

ARTICLE

What Can Rubber Farmers and Institutions Do for Supply Chain Networks: The Political Economy Analysis

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ABSTRACT

This research analysed the process of the supply chain of natural rubber between Tauke (collectors) and farmers and between farmers who have their rubber plantation and their tapper labour, with the institutional political economy analysis in Batanghari Regency, Jambi province. The research was descriptive research with a qualitative approach. This research used in-depth interviews with particular informants with purposive sampling and participative observation methods in certain activities. Data that had been obtained was analysed and qualitatively described. This research found that the collectors still overpowered the supply-chain process of natural rubber in the Batanghari Regency – trader, both at the village, sub-regency, and Regency levels. Other institutions, such as the auction market and crumb rubber factory, were located only in particular locations, so they were not accessible to the whole farmers in the Regency. As a result, several channels of marketing systems made different prices from what the farmers got. Institutional marketing indeed could be implemented. It has been proven by institutions such as auctions, joint venture groups, and other groups. Besides, some non-economic aspects can affect the way price parameter changes in the supply chain process, and they are; institution characteristics, marketing channel, and patronage relationship between farmers and traders. Batanghari Regency government should re-examine their plantation regulation about the marketing mechanism until the lowest level, villages. The government should have encouraged a mutual understanding among farmers so that similar efforts could occur elsewhere.

A. INTRODUCTION

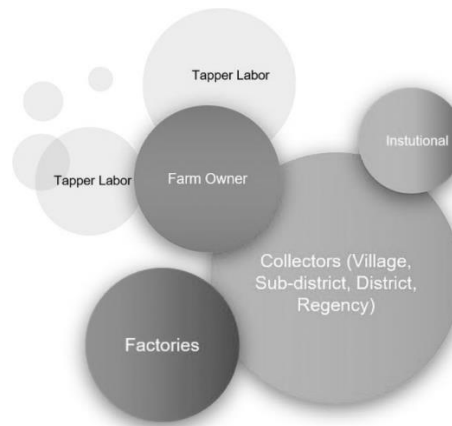
This study analyses the natural rubber trade process between traders, farmers, and tapping labourers in Batanghari Regency, Jambi Province through an analysis of political economy institutions. During the past decades, rubber commodity has increased and is essential to address after the significant price decline in the last few years (Purwaningrat, Novianti, & Dermoredjo, 2020).

The trading system for rubber commodities in Batanghari Regency is carried out in a monopsony market scheme, where there are one or several buyers (in the form of brokers /collectors) and rubber field farmers (Bassett, 2014). Then, the buying and selling process goes

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on between the farm owners and the tapper labor (Kurnia & Haris, 2020) as described by the figure 1.



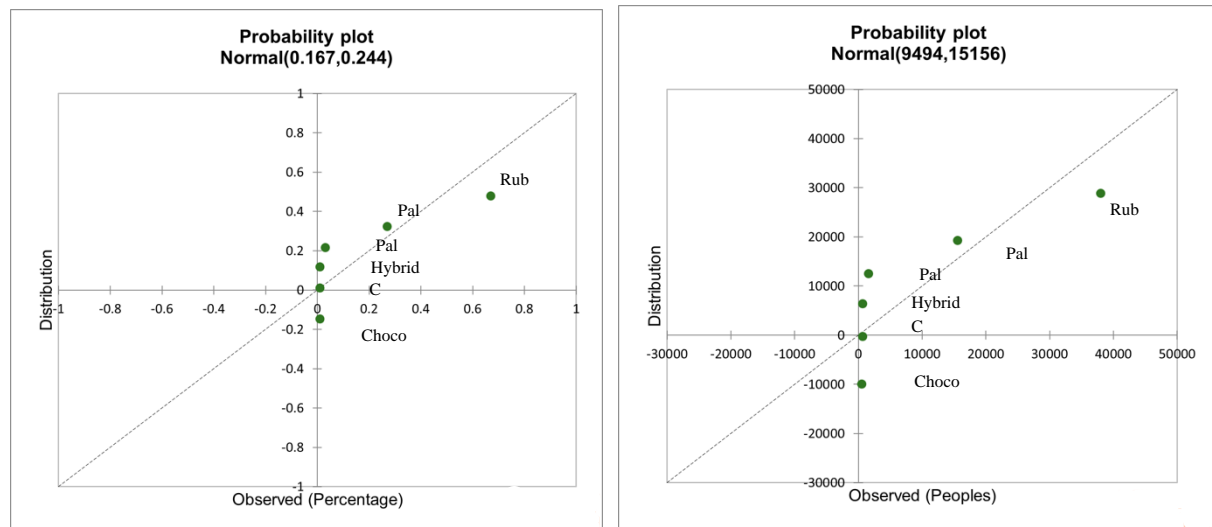
Source: Processed Research Results, 2022

