

Development of Agro-Horticultural Commodity Approach and Institutional Models in The District of Madiun, Indonesia

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Abstract— The aim of the research is how to approach the development of agro-horticultural commodities and institutional models in the Madiun district, East Java, Indonesia. The research Methods of using interviews, field studies and expert discussions are conducted in the region Agropolitan Madiun district. Analysis of component development using Analytic Hierarchy Process (AHP), the selection of commodities and institutional models using Exponential Method Comparison. The result showed that three main factors agro-horticultural development are influenced by market demand (0.219), government policy (0.164) and the management of production systems (0.109). The purpose is the increase in added value and competitiveness (0.211), social welfare (0.164), and local revenue (.143). The priority commodities increased potential added value in a row is mango, banana, avocado, jackfruit, mangosteen and citrus. The alternative institutional model chosen is the first of rural agro-industry cooperative and the second is the group of the priority scale agro-products of fruit crisps (Priority I), fruit syrup (Priority II), various lunkhead (Priority III), and sweets (priority IV).

Keywords—Agro-Horticultural; value added competitiveness; Commodities; Institutional Model.

I. INTRODUCTION

In Indonesia, one of the economic sectors proved resilient economic crisis is the agricultural sector at large. Where in 1998 when economic growth contracted by -13.13%, sub-sectors of food crops, plantations and fishing to survive on positive growth, albeit at a relatively low growth rate, i.e., 1.03% respectively, 0, 05% and 1.92%. More than that at the peak of the crisis, the agricultural sector contributed not a little to the GDP is increased from 16.09% to 18.08% in 1997-1998, the same period there was an increase in employment of 40.7% in 1997 to 45.0% in 1998 [1], equivalent to about 5 million in the creation of a new job employment in the agricultural sector.

This fact encourages actors and decision-makers in reviewing the economic position of the agricultural sector in the economic development strategy in Indonesia. Solahudin [2] said that the agricultural sector through the development of agribusiness and agro-industry approach is an alternative to the highly prospective development. This approach suggests a fundamental change to economic growth and trade are always demanding the efficiency and effectiveness of the business. In this approach, more oriented towards market and diversification of products which have high

demand elasticity (through agro-industry) and the development of the service sector.

Saragih [3][4] suggesting that the overall construction of the system components in an integrated agribusiness system and simultaneously can be a major driver for efforts to increase the real income of farmers and communities, creation of job and business opportunities, as well as the growth and development of the region as a whole and sustainable. At the same time can be expected through agribusiness powerhouse national development (lead agribusiness development strategy) with agro-industry as the primary engine or core [5][6]. An important strategy in making agro-industry as a leading sector of economic development [7], for agro-industries, have a positive impact on employment and business opportunities, poverty reduction and the stabilization and balancing economic growth [8]. development of agro-industries, in particular, the agro-horticulture, actually very perspective in supporting the economic development of the community, given that in some areas the development of agro-industries significantly increase value added and competitiveness [4][9].

The fact that there is, especially in the district of East Java Indonesia Madiun not much research that led to the development of agro-based horticultural commodities. About the purpose of this research is how to approach the

development of agro-horticultural commodities and institutional models in Madiun district, East Java, Indonesia.

II. MATERIALS AND METHODS

A. Thinking Framework

The potential influence of local resources including the regional development of economic activities involving the

majority of the population. Utilization of comparative advantage into the competitive form of natural resources in the region. It always gives hardpack for sustainable sources of income and general public development funds as well as the performance of the regional economy [10][11].

