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PROBLEMATICS AND PROPOSED RESEARCH MODEL TO SUPPORT AGRIBUSINESS PERFORMANCE: A CASE STUDY IN PACITAN

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Abstract: Agribusiness is crucial to the development of agriculture, particularly in regions where farming is the primary source of income for the majority of the populace. In agribusiness, challenges are frequently brought on by a lack of infrastructure, infrastructure assistance, and government support. The agribusiness growing in Pacitan is the main topic of this study. In order to support the performance of agribusiness, this research aims to identify the issues that exist in Pacitan. The information was gathered through literature reviews and examining the farmers' project model construction. The interviews indicate that Pacitan has problems with the infrastructure, which has to be addressed, and the lack of human resources among the farmers in terms of the skills and knowledge required to boost the level of their output. The findings indicate that irrigation is still a significant infrastructure necessity for Pacitan's agricultural sector. This has an impact on Pacitan's agricultural output outcomes, which has an impact on the industry's poor performance in reaching excellence. The researcher suggests a model using a relationship approach between skills, knowledge, infrastructure, and government support to help achieve success in enhancing agriculture performance in Pacitan.

Keywords: *Agricultures, Performance, Skill, Knowledge, Government Support.*

1. Introduction

The function of the agriculture sector in Indonesia in the national economy is essential and crucial. Agriculture became one of strategic sector in Indonesia economic map (Permadi, et.al, 2018). This is because agriculture is the primary livelihood for most rural inhabitants and supplies food for the populace. A different function is serving as a source of foreign currency for exporting goods other than oil and gas. In the face of the economic catastrophe that has befallen Indonesia during the past ten years, even the agriculture sector is seen as capable of acting as a safety valve for the country's economy. Compared to 2019, Indonesia's agricultural production index improved by 5.12 points in 2020, Specifically, it is projected to increase to 167.55 from 162.43 in 2020. (BPS, 2020).

Vegetable production had increased, which was the cause of the rise. Vegetable output climbed by 8.45 points, according to figures from the Central Statistics Agency (BPS), but fruit production declined by 0.58 points. According to the study, Indonesian agriculture will produce more veggies in 2020. The vegetables with the highest index include petai, cayenne pepper, and shallot. However, the fruit commodities that have had the most significant index fall are rambutan and durian.

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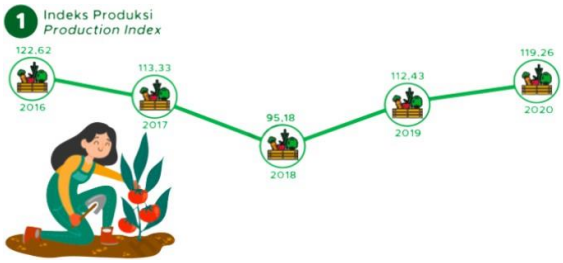


Figure 1. Horticulture Production Index in Indonesia
Sumber: BPS, 2020

In 2020, the agriculture sector contributed 13.70% of the GDP, up 0.99% from the previous year, based on current prices (BPS, 2020). Plantation crops (3.63%), food crops (3.17%), fisheries (2.80%), livestock (1.69%), horticultural crops (1.62%), forestry (0.70%), agricultural services, and hunting (0.20%) are the sub-agriculture activities that contribute the most in that order. In Indonesia, horticulture crops will thus be rated fifth in 2020 out of seven sub-agriculture categories. Vegetable and fruit crops have also seen a surge in exports. The export value of horticulture crop products, including onions ($13,740,638), garlic ($321,767), chilies ($25,078,930), mangosteens ($81,151,123), and pineapple ($274,125,602; up 2,036,68%), has increased by 31.44%, 352.73%, 7,504.04%, and 2.036,68%, respectively (BPS, 2020). These statistics indicate that Indonesia's agribusiness has a very bright future.

Indonesia's West Java region, particularly the highlands around Bandung, Garut, Bogor, Cianjur, and Tasikmalaya, is home to the majority of the country's vegetable farmers (Novita & Mitfah, 2022). In addition to producing the most vegetables, West Java is the world's top fruit producer, including bananas, mangosteen, mango, pineapple, tangerine, and sapodilla (Rahmat et.al, 2022). According to data from the West Java Bappeda, the West Java Province contributed the most to national exports from January through June 2021, with exports totalling USD 16.08 billion or 15.63percent of all exports (Bappeda Jabar, 2021).