Figure 1. The Networks of Rubber Trading System

Rubber is traded through a monopsony market system, characterised by one or few buyers (Darmawan, Putra, & Wiguna, 2014). Buyers are not consumers, but buyers determine traders or producers and the purchase price (Otten, Hein, Bondy, & Faust, 2020). Buyers who are collectors (or known as *Tauke*) go to villages to look for farmers who produce rubber latex. The natural rubber trading situation is complex and challenging to adjust to the ideal trading system (Kasdi, 2020; Kurnia & Haris, 2020). The rubber trade has an extended trading scheme in place. Many parties are involved in making rubber the leading producer (Crumb Rubber Factory) (Kopp & Sexton, 2021).

The consequences of this condition can be seen from the initial increase in the price of rubber in the world market to the interest in rubber farming in 2010 (Yulida, Andriani, & Ikhwan, 2020). Due to flooding that hit their fields, demand for crumb rubber is high due to a lack of supply from northern Thailand and Malaysia (Lewis, 2010). The price of shipping rubber on the Tokyo Commodity Exchange (TOCOM) in December 2010 reached 381.3 yen or the equivalent of IDR 44,612 per kg. Although these prices were high, they did not reach the farmer's level. At the same time, for example, in the Palembang spot market, the price of crumb rubber was at IDR 41,262 per kg (Kasdi, 2020), while the price at the level of farmers who sold directly to factories in Palembang could get IDR 23,700-per kg (Kompas, 2016). Those sold through “brokers” got an average price of IDR 16,793 -. This condition showed that the difference in purchasing prices was quite large between factories and brokers (Kurnia & Haris, 2020).

As one of the districts in Jambi province, the Batanghari Regency was considered the largest rubber-producing district, with 112,981 hectares or 17% of the total rubber plantation in 2013 (Otten, Hein, Bondy, & Faust, 2020). Rubber plantation was the leading commodity with the largest plantation area with 38,820 rubber farmers (Otten, Hein, Bondy, & Faust, 2020). The following is a comparison table of the types of plantation crops in the Batanghari Regency.



Source: Processed Research Results, 2022

Figure 2. Plant Area, Average Production, and Number of Plantation Farmers in “Batanghari” 2013

The above phenomenon cannot be denied due to the rubber trading system carried out through the monopsony market trading system (Rizvi, Douglas, Williams, & Hill, 2020). The price that could have been maximised could not be achieved because there was no institutional economic mechanism (Lorz, 2020). Market conditions also caused rubber farmers to be trapped in patronage relationships with "collectors" and tapper labor with farm owners. However, from an economic perspective, when rubber is low at the farmer level, it is caused by a lack of demand and a high supply of rubber in the market (Batabyal, Kourtiti, & Nijkamp, 2020). The fundamental weakness of the primary economic system is that the motives behind the participants in a particular process or event are not criticised (Safriyana, Marimin, Anggraeni, & Sailah, 2020). Several non-economic factors are also involved in determining what and how economic activity is.

Based on economist construction, the natural rubber trade was not only a matter of market demand and supply of natural rubber at the farmer level, but there is a trading system between farmers and collectors, which is unique (Kasdi, 2020). The institutional political economy needs to take a position on it. Purwaningrat, Novianti, & Dermoredjo (2020) also added that institutional political economy believes in non-economic factors as a phenomenon that grows and develops in society is values or norms. In the economic activity of the rubber trading system in Indonesia, an institution or value has developed that regulates the relationship between the actors. This value positions intermediaries as a superior actors over farmers, and farm owners of the plantation as superior actors over tapper labour, so there is a pattern of client-patron relationships (Kasdi, 2020).

