

Re-evaluation of value-chain and the strategy to secure soybeans as the main input for javanese indigenous dish of "Tahu-Tempe-Kecap" (With a pilot project in Central Java Province)

Reevaluación de la cadena de valor y la estrategia para asegurar la soja como principal insumo para el plato indígena de Java "Tahu-Tempe-Kecap" (con un proyecto piloto en la provincia de Java Central)

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ABSTRACT:

The demand of soybean is increasing from time to time in line with the increase of population and awareness of people to consume protein from vegetable. One of the producers of soybeans in Central Java Province is Grobogan Regency. Unfortunately, the suppliers of soybeans nowadays are not able to meet the demand. This might be due to a shortage of supply, and/ or there is a cartel syndicate in its supply-chain. At this moment, the government, chooses to open import policy with duty exemption to 0%. Indonesia still relies on the imported soybean from the US (89%), Malaysia (6%) and South America (5%) with reasons of bad weather. The objectives of the study are: (1) to re-evaluate the value-chain of soybean; (2) to formulate the strategy to secure soybean as the main Input for Javanese indigenous dish of "Tahu-Tempe-Kecap"; (3) to estimate the transaction costs for revitalizing the

RESUMEN:

La demanda de soja está aumentando de vez en cuando en consonancia con el aumento de la población y la conciencia de las personas para consumir proteínas de origen vegetal. Uno de los productores de soja en la provincia de Java Central es Grobogan Regency. Lamentablemente, los proveedores de soja hoy en día no pueden satisfacer la demanda. Esto podría deberse a una escasez de suministro, y / o hay un sindicato de cartel en su cadena de suministro. En este momento, el gobierno elige abrir la política de importación con exención de aranceles al 0%. Indonesia todavía depende de la soja importada de los Estados Unidos (89%), Malasia (6%) y América del Sur (5%) por razones de mal tiempo. Los objetivos del estudio son: (1) reevaluar la cadena de valor de la soja; (2) formular la estrategia para asegurar el frijol de soja como el insumo principal para el plato indígena de Java de "Tahu-

Logistic Board of Indonesia (Bulog) as the leading institution body for soybeans. The multi-stages sampling was employed to select respondents of soybean farmers, traders (whole-seller and retailer). Focus group discussion (FGD) and/ or in-depth interview with stakeholders of academicians (A), business (B), government (G) and community (C) were done to outline the strategy to upgrade the performance of value-chain of soybeans in overall. The results indicated that now there is no entity functioned as regulator to manage a buffering value-chain of soybeans in Indonesia, in which formerly hold by Bulog (Logistic Board of Indonesia). Therefore, the performance of soybean's value-chain is under-uncertainty. This is adversely by the existence of cartel system. It is timely for the Government Indonesia to revitalize the role of Bulog to secure the chains of soybeans.

Keywords: value, chains, strategy, security, revitalization, soybeans, buffer, Java, Indonesia

Tempe-Kecap"; (3) estimar los costos de transacción para revitalizar la Junta Logística de Indonesia (Bulog) como el principal organismo institucional para la soja. El muestreo de múltiples etapas se empleó para seleccionar a los encuestados de los productores de soja, los comerciantes (vendedor completo y minorista). Discusión de grupos focales (FGD) y / o entrevistas en profundidad con partes interesadas de académicos (A), negocios (B), gobierno (G) y comunidad (C) se hicieron para delinear la estrategia para mejorar el desempeño de la cadena de valor de soja en general. Los resultados indicaron que ahora no existe una entidad que funcione como regulador para administrar una cadena de valor de amortiguamiento de soja en Indonesia, en la que anteriormente pertenecía Bulog (Junta Logística de Indonesia). Por lo tanto, el rendimiento de la cadena de valor de la soja es poco seguro. Esto es adversamente por la existencia de un sistema de cártel. Es oportuno que el Gobierno de Indonesia revitalice el papel de Bulog para asegurar las cadenas de soja.

