regency (RTRW) for 2011 - 2031 [2] and Regional Medium-Term Development Plan of Cilacap Regency (RPJMD) for 2017 – 2022 [3]. This analysis technique focuses on the position and strategy of the Cilacap Regency RTRW and RPJMD. The regional object in this analysis is the agropolitan area. Territorial analysis is needed as a basis for information on a region so that it can be analyzed properly in all fields that are in the region. Another function is as a regional management control so that environmental balance is not disturbed. The output of this analysis is maps and recommendations. Maps can be produced with Geographic Information Systems (GIS) [4] so that they describe the existing conditions and plans for developing the agropolitan area.

Focus Group Discussion is defined as a discussion that is systematically and directed on a particular issue or problem. FGDs that use the "focused discussion" method include qualitative methods, such as other qualitative methods, direct observation, in-depth interviews, etc [5]. In
implementation, it attempts to answer the kinds of how and why questions, not the kinds of what and how many questions that are typically used for quantitative socio-economic survey methods, or others. FGD were conducted three (3) times with the relevant local government such as the Department of Planning Board, Regional Research and Development, Fisheries, Agriculture, Plantation and Food, Trade Cooperatives and Small and Medium Enterprises, Investment and Integrated Services One Stop, Public Works and Spatial Planning and Regional Research Council of Cilacap Regency.

Data analysis methods were carried out for each research aim. Spatial and descriptive used to analyze the implementation and distribution of the agropolitan area in Cilacap Regency. While SWOT and AHP [6] used to provide recommendation for spatial planning and management of agropolitan area. SWOT is an analysis method used to evaluate the strengths, weaknesses, opportunities, and threats involved in an organization, a plan, a project, a person or a business activity [7]. AHP is a theory and method for choosing the best alternative with a relative measurement approach [8]. The measurement results of the AHP are the formation of a strategy in the form of a hierarchy where the peak is the main strategic priority. In this study, AHP will be conducted by considering input from the local agricultural officer.

3. Study Area

This research was conducted in Cilacap Regency, Central Java Province. This area located between 108° 4'30" - 109° 30" 30" East Longitude and 7° 30" - 7° 45"20" South Latitude. Cilacap Regency has 24 districts, covering Sidareja, Kedungreja, Gandrungmangu, North Cilacap, Central Cilacap, South Cilacap, Cipari, Bantarsari, Karangpucung, Cimanggu, Majenang, Wanareja, Dayeuhluhur, Sampang, Patimuan, Nusawungu, Maos, Kroya, Kesugihan Kawantung, Kampung Laut, Jeruk Legi, Binangun, and Adipala [9] Cilacap Regency is bordered by several other regions. The north is bordered by Banyumas Regency and Brebes Regency. East side is bordered by Kebumen Regency and west side is bordered by Ciamis Regency and Pangandaran City, West Java Province.
4. Result and Discussion

4.1. The Implementation of Spatial Planning of Cilacap Regency

According to Indonesian Law Number [10] concerning Spatial Planning, it is stated that agropolitan areas are areas that consist of one or more centers of activity in rural areas as agricultural production systems and certain natural resource management indicated by the existence of functional linkages and unit spatial hierarchies. settlement system and agribusiness system. The purpose of this program policy is the development of rural agricultural areas and the development of local potential as the motor of economic growth in rural areas.

The developed agropolitan area is part of developing regional potential through the strengthening of local, agricultural and plantation production centers that are based on local potential so that the agropolitan areas are able to play a role as an area of economic growth with interregional and intraregional competency.

The development is also oriented to the market forces that are implemented through the empowerment of farming and agribusiness activities upstream to the downstream. The development of this area is expected to provide the convenience of an integrated and integrated agribusiness system with the provision of infrastructure (facilities and infrastructure) such as the improvement of village axis environmental roads, improvement of farm roads, Agribusiness Terminal Station (STA) and other developments.

The determination of the agropolitan area in the Cilacap Regency area is in accordance with the Spatial Planning of the Cilacap Regency for the Year 2011 - 2031 in the Cilacap District Regulation [2], which is Dayeuhluhur, Majenang, Wanareja, Karangpucung, and Cimanggu Sub District. The agropolitan area consists of areas of food crops, horticulture, plantations, and livestock.

