

LOCAL SOYBEAN AGRIBUSINESS POLICY SCENARIOS TO INCREASE COMPETITIVENESS IN THE INTERNATIONAL LEVEL

ZAINURI, Hadi Paramu, Ng Krishnabudi

University of Jember, Indonesia

ABSTRACT

The solution to the lack of effective government policy in the self-sufficiency program soybean characterized by the tendency of decrease in soybean production, reduced soil planting soybeans as well as high imports of soybean, especially fluctuations in the price of soybeans, it would require alternative management model inventory is based on a thorough understanding of the issue of intensification and extensification and the value of the interests of farmers, institutional assessment soybean commodity business with descriptive and prescriptive approach . Purpose of this study was to determine the value chain at each stage of soybeans from upstream to downstream and seek alternative institutional model of soybean inventory management, post-harvest management both for consumption and for the fulfillment of industrial raw materials in East Java. The study used quantitative approach that is reinforced by a qualitative approach, ie, studies that rely on quantitative data but also in the analysis of qualitative data utilizing as material support or enrichment analysis by research area that is Jember and Banyuwangi. The strategy is obtained from this analysis is the change in consumption patterns has put soybeans not only as a source of vegetable protein is safe for health, but also as a source of functional food. Soybeans have a strategic value in improving national food security in a sustainable manner, to nourish and educate human resources which is challenging in the future. Therefore, the need to support synergistic policies of the government in order to further empower the roadmap towards self-sufficiency in soybeans. One characteristic of the synergistic policies is the impact felt at the level of value added subsystems subsystem farmers as producers and consumers of small industries processing as well as the public consumer of processed soy products.

Keywords: Soybean, Competitiveness, Policy Model, East Java

I. INTRODUCTION

In an effort to increase soybean production is done through the intensification program, extending and diversifying. It is also necessary to study that further enrich the knowledge of the various factors that influence the decision of farmers to grow soybeans is necessary for the determination of policy. Trade liberalization has provided new opportunities and challenges in the development of agricultural commodities, including commodity soybeans. Trade liberalization provide new opportunities for the broader market in line with the elimination of trade barriers between countries. On the other hand, trade liberalization will also cause problems if commodities produced could not compete in the world market. Theoretically, the competitive advantage of a commodity is the result of factors that are determined by the comparative advantage of key factors such as the dimensions of the structure (*structure*), behavior (*conduct*) and performance (*performance*) market. In this regard, it is necessary to study in depth the soybean business institutions, for allegedly declining motivation for planting soybean farmers affected by market players and regulatory agreements that do not have a positive impact directly to soybean farmers, farmers feel less even not protected by external conditions.

Purwono and Purnamawati (2009) stated that East Java is the province's largest supplier of soybean production in Indonesia from the year 2000 to 20,009. As an illustration can be presented in Table 1 below:

Table 1.1 Comparison of the National Soybean Production and East Java

	2000	2001	2002	2003	2004	2005	2011	average
National	1017634	762 032	673 056	671 600	723 483	808 353	64.8334	757,784.6
East Java	385 212	349 188	300 184	287 205	318 929	335 106	249 125	317,849.9
	37.85%	45.82%	44.60%	42.76%	44.08%	41.46%	38.43%	42.14%

Source: Central Bureau of Statistics, various editions

Based on Table 1 it can be said that the 2000-2005 period the average national soybean production amounted to 757,784.6 tons and East Java contributed average production amounted to 317,849.9 tons (42.76%). East Java Province is able to account for 42.76% / year, but in 2011 East Java's share is reduced to the 38.43% figure. Meanwhile, East Java soybean production centers spread across eight districts, namely: Banyuwangi, Pasuruan, Lamongan, Sampang, Ponorogo, Jember, Bojonegoro and Nganjuk. Soybean scarcity will become a national issue given the dwindling agricultural land and soybean crops tend to be reduced. These conditions will diperkeruh, because in 2012 soybean crop area decreased by 8% in nasonal. It is the basis for the preparation of the policy strategy of increasing the competitiveness of soybean more

effectively and efficiently to be able to meet the expected values and potentially able to maintain the carrying capacity of the external environment in perspective the soybean businesses. For that needs to be studied in order to know the value chain at each stage of soybeans from upstream to downstream, looking for an alternative model of institutional management of inventories of soybeans, post-harvest management both for consumption and for the fulfillment of industrial raw materials in East Java, and to formulate policy scenario run Long in soybean agribusiness that meet the needs and improve the competitiveness of soybean in East Java.

