

ANNALS OF AGRI-BIO RESEARCH

**An International Journal of Basic
and Applied Agriculture and Biology**

**Edited by
B. D. Chaudhary
Amit Chowdhary**



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Dear Dr. **M. Rizal Umami**,

The paper entitled “**Changes in the Trading System of Sugarcane Farmers in Indonesia**” by “**M. Rizal Umami, Zainuri, I. Wayan Subagiarta and Rafael Purtono Somaji**” has been received for publication in the Annals of Agri Bio Research

The paper has been given a MS No. 2021/48 which should be quoted while making future correspondence about the paper.

I am happy to inform you that subject to editorial corrections the above referred manuscript has been accepted for publication in Annals of Agri Bio Research. Every effort will be made to accommodate it in next issue of Annals of Agri Bio Research.

Yours sincerely,



(Editor)

Dr. M. Rizal Umami,
Department of Development Economics,
Faculty of Economics and Business,
University of Jember,
Indonesia



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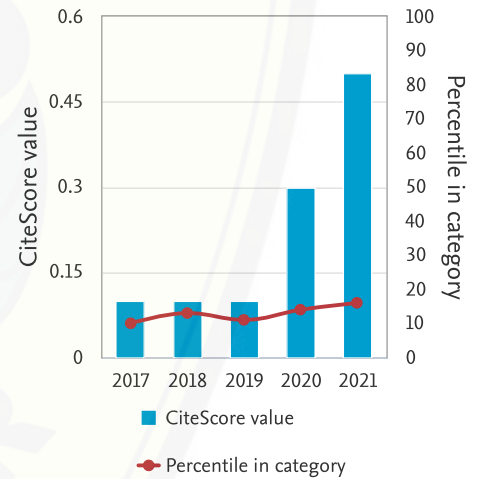
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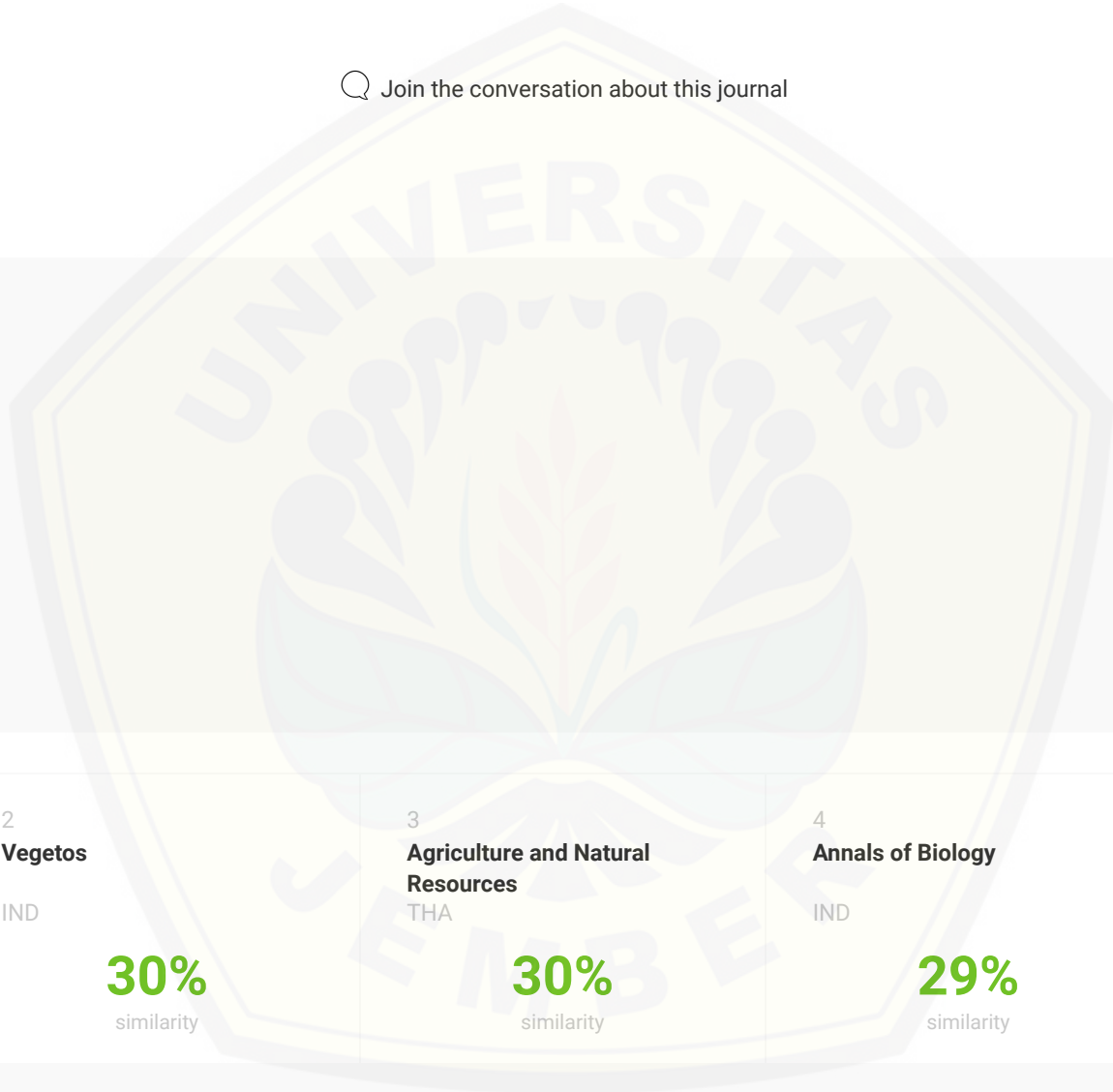