In particular, the rubber trading system process cannot be separated from the current market mechanism, especially with the market conditions that frame the monopsony market (Darmawan, Putra, & Wiguna, 2014; Otten, Hein, Bondy, & Faust, 2020). Therefore, it becomes essential to analyse the trading system through the institutional political economy (Rizvi, Douglas, Williams, & Hill, 2020). Institutional political economy also believes that behind every economic activity, there are values and norms (Alger & Dauvergne, 2017). The relationship between actors in the rubber trade system has formed a unique relationship of value, placing one position higher than the others. This relationship is described as a patron-client relationship, which is common among traditional farmers in Southeast Asia (Batabyal, Kourtiti, & Nijkamp, 2020).

With the existing trade system conditions, political economy analysis is appropriate to measure how the benefits obtained by each actor in the trade system process occur, or in other words, who gets what, how much and how to get it. The question that arises then is, from the trade system process, how is the distribution of profits for each actor? How much profit can each actor get? In order to answer these questions, this research uses a political economy analysis approach to analyse the natural rubber trading process between collector traders, “tauke”, farmers and tapper labour. The research can be examined through the perspective of institutional political economy and how to map the benefits between the three elements in the rubber trading system in Batanghari Regency. Although the concept of contribution has many different connotations, this empirical research offers evidence-based qualitative analysis relevant to the field of institutional political economy.

B. LITERATURE REVIEW

Institutional Political Economy

Flexibility and efficiency are confirmed as the alternative form when the capacity and authority of the government delivery to affordable is dismissed. The term political economy in this paper refers to competing interests or multi-stakeholder interaction to understand economic problems. Economists continue to analyse economic variables or parameters when approaching economic problems, such as high unemployment (Lorz, 2020). Instead, they may seek and investigate the actors who have a hand in influencing the change in that variable or parameter. Politics here is more towards policy or regulation (Kębłowski, Lambert, & Bassens, 2020). The relationship between the two is in the economic context, which concerns public policy.

As Batabyal, Kourtit, and Nijkamp (2020) wrote, a policy itself concerns the commune or public welfare. The economic and political linkages can simultaneously discuss various aspects, processes, and political institutions concerning economic activity (Kasdi, 2020; Lorz, 2020). Besides, the political economy system forms power relations in society. It determines the values and norms that will more or less determine "what" and "how" various economic activities are carried out in society (Batabyal, Kourtit, & Nijkamp, 2020). Political economy is very appropriate to see other socio-cultural factors influencing an economic phenomenon, apart from pure economic rigidity (Estache & Foucart, 2021). Various political economy streams then exist to analyse multiple political economy phenomena in society, one of which is institutional political economy (Lorz, 2020).

The government need to identify a range of mechanism through the innovation of Institutional political and economic analysis that emerged as an attempt to strengthen the economy towards 'cooperation' or cooperation rather than competition,' which has long been a feature of orthodox economies. The institutional economy tries to find possibilities for collective action and collaboration between people to resolve socio-economic conflicts (Darmawan, Putra, & Wiguna, 2014).

In a pure economy approach, changes in a person's choice of something are influenced by the individual's price and income. Still, the institutional economy sees this as the effect of the game's rules on the parties involved (Rizvi, Douglas, Williams, & Hill, 2020). In buying and selling natural rubber, brokers who intend to take advantage of their interests must also consider the price given to farmers (Kurnia & Haris, 2020). Arbitrary pricing by brokers does not represent the principle of justice. The condition of a trading system that creates a pure economic flow cannot be the best solution when a pure economy is concerned with looking at prices and commodities and assuming that the purposes of the individual economy are in their interests (Lorz, 2020). The institutional political economy focuses more on transaction costs and public policy. It assumes that in addition to personal interests, an individual must also pay attention to the broader community's interests (Ahmad et al., 2020).

A Veblen's view facilitates this. Institutions are a collection of norms and ideal conditions (as subjects of dramatic change) that are imperfectly reproduced through the habits of each subsequent generation of individuals (Kęblowski, Lambert, & Bassens, 2020). In simple terms, institutions here are conditions and environments that influence people's economic behaviour because unsupportive political and social structures can block and distort the economic process (Gustafsson & Scurrah, 2019). Veblen's institution is not in a physical sense but is more concerned with values, norms, habits, and culture that are usually inherent and ingrained in society (Rizvi, Douglas, Williams, & Hill, 2020). All these institutions are reflected in the community's economic activities, so it is called institutional political economy.