II. LITERATURE REVIEW

At the beginning of his thinking, Nort with Thomas (1973) defines institutions as *an arrangement between economic units that defines and specifies the way by roomates Reviews These units can co-operate or Compete*. Thus, a wake institutional arrangement that governs how the economic unit may cooperate or compete. Cooperation and competition can be conducted based on the norms and agreements made to keep the interaction between economic operators. For Nort (1984) contains a series of institutional boundaries or behavior in the form of rules and regulations; a series of procedures to detect deviations from the rules and regulations that contained a series of ethical norms and moral behavior as a major consideration for economic interaction in meeting their needs. Institutional able to drive opportunities for economic operators, as well as showing the limits and external constraints for economic players in maximizing something of goods / services, but internally economic actors should also consider the resources, technology, and the preference preference.

Deliarnov (2006: 100) as the institutional rules of the game, while the organization is a container as a playground for a bunch of people. In a game, each player has the same goal, namely how to win the game, but considering the norms and regulations. Deviations rules will cause the system is running is not normal. Therefore, both institutions can solve the problem of coordination and production, for the coordination and production problems associated with the motivation of the actors, environment and the ability of the players in the environmental condition. Environmental condition associated with the activities connecting invitation choice results. Deliarnov (2006: 101) to derive the institutional role of subjective perception of reality becomes an option. Bogasan (2000) institutions as a rule it has characteristics (1) the existence of a structure that is based on the interaction in anatara actors, (2) the existence of a common understanding of the values, and the pressure to behave in accordance with the agreed / set.

Hira and Hira (2000: 272) the process of institutional change can occur because of two things. First, institutional changes occur as a reaction to new economic factor, which is usually reflected by the presence of changes in relative prices and tastes. Second, entrepreneurs (can organizations and individuals) to exploit all the potential contained in an institutional system,

which ultimately will result in innovative changes. In view Yustika (2008: 217) are two factors that can be mapped as a cause of institutional change (*institutional change*): the request of the offender and offers from institutions that have specific authority. In the second case, the government has an intention to improve the welfare of workers in the area of certain commodities through the implementation of certain price in order to protect the population in the sector.

Research on the feasibility of soybean farming as an alternative to efforts to increase the profits of farmers in East Java by Hendri 2005, with the method used is the analysis of R / C ratio. The study states that the rate of application of technology in the cultivation of soy is low in Regional Studies (108 people or 96.43%), both in Jember and Banyuwangi. But in Jember (268.13) technology application level higher than Banyuwangi (232.03), and the level of farm efficiency in the two districts are less efficient economically.

III. RESEARCH METHODOLOGY

The study used quantitative approach that is reinforced by a qualitative approach, ie, studies that rely on quantitative data but also in the analysis of qualitative data utilizing as material support or enrichment analysis This research was conducted in East Java, while the determination of the object of research by using *multi-stage cluster sampling* for soybean production centers, in this case taken 2 samples are Banyuwangi and Jember district. The unit of analysis of this research is at the individual level (micro), organizations (meso) and public (state). In connection with these two selected respondents is representative of soybean farmers, actors perkedelaian trade system, and stakeholders from the government concerned, especially the Department of Agriculture in each selected district. This research was conducted by collecting primary data and secondary data. Primary data collection was done by using a questionnaire while to deepen can take advantage of in-depth interviews based on the deepening of questionnaire data. Secondary data were obtained from the written report (review of documents) relevant agencies, collecting literature, writings and legislation relating to the existing problems as well as its support of primary data.

