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# The Regional Development Planning of Agricultural Commodities at Pacitan Regency, East Java, Indonesia Viewed from Systems Approach

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**Abstract** Increasing production and productivity of agricultural commodities became the main agenda of the government Pacitan in agricultural development and food sufficiency in the regency. To increase the production of both food crops and horticulture, requires a determination of areas that became the center of production. So far, the regency too focused on increasing crop production, funded by the state budget, while horticulture was expected to be commodities with comparative advantage to be neglected. Support the central government has become limiting factor for the development of agricultural commodities in Pacitan. Based on suggestions from the community by need assessment process and goodwill of Regent, then in 2014, the local government will try to handle this horticultural, not only in terms of on-farm but also to agro-industry. For the reason, it was needed a cross-sectoral nature of planning because it is not sufficiently addressed by any of the agencies such as the Food Crops and Livestocks Agency, but involved other agencies because of these efforts require cross-sectoral planning. From the results of the search conducted by the authors, it was known that there were seven Local Government Agency (LGA) involved in the regional development planning of agricultural commodities in Pacitan. However, in reality, each LGAs had sectoral ego so that the result was lack of a comprehensive plan. There was problematical situation that quite complex in this agricultural development planning, so that the author used a qualitative systems approach with Soft Systems Methodology to dissect complex situations and worldviews of the informant in each LGA. Through focus group discussions (FGD) had been formulated five models of purposeful activity that determines the success of a regional development planning of agricultural commodities in Pacitan by the issue owners who were representing relevant sector or LGAs. Through this formulated models, were expected the role of LGAs became more real. Local Development Planning Agency (LDPA) as planning organization at the local level holds great importance role in leading this plan. These purposeful activity models was only limited to models and need to be realized in the real world. The realization required support and political will of the Regent and DPRD that become a leverage factor of the success of this plan.

**Keywords** Regional Development Planning, Agricultural Commodities, Food Crops and Horticulture, Systems Approach, Soft Systems Methodology

## 1. Introduction

### 1.1. Research Background

Pacitan is one of the regencies in East Java which become food buffer at the provincial level and become the region development of some crops and horticulture nationally. The agricultural sector became a strategic and vital sector and had been carrying and important role in Pacitan as the largest contributor to Gross Regional Domestic Product (GRDP) among the other sectors as in Figure 1 and most of the people engaged in this sector which is widely discovered in the rural areas. The development of GRDP at Current Market Price shown in Figure 2. Although the agricultural sector accounted for the largest GRDP compared to other sectors each year, but has a small rising trend per year with an average increase of 8.73 percent as shown in the following figure and not so obvious effect on the welfare of farmers in rural areas.

Some various programs and activities have been carrying out through the development of the agricultural sector to fulfill the food needs especially in the regency. Development of the agricultural sector was in line with the fourth mission of Local Government Medium Term Development Plan (LGMTDP) for five years and Local Government Agency Strategic Work Plans or Strategic Plans 2011-2016 which was owned by Food Crops and Livestocks Agency (FCLA) as the main players of development of agricultural sector. But, the development of

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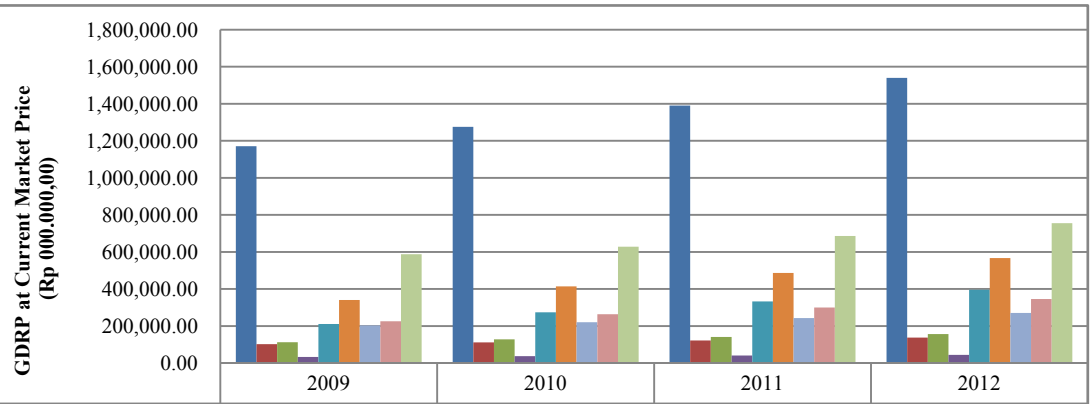
the agricultural sector was not an easy task because it was very prone to trade-offs (Sastrosoenarto, 2006: 178) and involves cross-sectoral or multi Local Government Agencies (multi LGAs) although in this case FCLA was the main actor.