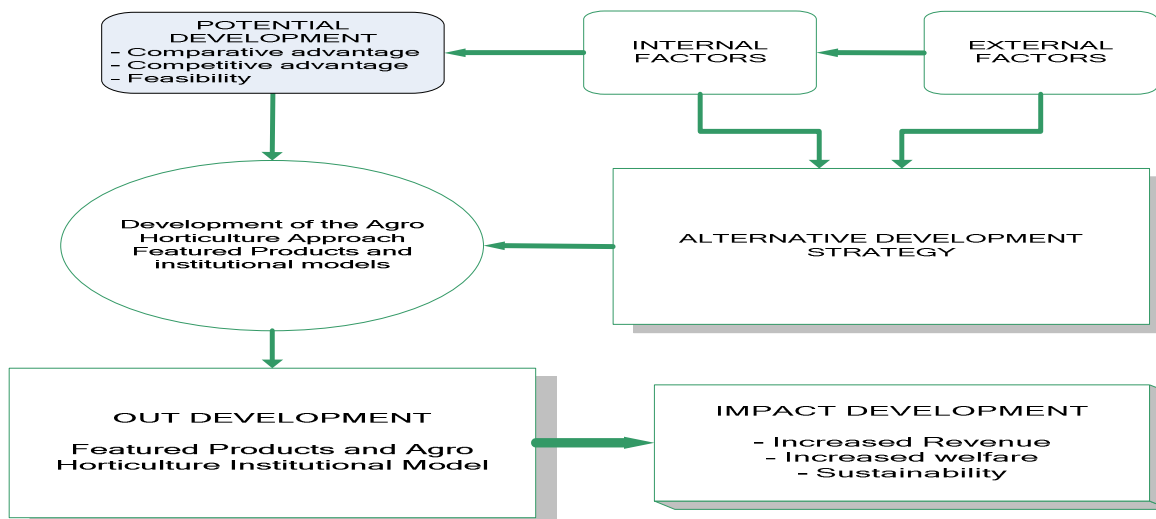


Fig 1. Thinking Framework

B. Research governance

The study was conducted in February-May 2011, at the Regional District of East Java Madiun. The object of research is the small and medium businesses that process horticultural products.

The research data consists of secondary data and primary data obtained from literature review, interviews and expert opinion, the beginning of the election experts, including policy makers, practitioners, and academics. The flow chart more research is presented in Figure 2.

In its application as far as possible avoid the simplification including making assumptions to obtain qualitative models, but it should still maintain complex models as before [12].

Analysis of the development strategy of using Analytical Hierarchy Process (AHP), which is an analysis that is used for decision-makers to understand the condition of the system and help make predictions in decision making.

Excellent product selection using Exponential Comparison Method (MPE), which is the method used to take the decision on the choice of several alternatives based survey with relevant experts. Manning (1984), referred to in Eriyatno [11], states that the MPE method gains the value (score) that describes the order of priority to be great because it is an exponential function, thus the order of priority of decision alternatives will be more obvious.