The analytical tool used is the Value Chain and dynamic models. Womack, Jones et al, 1990 defines Value Chain Analysis (VCA) as follows:

"Instant confirmation is a technique applied in the fields of operations management, process engineering and supply chain management, for the analysis and subsequent improvement of resource utilization and product flow within the manufacturing processes."

While Shank and Govindarajan, 1992; Porter, 2001, defines *Value Chain Analysis*, is a tool for understanding the value chain to form a product. The value chain is derived from activities carried out, ranging from raw materials to the hands of consumers, as well as after-sales service.

Furthermore, Porter (1985) explains, the analysis of *the value-chain* is an analytical tool of strategic used to gain a better understanding of the competitive advantages, to identify where the value of customers can be increased or decreased costs, and to better understand industry relationships with suppliers / supplier, customers, and other industries in the industry. *Value Chain* identify and connect various strategic activities in the industry (Hansen, Mowen, 2000). *Value Chain* properties depending on the nature of different industries and for industrial manufacturing, service industries and organizations are not profit-oriented.

Models of dynamic systems is done in several stages of the conceptualization of the model, the model formulation, and evaluation models. The systems approach is a method of problem solving begins with the identification and analysis of needs and ends with an effective operating system. This system approach has several elements, among others the methodology for planning and management, multidisciplinary and organized, able to think in non-quantitative, using mathematical modeling, simulation and optimization techniques, and can be applied to a computer (Eriyatno, 1998).

IV. RESULTS AND ANALYSIS

Examining a chain effort on the development of a product is paramount in maintaining the sustainability of the production, in addition to getting information performance in detail about the added value generated on every chain of business. The supply chain can be approximated by the method of the value chain (*value chain*) which is an instrument of economic development oriented participatory methods and active measures aimed to endorse the growth of small and weak economic groups. The value chain organized into concrete steps that systematically, can be applied by local governments, private sector and communities to further applied in each area according to the problems faced and the final outcome is expected.

The active role of many parties and conducive environment is a crucial contributing factor in supporting rising superior products that have the greatest potential in promoting economic growth of a region. Such conditions can be imaged on the carrying capacity of natural and human resources that were never separated for advancing the economy, given that resource is an important element to support the progress of a development.

Availability of natural resources (raw materials) are abundant and potentially be followed by improving the quality of human resources that is able to process and use it to create a product that has added value is higher, so avoid the dependence of the importer of raw materials that in

fact more capable process into more valuable products for. In other words, a very large quantity of the ownership of natural resources and human resources will be so insignificant and weak if it is not accompanied by an increase in the quality of human resources and the carrying capacity of science and technology.

The role of government is crucial in creating a prosperous society economy because the government has a regulatory function and facilitate two (2) other institutions, namely the private and the public. Facilities provided could include infrastructure and supporting facilities, which may include program development plan short-term and long a district / city that can then be realized in the form of means tangible to support the program, such as ease of access roads and bridges, health access, access education and training, access to capital, access to knowledge and technology transfer and market access can be reached by all elements of society in conducting economic activities.

Every business has a role and function of each in the value chain of commodity soybeans. The quality and quantity of production affected by how big businesses to contribute in accordance with their respective roles. Therefore, every business is closely related to other business actors in supporting aspects of product distribution continuities. The following specification business actors in the value chain of commodity soybeans.

Supplier Chain (Saprodi)

A supplier or a farm kiosk businesses that play a role in supporting the availability of the means of production in the soybean business. Suppliers fairly central role in supporting the production of soybeans. This is because the availability of the means of production depends on whether or not current suppliers in providing the means of production, type of production facilities among other suppliers provided in the form of fertilizer, medicine (pesticide), and seeds. Fertilisers consisting of subsidized and non-subsidized fertilizer. Urea fertilizer subsidy among other things, ZA, and Zeoorganik. Non subidi namely NPK fertilizer. Most farmers still depend on fertilizer subsidies. From an economic perspective, the reason farmers menggunakan fertilizer subsidy caused the price is cheaper than non-subsidized fertilizer so as to improve the efficiency of planting costs. Cultural factor is another reason dependence of farmers on fertilizer subsidies, especially for this type of urea. Similarly, pesticides or drugs consist of various types according to the needs of farmers such as insecticide (pest caterpillars and grasshoppers), herbicides (weed), and medicinal leaves.