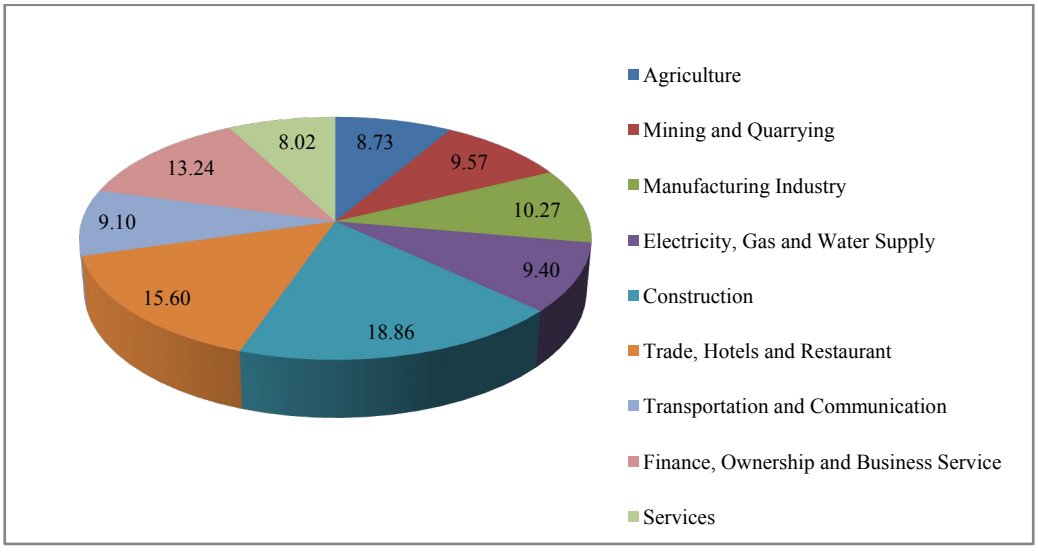
Most of the increasing production of food crops financed by the state budget through the Co-Administration and the East Java provincial budget. Since 2013, Pacitan have been conducting the Co-Administration of the Ministry of Agriculture as an effort to increase the production of agricultural commodities, especially food crops, while programs that support the increasing production of horticultural commodities have been running in 2014 as an effort to suppress the fruit imports by developing domestic fruit. Since 2013, some efforts to increase production of food crops and horticulture had been directed at the development of the production areas as directed by the Ministry of Agriculture in accordance with the Strategic Plan of the Ministry of Agriculture 2010-2014 further provided in the Regulation of the Minister of Agriculture No. 50 / Permentan / OT.140 / 8/2012 about the Guidelines of Agricultural Regional Development.




| | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|
| Agriculture | 1,170,876.82 | 1,275,568.25 | 1,390,157.30 | 1,540,293.62 |
| Mining and Quarrying | 101,824.41 | 111,683.59 | 121,660.39 | 137,771.06 |
| Manufacturing Industry | 112,693.33 | 128,094.51 | 140,963.00 | 156,008.47 |
| Electricity, Gas and Water Supply | 32,939.67 | 37,522.95 | 40,879.25 | 44,328.60 |
| Construction | 211,084.54 | 274,194.69 | 332,325.45 | 396,031.18 |
| Trade, Hotels and Restaurant | 340,431.15 | 413,804.90 | 486,455.16 | 566,625.80 |
| Transportation and Communication | 203,242.83 | 220,533.67 | 243,059.05 | 270,652.42 |
| Finance, Ownership and Business Service | 225,541.48 | 263,552.52 | 299,759.68 | 345,386.55 |

Source: Central Bureau of Statistic Pacitan (2010-2013)

**Figure 1.** Gross Regional Domestic Product at Current Market Price (GRDP CMP) Years 2009-2012




Source: Central Bureau of Statistic Pacitan (2010-2013)

**Figure 2.** Average Percentage Incrising in GRDP CMP Years 2009-2012

Development of the agricultural sector, especially the development of the area of agricultural commodities and horticultural crops was interdisciplinary which involving multi LGAs. However, every agency have sectoral ego so that the resulting plan was not integrated and comprehensive yet. Conflicts can occur between LGA for the vagueness of the task and the overlapping of their activities. For example is: as in irrigation development planning between the FCLA with the Highways and Irrigation Agency (HIA). There was a strategic issue regarding product development plans by regency i.e. product from black cincau or black grass jelly (*Mesona Palustris*) that was jelly and powder instant.