Sadly, not all places are as good as West Java Province. One of them, Pacitan in East Java, is unsuitable for Bandung, Garut, Bogor, Cianjur, and Tasikmalaya plants. Due to the difficult land circumstances, Pacitan Regency has less fertile land (Jauhari, 2020). In general, the southern part of the Pacitan Regency region is composed of limestone, while the northern part is composed of soil. The agriculture sector can endure this pandemic despite such geographic conditions. According to data from the Pacitan Regency's Central Statistics Agency (BPS), 357.95 thousand persons were employed in the region in 2020, with more than half of them engaged in agriculture. The agricultural industry typically grows by about 4% from 2019, when it was 55.46 percent, to 2020, when it will be 59 percent. This demonstrates why the people of Pacitan choose agriculture as their primary source of income. Additional BPS data reveals that agriculture has maintained its dominance over the last three years, supporting the findings mentioned earlier by making agriculture the industry that employs the most people annually.

In Putra (2018), Mosher outlines three categories of agricultural landscapes with varying degrees of development. The disparity relates to the physical infrastructure, agricultural output, and farmers' level of advancement. First, since the colonial era, places with comparatively good infrastructure have been developed, technology has grown gradually, productivity is high and market-oriented, and farmers actively seek agricultural information. Second, regions that have recently been developed but are not yet stable, have a modest level of productivity, are not particularly market- oriented and do not actively seek out agricultural information.

Third, there is a region that, comparatively, lacks agricultural infrastructure, traditional technology still predominates, productivity is low, farmers continue to practice traditional farming methods, and their agriculture is still primarily subsistence-based. Hence, there is little demand for agricultural information.

Performance usually measure by financial perspectives such as ROI, ROE, NPM etc, but in agriculture industries, performance represent more than just financial perspective. Supply chain become one of the crucial factor to determine the performance of agriculture industries performance (Salahin, et.al., 2022; Itang, et.al. 2022). To increase the volume of production, the supply chain starting from providing seeds to processing product until accepted by end user is important in agriculture and farming. Additionally, during the past ten years, Supply Chain Management (SCM) has emerged as the key in the agriculture sector, particularly in industrialized nations (Harianja & Hasibuan, 2009; Amin-Chaudhry, Young & Afshari, 2022).

Supply Chain Management (SCM) is a product management concept that is built between suppliers (suppliers), producers (producers), distributors (distributors), warehouses (warehouses), sellers (retailers), and customers from the production process to distribution. Because Indonesia's agricultural sector still uses separate, independent of each other, there is frequently an imbalance in how its products are distributed (Harianja & Hasibuan, 2009), it can be said that the SCM Concept has not been implemented properly. The challenges that arise throughout the distribution process and during pre- and post-harvest are what determine how successfully Indonesian harvests are accomplished. These challenges must be overcome to avoid becoming a deterrent in the agriculture field that can result in losses, including crop failure. The following phases define the interaction between SCM members (Sulistyo, 2004; Harianja & Hasibuan, 2009):

- Suppliers, farmers, collectors, food processing industries, agents, retailers, consumers, and suppliers who serve as agricultural materials and agricultural support facilities like seeds, fertilizer, pesticides, and other supporting facilities are all included in the SCM of agricultural products.
- There are numerous categories into which relationships between members can be divided, including meaningful (strong and regular relationships), transient (sometimes related to other members), and inactive (influential). While engaged, has no impact (does not directly affect). The members of SCM that are most downstream in the sales and consuming processinclude agents, retailers, and customers.

In order to increase output and efficiency, production sustainability, product-added value, and global competitiveness while addressing the numerous horticulture issues in the agricultural industry, several effective and efficient strategic initiatives are required. The development of horticultural products should be able to address the issue of horticultural products' inherent limitations, such as their inability to be stored for an extended period of time, ease of damage, abundant production during some seasons and rarity during others, as well as very abrupt price swings. Therefore, standardization of quality and product quality is required to promote competitiveness, and this effort is aided by production te chnology, post-harvest handling, and the growth of horticulture commodity-based enterprises.

To enhance Pacitan's agricultural performance, more investigation is needed into the local environmental circumstances. Therefore, a strong understanding of agribusiness is essential, especially in Pacitan. This study aims to comprehend the agricultural issues in Pacitan and suggesta model for additional investigation.

2. Research Method

This research is qualitative research using literature study and interviews. The literature study includes journal articles and reports related to agribusiness in Indonesia and other countries as a reference for developing well-performing agribusiness. Interviews were conducted with four respondents with minimum criteria of 5 years as a farmer and an area of 0.25 - 3 hectares of agricultural land, as well as one Agricultural Field Extension Officer (PPL) assigned to Pacitan to assist farmers in the guidance of farmer groups from the government's point of view. This study aims to examine the issue and suggest a model for agribusiness in Pacitan.