Availability of production facilities within a period of three years quite smoothly. This means the availability of the means of production for the farmer too smoothly. In general, production facilities directly distributed through sales. The magnitude of the needs of farmers for soybean

production facilities led to a supplier requires substantial capital to provide the production facilities. As a result, suppliers have constraints on capital aspect. The solution to overcome these obstacles is to obtain loans at financial institutions such as savings and credit cooperatives (KSP) and rural credit agency (BKD). In general, the distribution system for commodity soybean production facilities in Jember is a manufacturer, wholesaler and small traders.

Production Chain Soybean (farmers)

Soybean production is the business activities ranging from planting to harvesting soybeans. Farmers serve as actors in producing soybeans. Motivation of farmers to run this business is the prospect of commodity soybeans are very good so the opportunity to earn substantial profits. Another motivation is to finance the needs of family life. Agricultural commodities, soybean has a huge potential because of the support of climatic factors. Besides soybeans also does not require complex maintenance. Production capacity that can be generated is one to four tons of dry grain per hectare. A period of approximately 100 days of planting. In one land, farmers generally requires the employment of 10-20 people. It depends on the area of land owned by each farmer. The number of workers is also very supportive in soybean cultivation because of abundant and easy to obtain. It can ditujunkkan by the response of 100% of the respondents that considered sufficient manpower support. Payment of labor performed by the system daily wages ranging from planting to harvest. The average total cost to post-harvest is Rp 500,000 and Rp 750,000 (cost of transportation, labor, and drying).

Crop pests (insecticides and herbicides) that attack soybean and unpredictable time is a constraint experienced by farmers during the production process. The solution to overcome these obstacles is to provide pesticides (both systemic and non-systemic) in accordance with the type of pests. Furthermore it should be done regularly to ensure control of the plant has been free from pests. It is very beneficial for the farmers to have an impact on improving the quality and quantity of soybeans.

Wholesalers Chain

Large traders or small businesses that serve the soybean distribute to employers. This can be seen by the response of the respondents were able to distribute soybeans to all employers in Jember. This business operators are in the medium-scale enterprises. It can be seen from the assets reaches 50 million rupiah respondents with an average turnover of 30 million rupiah per month and an initial investment of 10 million rupiah. Wholesalers obtain soybeans directly from farmers or small businessmen (collectors). Activities undertaken large trader at the time of purchase soybeans is to provide stock for soybeans to be purchased. Warehouses owned by the respondent can store soybeans in the long run, of course with good quality.