Palabras clave: valor, cadenas, estrategia, seguridad, revitalización, soja, buffer, Java, Indonesia

1. Introduction

Soybean has been a part of culture for the Indonesia people. It is utilized to be directly consumed and the raw material is processed for some industries like *tempeh* (soybean cake), tofu and other products (*tauco*, *oncom*, soy sauce, food oil, soybean milk, yogurt soybean and fodder). Tempeh and tofu are the favourite food for Indonesia people because it is not only delicious and nutritious but also affordable. The shortage of supply which caused the high price of soybean has impact significantly toward the production of *tempeh* and tofu. The soybean shortage is viewed as a disaster because it will make worse low nutrition intake especially for those who depend on vegetable protein sources for example the people who are not able to buy the animal protein sources.

The government has released the policy to overcome the price crisis in the short-term period, but unfortunately the policy is not automatically overcome the exist problem. The dependence of Indonesia on the imported soybean makes the industry shucked by the commodity prices in the global market. The production of local soybean is only able to supply 29% from the total of domestic demand so the remaining demand has to be covered by import. Therefore, the condition in soybean producing countries has big impact in supply and price. However, it is more than 60% of the soybean demand fulfilled by import, the tofu and *tempe* producers believe that the high price of soybean is not caused by the increasing price in the international market. It is because the soybean buying system in abroad follow the contract system of agreed price. Thus, the price from the importer is impossible to change and follow the market price. The producers of *tempeh* and tofu accuse the importer of playing the price. Moreover, almost every big importer has role as the soybean distributor so that the producers of *tempeh* and tofu insist on the government to regulate the price through the new trade system (Kompas, 2012).

The other problem is the trade system of soybean is dominated by some importer companies which free to decide the price. If the commodity of soybean is handed over to mechanism of market, it will be difficult to create the price stability so it needs the renewal of trade system (value chain). Nowadays, the possible trade system is the government buy the soybean from the importers through the public company of Bulog. As the buffer board, in the future Bulog is not only handle the rice but also the soybean in order to overcome the shortage. Soybean becomes the staple commodity, same as rice in order to the availability of stock and the guide of the buying price from the government. The trade system will regulate so that the farmer has the benefit and the consumer get the normal price. For importing the soybean, the alternative way is the process of importing soybean is conducted by Bulog or cooperated with the private such as KOPTI (the Association of Indonesian Tofu and Tempeh Cooperative). In the other side for the long term, there is an effort to increase

the national of soybean production through the programme of Integrated Crop Management Field, prime seed aid, as well as the expansion of planting area. In the future, soybean import duty will also be applied in order to stimulate the boosting of the local soybean prices.

2. Materials and Method

The capacity of institutional is how institutional abilities use the resources efficiently and produce the output based on the purpose and relevant to the needs of users. Achievement of institutional goals can be seen from the institutional performance and to measure the performance of an institution can be done in various ways, such as by conducting economic evaluation of the output and the impact of institutional, evaluation approach program, study its performance through the audits, and implementing the measurement of performance models. Institutional capability to produce the products that are useful and relevant relies on the policies, strategies, and management practices which are implemented in the institution itself. (Peterson, et al.,2003).

To evaluate the potential of each institutional model, it can be conducted by using transaction cost (Kuperan et al., 1998; Kurniawan, 2017; Jahan et al., 1998, EEPSEA, 2005). In EEPSEA (2005) the transaction costs, categorized into 3 major cost categories, namely: (i) the information cost, (ii) the decision-making cost and (iii) the operating costs. In this study, the transaction cost of institutional trading system is defined as the costs needed for revitalizing, restructuring, and institutional operating.

Table 1
Definition of the Operational Variable

Objectives	Target	Superficial	Methodology
Mapping the trade system (<i>Value Chain</i>) soybean commodity	Respondent target: <ul style="list-style-type: none"> Soybean farmer wholesaler retailers KOPTI (Indonesian <i>Tofu</i> and <i>Tempe Cooperative</i>) BULOG/sub BULOG (Logistic Manager Board) 	Trade system of production aspect: <ul style="list-style-type: none"> Input procurement (production tools), the technology for the farmer The trade system of soybean distribution Local: (Farmer-BULOG) <ul style="list-style-type: none"> Import (Importer→distributor→BULOG) The trade system of consumption aspects <ul style="list-style-type: none"> (KOPTI→UMKM producer/manufaturer→consumer) 	Research question: How is the channel of the trade system of the soybean commodity which is integrated and beneficial for the farmer and consumer? Collecting Data Technique <ul style="list-style-type: none"> Participant Observation Deep Interviews & Focus Group Discussion
to formulate the strategy to secure soyabean as the main Input for Javanese indigenous dish of "Tahu-Tempe-Kecap"	Vertical Integration: Central Governmentà Provinceà RegencyàSub-district-village with the ABGC partnership:	Set up the institutionality: <ul style="list-style-type: none"> Improvement of Value Chain Government political will to protect farmer Synergetic regional autonomy The number and qualification of competence Financing Policy consistency 	Research question: How is the revitalisation model and restructuring of the buffer stock holder institution in the trade system of soybean to guarantee the food security? Collecting Data Technique: <ul style="list-style-type: none"> Deep Interviews & Focus Group Discussion

