

PENTA HELIX MODEL FOR SUSTAINABILITY PERFORMANCE OF PALM OIL PLANTATION COMPANIES IN SOUTH SUMATERA PROVINCE

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ABSTRACT

The aim of the research is to create and develop a pentahelix model for the sustainability performance of oil palm plantation companies in south Sumatra province and formulate a pentahelix model strategy for the sustainability performance of oil palm plantation companies. The research object involves elements of the pentahelix, namely the government, in this case the south Sumatra province plantation service, academics at the agricultural faculty of Sriwijaya University, the community, namely Gapki (a combination of oil palm business associations). Businesses are in seven palm oil plantation companies in south Sumatra Province and also online media and offline Sumatra Express. Qualitative methods and analyzing data through soft system methodology. The findings of this research show that there are 3 pillars of oil palm plantation companies that must be considered in developing sustainable performance and to obtain measurable and targeted results they should be included in the vision of long-term development plans. The first is to meet food needs from domestic production, the second is to regulate food policy independently and the third is to protect and prosper farmers as the main business actors in palm oil companies. There are many strategic matters and issues for the benefit of regional development together with palm oil companies which have a vital role in developing sustainable performance of oil plantation companies that are able to absorb palm oil production. So that companies get a guarantee that the palm oil produced will be absorbed at a good price, conducting training for increasing company productivity through government supervisory institutions and providing adequate infrastructure so that distribution runs smoothly. Tows analysis illustrates how the external opportunities and threats faced by the company can be adjusted to the company's strengths and weaknesses. Novelty research is a sustainable performance model and a pentahelix conception model by adding elements of oil palm plantation companies as one of the factors that can be implemented in the sustainable performance of oil palm plantation companies in south Sumatra Province.

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1. INTRODUCTION

The palm oil industry is a renewable natural resource, in the form of fertile land, productive labor, and abundant sunlight throughout the year (Pahan, 2016). Along with the increasing price of palm oil commodities, the public's attraction to this plant business is increasing. The economic sector in Indonesia is greatly influenced by palm oil trading activities. The increase around oil palm plantations has had an impact on the increase in Indonesian palm

oil production, making Indonesia the largest producer of palm oil in the world in recent years. World palm oil consumption tends to continue to increase over the past five years, namely: 2005 183.6 million tons, 2010 216.2 million tons, 2015 243.9 million tons, 2020 285.8 million tons, and 2025 318.7 million tons or an average growth in the period 2010 -2025 of 2.8%. This shows that world vegetable oil consumption tends to continue to increase, especially in China, India, and Brazil. Therefore, it can be stated that based on this fact, the world vegetable oil market is very prospective, where palm oil has the largest production share reaching 124.5 million tons in 2013, as well as the largest total world oil consumption reaching 57.4 million tons or almost half of the world's vegetable oil needs are supplied by palm oil (Wisena et.al, 2014).

The development of palm oil has recently become a public concern, why is it because of the development of research on palm oil that will replace petroleum and fossil energy as fuel (biodiesel) this is also one of the reasons why palm oil is the focus of attention apart from palm oil as a food industry. The issue that has been circulating for the past few years is the "palm oil boycott" or black campaign carried out by the world against Indonesian palm oil which is the largest producer of palm oil in the world which is believed therefore the trade competition of other countries that do not want palm oil to develop more than the oil produced by them such as sunflower oil and others. Other issues that are the material for the negative campaign have appeared in various mass media against the Indonesian palm oil industry which states that a palm oil boycott must be carried out because palm oil is not environmentally friendly and causes most of the damage to the earth. Campaigns to reject Indonesian palm oil are very widespread, especially in European countries, some associate it as business competition. Palm oil is a strong competitor for vegetable oil products produced in Europe such as sunflower, soybean and rapeseed oil.

The Indonesian government's move to file a lawsuit with the World Trade Organization (WTO) and even retaliate by planning to stop nickel exports to the European Union, which in this case will also be sued by the European Union to the World Trade Organization (WTO). This reactive action certainly risks making bilateral relations between Indonesia and the European Union increasingly strained. Another strategy that is being carried out is to find a destination country for palm oil exports, one of which is China. The Indonesian government has lobbied the Chinese government to replace soybean oil that has been used in China with palm oil or CPO from Indonesia. Penta Helix is an innovative model for developing the Penta Helix model that connects academics, practitioners/businesses, communities, government and the media to create an ecosystem based on creativity and knowledge, where what is expected from this concept is a solution for developing creativity, innovation and technology in the creative industry.

The Triple Helix concept of university-industry-government relations initiated by (Etzkowitz and Leydesdorff, 1995). In the 1990s which includes elements of the work of predecessors such as (Lowe, 2018) interprets the shift from the industry-government dyad that dominated industrial societies to the emerging triadic relationship between universities, industry and government in knowledge societies. The Triple Helix assumes that the potential for innovation and economic development in knowledge societies lies in a more prominent role for universities and in the hybridization of elements from universities, industry and government to produce new institutional and social formats for the production, transfer and application of knowledge (Martini, 2012). The advantages of the Triple Helix theory that has value creation in developing policies. Value creation is all activities of a business entity to create profit (Zimmerman et al, 2016) and (Sarpong et al, 2019). The value referred to in this article means the extent to which consumer perception of a good or service can meet the expectations of their needs. Specifically in development, there are at least 2 component orientations related to value creation, namely: configuration component orientation and process component orientation. Configuration is the framework of the product to be produced, while the process is how the product is produced (Zimmerman et al, 2016).