4.2. The Distribution of agropolitan area in Cilacap Regency

The agropolitan cluster is directed at Majenang, Wanareja, Karangpucung, Cimanggu and Dayeuhluhur. The current agropolitan cluster is very possible to develop considering the development of several surrounding sub-districts. Criteria, indicators, and strategic factors in the development of the area are implemented by interviews and observations based on predetermined indicators and criteria.

The indicators and criteria are as follows:

- Natural resources;
- Infrastructure;
- Institution of Production Facilities;
- Institutional Farmers / Fishermen;
- Institutional Capital;
- Institutional Marketing; and
- Institutional / UMKM Results Processing Industry.

Based on field observations, there are 5 (five) districts that have been included in the agropolitan strategic area and are still declared eligible to be continued as an agropolitan strategic area. While 2 (two) other districts become recommendations in developing commodity-based areas, namely Cipari and Gandrungmangu Districts. Both districts were declared eligible to be included in the agropolitan development area. Cipari District is a center of plantation commodities, especially rubber. Whereas Gandrungmangu District is a center for food crops, horticulture, plantations, and livestock.

The determination of the area development follows the requirements stipulated in the Regulation of the Minister of Agriculture of the Republic of Indonesia [11] Regarding the Guidelines for the Development of Regions where the floating area requires "in one area" must be fulfilled.

In Natural Resources, all districts have natural potential that is supportive for agropolitan development areas. For the prospective agropolitan sub-districts namely Cipari and Gandrungmangu sub-districts also have adequate natural resources, including irrigation using springs or irrigation and
the availability of animal feed land. A common problem that occurs in irrigation systems is a drought that covers almost all agropolitan areas. There are also attacks on plant pests (OPT) and drought during the dry season. Infrastructure aspects are the main problems faced, namely road infrastructure and irrigation. The accessibility of farmers to production facilities in Cilacap Regency is very adequate. However, this institutional activity is still not optimal because there are several groups that rarely meet. When viewed in terms of assets and farming equipment, each group has adequate infrastructure. Farmers' access to capital in the agropolitan area is sufficient, but can still be improved, especially for banks. Farmers have good access to the marketing and processing institution, especially for plantation crops. While the food farmers, they need some help from government to increase their access to the marketing and processing institution.

4.3. Recommendation for spatial planning and agropolitan management.
SWOT analysis (SWOT analysis) which includes efforts to identify strengths, weaknesses, opportunities, and threats that determine company performance. SWOT analysis compares the external factors of opportunity and threats with internal factors strengths and weaknesses. According to Irham in Nizak 2013 [12] to analyze more deeply about SWOT, it is necessary to look at external and internal factors as an important part in SWOT analysis.

| Strengths                      | Integrity | Rating | Integrity x Rating |
|--------------------------------|-----------|--------|--------------------|
| Many farmers in productive age | 16.67     | 2.89   | 48.25              |
| Farmers have skills in aquaculture | 13.33   | 3.05   | 40.70              |
| Easy access to agricultural inputs | 15.00   | 2.95   | 44.21              |
| Cultivation equipment is complete and sufficient | 16.67 | 2.74 | 45.61 |
| Fewer pests | 11.67 | 2.58 | 30.09 |
| Ease in gaining access to capital with soft interest | 11.67 | 2.42 | 28.25 |
| Ease of selling crops | 15.00 | 2.89 | 43.42 |
| **Total Strength Score**       | **280.53**|        |                    |

| Weaknesses                     | Integrity | Rating | Integrity x Rating |
|--------------------------------|-----------|--------|--------------------|
| Low production.                | 9.68      | 2.16   | 20.88              |
| Application of GAP and SOP applications are not running. | 19.35 | 2.63 | 50.93 |
| The ability of farmers is limited in product storage. | 16.13 | 2.11 | 33.96 |
| Institutional the result processing has not developed | 25.81 | 2.26 | 58.40 |
| Farmers lack market information. | 29.03 | 2.21 | 64.18 |
| **Total Weaknesses Score**     | **228.35**|        |                    |
| **Difference of Strengths - Weaknesses** | **52.17**|        |                    |