But there have not been concrete delegation of tasks concerning the management of these plants as previously handled by the Forestry and Plantation Agency (FPA) before transferred to the Food Crops and Livestocks Agency (FCLA) as well as some other conflict of interest with some LGAs. Moreover, FCLA's Strategic Plan did not have a clearly objectives that illustrated the gains of development of horticulture because it was just only oriented to increase production and productivity of food crops, especially rice. Meanwhile targeting production's performance and productivity per year based routines just to rise one percent per year. Some spatial planning documents such as the Spatial Planning (Rencana Tata Ruang Wilayah/RTRW) and Materplan Agriculture on Sustainable Wetland Determination were also not used by FCLA in determining the location of the development of this area of agricultural commodities. If some of the above problems was not resolved soon, it would hindered the development of agriculture in Pacitan.

LGA as a local government organizations considered as a system because it involves a variety of human interaction in it that has a variety of perspectives and specific purposes [1]. This system includes an open system because it can be influenced by the surrounding environment [2]. Organization has a structure that is systemic and could not be seen directly by naked eye [3]. So that the regional development planning of agricultural commodities have systemic properties and require interdisciplinary studies. With a systems approach, the problems will be identified and described in detail in accordance phenomena that occur in the real world and will be a learning organization for the long term because oriented outcomes.

A problematical situation relating to human behavior and actions which tend to have certain goals, unstructured, complex, containing multiple worldviews or perceptions can be described and structured as a whole systems approach that is the Soft Systems Methodology [4] by using humans as research instruments. Systems approach allows a review of a phenomenon that involves interdisciplinary and have a complex relationship [5]. The successful development of the region is not enough to pay attention to the uniqueness and geographical characteristics, climate, flora and fauna in the region, but also pay attention to the region's interaction with humans around it so that there are social, cultural, demographic and other non-physical as supporting and comprehensively implemented between sector [6].

Based on empirical problems above, the authors assume that to improve complex conditions and to sharpen the achievement of regional development objectives, needs to be done in-depth description and analysis of the existing problematical situation and formulate problem solving on the situation at hand jointly by LGAs involved through a systems approach. The authors used the Soft Systems Methodology (SSM) developed by Checkland to dissect and explore in depth about the problematical situation. This methodology is based systems thingking. Systems approach with Soft Systems Methodology will analyze the situation as a whole by using the "joined up thingking" to formulate the correct solution for all parties [1].

### 1.2. Research Question and Research Objectives

Based on the description of the background research, the authors have had formulated research questions: (1) How is the real about the regional development planning of agricultural commodities at Pacitan regency ? (2) How is the conceptual models which are relevant to the effort to improve the performance or as a problem solving for regional development planning of agricultural commodities ? (3) How is the comparison between the real situation and conceptual model of regional development planning of agricultural commodities? and (4) How is the effort to improve the performance or as a problem solving regional development planning of agricultural commodities.

The research objectives are to find out and to describe about the real world of regional development planning of agricultural commodities and to formulate and to analyze about regional development planning of agricultural commodities.

### 1.3. Theoritical Review

#### 1.3.1. Regional Development Planning

The regional development planning in Indonesia was the implication after the regional autonomy with regard to decentralization in 2001. Decentralization gave authority to the regions to administer and manage the particular affairs of government, including the business development of the agricultural sector. The form of decentralization was the transfer of authority in the public affairs of political officials to bodies that were relatively autonomous and administrative functions to lower hierarchy so well known local or regional government [7].

Development planning was a cycle that consists of several important stages ranging from determining of specify planning goals, formulate objectives, collect and analyze the data, identify alternative courses of action, appraise alternative courses of action and preferred alternative selected. This is called the stage of planning, subsequently forwarded to the stage of implementation and monitoring and evaluate. Planning became a political

decision, to allocate financial and human resources with good management [8].

Regional development planning was synonymous with regional economic development planning. Although there have been regional autonomy and decentralization, but to draw up a development plan in the region, the central government was still very dominant or more top-down [9].

1.3.2. Agricultural Development Planning

Agricultural development could be regarded as economic development because agriculture was one sector that supports economic development [10]. The support for economic development was reflected in the growth of production, income generation in rural areas, open up market opportunities for industrial goods and consumer goods, foreign exchange, import substitution and investment [11]. Agricultural development in Indonesia had been more focused on activities or on-farm production, especially food crops. Activities that only concentrated on on-farm activities have had caused the agricultural sector's contribution to economic growth in the region became not optimal, especially if it was not followed by processing activities or sustainable and synergistically on-farm [12].