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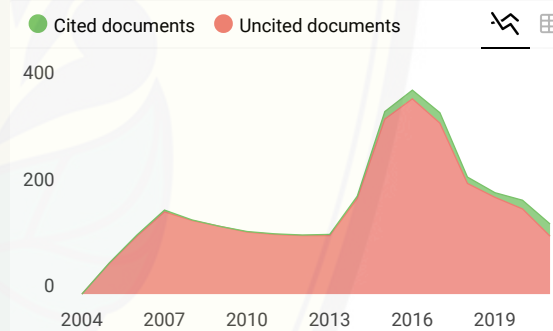
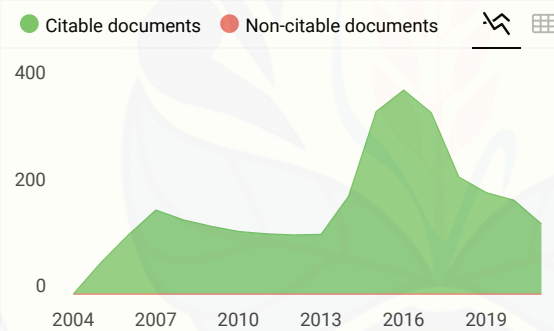
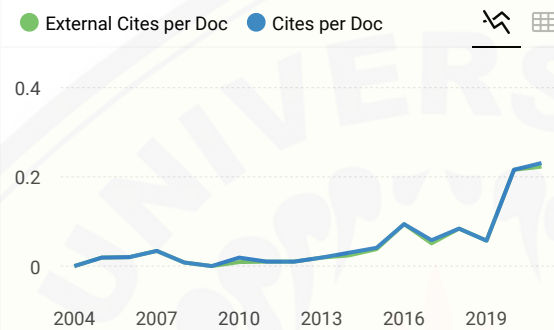
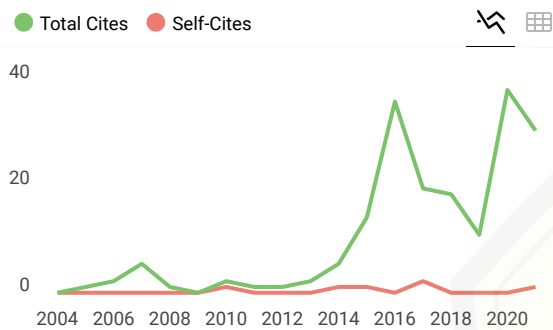
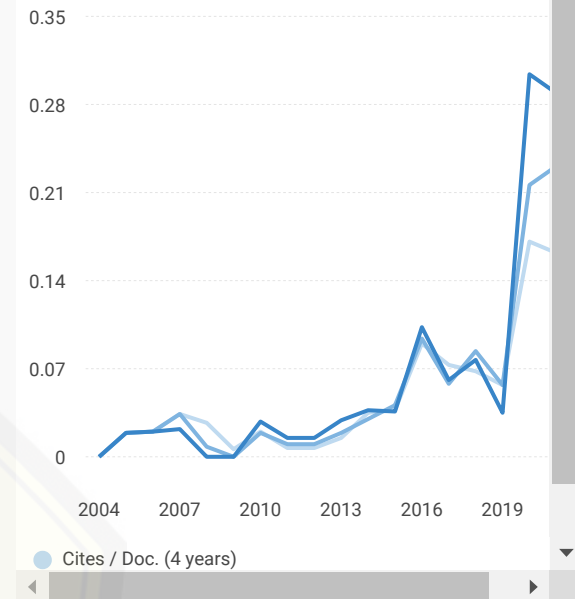
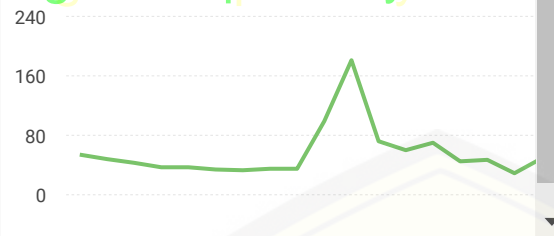
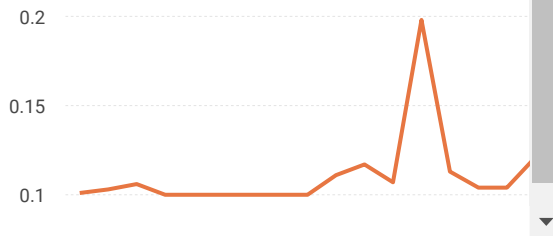
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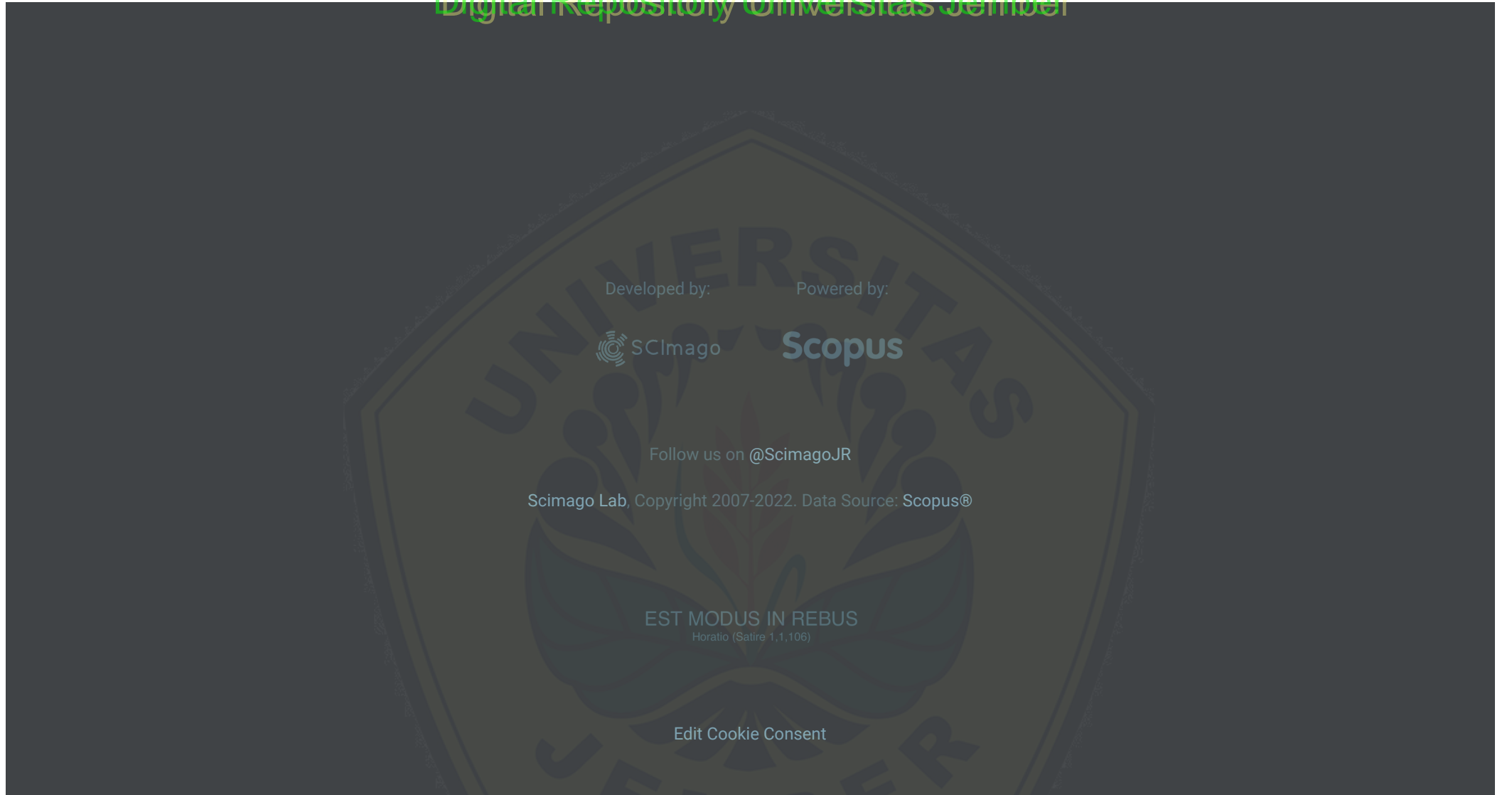
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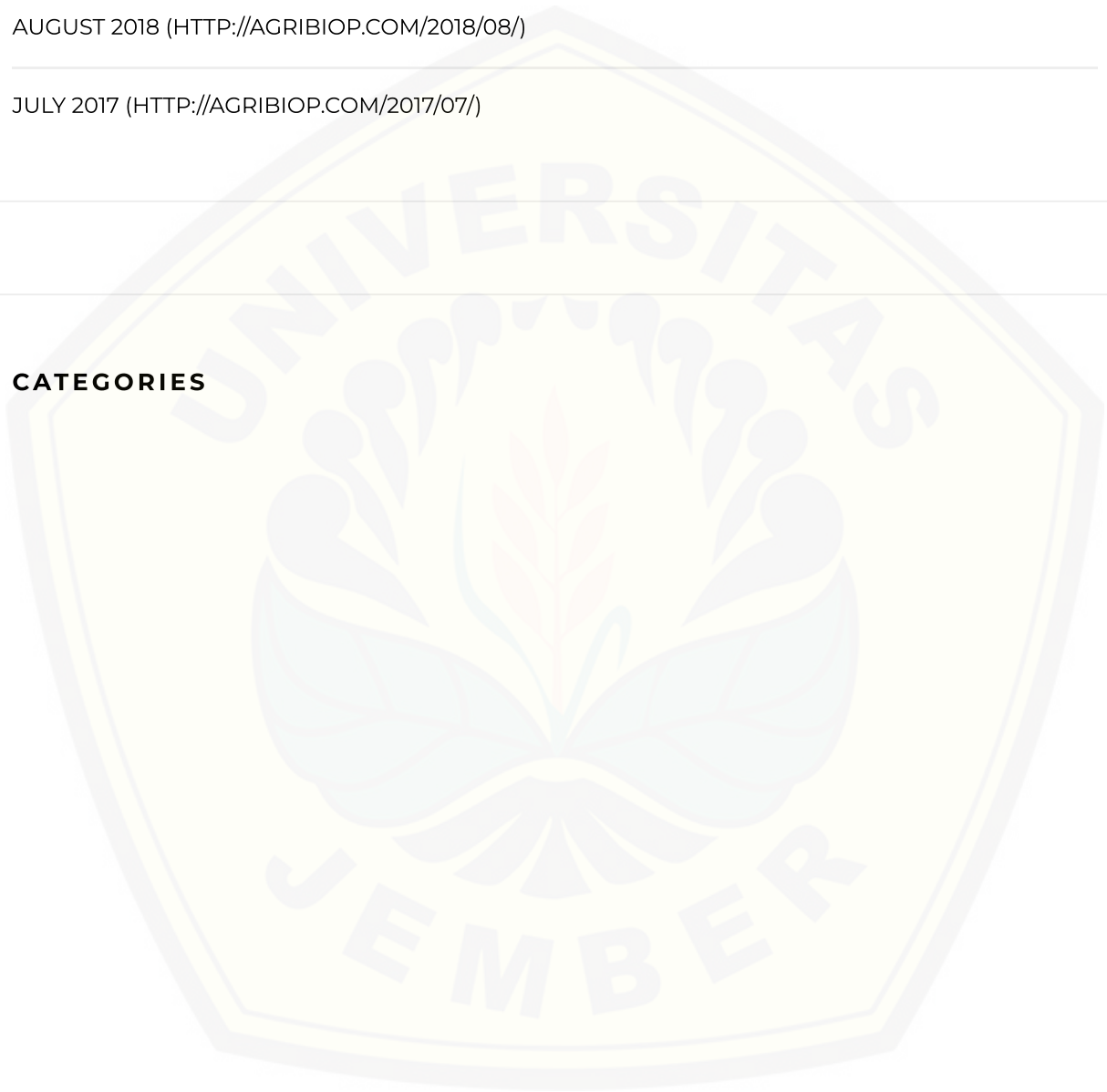
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Changes in the Trading System of Sugarcane Farmers in Indonesia