Besides, in agricultural economics, several factors are believed to support the agricultural development process, which must be carried out or provided by the government (Ho & Spoor, 2006). For example, argue that policies such as infrastructure procurement, implementation of intensification programs, provision of irrigation networks for water-scarce areas, and the institutional formation and building of partnerships are mandatory duties of the government (Park, Choi, Kim, & Rho, 2015). Furthermore, Daniel added that every society lives in a form and is controlled by institutions, either in organisations or rules, regulating people's behaviour and actions, both in daily activities and in agriculture. Institutions considered important in agriculture include land ownership, cooperatives, and profit-sharing (Lorz, 2020).

Table 1. Classification of Institutional Political Economy

Methodology	Substance	
	Economy	Political
Economic	Showing economic methodology in pure economic substance	Application of economic methodology in the political substance
Parties	Application of the methodology of political-economic substance and analysis of the distribution of power in the market rules	Application of the political methodology of political substance

Source: (Kasdi, 2020; Lorz, 2020; Rizvi, Douglas, Williams, & Hill, 2020)

Value of Client Patrons in Society

Institutional political economy views values or norms as necessary in the economic process (Varkkey, 2012). As much research has been carried out, the rubber farming community's value is the client patron between the farmers and collectors, both farmers to collectors, and tapper labour to farm owners (Purnomo et al., 2019). The patron-client relationship originates from a land-use system in agriculture, where landowners lease their land to be used as agricultural land for farm workers (Rizvi, Douglas, Williams, & Hill, 2020). This kind of relationship describes the relationship between "father and subordinate" or the Patron-Client Relationship (Granovetter, 2018).

In the rubber trading system, the relationship has reflected an interaction between collector/broker as patron and farmer as the client. Several studies on this relationship in rubber trading have been carried out, research by Suryaman & Rahmana (2020), who looked at the relationship between collectors and farmers at Kampar Regency, Riau. This study found that the existing relationship provided protection or assistance from the collector in the form of easy access to selling rubber and providing debt. At the same time, farmers as clients were ultimately bound to continue selling their rubber to the collector at a low price determined unilaterally by the collector (Klick, 2016).

This paper referred to the characteristics of the patron-client relationship by [Varkkey \(2012\)](#), namely (1) there is an inequality in exchange which describes the differences in power, wealth, and position. The client is someone who enters into an unbalanced exchange relationship. The client is unable to repay the patron in full. A debt obligation binds him and makes him dependent on the patron; (2) there is a face-to-face character. Even though the relationship between the two parties is instrumental, the close relationship still has a significant effect on the transaction; and (3) the bond is flexible and expanded (diffuse flexibility), the extensive character is seen not only in a working relationship but also in neighbourhood and friendship. This paper's patronage relationship is used to analyse the social relationship between farmers and collectors, considered values and norms.

C. METHOD

At the core of the political economy analysis, the research explores the values and norms that influence variables of the rubber trading process ([Lorz, 2020](#); [Rizvi, Douglas, Williams, & Hill, 2020](#)). With a political economy analysis, this research looks further at 'who gets what,' how the process runs 'leading aspect' or the institution with the most profits in the trade order process ([Gerber & Green, 2008](#)). Including the institutional political economy approach, the research aims to describe the ideal conditions of trading arrangements because of this approach as justification for the proposed solution from this study's results.

The research was conducted in Batanghari Regency, Jambi Province. The location was taken based on the basis that the Batanghari Regency was one of the largest rubber producers in Jambi Province, while the research was conducted from January – to April 2019.

Using the data collection technique, the researchers used a purposive sample that focuses on selected informants who are rich in cases for in-depth studies, as well as for primary and secondary data that support a finding of the research ([Gerber & Green, 2008](#)). Therefore, an in-depth analysis was conducted on the trade administration process and political economy: tapper labour, farm owners, farmers, brokers, collectors, and institutions in groups such as auctions, cooperatives, and farmer groups. Sample selection is the largest rubber producer in sub-districts in Batanghari Regency.

In this study, researchers used the semi-structured method, which according to [Gerber & Green \(2008\)](#), included in the category of in-depth interviews according to what the author described. Researchers have created a questionnaire-like interview guide in an open-ended question set that addresses the problem formulations to be explored in the research.