1.3.3. Agricultural Development Planning

Agricultural development in the 21st century could not only play as extras just in national development as cheap labor accommodate and not educated as well as providers of cheap food but should be able to be superior sector, modern, competitive, efficient and aligned with other sectors such as industry and services. The concept of development offered the development of high-value agricultural commodities were much needed by the people, especially the urban society (high value urban demand-driven agricultural development) with emphasis on wealth and the local potential [13]. Development of agricultural commodities had should be directed to tropical based industry [14].

1.3.4. Regional Development Planning

In agricultural development planning needed a planning related to the region. Regional planning required a specific planning because of the ecological situation was not the same in each region [11]. Territorial approach could bridge between sectoral planning and spatial planning [15]. The development of the area and type of commodity could be measure more accurate if there was a development of regional arrangements for agricultural commodities. The government would be easier to organize infrastructure and to formulate the development policy if there was arrangement region for each agricultural commodity [16].

1.3.5. Soft Systems Methodology

Soft Systems Methodology adapted systems thingking that was basic way of explaining how things work, interconnected, mutually influencing and would determine what would happen, especially in the social system and organizational systems. This approach was appropriate to describe the problematical situation that was not well-defined and complex because it had involved human activities in it which had certain goals became explicit and structured so as to find a way out. This approach could be used in all sorts of problematical situation in both government and private agencies [17]. A systems approach could be used in the regional planning to improve public services and delineation between planning policies by integrating spatial and non-spatial [18].

# 2. Research Methods

This research was a qualitative with descriptive approach to explain the complex actual phenomena and difficult to define properly and structured so that the selection of Soft Systems Methodology deemed appropriate.

These research had been conducted for three months started from July to September 2014 in Pacitan Regency. Locus of research was in some LGAs i.e. Local Development Planning Agency (LDPA), Research, Development and Statistics Agency (RDSA), Food Crops and Livestocks Agency (FCLA), Forestry and Plantation Agency (FPA), Food Security Agency (FSA), Cooperatives, Industry and Trade Agency (CITA), Highways and Water Agency (HWA) and District Nawangan.

Research sites were LDPA office, RDSA office, FCLA office, FPA office, FSA office, CITA office, HWA office, District Nawangan office, Nawangan village office, the secretariat of the group farmer and informan home.

Source of data derived from both informants of the seven LGAs and government officials in the Nawangan district involved in local development planning, document and phenomena. These types of data were the primary and secondary data.

Data had been collected from in-depth interview, observation, documentation and Focus Group Discussion (FGD). The validity of the data had been checked with the criteria of credibility, transferability, dependability and confirmability.

Data analysis techniques used Soft Systems Methodology with four steps namely (1) Finding a problematical situation, (2) Formulate purposeful activity models, (3) Comparing the real world with the purposeful activity models (4) Defining action to improve the situation [4].

# 3. Result and Discussion

Soft Systems Methodology (SSM) could be used to dissect complex situations and not well structured problematical situation through the thoughts and opinions of the informants that had been interviewed. Soft Systems used a more personal approach and a more qualitative than qualitative methods in general.

### 3.1. Real World Situation

#### 3.1.1. Analysis One

The first stages entered the real world actually using the main stages Analysis One, Analysis Two and Analysis Three. Analysys One was used to find out who was acting as a client, practitioner and issue owner. Client in this study were Dr. Sarwono, M. Si as supervisor, Mrs. Ratih Nur Pratiwi, M. Si as co-supervisor and Heilda T.H as a researcher. Researcher at the same time acted as a practitioner and issue owner. Data collection and information had been done through interview with several actors from seven Local Government Agency (LGAs) as issue owner that other actors involved and accept the outcome of the efforts to improve the situation had been done.

#### 3.1.2. Analysis Two

Agricultural commodities developed in Pacitan consists of two types of crops and horticulture. Development of food crops had been carried out by the Food Crops and Livestocks Agency as the main responsible in some districts, especially that became centers of production. Financing is largely supported by Co-Administration of the State Budget and the provincial budget. Funded food crops were upland rice, corn, soybean, cassava (State Budget), shorgum and corn (provincial budget). Financing from Pacitan budget can very small due to the limited budget so that the budget tends to finance the non-physical activities such as technical guidance and counseling to the combined group and undertake the development of horticultural commodities, especially fruits (i.e. mango, durian, orange). Since the year 2013, programs and activities funded by the state budget and the provincial budget based on the mapping of agricultural development called *the zone* in accordance with Regulation of the Minister of Agriculture No. 50 / Permentan / OT.140 / 8/2012. It aims to achieve food self-sufficiency especially for rice, corn and soybean.