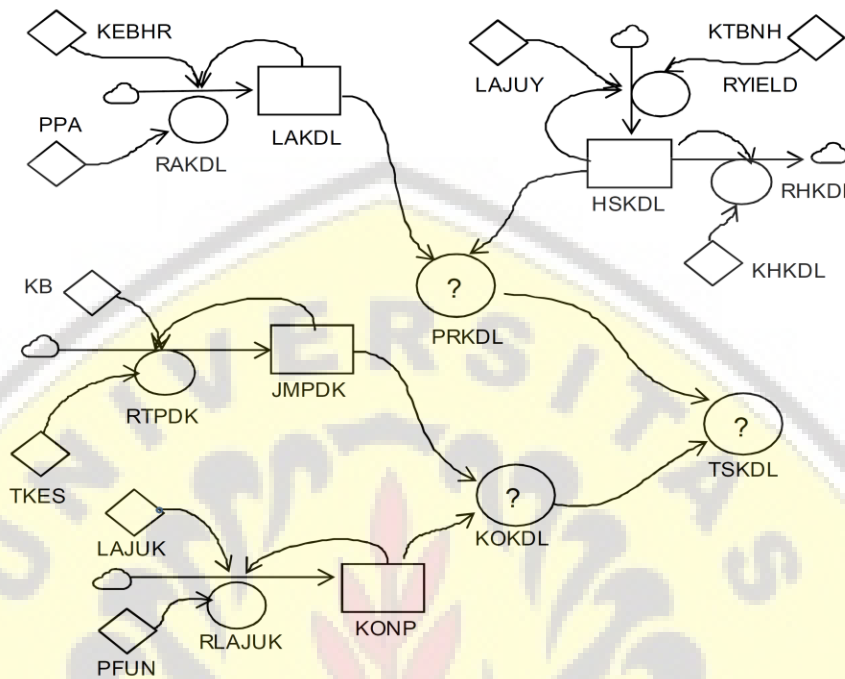
Employers chain

Entrepreneurs both large and small businesses that serve the soybean processing into goods that can be processed by the public into consumer goods, such as tempeh, tofu, milk, and soy sauce. This is done to maintain the stability of soybean prices in the market. Employers must establish cooperation with the relevant agencies (department of agriculture and services trade) to regulate the marketing of the results of commodity soybeans. Employers obtain soybean supply from small or large traders. Mechanism of soybean purchases from small or large trader in Jember is through control of procurement. In determining the quality of soybeans, employers survey method on traders and farmers. It aims to obtain a good quality soy.

Sales (Retailer) on Local and Regional Markets

Retailers are the last actors in the value chain of commodity soybeans. Perpetrators of these efforts serve to sell soybeans to the final consumer. The status of a business entity is an individual with individual ownership. Business scale is still at the micro-scale enterprises. It is based on the total assets owned by the respondent, namely 1.000.000- 5,000,000 rupiah. In addition a total turnover of around 50000-200000 rupiah per day. Capacity soybeans and processed soy products that can be sold is 10-50 quintals per month. In another aspect, the soybean price is determined by market mechanisms. In general all respondents have no obstacles in the process of storage for the storage of all respondents still sufficient to meet soybean stocks.

Based circle survey results can be arranged in a simple model of dynamic system self-sufficient in soybeans, based on the approach *state variable approach*. There are four variables main determine the system of national soybean production is the planting area of soybean (LAKDL), the level of results (HSKDL), population (JMPDK) and the level of soy consumption / capita / orang. Dengan known LAKDL dan HSKDL can be calculated soybean production nationally. KONP of JMPDK and can be counted in total consumption (demand) soybeans. Furthermore, the status of self-sufficiency in soybeans (TSKDL) can be calculated from the reduction in the value PRKDL with KOKDL. Soybean self-sufficiency is achieved when the value TSKDL 0.



- Note: JMPDK: Total population (inhabitants)
 KONP: soy consumption rate (kg / capita / year)
 KOKDL: Total consumption of soy (tons)
 LAKDL: soybean acreage (ha)
 HSKDL: Average rate of soybean yield (t / ha)
 PRKDL: Total soybean production (tons)
 LAJUY: Percentage increase in soybean yield (% / year)
 KTBNH: Factors Levels availability of seeds (0: not available; 1: available)
 RYIELD: The rate of yield increase (t / ha / year)
 RHKDL: The rate of post-harvest level of yield loss (t / ha / year)
 KHKDL: Percentage rate of post-harvest yield loss (%)
 RAKDL: The rate of expansion of soybean acreage (ha / year)
 K1HPTN Factor soybean prices at farm level (1: government guaranteed)
 K2HPG Factor soybean prices at the level of small industry (1: guaranteed government)
 PPA: Program expansion of soybean acreage (% / year)
 RTPDK: The rate of increase of population (people / year)
 KB: The percentage increase in population (% / year)
 TKES Factor public health level (1: health guaranteed)
 RATE: The rate of increase in consumption of soy (% / year)
 RLAJUK: soy consumption rate (kg / capita / year)
 PFUN Factor functional food development (1: developing)

TSKDL: The level of self-sufficiency in soybeans (> 0: self-sufficient)

Figure 3. Diagram of dynamic system models soybean self-sufficiency.