3. Results and Discussion

3.1. Results

According to the results of interviews with respondents who met the predetermined criteria, Pacitan's soil quality is a barrier to the growth of the agriculture industry. "*Daerah agak sini tanahnya besuk agak kuning putih…..bagus ditanami palawija….kalau tanah dekat air biasanya sawah cocok ditanami padi*" (Jumelan).Jumelan said that his land suitable for *Palawija*, based on this, as a farmer, Jumelan understood which plant is good for his land.

Other farmer also said that "Kondisi tanah di Pacitan kontur berbukit…khusus daerah Mentoro, Menadi, dan sekitar Arjowinangun berjenis tanah besuk….lumayan subur cocok untuk tanaman padi dan palawija" (Sutekto). Sutekno statement in line with Jumelan statement.

The two responders who were questioned claimed that the besuk soil type was present in the Pacitan region, particularly in the lowlands. Besuk land is a name used to describe land typically found in rural locations; it has a distinctive yellow-and-white tint and a moderate soil fertility level. This land is suitable for growing secondary crops in the dry season. In contrast, rice can be grown there in the wet season; this is caused by the Pacitan region's hilly agricultural contours, specifically highland regions like Nawangan and Bandar, which are suitable for horticultural fruit crops, and lowland regions like Mentoro, Krajan, Menadi, and Arjowinangun, which are suitable for secondary crops like rice, coconut, tobacco, shallots, chilies, kale, cucumber, eggplant, watermelon, and melon. The other respondents' findings also include the infrastructural issue.

Basoir, one of the respondents, claimed that the soil in Pacitan is often sandy and rainfed. He claims that "tadah hujan memiliki kendala utama air….karena saat curah hujan tinggi akan kesulitan membuang air sedangkan saat curah hujan rendah otomatis kekurangan air…." Herman concurs with the assertion made by Basoir. Herman claims "Saat musim penghujan…bisa terjadi banjir" proper government infrastructure, such as irrigation. In order to obtain water supplies, several farmers have dug their wells. This is the rationale behind the seasonal planting practices that Jumelan believes to be valid. Jumelan claims: "Ya musiman…. karena irigasinya tidak ada…. kalau orang Jawa istilahnya tadah hujan"

It is clear from the three interviews mentioned above that irrigation is crucial to the agricultural industry. According to PP No. 20 of 2006, irrigation is the business of supplying, controlling, and disposing of water to assist agriculture. Its various forms include a pond, surface, marsh, underground water, and pump irrigation. The generation of sufficient amounts of water will boost agricultural productivity; hence, irrigation facilities can impact farming, notably food production. According to the interview's findings, Pacitan's irrigation infrastructure is still insufficient because of the lack of support from the government and the fragmented farmer groups. As a result, many farmers prefer to drill wells independently as a substitute choice. Because boreholes are relatively expensive, not all farms can afford them;

thus, many still rely on rain-fed systems or systems that depend on the weather. This is why local farmers' perspectives on agricultural output diverge fromthe government's.

Other research results from PPL Suyarno interviews indicated that farmer groups lacked knowledge about pesticides or fungicides for controlling pests and fungi. According to Suyarno "tenaga penyuluhan masih kurang…satu orang PPL bisa menangani 4 desa sekaligus…." Further post-harvest processing has not been carried out adequately in Pacitan, especially with very sharp price changes, in addition to the issue of knowing how to deal with pests. Many farmers agree, saying that "Sebagian hasil panen diolah sendiri…untuk konsumsi…kalau pemasaran ga" (Sutekto) "Langsung dijual hasilnya…ke pasar kadang ke pengepul…sekarang harganya turun" (Basoir) "Tidak diolah…dijual ngecer sendiri" (Jumelan) "Waktu panen…harganya menurun" (Herman)

Thus, it may be inferred from the interview's findings that Pacitan farmers are still less receptive to crop processing. The main issues with agricultural products are that the market is not ready for processed goods, farmers and technology are not understood, and there is not enough government support. This can be enhanced by instructing farmers about the use of technology by the government, the role of extension services, and the need for human resource training in processingagricultural goods.