In 2014, horticulture began to be developed in Pacitan was a local citrus to replace impor fruits by Co-Assistance in two districts that are Ngadirojo dan Sudimoro Districts as a pilot project. While the development of horticultural commodities by the local government did not use “the region boundaries or zoning” because FCLA or LDPA did not have a specific plan about it. . Generally, agricultral commodities development planning is based on the potential endogenous, local wisdom, community preferences and aspirations, market opportunities, infrastructure support, perceptions of the leader (Head of FCLA), the availability of funds and political interests. So far, the regency too focused on increasing crop production, funded by the state budget, while horticulture was expected to be commodities with comparative advantage to be neglected.

Most of the planning task is determined by the Food Crops and Livestocks Agency (FCLA) because Local Development Planning Agency (LDPA) as organizational planners in the regency does not have specific plans about the regional development of food crops and horticulture yet. Regional development of agricultural commodities is a complex and multi-disciplinary activity that requires some other LGAs role than Food Crops and Livestocks Agency. Such as, Forestry and Plantation Agency is developing crops such as cassava and black cincau or black grass jelly (*Mesona Palustris*) under the tree stands.

Tertiary irrigation development planning is also not synchronized between Food Crops and Livestocks Agency with Highways Agency and Irrigation so LDPA need to be involved in order to bridge the comprehensive planning and no overlap between these two LGAs. Here is LGAs involved in regional development planning of agricultural commodities, especially food crops and horticulture in Pacitan.

**Table 1.** Local Government Agencies Involved in Regional Development Planning of Agricultural Commodities in Pacitan Regency

| No | Local Government Agencies (LGAs) | Role |
|---|---|---|
| **1** | Local Development Planning Agency (LDPA) | Arrange the development planning in regency level |
| **2** | Food Crops and Livestocks Agency (FCLA) | Implement the production activity of food crops and horticulture |
| **3** | Research, Development and Statistic Agency (RDSA) | Implement the research and development in agricultural sector |
| **4** | Food Security Agency (FSA) | Analyze the data of commodites production, food stock and Scor of Food Expected Scheme |
| **5** | Forestry and Plantation Agency (FPA) | Help the FCLA to record data of black grass jelly potention and cassava development under three stands |
| **6** | Highways and Water Agency (HWA) | Together with FCLA arrange the plans to develop and maintain agricultural infrastructures especially the irrigation |
| **7** | Cooperatives, Industry and Trade Agency (CITA) | Help the development of manufacturing product made from agricultural commodities i.e crop plants and horticultures |

Source: Analysis Result (2014)

Agricultural development planning process in general accordance with the local development planning through medium-term planning mechanisms and LGA's Strategic Plan. This planning has some stages i.e. specify planning goals, formulate objectives, collect and analyze the data, identify alternative courses of action, appraise alternative courses of action and select preffered alternative accordance with Conyers and Hills about the planning process.

The objectives of agricultural development in the Strategic Plan of Food Crops and Livestocks Agency is not very clear because it illustrates the gains of increased production and productivity of food crops, especially rice. Collection and analysis of data is not an easy thing for LGAs. Food Crops and Livestocks Agency did not have a projection of data production and productivity of food crops and horticulture for a periode of five years. This target was set one year earlier. The agricultural development planning by local budget tend to use top-down, technocratic and political approaches. Planning programs and activities funded by the state budget tend to use top-down approach although there was need assesment process by community consultation on development planning (bottom-up and participatory).

3.1.3. Analysis Three

Some political influences had been found from the results of talks and interviews with the informants that affect agricultural commodities development planning. Political influence had been there since the planning of programs and activities, budget discussions or hearings by parliament (Local House Representatives) and implementation of activities. Determining the location of programs and activities had an equity principle, it is not seen from a priority scale because there is a political interest. Agricultural commodities and agricultural infrastructure policy such as irrigation and farm roads are also affected by these political interest.

### 3.2. Purposeful Activity Models

Formulation purrposeful activity models through Focus Group Discussion (FGD) followed by informants from related LGAs that had been intervewed earlier. FGD is led by the Head of Food Crops and Livestocks Agency while the author/practitioner acts as a facilitator. The core of the formulation of the model that has been overshadowed by human activity is to seek the transformation of what is required by each LGA.