The problems that occur in palm oil plantation companies in South Sumatra in managing palm oil require the involvement of universities because the contribution of knowledge possessed by students is able to develop the results of palm oil processing not only cooking oil, but can be developed into butter, chocolate, soap and shampoo ingredients and makeup products where products are produced from palm oil (Haksever et al., 2014; Sarpong et al, 2017; Martini et al, 2012).

2. LITERATURE REVIEW

Sustainable

The beginning of the term modern sustainable development stems from the human interaction with nature echoed by the environmental movement in the 1800s. This environmental movement explains the interaction of humans with nature that diminishes human intuition and inspiration (Erdward, 2016). Sustainability or sustainable development is a concept that aims to provide long-term global life through wiser use and management of the economy and natural resources and respects the lives of people and other living things. This concept also explains the ability of human civilization to transform the world of humans and living things environmentally, socially and economically

which is able to provide for the needs of the population without compromising the ability of subsequent generations (Erdward, 2016).

Palm Oil

Oil palm is an industrial/combustion plant that is useful as a producer of cooking oil, industrial oil, and fuel. Oil palm trees consist of two species, namely *erlaeris gurineris* and *erlaeris oleriferra*, which are used for commercial agriculture in the production of palm oil. The *erlaeris gurineris* tree originates from West Africa between Angola and Gambia, the *erlaeris oleriferra* tree originates from Central America and South America. Palm oil became popular and there was an industrial revolution at the end of the 19th century which caused high demand for vegetable oil for food and the palm oil industry (Indonesian Ministry of Energy and Mineral Resources, 2007).

Penta Helix

Penta Herix is a concept that develops from the triple herix and quadruple helix. The triple herix model sees innovation as a result of a network of cooperation between A-B-G (Academician-Businessman-Governor), the academic world acts as a provider of knowledge, the business sector as an implementer and developer of the results, while the government is tasked with acting as a facilitator that enables stable interaction between providers and beneficiaries of knowledge. The Penta Helix Concert is a development of the Triple Helix by integrating civil society to accommodate society, in this case a "freedom and culture-based society" which has also become a part of innovation in the 21st century (Surlaksono, 2018).

Company Performance

According to Mangkunegara in (Mulyadi et al, 2018) company performance is the work results that can be achieved by an employee in terms of quantity and quality in carrying out tasks and responsibilities. Performance (performance) according to business and managerial dictionaries is defined as the real results achieved, sometimes used to indicate the achievement of positive results. According to (Tunggal, 1995) in (Muliana et al, 2020) Company performance is basically the result achieved by the company's management by managing the resources available in the company effectively and efficiently, possibly to achieve the goals set by the manager (Harianto and Surdono, 1998) in (Muliana et al, 2020).

Strategic Management

The definition of strategy was also criticized by an expert named Claurswitzs, who stated that strategy is a strategy for winning a war (Rahmat, 2014). According to (Stephanie, 2002) strategy is also defined as a process tool to organize the plans of top leaders whose focus is on long-term objectives, accompanied by the development of procedures so that the final objectives can be achieved. There are approaches that are used to align strategies known as traditional approaches and new approaches. In the traditional approach, strategy is understood as the basis for future planning, anticipatory (forward looking), while in the new approach, strategy can be understood as a pattern of rules and reflective (backward-looking). Strategy is interpreted as a plan, method, or sequence of activities. dersignert to achieve a particular erdurcational goal. Strategy can also be interpreted as a broad guideline in achieving goals or targets that have been set (Ahmad, 2020).

Strategic Management Analysis

David (2009) stated that strategists (academics and practitioners) have never considered all alternatives that can harm the company, because there are such actions. Therefore, the most attractive alternatives that can be managed must be developed, examined, prioritized and selected. So that the losses, disadvantages, trade-offs, costs and benefits of this strategy must be determined. Important strategy formulation techniques can be integrated into three analytical frameworks of strategy formulation: namely stage 1 - input stage, stage 2 - matching stage and stage 3 - purpose stage.

Soft Systems Methodolog Teory

Soft systems methodology (SSM) is a systematic process in research whose implementation uses the Cherckland system models, 2019. The development of the activity system model that uses the human system is carried out through the stages of conducting excavations on unstructured problems, discussing them intensively with related parties and solving problems, comparing the concept of systems thinking with the real world and implementing problem solving together. Systematic thinking is a new paradigm in which there is a learning process, learning or learning process (learning process) which is interpreted as a process of change to replace the old way of thinking with a new way of thinking. According to (Hardjosoekarto, 2012), this can be seen from: (1) the way of thinking systematically by seeing or considering the system, not just separate parts; According to Senge & Pete, (2016) (2) a change in mindset in viewing problems systematically with three main principles, namely cooperation, interaction, and interaction.