<p>To estimate the transaction costs for revitalisation and restructuring the institution of the value-chain system of soybeans.</p>	<ul style="list-style-type: none"> Academics: Research and Development Business persons: UMKM (a micro, small, and medium-scale business) <p>KOPTI</p> <ul style="list-style-type: none"> Government: Ministry and related department Community: The farmer group union (GAPOKTAN) 	<p>Component of Transaction cost:</p> <ul style="list-style-type: none"> Information cost Decision Making Cost Operational Cost such as: Implementation cost, monitoring and evaluating cot, institutional activities cost. 	<p>Approach: Descriptive Qualitative Analytics</p> <p>Research question:</p> <p>How is the estimation of the transaction cost to set the scenario of the revitalisation and restructuring of soybean trade system institution (central Java: Pilot Project)?</p> <ul style="list-style-type: none"> Collecting Data Technique : <p>Deep Interviews & Focus Group Discussion</p> <p>Approach: <i>Transaction Cost Method</i></p>
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3. Results and discussion

3.1. The Institutional Model of Soybean Trade System is handled by BULOG (Scenario 1)

The trade system, when Bulog still has some roles, entails village, sub district, regency and province level. The mechanism of the soybean trade system in detail can be seen at figure 2.

The mechanism of imported soybean trading system is slightly different than the local soybean. Bulog is a board that has the authority in conducting import. At this time Bulog has two roles at once, namely as a regulator and executor. Imported soybean from Bulog is distributed to the group of soybean wholesaler (KPKD) and KOPTI. The two institutions (KPKD and KOPTI) are the distributors of the Bulog imported soybean. Role distributor of imported soybean is very important, especially in ensuring the supply / availability of soybean to: 1. Tofu *tempeh* industries; 2. Areas where the tofu *tempe* industries are not KOPTI members; 3. Areas where the demand of local and imported soybean is high; 4. Consumers

The existence of the distributor of imported soybeans is not only guarantees of the availability, but also in terms of price. The two institutions cooperate with Bulog can set the price stability of soybean at the consumer level. Price stability objectives are for Increasing the purchasing power of consumer/soybean processing industry; Continuity and sustainability of soybean processing business; and increasing the local production of soybean. The process of determining soybean prices at the consumer level, especially for imported soybean, by considering the selling price and the purchasing power of local soybean consumer and soybean industry.

The KOPTI role in the procurement and distribution of soybean is very strategic, because as the main supplier of raw materials, especially for the members of tempe and tofu craftsman. For the operations in the field, KOPTI forms some service area unit in the tempe tofu industrial center. The soybean prices on unit service area are made equal to the soybean price in KOPTI. If there are differences, in general, it is because there are additional transportation costs. The service system is certainly very beneficial for its members.

3.2. Institutional model of the current soybean trading system (existing) (Scenario 2)

Institutional model of the existing trading system (scenario 2) in Central Java (existing models), is left to follow the free market mechanism. This mechanism results the emergence of monopoly and fluctuating price. In addition, it is also resulted in the sustainability of the business and the amount of soybean meal consumption from soy protein. The existing model of soybean trading system in Central Java can be described as in Figure 3.

From the figure 3, it is noted that the trading system starting from the local soybean farmers as the first producer, purchased by small and medium collectors at the village level. The village collectors then distribute the soybean to the subdistrict wholesalers and sub-district retailers. Next, it is distributed to the regency wholesaler, the regency market retailers, KOPTI which is sold to the processing industry. In the soybean processing industry, the soybean is processed into food products and will be ready for consumption and sale to the end consumers.