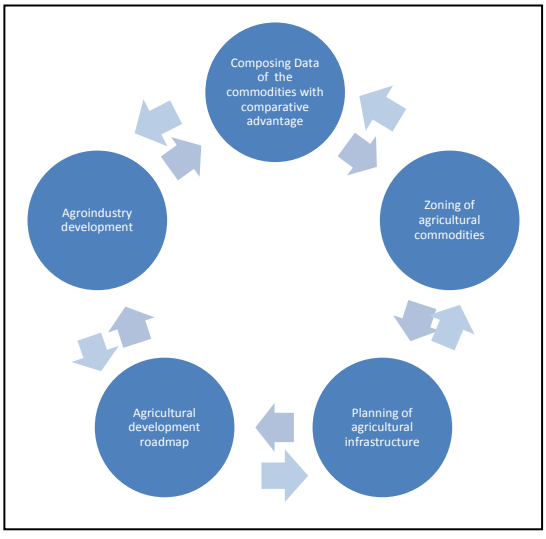
Root Definition (RD), which became the language of the relevant transformation formulations prepared with the formula PQR. After arranging the RD, the next step was to analyze CATWOE. CATWOE is a mnemonic of:

1. Customer (C): the parties affected by the transformation
2. Actor (A): the parties transformation
3. Transformation (T): the transformation required
4. Worldview (W): perspectives on transformation
5. Owner (O): the parties can control the transformation
6. Environmental / external factors (E): the things that limit the process of transformation

Based on the results of focus group discussions, the issue owner formulated five purposeful activity models or model results that could become a problem solving in regional development planning of agricultural commodities, especially food crops and horticulture. The involvement of related LGAs in planning process were needed to develop a good model [19]. The LGA's involment was a success key to formulate a good model. The decision making became more easier if there was a participation from LGAs.

Government agencies have been shackled by administrative activities so they does not have enough time and attention to formulate systemic planning so planning that produced less comprehensive and ambitious [8]. LGAs often find the difficulties to think about the importance of the renewal process and what changes are needed to face the complex situations [4].

The fifth of purposeful activity models have a reciprocal relationships and establish a systems approach to regional development planning for agricultural commodities, especially food crops and horticulture as in Figure 3. The models or system starts from the composing data of the commodities with comparative advantage which consists of crops and horticulture by the Head of Local Development Planning Agency as owner. Then, data is compiled into a Pacitan economic potential profile. This profile has been providing which comparative advantage and priority agricultural commodities to be developed so it can give the direction for the development of commodities by Food Crops and Livestocks Agency as a impelementer.




Source: Analysis Result (2014)

**Figure 3.** Systems Approach in Regional Development Planning of Agricultural Commodities at Pacitan Regency

Priority here means the commodities have a priority to fund by local government budget. The data in this profile is the result of joint planning between LDPA and FCLA. Some

development countries have a bad data especially at local level than central level. Data becomes weakness in regional development planning in developing countries [11].

The second model is the development of the agricultural zoning for crops and horticulture with the Head of Food Crops and Livestocks Agency as the owner. In the development of the area of agricultural commodities, or the establishment of zoning is considered important for directing the development of agricultural commodities, both based on the suitability of land, agro-climatic and funding priorities for a certain period. In general, agricultural planning does not have a purpose, specific location, program and resource allocation clearly [11].

The agricultural development planning in Pacitan have some weakness because it does not have a direction of regional development of agricultural commodities that can be used as guidelines for the implementation of activities every year, especially the activities financed by the local budget. Zoning or regional determination must be also synchronized with the planning of agricultural infrastructure. Planning is done for this is when LGAs makes The Annual Plan.

The third model is the planning of the agricultural infrastructure that supports the regional development of agricultural commodities by the Head of LDPA as the owner. Agricultural infrastructure planning is very important for support the optimization of agricultural land, especially agricultural land in Pacitan that relatively narrow and including rainfed areas. So far there has not been comprehensive planning among unit work i.e. Economics Division-LDPA, Physical and Infrastructure Division-LDPA and FCLA so that the infrastructure that had been built, less support agricultural activities that are being carried out. Public investment in agricultural infrastructure can increase the income of farmers and decrease the cost of production [20]. Agricultural infrastructure in Pacitan require huge investment because the extreme conditions that dominated by mountains.