3. RESEARCH METHODS

This research is a type of Case Study research with qualitative research methods. Based on problems related to the promotion program and implementation of palm oil product investment in improving sustainable performance through the Penta Helix Model perspective. Data collection techniques in this study are observation, interviews, documentation & literature studies, Focused Group Discussion (Focus Group Discussion) stakeholders. Data analysis in this study by processing the results of the questionnaire arranged in the form of a frequency distribution to find the greatest tendency (mode) which is then interpreted. Analysis of interview results is carried out by identifying themes or issues that arise.

4. RESULT AND DISCUSSION

Terminology and Concept of Sustainable Performance of Palm Oil Plantation Companies in South Sumatra

Sustainable agriculture is the antithesis of conventional agriculture, namely chemical-based and genetically engineered agriculture that peaked in the 1970s. Sustainable agriculture is agriculture that is beneficial in the long term, its existence is sustainable and does not cause disasters. Sustainable agriculture began to be used in the early 1980s by agricultural experts from the Food Agriculture Organization (FAO) as an equivalent to agroecosystems. Natural ecosystems are modified by humans to produce food, fiber, and wood to meet human needs and welfare. The emergence of various social, economic, and environmental problems as a result of the development of oil palm plantations has increased the demand for the development of sustainable oil palm plantations. In its development, there are various concepts of sustainable agriculture. (Douglass, 2024) identified three different views of "sustainability".

1. The first view is "sustainability as food sufficiency", which examines maximizing food production within profit constraints.
2. The second view is "sustainability as stewardship", which is defined in terms of controlling environmental damage.
3. The third view is sustainability as population, which is defined in terms of maintaining and reconstructing rural systems that can be sustained economically and socially.

Zhen & Routray (2024) created operational indicators to measure sustainable agriculture, including land productivity, income from the agricultural sector, access to resources, farmers' knowledge and concern for land conservation, nutrient content, and surface water quality. In 2007, the Commission on Sustainable Development (CSD) added institutional indicators to the sustainable development framework to support the achievement of the Millennium Development Goals (MDGs) in various countries in the world (United Nations, 2007). The institutional dimension is a development of the social dimension that includes various aspects, such as institutional structure, global economic cooperation, institutional capacity of government and society, institutional human resources, and policy coordination.

Sustainability performance planning process for oil palm plantation companies in South Sumatra Province

The sustainability performance of oil palm plantation companies in South Sumatra Province is one of the references in planning the Sustainability Performance program of oil palm plantation companies which includes a picture of the problems and potential of a region. The results of the Sustainability Performance study of oil palm plantation companies include recommendations for programs related to strengthening the capital capacity of oil palm plantation companies, namely in the Oil Palm Plantation Company Group which is one of the development areas in South Sumatra Province. As a form of compliance with the legislation governing limited liability companies in carrying out social and environmental responsibility (TJSL) to the community around the company, oil palm plantation companies in South Sumatra Province conducted an assessment of the group after considering the recommendations from the Sustainability Performance study of oil palm plantation companies. The assessment was carried out to see the extent of the problems and potentials in the group. In addition to the recommendations from the Sustainability Performance study of oil palm plantation companies, proposals from the community in the form of proposals submitted by tuna fishermen groups were also taken into consideration by the company in planning the program. The assessment was carried out by collecting data through Focus Group Discussions (FGD) with all group members, as well as direct interviews with several members conducted by the company's Community Development Officer (CDO) to obtain an overview of the group. The potential and problems that have been described become the subject of internal discussions analyzed in more depth, while also determining the certainty of group development. After going through the internal discussion process, it was decided that the Sustainability Performance Group of oil palm plantation companies would be further developed in relation to the development through an empowerment program for oil palm plantation companies in South Sumatra Province. With the theme of resolving oil palm plantation tenure in forest areas for investment certainty and justice in South Sumatra Province.

Perception of Sustainable Performance of Palm Oil Plantation Companies in South Sumatra

The issue related to perception is a way to find out the direction of stakeholders' choices for sustainable performance goals of palm oil plantation companies in South Sumatra. Not only the choice of palm oil plantation

companies, but also views on human resources, infrastructure, aesthetics, and those related to the condition and maintenance of sustainable performance goals of palm oil plantation companies in South Sumatra. Without knowing how stakeholders perceive the various aspects that must be available to support the existence of sustainable performance goals of palm oil plantation companies in South Sumatra, in the long term palm oil plantation companies will grow out of line with actual developments. This will have an impact on decreasing production. Palm oil plantation companies grow uncontrollably "overcrowded", in the long term the quality of sustainable performance of palm oil plantation companies in South Sumatra could actually decline.