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ABSTRACT

Market failures are associated with inefficient trading margins in the sugar industry. This study was undertaken to determine changes in the trade pattern of sugarcane at the PTPN XI government in Indonesia; how sugarcane products were distributed and the relationship between farmers and agents. The snowball sampling method was used to collect data through in-depth interviews using key informants to collect the primary data. The data processing method used was ATLAS.ti 8 software. PTPN XI sugarcane comprised four trading systems. The result showed a change in sugarcane farmers' interest in establishing a partnership with the sugar factory PTPN XI in Indonesia.

Key words : : Trade, social capital, sugarcane farmers, ATLAS.ti 8, Indonesia

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Changes in the Trading System of Sugarcane Farmers in Indonesia

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INTRODUCTION

The history of economic thought begins with the pre-classical period of ancient Greece, scholasticism, mercantilism, and physiocrats. Adam Smith's classical flow preceded it. He believed that this concept was represented as a market mechanism through price as the instrument in the invisible hand in regulating resource sharing and minimizing government role. The classic school of thought preceded Keynes stated that the market could not create a balance, so government intervention must be carried out to accomplish its goals by distributing resources.

In the end, Thorstein Veblen developed the Neoclassical and the first institutional school, and Ronald Coase developed the new Institutional School. Ronald Coase already discussed many institutions, particularly transaction costs that occur a lot in public goods. Political policy for the public order and politics usually involve many people to particular interests. The way to see if politics is interpreted as public politics is by distinguishing in both private goods or public goods, individuals or even groups carry out exchanging private goods, even when public goods involve many societies, according to Neoclassical economics, it distinguishes.

Whether a market mechanism can resolve goods, an item is said to be private property, but if it cannot be resolved, government intervention is necessary to control those goods' regulation, and the goods are said to be public goods with government intervention.

The market mechanism has not always been successful in its development; in agricultural commodities, the market mechanism has failed. The development of sugar imports tends to increase every year because Indonesia cannot meet domestic demand. Shortages in sugar supply require Indonesia to import every year. The government intervened in the market to overcome the domestic sugar market. Information, unhealthy competition, externalities, and public goods are related to market failures. The government often uses market failures to act in specific markets. Government intervention often contributes to less efficient resource allocation than without intervention (Banik and Das, 2019). Export product stagnation to the state is caused by this country's economic elite's rent behaviour and inadequate state support (Lopez and Ahumada, 2020).