Based on Presidential Decree 45/1997, Bulog has not a role anymore in the soybean trading system. To cover the lack of soybean demand, it is from imported soybean. The soybean is imported by three major importers (about 85%), such as PT Gebang Cahaya Utama, PT Cargill Indonesia and PT Alam Agri. The soybean from the three importers is distributed to the province wholesalers. The problem that often arises is the scarcity of soybeans. This happens because there is a huge gap between the demand and the number of local soybean production. The local soybean can only fulfill the domestic demand of about 25%. As an illustration, in Central Java, according to data from the Agricultural, Food Plant and Horticulture Department of Central Java, the central java soybean needs is around 700,000 tonnes / year. These needs can be fulfilled from the production (to September 2012) amounted to 136,000 tons.

Looking the reality in the field, there is no doubt that we need to import soybeans. The problem that then arises is the price fluctuations and price increases that are not reasonable. To overcome the unreasonable price increases in the field, the government needs to find the alternative solution, such as: 1. Establishing the price policy; 2. Revisiting the mechanism of trading system, especially for imported soya; 3. Evaluating the effectiveness of soy trading system; 4. Controlling the prices.

3.3. Institutional model of soybean trading system proposed by the researcher (Scenario 3)

Based on the evaluation of the implementation of the soybean trading system model scenario 1 and scenario 2, which still have some weaknesses, then it is proposed the model of scenario 3 (research proposals). Model of scenario 3 is compiled to improve the existing mechanisms in order to revitalize and restructure the institutional of the soybean trading system. In detail, the model can be seen in Figure 4. The figure 4 shows that the implementation of institutional revitalization and soybean trading system are conducted from the central government to the smallest area (village).

3.4. Transaction Costs

Estimated transaction costs in this study is calculated based on the costs required in order to revitalize and restructure institutions of the soybean trading system according to researcher's scenario (scenario 3). The calculation is based on the costs incurred by the government to finance the revitalization and restructuring the institution of trading system through the returning of BULOG role.

To revitalize and restructure the institutions of soybean trading system, it is needed to return the role of BULOG by making the government regulation and formalizing the regulation in central level. The same thing needs to be committed by the province government, by releasing regional regulations. Besides, the province government requires

Organizational Structure and Work Procedure (SOTK) as well as the activation of main duties and function (Tupoksi) related to institutional changes. For the regency, sub-district and village, it is required the establishment of the work unit (satgas) to evaluate and monitor the conditions in the field in the context of price stability and availability of soybean.

4. Conclusions

Soybean trading system can be seen from the three aspects such as production, distribution and consumption. The domestic soybean demand is fulfilled by the production of 25%, whereas the lacking is covered by import. The channel of the local soybean (from distribution and consumption aspects) in the research region passes five steps from the farmer as the first producer to the small and middle collector. Then, from the two collectors, the commodity is sold to the wholesaler and industry. The product of processing is distributed to the consumer directly or through the retailer.

The flow of imported soybean via the importer to the distributor, then it is distributed to wholesalers and then distributed to the retailers, processors industry and last consumers.

The institutional model of soybean trading system is encapsulated in 3 scenarios, the model of soybean institutional trading system while still handled by Bulog (Scenario 1), The existing of soybean trading system institutional model (scenario 2) and the institutional model of soybean trading system proposed by the researchers (scenario 3).

Estimated transaction costs which is needed to revitalize and restructure the returning of Bulog role and authority as a buffer stock including the information cost, the making decision cost and the operating costs.

5. Recommendations

The result of the research has contribution for the government to revitalize and restructure the role of Logistics Management Board (Bulog) as the buffer stock for the soybean commodity in Central Java. The findings give contributions to the government such as: socialization and education about the efficient farm management. Besides, the utilization of the research result especially those related to the increase of production such as the use of the prime variety and the use of technology; and development of production and post-harvest technologies to ensure quality and reduce yield loss as little as possible.

Distribution aspects for ensuring the availability and stability of the soybean prices.

Revitalization the role and authority of Bulog as a buffer stock is required to prevent the emergence of monopolies and practices of speculators who want to get the maximum profit without regarding to the level of consumer purchasing power.

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