In terms of perception, academics in South Sumatra already understand the sustainable performance of palm oil plantation companies in South Sumatra, although there are still differences of opinion about whether the sustainable performance of palm oil plantation companies in South Sumatra or unsustainable palm oil plantation companies. However, on the other hand, their perceptions of the sustainable performance of palm oil plantation companies in South Sumatra still carry their own perceptions, so there is no common perception among stakeholders. This makes academics unable to draw a clear line on what and how the sustainable performance of palm oil plantation companies in South Sumatra is actually carried out. The same thing was also expressed by the perception of sustainable performance of palm oil plantation companies in South Sumatra from the government. Generally, the government also understands what is meant by sustainable performance of palm oil plantation companies in South Sumatra. According to the government, the sustainable performance of palm oil plantation companies in South Sumatra, the government in this case is also responsible for the regulation of palm oil plantation companies, including by helping to stimulate certification costs, or helping by providing socialization to palm oil plantation companies. Because it is known, currently certification is not yet mandatory for all palm oil plantation companies. There are awards (rewards) for those who comply and there are sanctions (punishments) for those who do not comply. This is intended so that the regulations have a coercive nature and are not violated by anyone who is affected by its provisions. South Sumatra has so far indirectly implemented what is called sustainable performance of palm oil plantation companies in South Sumatra such as economic, social, and environmental balance for the people of South Sumatra.

The next stakeholder perception is from Business. Businesspeople or investors in sustainable performance of palm oil plantation companies in South Sumatra also have different views from other stakeholders. From the respondents' answers, it can be concluded that the community already understands the sustainable performance of palm oil plantation companies in South Sumatra, although there are still different opinions about whether palm oil plantation companies are sustainable or not, the community, especially among the palm oil company community, still many do not understand what sustainable performance palm oil plantations are and how they are implemented in everyday life. The assumption that the sustainable performance of palm oil plantation companies in South Sumatra is the same as palm oil plantations in general is actually not wrong, but there are additional facilities and services in implementing the sustainable performance of palm oil plantation companies in South Sumatra. These additional facilities and services must be known and understood by the community, especially the sustainable performance community of palm oil plantation companies in South Sumatra. Palm oil companies that join the GAPKI association can preserve local culture and the environment.

The Role and Efforts of Stakeholders in the Sustainable Performance of Palm Oil Plantation Companies in South Sumatra

Role is a complex of human expectations regarding how individuals should behave and act in certain situations based on their social status and function. The definition of role is that role is a dynamic aspect of position (status), if someone exercises their rights and obligations according to their position, then the company carries out a role. From the above, we can see another opinion about the role that has been previously determined, called a normative role. As a normative role in relation to the duties and obligations of the plantation service in law enforcement, it means total law enforcement, namely full law enforcement. Academics play a very important role in opening universities majoring in plantation study programs. This proves that universities and academics are very aware of the need for human resources in the sustainable performance of palm oil plantation companies in South Sumatra. Another role played by academics in developing the sustainable performance of palm oil plantation companies in South Sumatra is by involving several academics from various campuses to become resource persons in seminars and workshops related to the company, both held by the government and the private sector.

Another role played by academics and universities is by having many students do internships in several places on oil palm plantations and students who hold community service (Real Work Lectures), in which these students are also given an understanding of the sustainable performance of oil palm plantation companies in South Sumatra that is complete and not based on the perception of the local community. This role is very helpful in socializing the sustainable performance of oil palm plantation companies in South Sumatra to the community. what efforts must be made by universities to develop the sustainable performance of oil palm plantation companies in South Sumatra. The role and

efforts of the government include the government being the spearhead in all policies and being the political power to determine these policies. government as a combination of science and democracy. Because without the role of the government, it is impossible for sustainable development of oil palm plantation companies in South Sumatra to be achieved. The government is a leader in creating regional and community development including in the development and sustainable performance of oil palm plantation companies in South Sumatra.

While the role of the community is the role and efforts of the business sector in South Sumatra is to be invited to participate in formulating the sustainable performance of palm oil plantation companies in South Sumatra in the early days. Business actors want them to always be invited to determine the direction and policy of sustainable performance of palm oil plantation companies in South Sumatra, so that they can adjust the targets and needs of sustainable palm oil plantation companies that will visit this province. the existence of business people and investors and or the implementation of investment in palm oil plantation companies.

Supporting and Inhibiting Factors for Sustainable Palm Oil Plantation Companies

Based on the author's interview with one of the informants, many people still do not understand what the sustainable performance of palm oil plantation companies in South Sumatra is and how it is implemented in everyday life. The assumption that the sustainable performance of palm oil plantation companies in South Sumatra is the same as palm oil plantations in general is actually not wrong, but there are additional facilities and services in implementing the sustainable performance of palm oil plantation companies. These additional facilities and services are what the community must know and understand about sustainable palm oil plantations. Palm oil companies that join the GAPKI association can preserve local culture and the environment.

In principle, the people of South Sumatra do not reject and are very accepting of the Regency or City becoming one of the sustainable palm oil plantation companies in South Sumatra in Indonesia as determined by the central government. The minimal rejection from the community is capital for the local government to immediately prepare matters related to the readiness of implementing sustainable palm oil plantation companies in South Sumatra according to predetermined standards. In this case, there is still a lot of homework that must be completed by the local government as the "leading sector" in developing the sustainable performance of palm oil plantation companies in South Sumatra, together with other stakeholders.