Based on the results of internal factor analysis, it is known that the Strength Aspect of the agropolitan area is greater than the Weakness Aspect. The greatest strength of the agropolitan area is the large number of farmers in the agropolitan area. This is become common place because the main job of the people in the agropolitan area is farmers. However, many farmers are already elderly, so it is necessary to work on a farmer regeneration program. Survey data show farmers in the agropolitan area are dominated by over 50 years of age. At that age, farmers have decreased their productivity so they are not able to cultivate agriculture optimally.
In opportunities and threats aspect, agropolitan areas have a greater opportunity score. When viewed in detail, the greatest opportunity value is an increase in demand. This can occur due to an increase in the population. While the lowest opportunity is the price policy set by the government. So far, only the rice price policy at the farm level is regulated by the government whereas for other foods there is no regulation. It really depends on market conditions. This condition is reflected in the greatest threat faced by farmers, a weak bargaining position, because farmers really depend on the market and are unable to regulate prices. In fact, as many as 73.90% of farmers in the agropolitan area stated that the prices received were often unprofitable. The lowest weakness faced by farmers is import policy. Farmers in Cilacap Regency do not feel the impact of the import policy of several commodities because the needs in Cilacap Regency are met by non-imported local products.

Based on the results of the SWOT analysis, the following are strategies and recommendations that can be prepared by the Government of Cilacap Regency in developing the agropolitan area.

- Regulations on developing agropolitan areas and controlling land conversion;
- Counseling, training and internships;
- Mitigation and Climate Change;
- Strengthening agricultural institutions and farmers' regeneration;
- Soft credit programs for agricultural businesses, acceleration of the formation of Village-Owned Enterprises (BUMDES) and efforts to increase investment;
- Expanding the partnership network, both upstream to downstream and other sectors (tourism);
- Promotion of district leading commodities; and
- Procurement / manufacture of cultivation infrastructure and product marketing

The next stage is the preparation of priority strategies needed for each region. The preparation step is done using the Analytical Hierarchy Process (AHP). This analysis is based on the statements of stakeholders, especially regional agencies regarding the agropolitan area. Based on official information, the agropolitan area should prioritize the following strategies.

- Regulations on developing agropolitan areas and controlling land conversion;
- Counseling, training and internships;

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**Table 2. Agropolitan External Strategy Factor Matrix and Site Plan.**

| External Strategy Factors | Integrity | Rating | Integrity x Rating |
|---------------------------|-----------|--------|--------------------|
| Capital and equipment assistance from the government | 25.71 | 3.00 | 77.14 |
| Demand increases with increasing population growth | 28.57 | 2.89 | 82.71 |
| The government's call for cultivation arrangements to stabilize prices. | 22.86 | 3.05 | 69.77 |
| Government policies regarding prices to maintain supply and product price stabilization | 22.86 | 3.00 | 68.57 |

**Total Opportunity Score** 298.20

| Threats | Integrity | Rating | Integrity x Rating |
|---------|-----------|--------|--------------------|
| Weather factors that can interfere with harvest. | 21.43 | 2.84 | 60.90 |
| High land conversion | 9.52 | 2.95 | 28.07 |
| The bargaining power of farmers | 21.43 | 2.89 | 62.03 |
| Price fluctuations | 21.43 | 2.84 | 60.90 |
| The length of the marketing chain | 21.43 | 2.53 | 54.14 |
| An import policy | 4.76 | 2.75 | 13.10 |

**Total Threats Score** 279.14

**Difference of Opportunity - Threats** 19.06
• Strengthening agricultural institutions and farmers' regeneration;
• Mitigation and Climate Change;
• Expanding the partnership network, both upstream to downstream and other sectors (tourism);
• Procurement / manufacture of cultivation infrastructure and product marketing;
• Promotion of district leading commodities; and
• Soft credit programs for agricultural businesses, acceleration of the formation of Village-Owned Enterprises (BUMDES) and efforts to increase investment.

5. Conclusions
The agropolitan cluster is directed at Majenang, Wanareja, Karangpucung, Cimanggu and Dayeuhluhur Sub-districts. Some districts have the potential to enter into the agropolitan area are Cipari and Gandrungmangu Sub-districts. Cipari is a center of plantation commodities, especially rubber. Whereas Gandrungmangu is a center for food crops, horticulture and animal husbandry. Based on the SWOT analysis, agropolitan area in Cilacap need S-O strategy to improve its performance. The strategies to improve agropolitan are regulations on developing agropolitan areas and controlling land conversion; human resources development; mitigation of climate change; strengthen agricultural institutions and farmers' regeneration; credit/investment programs for agricultural businesses; expand the partnership network; promote the leading commodities; and procurement / build of agricultural infrastructure. Based on AHP analysis, the main strategy to develop agropolitan area is the local government needs to make regulation on developing agropolitan areas and controlling land conversion immediately.

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