Resource allocation becomes increasingly inefficient if government intervention stops unnecessary market activities by supporting the required actions. Market failure occurs when concerning goods and services supply and consumption, the price mechanism fails to define total prices and profits, resulting in inefficient allocation or utilization. Marketing profits distribution, one of which is the trading margin, can be seen as an effective market. The high trading margin assessment shows that there were intermediary traders who were heavily involved in the trading process. The inflated margin can be decreased by shortening the trade channel. The fact is that the high and low trading profits do not depend on the

number of marketing agencies, but the functions of the trading organizations. Each trading system takes advantage of its respective roles, resulting in a price gap between farmers and market prices. Farmers, both as sugarcane producers and as price-takers, often lose to traders' interests who first know the market price. The farmers' weakness also lies in the lack of market information (a market mechanism) or sugarcane farmers' weakness in the trade chain. The APTRI, farmer groups, traders, redeemers, and combats are indeed the intermediary traders in sugarcane commodity trading (Indonesian Sugarcane Farmers Association).

Sugarcane production generated by farmers can affect the income level. The greater the production, the farmers' income is also higher. It is not only that sugarcane farmers' income level is seen from the quantity of sugarcane production, but the cost expended and incurred by the farmers during the production process influence their income level. The farmers prefer more effective trading channels to reduce the high costs incurred. Institutional problems lead to differences in government sugar factories' administration in PTPN XI's operation in Situbondo, East Java, Indonesia, affecting trade patterns in sugarcane farmers. There are also differences on the farmer's side in which farmers' land will increase the sugar factory's bargaining value and affect the trade against the farmers. The local community's socio-cultural system can also impact a region's economy (Udjianto *et al.*, 2021). Social and cultural community development and dynamics are strongly reliant on regional and social territorial conditions to produce and develop cultural elements to satisfy the community's socio-cultural needs in introducing and developing socio-cultural life. The community's socio-cultural structure includes human social relations in a society consisting of social organizations and socio-cultural institutions and their backgrounds, culture, demography, cultural elements containing material and human thoughts.

The western region has a cultural system in its journey closer to the Middle Javanese culture (Mataraman). Javanese continues to dominate the ethnic and language; most western region populations speak Javanese as their mother tongue. Still, as a whole, the population uses Indonesian as the formal

official language. Changes in government policy regarding the obligation to plant sugarcane around sugar factories are not in existence which cause sugar factories to carry out their planting activities and enter into partnerships (contracts) with surrounding communities. This establishes sugarcane yield and assurance that it reaches the factory and the relationship between farmers and agents. Therefore, in Situbondo, East Java, Indonesia, it was essential to conduct a PTPN XI sugarcane farmers' trade pattern.

MATERIALS AND METHODS

In this study, primary data were obtained from the interviews with the key informant (in-depth interviews). The study processed the analysis unit as an information source about the variables. The sugarcane trading system actors were the analysis unit in this study in which PTPN XI was one of Indonesia's plantation agribusiness producers with the core sugar sector. The technique used in this research used snowball sampling to determine the sample. The snowball sampling technique continuously detected, selected, and took samples in a network (Naderifar *et al.*, 2017). The population, the events to be examined in detail, was the entire group object. All sugarcane trading actors in the PTPN XI plantation were included in the study.

The data analysis method was qualitatively carried out using ATLAS.ti 8 tool. The ATLAS.ti 8 software helped to complete tasks related to a systematic approach to the unstructured data, such as data to be analyzed using only a formal statistical approach to acquire its meaning. The ATLAS.ti software also acted as a placeholder that stored all the data, code, memos, and findings from the project researched in one environment. This collection helped researchers to manage, extract, compare, and explore data in the text for further analysis. The ATLAS.ti 8 was a tool for analyzing large amounts of textual, visual, audio and video data. The tools helped to organize, restructure and organize material innovatively and systematically.

RESULTS AND DISCUSSION

Farmers' sugarcane trade involves several trade institutions, each of them contributed

to running and marketing the farming business. As resource persons, the farmers came from Situbondo regency, East Java, to sell sugarcane crops through different payment channels based on ease of payment, realistic prices, the proximity of actors, geographical location, and sugarcane land area. Farmers, contractors, lenders, the Indonesian Cane Farmers Association (APTRI), farmers' groups, and sugar factories were the trade systems involved in the Situbondo district's sugarcane trade.