According to practitioners of sustainable performance of palm oil plantation companies in South Sumatra, some people still perceive and identify themselves as being responsible for reviewing the direction of sustainable performance development of palm oil plantation companies in South Sumatra, reviewing policies that need to be taken by other stakeholders and reviewing regulations that are considered important and appropriate in developing sustainable performance of palm oil plantation companies in South Sumatra. The role of universities is also carried out through the perception of what should be done by academics in developing sustainable performance of palm oil plantation companies in South Sumatra, to what extent the impact of companies is known about biofuel for palm oil in South Sumatra, the role of palm oil / CPO has the potential to become a fuel for power plants, what efforts must be made by universities to develop sustainable performance of palm oil plantation companies in South Sumatra and supporting factors to remain sustainable. Therefore, the Plantation Service with related agencies will have an impact on the lack of integration of sustainable performance programs for palm oil plantation companies for districts / cities. Weak communication between agencies and related agencies also results in weak coordination between related agencies. This causes weak communication. This is due to the unclear legal umbrella. The palm oil plantation knowledge system is greatly influenced by ISPO and RSPO. This is in addition to being an obstacle, it also reflects the wisdom of palm oil plantation companies that can be used as an alternative to solving problems faced by the community, especially in utilizing available natural, economic and social resources to advance sustainable palm oil plantation companies. Community empowerment through socialization or guidance is a factor that influences the level of awareness of palm oil plantation companies in order to lead to behavioral changes.

Regional regulations on sustainable palm oil plantation companies have not yet been realized, this makes other agencies unable to do much to develop the sustainable performance of palm oil plantation companies in their areas. In the author's view, in fact, the development of sustainable performance of palm oil plantation companies in South Sumatra is not non-existent, but is still going nowhere because it is in process, and this process is more about regulations and perceptions that are not yet one, so that everyone is waiting for each other. There must be someone who drives all of this by means of comprehensive and massive socialization and education from related stakeholders, so that the implementation of sustainable performance of palm oil plantation companies in South Sumatra can be understood and can be implemented and developed together. In this case, the role and commitment of the Government is the spearhead in all policies and becomes the political power to determine these policies. The Penta Helix model does establish the government as a combination of science and democracy. Because without the role of the government, it is impossible for sustainable development of palm oil plantation companies to be achieved. The government is a

leader in creating regional and community development including in the development and development of sustainable palm oil plantation companies.

Synergy Between Penta Helix Stakeholders

The interaction between the three stakeholders also requires synergy between the five Penta Helix stakeholders. Synergy as a combination or blend of elements or parts that can produce better and greater output. So, synergy can be understood as a combined operation or blend of elements to produce better output. Synergy can be built in two ways, namely:

1. Communication, the definition of communication can be divided into two parts, namely:
 - a) The definition of communication that is oriented towards the source states that communication is an activity by which someone (the source) seriously transfers stimuli in order to get a response.
 - b) The definition of communication that is oriented towards the recipient views communication as all activities in which someone (the recipient) responds to stimuli or stimuli.
2. Coordination In addition to communication in creating synergy also requires coordination. Communication cannot stand alone without coordination as stated by Hasan that coordination is needed in communication. Coordination is the integration of individual activities and units into a joint effort, namely working towards a common goal. According to (Moekijat, 2021) there are 9 (nine) requirements for realizing effective coordination, namely:
 - a) Direct relationship That coordination can be achieved more easily through direct personal relationships.
 - b) Initial opportunity Coordination can be achieved more easily in the early stages of planning and policy making.
 - c) Continuity Coordination is a continuous process and must take place at all times starting from the planning stage.
 - d) Dynamism Coordination must be continuously changed considering changes in the environment, both internal and external.
 - e) Clear goals Clear goals are important for achieving effective coordination.
 - f) Simple organization A simple organizational structure facilitates effective coordination.
 - g) Clear formulation of authority and responsibility Clear authority not only reduces conflict between different employees but also helps them in their work with a unity of purpose.
 - h) Effective communication Effective communication is one of the requirements for good coordination.
 - i) Effective supervisory leadership Effective leadership ensures coordination of people's activities, both at the planning level and at the implementation level.

Palm oil plantation policy strategy and tenure in South Sumatra

In the tenurial issue that is currently emerging, there are many oil palms in forest areas, the government in this case through the Job Creation Law has provided space for Article 110 a, Article 110 b, which is indeed one of the solutions for oil palms that have already entered forest areas by adhering to the principle of ultimum remedium which means criminal sanctions as a last resort because logically, it is impossible to move very large oil palm plantations out of forest areas. However, without criminal sanctions based on Article 110 a and Article 110 b, it also states that after administrative matters are completed, areas that have already been planted with oil palm plantations can continue their business in forest areas because after they pay fines and taxes, oil palm companies can continue to run their businesses as long as they have a business permit (Syamsul et al, 2016). Another reason why cases of oil palm plantations entering forest areas often occur continuously is because of overlapping policies from the government itself, and there are even several policies that contradict each other. One of them is Article 110 a and Article 110 b of the Job Creation Law which provides an opportunity to legalize oil palm plants which are clearly not forest plants with the Ministerial Regulation (Permen) of the Environment and Forestry P.23/2023 which stipulates that oil palm is not a forest plant.