3.2. Discussion

Based on the interviews, it can be said that Pacitan has three issues: 1) The land cannot be easily planted by all types of plants, 2) Infrastructure has to be built, and 3) Personnel resources, in this instance, farmers' abilities and knowledge to raise the caliber of their output. Land issues have a connection to nature. In Pacitan, different agricultural commodities will be grown on distinct soil types. According to the Research and Development Agency of Pacitan Regency, the soil in Pacitan is made up of a variety of soil types, including grey alluvial soil clay deposits, which make up 4.94% of the soil, associations of lithosol and the red Mediterranean, which make up 33.64% of the soil, reddish brown latosol complex, which makes up 40.36% of the soil, and litosol, which compose of tuff sedimentary rock and volcanic Alluvial soil is appropriate for growing rice and pineapple. Jauhari (2019) said that latosol soil is suitable for planting rice, rubber, coffee, coconut and secondary crops. Meanwhile, litosol soil is only suitable for large plants in the forest because the soil is less fertile and not good for agriculture. Similar to litosol soil, red mediterranean also has less fertile soil properties so it is suitable for planting teak, secondary crops, cashew nuts, and tobacco.

Both acknowledged that there were challenges in Pacitan, one of which was the absence of According to the interview's findings, Pacitan's agriculture is often a rain-fed system. A source of irrigation for agriculture that is "rainfed" means that it is dependent on the weather, specifically rainfall. Due to this circumstance, many farmers in Pacitan Regency only grow crops during specific seasons. Rice plants grow best during the wet season, and secondary crops grow best during the dry season. Some farmers also grow horticultural crops, including shallots, chilies, kale, cucumbers, eggplants, watermelons, and melons, to boost their income.

According to Horticultural Agricultural Statistics SPH-BST, a BPS survey, bananas have produced the most over the past three years. Given that bananas are a wild plant not grown in Pacitan, farmers' skills and expertise are required to boost the region's agribusiness performance. On the other hand, because they rely on rainfall, most Pacitan farmers cultivate food crops rather than horticulture for their consumption and because they do not need much upkeep.

Irrigation is required, which is the issue from the infrastructural perspective above. The results of the research by Sutrisno & Heryani (2019), revealed that irrigation can increase agricultural production on dry land. Irrigation is also able to increase farm income compared to rain-fed systems (Sulistyorini & Sunaryanto, 2020). In line with that, Hasanain et al (2019) revealed that around 40% of the South Asian region has the highest irrigated agriculture in the world. This region consists of Bangladesh, Butan, India, Nepal, Maldives and Pakistan. However, the area has declinedsince 1990 due to poor operation and maintenance systems.

A similar circumstance can be found in Africa, where dam-building is crucial for handling irrigation issues (Tatlhego, Chiarelli, Rulli, & D'Odorico, 2022). This shows that many nations lack comprehensive frameworks for water resources policy and logical water supply and sanitation plans. Whereas, with the support of the availability of water that is managed in a good irrigation system, it can support the success of food security (Aristanto et al, 2020).

In Cambodia, three Ministries claim responsibility for developing irrigation systems (Agriculture and Forestry, Water Resources, and Rural Development). The National Irrigation Administration (NIA), Bureau of Soils and Water Management (BSWM), and LGUs are in charge of developing irrigation in the Philippines. This is because neither of the two nations currently has a comprehensive framework for water resources policy to direct project allocation, planning, and development. Regarding the subsidy policies, many nations, like Bangladesh, Philippines and Indonesia, fully or partially subsidize investment costs; however, gravity irrigation system operating and maintenance expenses are high while other irrigation schemes continue to get subsidies (David, 2004 in Hasanain, 2019).

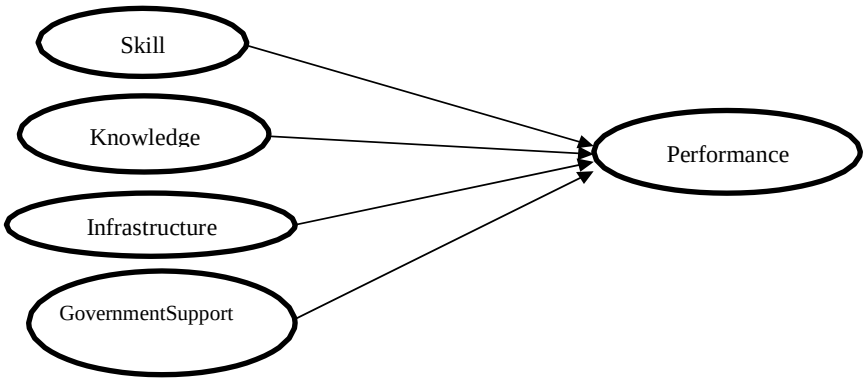
According to Pasandaran and Taryoto (1993), various irrigation arrangements that concentrate on enforcing policies at the national level without taking into account regional norms frequently encounter challenges. Rachman (1999) asserts that network-level (distribution) and river-level management are crucial for the effectiveness of irrigation water management (allocation).