The fourth model is the preparation of agricultural development roadmap with the Head of Food Crops and Livestocks Agency as the owner. After collecting data on comparative advantage and priority agricultural commodities, Food Crops and Livestocks Agency can formulate agricultural development roadmap that contains the plan of development of food crops and horticulture during a certain period of time. This roadmap should be able to explain the purpose of the activities clearly whether as fulfillment of food, feed or energy and formulate a plan for the production areas in an effort to increase of crops harvested area and productivity.

The fifth model is agro-industry development that use of raw horticulture commodites as strength implementation of the Regional Innovation System, that is optimalitation through the regional development based agriculture with the Head of Cooperatives, Industry and Trade Agency as the owner. The products that was tried to develop, needs the technology helping to become a highly competitiveness product. Local governments made a pilot project plan of horticulture development and process industry, taht is is black grass jelly and biopharmaca. Agro-industry development based on local potential pursued a middle way that adheres to the modernization of local government by transferring the concept of traditional agrarian toward agriculture-based industries [21].

These both plants are big potentions in two districts, Nawangan and Bandar but had not maximally farm yet. The regional development of agricultural commodities is a production act (on-farm). It could not continously happen if it was not supported by the downstream agricultural activities that is agro-industry that produces a product. Food crops like rice, corn and soybean were traded by farmers as raw materials at local markets as district and village markets.

### 3.3. Comparing Real world with Purposeful Activity Models

The next stage was to make a comparison between the real world with all models of purposeful activity or systems. These comparison aims to determine differences and ideas change to improve the quality of activities undertaken. This comparison was actually shown in the table, but in this paper will be presented on a summary only.

First, the comparison of the real world with the first model i.e. composing of agricultural commodities with comparative advantage data which conducted by Economic Divion-LDPA. Some activity in this model already existed in the real world but not willingly going well i.e. data synchronization intensively between LDPA and FCLA. The result of idea changes was the need sharpening and data synchronization of agricultural commodities as well as the distribution of documents to all LGAs not only certain LGAs. By the establishment of priority agricultural commodities which had comparative advantage, it would provide a clarity of regional development of agricultural commodities in the future. The actual data collection and data formats became one of the problems encountered in the planning process LGAs. LGAs usually face problems in the allocation of finance, human resources and skills of adequate support facilities for planning [8].

Second, comparison of the real world with the second model i.e. the zoning of agricultural commodities that conducted by Food Crops and Livestocks Agency (FCLA). This model has never existed in the real world. This model required some type of data i.e. data of suitability of land, capability of funding, and adequate of human resources. FCLA did not have latest land suitability data and must be break down to the village level. FCLA did not pay attention to spatial planning, minimal local spatial planning documents.

Zoning activity had been done in the area developed into agropolitan, it did not cover the entire of regency. At first arose disagreements about who was responsible for the preparation of zoning is whether the FCLA or LDPA. Based on the results of deliberation, then the model was the responsibility of FCLA because they better understand the

situation compared to the LDPA.

Third, comparison of the real world with a third model i.e. planning of agricultural infrastructure, especially in the regional development planning of agricultural commodities. Model or system is the responsibility of the Physical and Infrastructure Division-LDPA. Most of the activities in these model did not exist in the real world. The others LGAs who involved in planning, especially agricultural irrigation were FCLA and HIA. The main activity that needs to be done was to set a routine time schedule for agricultural infrastructure data synchronization facilitated by the LDPA.

Fourth, the comparison of the real world with fourth models i.e. Agricultural Development Roadmap especially food crops and horticulture. Agricultural development roadmap particularly food crops, had exist in the real world, but for the period 2008-2012. The roadmap drawn up at the expense of the state budget and it was a collaboration with the Indonesian Agency for Agricultural Research and Development (IAARD). The idea of change was formulating a good roadmap for crops and horticulture that became commodities with comparative advantage at national level and local level.

Fifth, the comparison of the real world with fifth model i.e. agroindustry development that became a responsibility of the Cooperatives, Industry and Trade Agency (CITA). The agro-industry development direction in accordance with the Roadmap Strengthening Regional Innovation System 2014-2016. Development of agro-industry through promoting the product of black grass jelly. Black grass jelly is usually processed into jelly by the community at rural areas, especially in the district of Bandar and Nawangan which became centers of production of this plant. Agro-industry development can increase the added value of commodities, employment and rural economy [22]. The development of the agricultural sector which is not followed by the development of the industrial sector will worsen the terms of trade of agricultural sector due to over supply in production and labor [23].