This overlapping policy shows that regulation one legalizes oil palm plants in forest areas and the Ministerial Regulation of the Environment and Forestry which does not allow oil palm plants in forest areas because forests should be planted with diverse biodiversity, not one type of plant, such as oil palm plantations. Sometimes the resolution of this tenurial is a resolution that requires a humanist approach if the company will be easier although not easy, for these plantation farmers to unravel the problem (replanting/community plantations) the government has provided space if it turns out that there are companies that are indicated to still be in forest areas resolved through 110 a of the Job Creation Law if the plantation farmers are resolved through 110 b with all the rules that have derivatives for that those who understand better are friends who are in the forestry service. There is also in the forest called social forestry there is something called Tora (land object of agrarian reform) it is a space provided by the government in order to ensure the community life that we want to maintain well. The sustainable performance of palm oil plantation companies in South Sumatra cannot be separated from the Forest Area, the rules that have been required, meaning that the company's

plantation wants to build oil palm and it turns out that it is indicated to be in the HPKP area (convertible production forest) will complete their licensing process first and they will not carry out any activities before Clear, land originating from the forest release area exists. the views of the parties, especially the government, in terms of oil palm plantations in forest areas that plantation companies that are still in forest areas must immediately resolve these problems, therefore we must not encourage plantation companies to always obey regulations, obey the rules and must not carry out activities in forest areas, ISPO certificates for land in forest areas. If there is an indication of entering a forest area, it will not be accepted by the market.

Penta Helix Model in Sustainable Performance of Palm Oil Plantation Companies in South Sumatra

In the context of the country of Indonesia, to encourage the development of sustainable performance of palm oil plantation companies in South Sumatra in general in this country, the concept of sustainable performance of palm oil plantation companies in South Sumatra was formulated as one of the potential market niches in the world today. Therefore, the Penta Helix Model was proposed to create synergy and collaboration between stakeholders in the field of sustainable performance of palm oil plantation companies in South Sumatra. The Pentahelix Model of sustainable performance of palm oil plantation companies in South Sumatra. is stated in the Regulation of the Minister of Agriculture Number 19 of 2015, the Ministry of Agriculture's Renstra refers to the Agriculture for Development Paradigm which positions the agricultural sector as a driver of balanced and comprehensive development transformation covering demographic, economic, intersectoral, spatial, institutional, and development governance transformations.

Problems in Sustainable Performance of Palm Oil Plantation Companies in South Sumatra

The absence of clear regulations at the ministerial level for stakeholders of the South Sumatra Plantation Service in developing sustainable performance of oil palm plantation companies in South Sumatra, this makes policy makers in the regions confused to make the right and definite decisions for the implementation of sustainable performance of oil palm plantation companies in South Sumatra. Only at the end of 2015 was issued by the Ministry of Agriculture in this case published by the Deputy for Industrial and Institutional Development of the Ministry of Agriculture, namely the Guidelines for the Implementation of Sustainable Oil Palm Plantation Companies. Hopefully this guideline can be a guideline for the organizers of sustainable performance of oil palm plantation companies in the regions and can be implemented properly. As stated in the guideline, the Guidelines for the Implementation of Sustainable Performance of Oil Palm Plantations is intended as a reference for the Government, Regional Governments, business actors and related stakeholders in order to implement sustainable performance of oil palm plantation companies in Indonesia. This Guidebook for Implementing Sustainable Performance of Palm Oil Plantation Companies aims to provide a reference for implementing sustainable performance of palm oil plantation companies and to realize harmony and increase the quality and productivity of implementing sustainable palm oil plantation companies in carrying out sustainable palm oil plantation activities in Indonesia which will have an impact on community satisfaction. In addition, it is also to provide an explanation of the obligations that must be carried out by plantation companies in accordance with Plantation Law Number 39 of 2014 and Permentan 98 of 2013, Provide input in overcoming problems that arise in the field, Provide an explanation of the assessment of plantation businesses in 2023 according to Permentan 07 of 2009. To find out the extent of the performance of large companies in this case palm oil companies, large plantation classification/assessment activities are carried out.

Sustainable Performance Model of Palm Oil Plantation Companies in South Sumatra

Currently there is an MOU of cooperation with several palm oil plantation companies but the MOU has not been followed up further because why one is waiting for the other and the second is the problem of sharing costs (our universities tend to want the costs to be borne by the company so that the universities themselves are less focused because they are not specifically palm oil, so the existing cooperation is still on paper not real and maybe in the future cooperation is expected maybe if with a heavy company it could be with its association for the management of palm oil plantations can voice its cooperation supported by BPDS (palm oil fund management agency) indeed there are already lecturers who have received research funds in the management section only and that needs to be followed up again cooperation in a clearer form there are so many palm oil companies in South Sumatra according to data and there are also cross-sectoral supervision from the Plantation Service itself.