Table 2. List of Informants, and Sampling Method

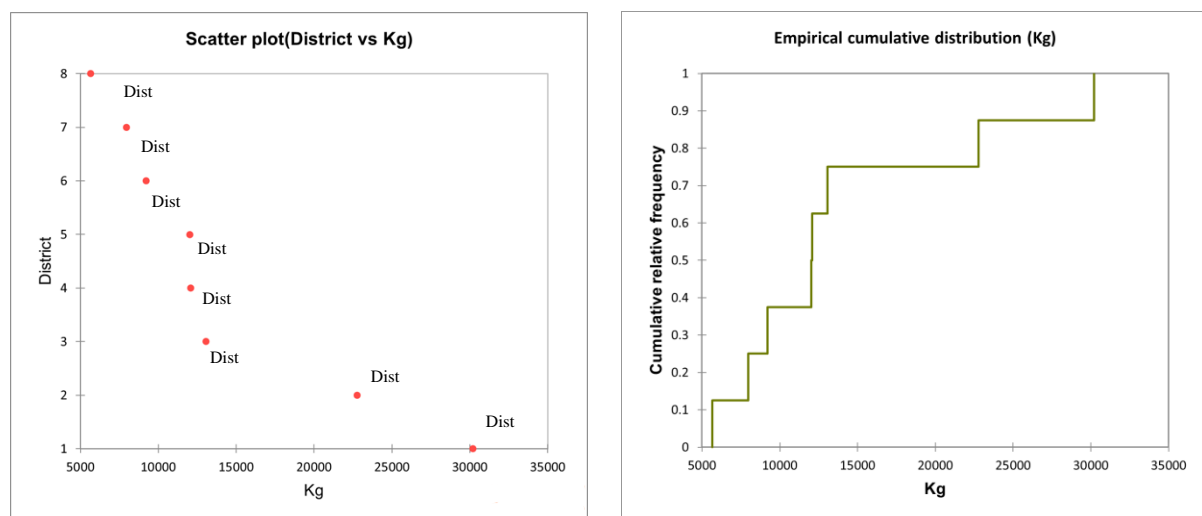
Actors	Number of Informant	Locations	Types
Tapper Labor	10	3 Sub-Districts	<i>Purposive</i>
Farm Rubber Owners	13	3 Districts	<i>Purposive</i>
Collector	6	3 Sub-Districts	<i>Purposive</i>
Collector in Villages	7		<i>Purposive</i>
Collector in Sub-Districts	3		<i>Purposive</i>
Collector in Districts	2		All
Farmers which sell at Auction Institution	5	Penerokan Village	<i>Purposive</i>
Farmers who are members of the Farmers Community	3	Muara Bulian District	<i>Purposive</i>
Auction Committee	1	Penerokan Village	<i>Purposive</i>

This research used a descriptive analysis of interviews and desk study results. The data that has been obtained was analysed and qualitatively described (Gerber & Green, 2008). These research data were gathered from different stakeholders involved in the trading process to develop a comprehensive understanding of rubber trading phenomena: tapper labour, farm rubber owners, collectors, and auction committees. All data was written down in a notebook, and then the audio recordings were listened to, and the transcriptions of each interview were read. In this research, a trade network theory is considered qualitatively to see the existing marketing networks in Batanghari Regency and the marketing institutions involved in distributing natural rubber commodities from farmers to factories or exporters.

D. RESULT AND DISCUSSION

The Crumb Rubber Trading Process and Price Mapping

In realising the supply-chain process, the research conducted interviews on various levels of the Batanghari Regency. The research learned about the crumb rubber trading process and price mapping for all institutions in the supply chain, from farmers to the final consumer, i.e. Batanghari Industrial Crumb Rubber. The monopsony of the rubber trading system, which was handed over directly to the market, gave farmers no bargaining power with the collectors (Otten, Hein, Bondy, & Faust, 2020; Purwaningrat, Novianti, & Dermoredjo, 2020). Also, not to mention that the quality of the farmers' natural rubber was considered flawed, and their bargaining power was getting lower. So, there was a significant difference in the purchase price of the latex between the factory and the collectors. The farm owners who had tapper labour would then reduce this already low price.