The explanation was as follows :

1. Farmers were institutions that contributed to sugarcane production. Each farmer had a different income depending on the cultivated land. Each farmer had the right to choose a trading system according to the trusted agent's understanding and belief. Farmers taken were APTRI members and independent farmers. Besides, farmers who had registered at a sugar factory and had not registered yet were also available.
2. The contractor was a trading institution with a cash payment system that purchased sugarcane farmers' products. The contractor already had a sugar factory register. There was no difficulty selling sugarcane purchased from sugarcane farmers, as the contractor usually already had a close relationship with the sugarcane farmer.
3. Redeemers were wholesalers who purchased sugarcane from sugarcane farmers' crops and grinded the products they bought from sugar factories. Redeemers had sugar mill registers, so they had no difficulty in selling the cane purchased from farmers.
4. The Indonesian Sugarcane Farmers Association (APTRI) was an official sugarcane farmers association with a fixed law contributing to fighting for sugarcane farmers' aspirations, bridging sugarcane farmers with sugar factories for farmers having a higher bargaining position.
5. The farming community was an association of small sugarcane farmers who had a small land area. This

farmers' group was a bridge between small farmers and sugar factories in conveying sugarcane farmers' aspirations.

6. Sugar factory was an entity contributing in processing sugarcane owned by farmers into sugar. It acted as an intermediary in lending business capital to sugarcane farmers and sharing the sugar selling through a production-sharing system. Sugar factories were grinding sugarcane owned only by farmers who had a register or contract with sugar factories. An auction system carried out towards the PTPN XI board of directors' office in Surabaya, which was then produced, and auctioned to investors.

Sugarcane Trading Patterns

Farmers in this pattern (Pattern 1) had the characteristics of having small land adjacent to each other's land. This pattern consisted of sugarcane farmers, farmer groups or APTRI and sugar factories (Fig. 1). These farmers had a reasonably intense closeness among fellow farmers. According to Mgaya (2016) and Redondo (2016), the community's proximity generated substantial social capital, norms, and beliefs and generated strength that even outwitted government-made written rules. Situbondo people firmly upheld the norms and beliefs formed in the community. It was shown to date that the sugar factories in Situbondo had reached the big four sugar factories in Indonesia, which also showed the community's social capital strength. According to the sugarcane farmers, the farmers' groups were looking forward to help the sugarcane farmers' aspirations. Agricultural groups facilitated small farmers with sugar factories. The heads of the farming groups usually represented these small sugarcane farmers' aspirations. One of the collective action success (Heemskerk and Mans, 2013) was the group's size, homogeneity, and purpose. Farmers preferred to pay with the sugarcane pricing scheme (SPT), which was carried out by the sugar factory in cash, the current trading system pattern had begun to fade. Farmers' groups usually required help from state-owned banks in business capital through guarantees from sugar mills like sugarcane

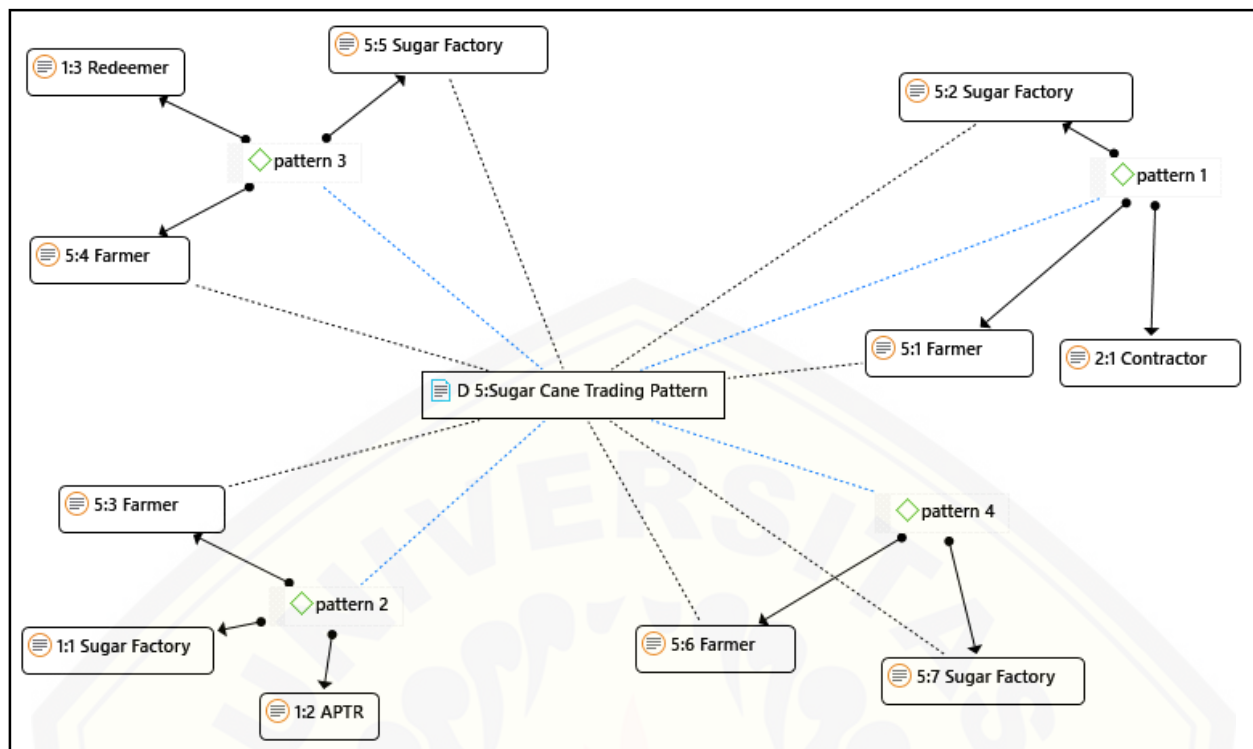


Fig. 1. Sugarcane trading patterns network.