It is known that there are 3 pillars of palm oil plantation companies in South Sumatra that must be considered in developing sustainable performance of palm oil plantation companies in South Sumatra. The development of sustainable performance of palm oil plantation companies in South Sumatra to obtain measurable and targeted results, the development of sustainable performance of palm oil plantation companies in South Sumatra should be included in the Vision of the Long-Term Development Plan (RPJP) of South Sumatra Province, so that it is in line with the Regional Regulations desired by the Province. Likewise, the vision of the South Sumatra Provincial Plantation Service must be in line with its desires, namely the implementation of sustainable performance of palm oil plantation companies in South Sumatra. Palm oil plantation companies in South Sumatra are in accordance with the Regulation

of the Minister of Agriculture Number 19 of 2015, the Ministry of Agriculture's Renstra refers to the Agriculture for Development Paradigm which positions the agricultural sector as a driver of balanced and comprehensive development transformation including demographic, economic, intersectoral, spatial, institutional, and development governance transformations. This paradigm provides direction that the agricultural sector covers various interests that are not only to meet the interests of providing food for the community but also broad and multifunctional interests, which are very suitable for the implementation of sustainable performance of palm oil plantation companies in the region.

SSM Method for Sustainable Performance of Palm Oil Plantation Companies in South Sumatra

In its application, SSM is divided into two main stages, namely real world with five stages and system thinking with two stages. So in general, SSM has 5 stages, namely examining unstructured problems, expressing problem situations, building problem definitions related to problem situations, building conceptual models, comparing conceptual models with problem situations, determining feasible and desired changes and taking corrective action on problems (Wheeler & Checkland, 2006).

1. Problem Definition, in Soft System Methodology, the first and second stages are part of the real-world stage. In this real-world stage, the problems that occur and are found at the research location are revealed. RDs (Root Definitions) are structured descriptions of a human activity system that is relevant to the problem situation that is of concern in action-based SSM research. RDs are the only way to describe a system to help the system modeling process. (Checkland & Poulter, 2006) suggest that the general PQR formula be used in compiling an RD. The PQR formula is to work on P with Q to realize R. In the context of research on the development of oil palm farmers using rich pictures, 3 (three) RDs were produced by considering the CATWOE elements to analyze the transformation process.
2. Build a Conceptual Model, improving the sustainable performance of palm oil plantation companies in South Sumatra can be done through a series of activities that are seen in the conceptual model. System activities in the conceptual model of improving the quality of human resources are ensuring good selling prices; companies can establish and build relationships with financial/capital institutions, educational/training institutions; ensuring good infrastructure, to facilitate the transportation of fresh fruit bunches from plantations to PKS, this will make prices well distributed and farmers can reduce shipping costs; companies can form discussion groups to share experiences in dealing with problems in palm oil plantations; the results of the discussion, the Company is expected to get assistance in coaching in improving the quality of human resources; furthermore, with this interaction, the Company is also expected to be able to cooperate with institutions in providing a special budget or allocation of time and energy for its employees' skills activities; with the availability of a special budget for HR skills improvement activities, the company can cooperate in education with institutions for its employees to similar processing units that are already advanced; furthermore, with the increasing quality of human resources, it is expected to be able to achieve the company's goals and objectives in order to support the sustainable performance of palm oil plantation companies.
3. Define Changes that are Desirable, soft system methodology is based on problem solving. Recommendations for Improvement are Developing sustainable performance of palm oil plantation companies in South Sumatra that can absorb palm oil production, so that companies get a guarantee that the palm oil they produce will be absorbed at a good price. Conducting training to increase Company Productivity through government supervisory institutions. In addition, the infrastructure needs to be improved so that distribution costs become cheap.
4. Taking Corrective Action on Problems, the policy of developing sustainable performance of palm oil plantation companies in South Sumatra must be supported by appropriate policies by the local government and the Central Government, institutions and capital, one of which is through a strategy to improve the quality of Company Human Resources and actions that can be taken, namely, Guaranteeing a good Selling Price so that the Company can carry out Maintenance activities for its plantations; Providing proper infrastructure so that transportation costs can be reduced as small as possible; Establishing and building relationships with institutions etc. for recognition of institutional existence; Conducting discussions to obtain input on HR skills from all related parties; Obtaining institutional HR skills training; Providing a special budget for HR skills improvement activities, through cooperation with institutions; Cooperating with institutions; Improving the quality of HR in order to support the sustainable performance of palm oil plantation companies in South Sumatra.
5. Examining Unstructured Problems, Information was obtained based on the results of interviews with Palm Oil Agroindustry actors, various types of information were obtained which were unstructured problem situations. The results of collecting and interpreting information will provide an overview of the problematic situation in the context of the research.