Mathematical equation using software powersim:

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init HSKDL = 1.31
flow HSKDL = -dt * RHKDL + dt * RYIELD
init JMPDK = 237337000
flow JMPDK = + dt * RTPDK
init K0NP = 8:37
flow K0NP = + dt * RLAJUK
init LAKDL = 590 936
flow LAKDL = + dt * RAKDL
aux RAKDL = PPA * KEBHR * LAKDL / 100
aux RHKDL = HSKDL * KHKDL / 100
aux RLAJUK = K0NP * LAJUK * PFUN / 100
aux RTPDK = TKES * KB * JMPDK / 100
aux RYIELD = HSKDL * LAJUY * KTBNH / 100
aux KOKDL = JMPDK * K0NP / 1000
aux PRKDL = HSKDL * LAKDL
aux TSKDL = PRKDL - KOKDL
const KB = 1.5
KEBHR const = 1
const KHKDL = 3
KTBNH const = 1
LAJUK const = 1
const LAJUY = 6
PFUN const = 1
const PPA = 14
const TKES = 1
```

The magnitude of the achievements of the planting area of soybean is highly dependent on the rate of increase of planted area, LAKDL, which is a function of the expansion program area (PPA) and the soybean price subsidy policy (KEBHR). National soybean productivity is determined by the rate of yield increase (RYIELD), which is a function of the availability of improved seed level parameters (KTBNH) and the rate of increase in soybean yields (LAJUY). The amount of the national population is very dependent on the rate of increase of population, (RTPDK), which is a function of the parameters of population control program (FP) and the level of awareness of public health (TKES). While the level of national soybean consumption is largely determined by the rate of increase in consumption (RLAJUK), which is a function of the parameters of the increase in the rate of consumption (LAJUK) and the development of functional foods (PFUN). From the diagram of dynamical systems soybean self-sufficiency can then be made of the mathematical equations of any *rate variables* No (RAKDL,

HSKDL, RTPDK, RLAJUK). By integrating *variable rate equation*, the value LAKDL, HSKDL, JUMPDK and KONP the time unit can be calculated, as well as the status of self-sufficiency in soybeans (TSKDL). This simulation program is interactive. This suggests that efforts to increase soybean production in East Java should be seen in the perspective of system agro-based soy requires sustainable supply of raw materials in sufficient quantity and appropriate quality standards desired. Some suggestions efforts to increase system performance soybean production is the application of price subsidy policy that is fair and natural, soy jabalsim sub-system development, expansion, technological innovation and improvisation PTT soybeans with appropriate mechanical technology.

V. CONCLUSIONS AND RECOMMENDATIONS

Strategy to increase soybean production towards self-sufficiency in soybeans is through empowerment of all parameters of the simultaneous production of technology components that synergetic impact felt at the level of subsystem subsystem farmers as producers and consumers of small industries processing as well as the community of consumers consuming processed soy products. To implement this strategy needs to be commitment and synergistic proper policy of the government, which is to restore the function of BULOG in soybean trade system and provide price incentives to farmers / artisans soybean processing in the event of price fluctuations, analogous to the developed countries that protect soybean farmers.

One characteristic of the synergistic policies is the impact felt at the level of value added subsystems subsystem farmers as producers and consumers of small industries processing as well as the public consumer of processed soy products. This became a reality when the government's policy re-functioning of Bulog in soybean trade system nationwide and provide price incentives to farmers / producers of food industry in case of fluctuations in the price of soybeans, analogous to the developed countries protect soybean farmers.

Soybean sales price guarantee at the farm level is expected to attract and retain farmers to keep planting soybeans. The next step, to spur increased national productivity and sustainability of soybean production system, the government is expected to also provide incentives in the provision of production facilities, for example alsintan for soybean farming. This is particularly relevant given the increasing number of people are not correlated with an increase in the availability of labor in soybean farming. The government has agreed to provide irrigation facilities to establish a national rice production systems, so it is fitting also gradually the government began providing post-harvest soy service centers to optimize sales system alsintan services. The existence of nodes in the form of postharvest care ward dryer, for example, can increase market share selling services soybean threshing, so that part of the profits of the threshing services can be used to cover the costs of drying soybean stover .With It is expected to

further strengthen the national soybean seed supply through the system Jabalsim partial harvest fall rainy season.

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