Source: Process Research Result, 2022

Figure 3. Production of Rubber Based on Quantiles Estimation and Scatter Plots

In fact, in smallholder rubber plantations, rubber processed materials that meet standards were generally difficult to achieve. With higher export prices, Crumb Rubber could only be processed into SIR (Standard Indonesian Rubber). They had low-quality rubber compared to that other export rubber. Several factors caused the lack of quality of the latex produced. First, the cleanliness level is a measure of the percentage of rubber against other particles that may be mixed in a rubber mould. The results of this study indicate that not one farmer produced 100% clean rubber. Farmers were responsible for the quality of the latex, even though there was no significant urge from the farmers to produce a better latex quality. This was partly due to the new generation of farmers' lack of information regarding rubber quality; these farmers

became rubber tappers without the theoretical knowledge that the previous generation's farmers received training through government programs during the transmigration period.

The second aspect, the farmers' habit of inserting non-rubber particles makes rubber dirty, thereby reducing rubber's selling value. It affects the selling price of rubber. Particles such as woods, soils, dried leaves, and even animals such as turtles were added. Third, sometimes farmers who 'weighed rubber' in one month made rubber mould when they were sold (1 week: 6-10 percent Stale/Wet, two weeks: 4-5 per cent Stale/Wet, one month: 1-3 percent Stale/Wet). The deliberate process was to maintain the moisture levels of rubber mould, resulting in higher weight and a reduced price for the trader.

Rubber Trading Institutions in the Batanghari Regency

The market for rubber auctions or local rubber auctions was first established in Batanghari Regency in 1989 (Yulida, Andriani, & Ikhwan, 2020). Namely, the market for "Penerokan rubber auction" as the market for rubber commodities, rubber auction is conducted every two weeks. There are 5 (five) District Collectors have become regular buyers, covering hundreds of farmers. Village cooperatives (*Koperasi Unit Desa*) in the local village serve as the auction field's organiser (Kasdi, 2020). They facilitate meetings between buyers and farmers who want to sell the rubber mould.

The number of farmers selling at the rubber auction always changes, averaging 90-100 farmers. Accepting the quality of rubber traded at the auction is different for each village. For instance, Village 1 tends to produce latex with good physical shape. While the rubber's dry content is still relatively standard because this auction takes place every two weeks, the resulting slab is still a little wet.

Some recognise that many collectors are one of the rubber trading institutions in the Batanghari Regency. At least 3 (three) types of collectors are classified based on the trading route. Including the price, the amount of rubber traded, and access to a larger factory/buyer. First, village collectors buy rubber from farmers in the same areas, even in surrounding areas. Second: A sub-district collector is a collector trader who collects crumb rubber from farmers in the same sub-district and sells it directly to factories or warehouses in Jambi City. Third, the regency collector is the biggest collector who routinely performs trading in Batanghari Regency. They buy rubber from across sub-districts and sell it directly to factories.

Furthermore, one actor who acts as a collector, as well as a farmer, this actor is known as 'Tauke Batang'. These farmers act as collectors because they rent out their rubber plantations to farmers who do not own one. Farmers have to sell their sap to plantation owners. The price given by the plantation owner is quite low compared to the selling price at the village-level brokers. Farmers have no power to bargain, considering they will no longer be permitted to work on the land.

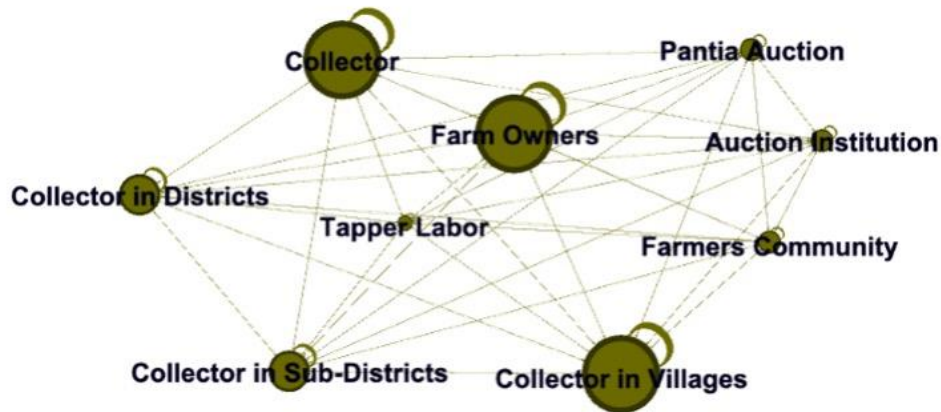
The surprising findings from the interviews with the collector and broker were regarding non-rubber particles' contents from the natural rubber products owned by farmers. For example, a collector in the sub-district who is steaming in Batanghari Regency admits that generally, non-rubber particles are tapped (tatal) slices of rubber tree wood, which should be discarded instead of the farmers putting in latex shells.