grinders from sugarcane farmers' harvest. The working capital was obtained before the milling season arrived, and farmers who had registered with the sugar factory in return for the return on farmers' business capital cut the production capital. Sugar factories which were already bound by contracts with farmers, this pattern became an obligation for sugarcane farmers to grind their harvested sugarcane. Three trade institutions for farmers, contractors and sugar factories were part of Trading System 2 (Fig. 1). Farmers preferred to sell their sugarcane to a contractor because of price certainty. The contractor usually had an intense relationship with the sugarcane farmers. Each contractor had a register or contract with each sugar factory. The payment for the sugarcane purchase from farmers was usually in cash. After the sugarcane was milled and paid to the contractor by the sugar factory, the contractor pays the farmers the money milled. This second trading system pattern was still related to social capital theory in the one order pattern. In this case, trust in agents was essential.

Trading pattern 3 consisted of farmers, redeemers, and sugar factories, the same as pricing pattern 2, which tended to make things complicated for retailers to produce sugarcane,

redeemers being big financiers, individually or in groups (Fig. 1). In Situbondo, the redeemers came from outside the Malang district, and the redeemers made intermittent sugarcane purchases from farmers. After mapping the sugarcane property belonging to the farmers, the redeemers estimated the sugarcane price. If the price matched between the farmer and redeemer, there was a sale and purchase transaction, cutting costs and sugarcane transport borne by the redeemers. In this pattern, the sugar factory's role was to grind the sugarcane purchased from the redeemer.

Trading pattern 4 consisted of the farmer and Sugar Factory Corporation (Fig. 1). In this pattern 4, the sugarcane farmer had a register at the sugar factory, and farmer pattern 4 had broad areas. These farmers received loan capital from a state-owned bank through a sugar factory to finance their farming business. The outcomes of a sugar factory and a designated government bank (BNI Bank) partnership. Before the 2000s, many farmers had partnerships with sugar factories, but now most of them switched in selling to redeemers because the price offered was better. In this pattern, the sugar mill's role was to grind sugarcane purchased from farmers.

The above four trading patterns were the results collected from direct interviews with sources by the researchers. The actual finding was that currently, sugarcane farmers, desired to shift from sugar factories. Under PTPN XI Situbondo East Java, the sugar factory will slowly close and will be replaced with domestic private sugar factories. Improvement in the trading system was currently the key to economic growth in developing countries, including Indonesia, and one cannot avoid a vicious poverty circle without effective marketing (Chowdhury *et al.*, 2021).

All activities and commitments related to property and physical rights transfer from agricultural products and the needs of agricultural commitments from producers to consumers may be covered by Agricultural Administration, including specific activities resulting in changes of goods aimed at facilitating distribution and providing greater consumer satisfaction. Long before the goods were manufactured, the sugarcane trading process started and did not start when production was finished, nor did it end after the sale. One reason for the sugarcane plantation's high cost was the need of fresh water and fertilizer; as the processed wastewater was not useful (Veerabhadram *et al.*, 2020). Trading activities were production activities from the economic point of view. It was called a productive activity because trading provided rights in time, place and property. The role of exchange as part of economic development was, in general, economic development. It was widely recognized and written in different literary works, especially in agricultural development.

Developing countries cannot escape the vicious poverty cycle without an effective sugarcane marketing system (Mashamaite and Lethoko, 2018; Omoruyi, 2018; David and Grobler, 2019). They cannot leave the subsistence era of life to generate a surplus for the market because there were no buyers for the goods they produced, also because each farmer produced goods only to meet his own needs. A significant shift in the marketing system in developing countries broke the vicious poverty cycle. Effective trading was necessary to connect producers with consumers, and efficient marketing meant delivering goods and services that consumers needed and wanted. It meant delivering

sugarcane to the sugar factory promptly, conforming to the factory requirements, shape, and quality. It was not an easy task, especially when it was the right time for the sugarcane to be cut down and milled when it enters the sugar mill line. Mosher (Fajar and Alfiyani, 2018) highlighted the importance of markets and trade arrangements for landowner products. Mosher believed that the market for agricultural products was one of the primary conditions of which five conditions must be available to farmers to develop agriculture. There will not be agricultural development without a market for agricultural products. The decreasing agricultural land caused sugarcane production to decrease throughout the year. The budget used to prioritize industrialization without paying attention to farmers will leave future problems.