Local governments had the idea to diversify the black grass jelly products, in addition to jelly are also processed into powder instant. However, these efforts are still hampered by the Regent Pacitan Decree No. 188.45 / 167A / 408.21 / 2010 on the Establishment of Comparative Priority Products Pacitan, where products processed black grass jelly was not listed in it. According to LDPA and FCLA, Regent's decision need to be revised to include processed products of black grass jelly so that the FCLA have a legal basis for the development of production (on-farm). The local government plans to make the black grass jelly become a commodity with comparative advantage and will receive priority funding from the local budget.

### 3.4. Defining Actions to Improve Situations

All stages of the SSM is a learning cycle and repetitive. This cyclic process as in human life that never ends because it constantly adjusts to the complex situation at hand. SSM process has become a medium to accommodate the ideas of change and accommodate the thoughts and opinions of the actors involved.

The regional development planning of agricultural commodities, both food crops and horticulture is a very complex because it is not only the sectoral planning but related on spatial planning and involves cross LGAs. This leads to decision-making and action to improve the situation with some of the models that have been successfully formulated is not an easy task because dealing with the decision makers across sectors. Decision-making is key in this stage. This model can not be used as a substitute for critical thinking, but can be used as a framework to develop judgment and intuition. Systemic thingking requires necessary condition to be realized in the real world. The necessary conditions i.e. legal certainty (rechtszakerheid), competent and consistent human resources in running the system, institutional capacity and political will towards change for the better [19].

The actions to improve the situation becomes "homework" for the local government to show good will and commitment in improving the soft infrastructure such as bureaucracy and regulations that do not support or inhibit and the uncertainty as masterplan Agropolitan and fast growing and strategic areas are being reviewed and corrected by local governments to support the regional development planning of agricultural commodities. This attitude is expected to be realized by the owner as decision-makers in each LGAs.

Purposeful activity models is a planning framework for the actors involved, the realization in the real world is not easy because it depends on the goodwill of the leaders from the Regent, parlianments and Head of the LGAs as owners and community participation. The results of interviews and discussions indicated that the actors or informants have realized the complexity of the situation of agricultural development planning in general and requires an improvement or change. Some of them, has had the idea of change and show piecemeal efforts to improve the problematical situation in their daily duties.

The main benefit systems approach in regional development planning of agricultural commodities is on facilitated LGAs to participate in the formulation process through deliberation. Models are built to be able to accommodate various worldviews of stakeholders such as agencies have different interests [19]. Internalize and realize models of purposeful activity is a considerable challenge so the role, the support and commitment of Regent including the Parliament must be achieved in order to be a leverage factor in improving agricultural development planning in Pacitan.

## 4. Conclusions and Recommendations

The principle of regional development planning of agricultural commodities is a sectoral planning but still consider spatial planning. In practice, the regional

development planning of agricultural commodities is more partial and inter-sectoral ego because planning related LGAs have not synergistic. Local Development Planning Agency (LDPA) as leading planning at the regency level should be more creative and assertive in the agricultural sector planning development planning so that the performance of the region has increases. LDPA must be able to coordinate and bridge Local Government Agencies (LGAs) so that there is collaboration and cooperation among Local Government Agencies.

Generally, this plan considers the potential of the region, preferences and aspirations of the public, local wisdom, market opportunities, availability of agricultural infrastructure, availability of public funds, the perception of leaders (Head of FCLA) and political interests. The role of the central government which tends to be dominant can be limiting factor for development planning in the region. Local governments are increasingly dependent on funding from central government. The process of agricultural development plans generally follow rational planning stages as described Conyers and Hills but had some weakness such as formulating objectives. Food Crops and Livestocks Agency (FCLA) should refining the description of objectives and performance indicators that are contained in the Strategic Plan to be more clear and measurable.

There are five models of purposeful activity or systems that has been successfully formulated by the actors who represent seven related LGAs. These five models will be interconnected and mutually influence each other and form a larger system that is regional development planning of agricultural commodities. By juxtaposing each model with the real world, it will be easier to see the differences between them so it will be easier to make the ideas of change for problem solving. Support and commitment from Regent and parlianments can be leverage factor so that the model can be realized in the real world consistently.

LDPDA as a planning coordinator in the regency should immediately gather the related LGAs and discuss the findings of this study to be followed up in the real world so that changes can occur quickly. Related LGAs should take a review and revision based on the research findings. Models that have not been included in the plan in 2015, it can be planned for activities in 2016 with funding from the local budget, provincial budget and the state budget. To cope with oversupply in some strategic food commodities such as rice, corn and soybean, the local government can develop a strategic food reserves as a buffer stock at the village and regency level.

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