"The farmers usually enter in tatal, the one who most often makes rubber dirty." Interview with the collector in sub-district on January 5, 2017.

Distribution Channel Trading Schemes

There are 3 (three) types of Rubber distribution channel trading systems in Batanghari Regency. "Zero levels" distribution channel means no other institution between farmers as producers and factories as consumers. Farmers sell the crumb rubber directly to the factory. This is challenging because the factory only accepts large-scale sales and complicated supply

contract agreements (Delivery Order). Only collectors at the district level or farmers with many plantations can sell directly to the factory. One of the strategies adopted by farmers who do not produce much rubber is to sell in groups with other local farmers. Farmers' advantage from selling directly to the factory is a better price than other networks.



Sources: Data Finding and Analysis, 2022

Figure 4. Distribution Channel Within Political Economy Analysis

A "one-level" Distribution channel is a condition where there is only one collector between the farmer as the producer and the factory as the final consumer. This channel is connected to collectors at the district level and farmers who sell in groups in one place. Then the collector comes to collect the rubber. The "two-level" distribution channel presents one collector and one broker between consumers and producers, or it can be in the form of one collector among tapper labours as producers and factories as consumers. This channel is popular in the sale of rubber in Batanghari Regency. The village farmer sells rubber to the collector at the village level and then sells it to the collector at the district level. At the same time, the collector at the regency level sells directly to rubber factories in Batanghari Regency and Jambi City.

Apart from that, it cannot be denied that the competition affected the formation of prices from collectors to rubber farmers, which is the competition between collectors in the village. There is strong patronage from the collector at the village level to the farmers ([Rizvi, Douglas, Williams, & Hill, 2020](#)). Village collectors compete for farmers by being buyers with the highest prices and becoming Patrons who can provide the most loans.

Factors that affect each channel: The first factor is the number of distribution channels, where every institution within the channel certainly wants to profit from this rubber buying and selling business. It is therefore understandable that the longer the chain of trade, the lower the price of producer farmers. Second, the distance factor between factories and export locations as crumb rubber consumers and most farmers are outside the district. This makes most farmers who sell to factories prefer to sell them to factories in Jambi because the price difference is relatively high. Third, the production scale is a price determinant for large collectors who hold "DO-delivery orders" from factories or sell to factories. One-time transportation costs from the same location will be more efficient than steaming from different locations daily. The fourth factor, "Dependence on the collector," is a particular perception in the collector who wants to compete and last a lot longer to become a collector. Who tries to give most of the loan is sometimes the holder, although the price of buying collector is lower than other collectors since it can give the farmer the loan.

Table 3. Pricing Crumb Rubber and Distribution Channel Level

Institute of Marketing	Resource pricing information	Process of pricing
Brokers	Collector of, other farmers	Determined by traders
Collector at Village Level	Market auctions rubber, factory	Determined by collectors
Collector at Subdistrict Level	Factory, local market	Determined by brokers
Collector at District Level	Factory, local market	Bargaining, Determined by the factory
Auction market	Factory and Gapkindo	Highest bid

Source: Processed Research Results

Discussion

The concept of institutional political economy is various (Batabyal, Kourtit, & Nijkamp, 2020; Lorz, 2020; Rizvi, Douglas, Williams, & Hill, 2020). As the concept is popularly used in different contexts, there are various variants of institutional political economy implemented as the objective and alternative of analysis. Karsenty & Ongolo (2012) defined institutional political economy as a “subject of dramatic change” phenomenon. Drawing from broad literature, a comprehensive view of the institutional political economy presents multidimensional definitions like Razak (Razak & Sofyan, 2020) emphasise smart institutional political economy as a commitment to socio-cultural factors (Fagan-Watson & Burchell, 2016; Karsenty & Ongolo, 2012; Lorz, 2020; Razak, 2018). Labelling of socio-cultural factors with underlying changes in multi-stakeholders interaction to understand economic problems (Kopp & Sexton, 2021; Kurnia & Haris, 2020; Rizvi, Douglas, Williams, & Hill, 2020) on the use term of the institutional political economy refers to the patron-client relationship.