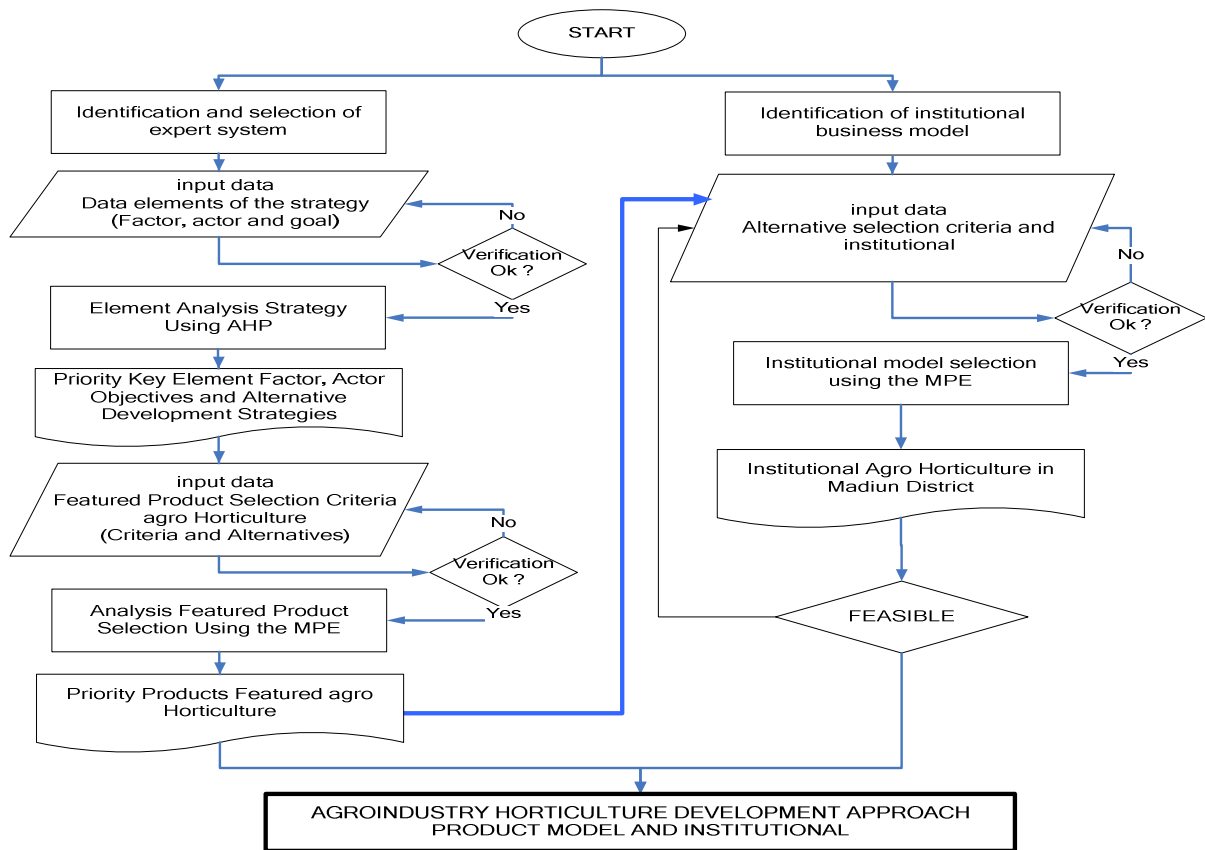


Fig 2. Flow chart of the study

III. RESULTS AND DISCUSSION

Priority factors supporting the development of agro-horticulture obtained from analyzing the development of the system components are arranged hierarchically using AHP technique. Factor component consists of 9 sub-components, namely the availability of raw materials or PUD, government policies, market demand, financial feasibility, financial services, infrastructure, human resources, ease of service and processing technology. Components supporting actor consists of 9 sub-components of local government, research institutes/University, Businessmen, Consumers,

Farmers horticulture, department of agriculture, cooperatives and SMEs, financial institutions and broker. While the purposes component consists of 9 sub-components, namely an increase in farmers' income, increase in the regional economy, an increase in value added, subdued environment, increasing land productivity, increased revenue (Revenue), employment, human resource development, and increase state revenues. AHP analysis results of the component factors, actors, and the prospects for development of agro-horticultural purposes more is presented in Figure 3.

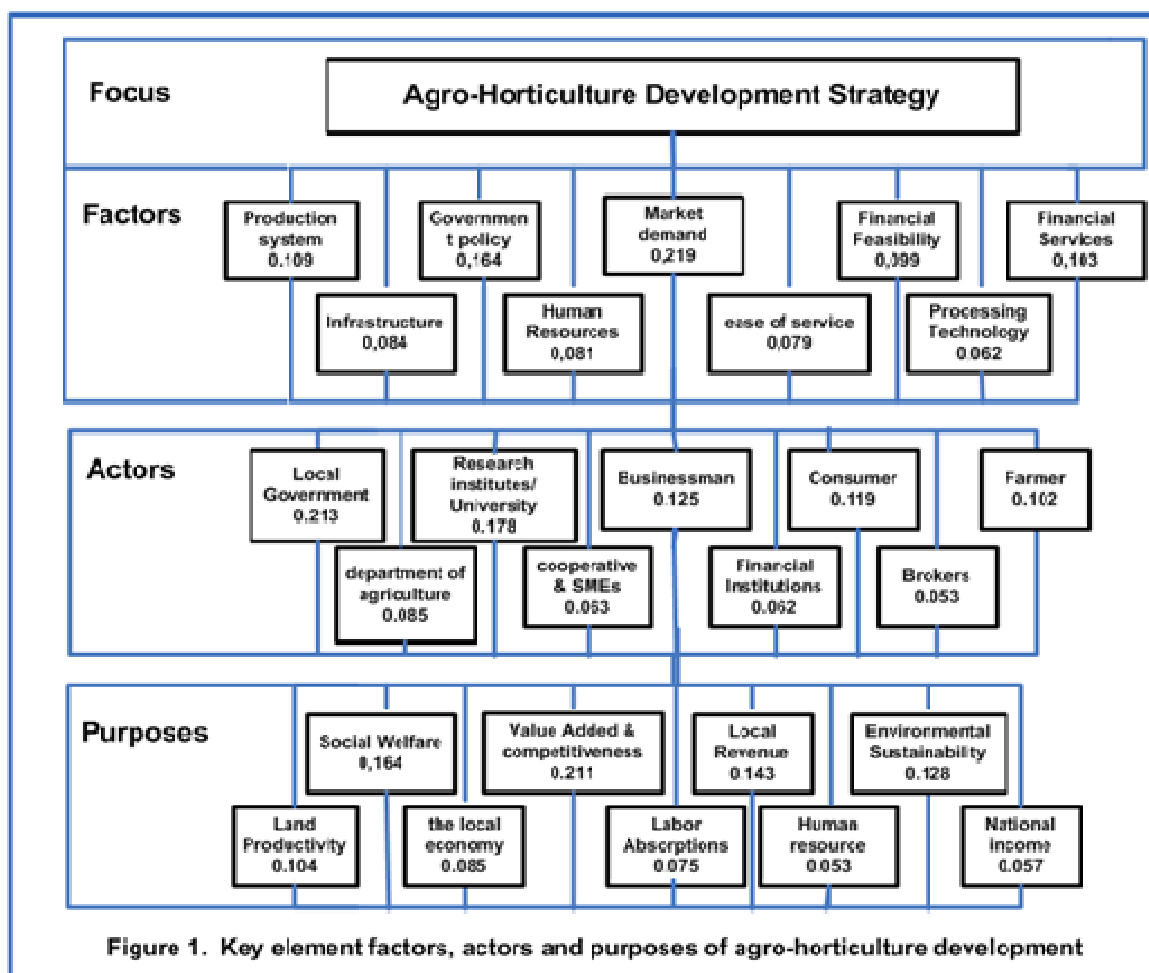


Figure 1. Key element factors, actors and purposes of agro-horticulture development

Fig 3. The results of analysis of the prospects for the development of horticulture with AHP.