The sugarcane trading functions included activities involving the ownership rights transfer in trading activities—an ownership utility created by the exchange (transaction) function. Exchange functionality was the buying function and the sales function. On each trading channel, the buying function was carried out. Sugarcane farmers served the function of selling sugarcane, decreasing the sugarcane results to be sold. Therefore, the trading function was integral part of the sales effort. As producers, sugarcane farmers decided when, where, and to whom to sell, and in the sugarcane trading market was a matter of consideration. The government needs to be involved in the marketing arrangements for smallholder agricultural products by facilitating access to markets and technical knowledge (Makunike and Kirsten, 2018). Social welfare was obtained if the income distribution was even; the key to a green future of farmer trading patterns lies in the local government's support design. In reality, sugarcane market risks were hard to manage. The risk may result in payment irregularities by sugar mills, standard requirements for sugarcane products, or changes in pricing policies based on harvest time. Sugarcane farmers in the trade chain must accept all these risks. Generally, sugar mills will not provide market risk protection guarantees because it was impossible to calculate losses accurately, and this was a risk borne by sugarcane farmers.

For sugarcane farmers, changes in harvest time prices were a significant market risk.

Sugarcane farmers often hope to improve agricultural efficiency by selecting efficient channels by obtaining higher prices, but it was challenging. Lack of information, weak decisions, or cash shortages forced sales immediately after harvest (Sainger, 2020).

The set of resources inherent in a family and the community benefitted children and adult for cognitive and social development (Bowles *et al.*, 2014), while introducing social capital (Inaba *et al.*, 2015; Rizal *et al.*, 2021) added to the definition of an externality of thought which meant that positive individual actions benefitted others. Inaba's social capital was a source embedded in a social structure designed and activated for a specific purpose. Durkheim (2016) argued that social capital was significant for creating social unity in achieving social goals to express social ties between individuals in a community. In Situbondo Regency, East Java, Indonesia, social capital typically referred to the social norms or networks that allowed individuals to build collective, cooperative behaviour in sugarcane business transactions (Elmoez *et al.*, 2021).

The high trust generated strong solidarity to follow the existing rules and strengthened a sense of togetherness and belonging. Meanwhile, people with low confidence were considered more inferior in their collective economic behaviour (Hariyono, 2021). It was worrying that if the state did not provide direction, sugarcane farmers would promptly sell their sugarcane to the redeemer because the current partnership had faded due to the farmers' low trust in sugar factories. Whether low trust occurred in community groups, then state intervention was necessary to provide guidance. When there was individual interaction who were members to facilitate action, social capital was formed. Social capital and human capital were intangible, but they were not the same because human capital comprised living organism competencies, skills and knowledge. In contrast, social capital was formed from the relationships in the community between individuals. Meanwhile, because its form was seen in a transparent material, physical capital was seen physically, such as sugarcane farmers who had a sufficiently large land and had enormous physical capital compared to sugarcane farmers with a narrow land area. Community-based

interventions were more effective in building risk management capacity than formal arrangements (Manyumwa, 2018).

As an individual effort to form groups, forms of social capital were formed from two types of solidarity : mechanical solidarity and organic solidarity (Durkheim, 2016). Mechanical solidarity was understood as a sense of unity for binding individuals in a social group, and rules for groups, regardless of the social status of individuals in the community concerned. For example, in this situation, social capital, mechanical solidarity was located in the Situbondo area to sell sugarcane crops to farmers. With redeemers' presence, changes were starting to occur, while organic solidarity referred to individual differences with their respective associated expertise. Because each individual required other personal talents, there was usually a work division and a characteristic of urban society, in general, the Indonesian Sugarcane Farmers Association (APTRI), and sugar factories. The social network became a social network for other individuals who had the same objectives and interests. Still, it did not become the social capital for other individuals who did not have the goal and interest in the first group's social capital. In the social capital formation concept, it usually became the source of confusion. An investors' interests and benefits thorough explanation in social capital was required to overcome this situation.

CONCLUSION

Farmers, contractors, cutters, the Indonesian Sugarcane Farmers Association (APTRI), farmers' groups and sugar factories were the trade system institutions involved in Indonesia's sugarcane trade. The formed pattern comprised four trading systems, pattern 1 was among sugarcane farmer, APTRI, and sugar factory. Pattern 2 was among sugarcane farmer, contractor, and sugar factory. Pattern 3 was among sugarcane farmer, redeemer, and sugar factories. Pattern 4 was between sugarcane farmers and sugar factories. Now, there has been a shift in sugarcane farmers' interest in establishing a partnership with the sugar factory in Indonesia. Therefore, this study recommends : to assist Situbondo sugarcane farmers in transferring or reducing their market risk,

namely, vertical integration and procurement of contracts in advance.

Some Situbondo sugarcane farmers sell sugarcane to redeemers from outside the city because the price is higher than the sugar factory price. For sugarcane farmers or suppliers of diversified raw materials and merchandise, the concept of vertical integration is appropriate. This market integration is one of the important strategies for implementing marketing, namely, controlling the market by approaching sugar factories or end-users. Procurement of an advance contract or partnership between a sugarcane farmer and a sugar mill is simply an entry process through an agreement/contract between the buyer and seller to determine the amount of sugarcane harvested for several future shipments of sugarcane. The agreement is fully intended to eliminate fluctuations in price risk for both the buyer and the seller.

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