Further, in the research findings necessary to be discussed, the crumb rubber trade system in Batanghari Regency cannot be separated from the condition of the rubber itself. Crumb rubber dilemma conditions affecting the trading system's operation include Dry Rubber Content (DRC), better known to the public as "Stale Rubber," and the existence of fraudulent acts between farmers and collectors' traders. Based on the institutional political economy analysis, it is known that farmers are familiar with the institutional system in the rubber trading system (Otten, Hein, Bondy, & Faust, 2020). These institutions are in the form of groups, some are legal organisations, but more are small groups without any exact organisational status. They are in groups to maximise the amount of rubber transported to the factory or collected by the collectors. With a larger number, the bargaining power of farmers toward intermediaries and factories would also increase (Kasdi, 2020; Lorz, 2020).

However, the best practice mechanisms applied by one group have not been duplicated by other groups. Not all farmers feel like forming groups, either because they do not know the groups or farmers who are reluctant to set up groups. Even with a very close location and with the same collector, farmers in the area never sell in groups to negotiate the price with the collectors.

The social-economic empowerment or “*kelompok usaha bersama*” mechanism used by a small number of these groups only applies to farmers with initiatives, intense desires, and a sense of community. The current tendency of farmers who do not want to be bothered with a small amount of latex and low prices makes farmers reluctant to join groups.

There are 3 (three) types of institutions involved in the supply-chain, namely the Rubber Auction Market, which is only found in 3 (three) villages. There are 3 (three) levels of collectors, starting from the Village, District to the Regency level, with variants of the

determined price. Apart from collectors' traders, another rubber trading institution that can determine prices is the farm owner, a plantation owner who rents out land to tapper labour. The three institutions shall determine prices and quality discounts for farmers and tapper labourers in the trade arrangements within the network (Lockwood, 2010). As a result of these various institutions, the crumb rubber trading system in Batanghari Regency is divided into several networks, namely, a) network zero, where farmers sell directly to factories, and b) network one, where there is one collector's trader between farmers and end consumers, and c) network two where there are two collectors between farmers and factories (Lockwood, 2010).

Furthermore, based on a political economy analysis with an institutional approach, it is known that the activities of the crumb rubber trading system in the Batanghari District cannot be separated from several non-economic phenomena. There are 3 (three) actors who act as producers. They are tapping workers, farmers who have their plantations and Tauke Batang farmers. In the trading scheme, tapping workers' relations always end up in their Tauke Batang. Farmers have no option but to sell their crumb rubber to other trading agencies. Meanwhile, farmers with their plantations and Tauke Batang can sell their crumb rubber to several institutions, including village collectors, sub-district collectors, district collectors and crumb rubber factories.

The characteristics of the institutions involved, for example, tapper labour, have lower bargaining power than ordinary plantation owners. In comparison, village collectors have lower bargaining power with factories compared to that sub-district and regency collectors. Each network's characteristics are also influenced by the number of created networks, including ownership of DO from factories and differences in factory treatment.

E. CONCLUSION

Brokers still control the crumb rubber trade in Batanghari Regency. As a result, several distribution channels of marketing systems cause a different price than what the farmers get. Institutional marketing indeed can be implemented. It has been proven by institutions such as auctions, joint venture groups, and other groups. Besides, some non-economic aspects can affect the way price parameter changes in the supply chain process, including institution characteristics, marketing distribution channel, and patronage relationship between farmers and traders. Batanghari Regency's government should re-examine their plantation regulation related to the marketing mechanism up to the lowest level, villages. Farmers and groups should have encouraged a mutual understanding among them so that similar efforts can occur elsewhere. These small empirical research findings not only improve the crumb rubber system in Batanghari Regency but also become a critical reflection of the monopsony market scheme of agricultural products in Indonesia.

Contributorship

Conceptualisation, validation, analysis, writing – original draft preparation, and writing-review: Maratun Saadah. Methodology, editing, and visualisation: Agustiyara

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