Show in Figure 3, the priority component is market demand factor (0.219), government policy (0.164), production systems (0.109), financial feasibility (0.099), so on. This gives a sense that the market demand will determine the development prospects of agro-horticulture as well as a major component driving the development of an agroindustry, as well as government policies that support. The main perpetrators of horticulture development prospects are determined by the local government (0.213), research institutes /universities (0.178), employers (0.125), consumers (0.119) and so on. This means that the desire of local governments as key actors such as an area highly prospective for the establishment of agro-horticultural areas. While the purpose of the development of agro-horticultural priority is added value and competitiveness (0.211), social welfare (0.164), local revenue (0.143) and so on. The main objective is the development of agro-horticultural added value and competitiveness will certainly estuary on increasing farmers' income.

Based on the literature review and in-depth discussions with experts obtained upstream alternative superior horticultural products are mango, banana, avocado, jackfruit, mangosteen and citrus, more are presented in Table 1.

TABLE I
THE RESULTS OF THE ANALYSIS OF THE SELECTION OF SUPERIOR PRODUCTS UPSTREAM.

No	Commodity Alternative	Weight of aggregate	Priority
1	Mango	455810604	I
2	Banana	451178554	II
3	Avocado	438175131	III
4	Jackfruit	403318759	IV
5	Mangosteen	352108421	V
6	Citrus	165126550	VI

Based on the literature review and in-depth discussions with experts obtained seven flagship product competitive alternatives is: fruit chips, fruit syrups, various fruits lunthead, candied fruits, jams, fruit chips jackfruit and mango hours. Alternative assessment downstream flagship product selection is done by considering some criteria. These criteria were determined based on literature review and expert opinion. These criteria include: the market demand for products, the increase in value added, financial, technological aspects, availability of raw materials, employment, environmental impact, and durability / save. The results of the analysis of downstream agro-horticulture flagship product more are presented in Table 2.

TABLE II
THE RESULTS OF THE ANALYSIS OF THE SELECTION OF SUPERIOR
PRODUCTS DOWNSTREAM

No	The flagship product downstream	Weight of aggregate	Priority
1	fruit crisps	302015425.02	I
2	fruit syrup	273118191.69	II
3	various lunkhead	257850640.74	III
4	candied Fruit	235604388.19	IV
5	Butter	192775638.23	V

Table 2 shows the results of the analysis of alternative products where fruit chips as the priority flagship product downstream agro-horticulture, the second priority is fruit syrup, and the third priority is the variety of fruit lunkhead. These results suggest that the decision to choose priority superior alternative downstream products such as fruit chips, this is the right decision, because the raw materials are available at this time of the year and have endurance/store long enough.

The result of analysis of the institutional model is a model of cooperative agro-elected as the priority, the second priority is a group effort. Institutional model selection based on several criteria: competitiveness, the benefits, the level of sustainability, access to capital, efficiency, compliance management and key actors. The agro-industrial cooperative institutional model presented in Figure 4 more.

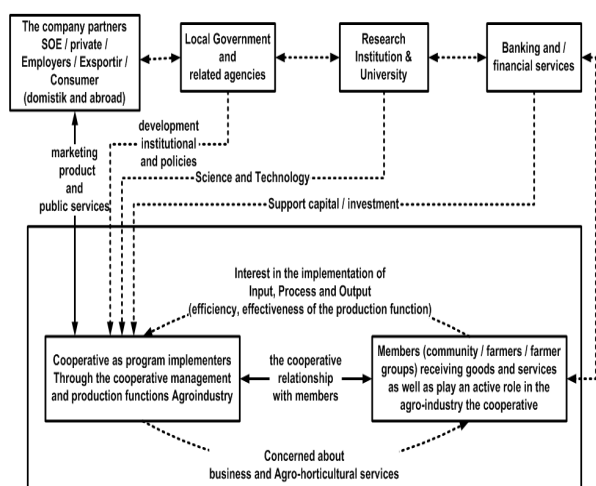


Fig. 4 Agro-industry cooperative model

IV. CONCLUSIONS

The analysis showed that the factors of market demand and government policies. It defines and support the development of agro-horticulture in Madison County. Also, the availability of upstream products such as mangoes and bananas are also supporting the development of agro-horticulture. Other important downstream products such as fruit chips of various commodities. The most suitable institutional development is a cooperative agro-industry as a top priority. This gives hope for an institutional approach to the development of agro-horticultural success in Madiun district in a sustainable manner. The development of a follow-up is a systems approach to innovation in the upstream and downstream aspects as well as marketing.

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