The specific issues with irrigation, particularly in the Asian region, are the underperformance of irrigated agriculture, the less-than-optimal use of irrigation water, low water productivity, the suitability and cost-effectiveness of current irrigation technology, sustainability and subsidies, the adequacy of services and supporting functions of irrigated agriculture, the lack of adequate R&D and extension services, the lack of institutional arrangements and mechanisms, and the role of various (David, 2004 in Hasanain, 2019). The data analysis outcomes suggest that irrigation infrastructure help is needed in Pacitan due to the local conditions.

According to Syahza (2005), building commercial alliances based on agribusiness is vital to increase farmers' welfare. The community economic institutions (cooperatives), financial institutions, farmer entrepreneurs (farmers), and entrepreneurs must be a part of the business partnership. The collaboration is believed to enable irrigation systems and other infrastructure building to be supported by collective self-help rather than solely being dependent on the government. Quality human resources are required to support the success of enhancing agribusiness performance in infrastructure and agriculture-based business partnerships. This is speaking of the abilities and expertise of the Pacitan farmers. Skill is the capacity to perform a task, but it can also refer to a process for enhancing capacity (Attewell, 1990). Farmers in Pacitan require both entrepreneurial and non-agricultural life skills, and both of these abilities are viewed as inferior to the interview results. The capacity to adjust to the demands and difficulties of life is referred to as life skills. Farmers in Pacitan often lack this skill, as indicated by the fact that they rely on a rain- fed system for farming,

that only a small number of farmers independently employ boreholes, and that the majority of farmers follow crop trends based on their preferences. Farmers in Pacitan, on the other hand, do not view themselves as entrepreneurs; instead, they only process their produce if they plan to consume it themselves. The remainder is then sold to collectors or sold straight to customers. The crop could be transformed into a novel, high-quality processed agricultural productif they possess entrepreneurial abilities.

Both of these abilities require information to function at their best, and knowledge can serve as a solid foundation for the growth of this skill. The proposed model is as follows:



Picture 3. Proposed Model for Agribusiness Performance in Pacitan
Source: Processed Data, 2022

Every farmer in Pacitan needs to be aware of ideas relating to economic development so that there is a shared understanding of the need to advance for everyone's prosperity. Farmers must also actively look for agricultural knowledge independently, without waiting for the government to step in. Due to farmers' vital independence initiatives, there will be a rise in personal human resources. As a result, a suitable strategy is required to overcome these challenges, which includes working with the faculty of agriculture, hiring qualified extension personnel, and developing a comprehensive framework for water resources policy to direct the allocation, planning, and development of water resources projects. The first stage in achieving water resource management at the farm level is to change how one views the P3A's (Water User Farmers Association) existence and operation such that integration is required by adopting a business perspective (Rachman et al., 2002). According to Melati & Sadeli's (2017), to gain a competitive advantage, vegetable commodities must be able to deal with changing business paradigms, one of which is a relationship management strategy. Based on the study's findings, the researcher suggests a model test further agribusiness-related hypotheses in Pacitan. The Pacitan Regency farmers are the target audience for the model created in this study, making the agribusiness performance method more appropriate. It is deemed appropriate since improved agribusiness performance will boost agricultural output and lead to better agricultural products, which can raise the economic status of Pacitan farmers. Consequently, infrastructure, government assistance, and knowledge and skill sets are independent factors of agricultural performance.

4. Conclusion

According to the report, Pacitan's agricultural industry development requires government assistance. It is intended that with government assistance, Pacitan's agro sector can grow and give local farmers more security. Agribusiness owners in Pacitan also require knowledge and

skills to grow their companies. It is suggested that infrastructure support, particularly concerning irrigation, will aid agribusiness growth in Pacitan. A suggested model is supposed to gauge the performance of Pacitan's agribusiness based on interviews, observations, and comparisons with past studies. Performance in agribusiness is the dependent variable, while the independent factors are expertise, understanding, infrastructure, and government backing. The following research will evaluate whether the model put out in this study can be shown to have an impact on agribusiness performance. Focusing on the information and skills that Pacitan's farmers need can be the subject of additional research.

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