TOWS Analysis

TOWS analysis is a qualitative research technique tool that functions to systematically identify various factors to formulate strategies in carrying out the right marketing of a company's products. This analysis is based on logic that can maximize strengths and opportunities but can minimize weaknesses and threats. The factors contained in TOWS analysis are external factors and internal factors. External factors consist of threats and opportunities. While internal factors consist of strengths and weaknesses.

1. Government Response to Palm Oil Plantation Companies in South Sumatra Regarding Strengths, Weaknesses, Opportunities, Threats

It is known that on average the owner's response is 3.64 and this means that the owner agrees that the strength of the Palm Oil Plantation Company in South Sumatra is included in the good category and weaknesses must be fixed, existing opportunities and opportunities must also be utilized and overcome. This strength or strength includes the production provided by the Palm Oil Plantation Company is better than competitors. The facilities owned by the Palm Oil Plantation Company are complete, the Palm Oil Plantation Company often provides HR skills training, In dealing with problems, the Palm Oil Plantation Company is done quickly, the Palm Oil Plantation Company carries out effective promotions, Consumer demand has so far been potential because the condition of the Palm Oil Plantation Company tends to increase. This weakness or weakness includes the Palm Oil Plantation Company having palm oil production that has not met the target and does not carry out effective promotions so that in the future it must be increased. This opportunity or opportunity includes Consumer demand has so far been potential because the condition of the company tends to increase, the Company has not carried out effective promotions so that there are still many market opportunities that must be developed in the future. The existing threats are that competitors in this field tend to be numerous so that palm oil plantation companies must follow market prices and Palm Oil Plantation Companies do not yet have good infrastructure and community welfare is still not guaranteed. This is a threat and at the same time a challenge faced by palm oil plantation companies to continue to improve the quality of their services and products to overcome existing threats so that the company remains loyal in the future.

2. Academic Responses in Palm Oil Plantation Companies in South Sumatra Regarding Strength, Weakness

It is known that the average response of Academics in Palm Oil Plantation Companies in South Sumatra is 3.76 and this means that employees agree that the strengths of palm oil plantation companies in South Sumatra are good and this must be maintained, and weaknesses must be fixed. These strengths include The quality of palm oil provided by palm oil plantation companies is better than competitors, the quality of human resources of palm oil plantation companies, In dealing with problems, palm oil plantation companies are done quickly. These weaknesses include Consumer demand so far is still potential because the condition of palm oil plantation companies tends to increase and Competitors in this field tend to be many so that palm oil plantation companies must follow market prices.

3. Business Response (Investors) in Palm Oil Plantation Companies in South Sumatra Regarding Strengths, Weaknesses

It is known that on average the response of Business (Investor) is 3.76 and this means that consumers agree that the strength of the palm oil plantation company is good and must be maintained and weaknesses exist so that they must be overcome. These strengths include the quality of palm oil provided by the palm oil plantation company is better than competitors. The facilities owned by the palm oil plantation company are complete, the human resources of the palm oil plantation company are qualified, In dealing with problems the palm oil plantation company is done quickly. These weaknesses include palm oil plantation companies often provide HR skills training, Consumer demand has so far been potential because the condition of the palm oil plantation company tends to increase and Competitors in this field tend to be many so that palm oil plantation companies must follow market prices.

4. Community Response (Accelerator) in Palm Oil Plantation Companies in South Sumatra regarding Opportunities, Threats

It is known that on average the competitor's response is 3.58 and this means the opportunities that can be taken and the threats that must be overcome by the company. This opportunity includes Consumer demand so far is still potential because the condition of the palm oil plantation company tends to increase, Competitors in this field tend to be many so that palm oil plantation companies must follow market prices. The existing threats are that palm oil plantation companies often provide HR skills coaching/training and in dealing with problems, palm oil plantation companies are done quickly.

5. Media Response (Catalyst) in Palm Oil Plantation Companies in South Sumatra regarding Strength, Weakness

It is known that on average the Media (Catalyst) response is 3.53 and this means that the Media (Catalyst) agrees that the strengths of palm oil plantation companies are good and must be maintained and weaknesses exist so they must be overcome. These strengths include complete facilities owned by palm oil plantation companies, quality human resources of palm oil plantation companies and in dealing with palm oil plantation company problems, they are handled quickly. These weaknesses include consumer demand which is still potential because the condition of palm oil plantation companies tends to increase and competitors in this field tend to be many so that palm oil plantation companies must follow market prices.

6. IFAS (Internal Factors Analysis Strategic)

Based on IFAS calculations, it is known that the strengths are quite good and the weaknesses need to be improved further with an average of 3.40.

7. EFAS (External Factors Analysis Strategic)

Based on the EFAS calculation, it is known that the opportunities are quite good and threats must be considered. The average value for EFAS is 3.10.

8. IE Matrix

THE EFFECT OF HIGH SCORES	Average (2,34-3,66)	I	II	III
	Weak (1-2,33)	IV	V	VI
		VII	VIII	IX

Figure 1. IE Matrix

Source: Processed Primary Data, 2024.

From the results of the IFAS matrix (score 3.4) and EFAS (score 3.1) on the sustainable performance of palm oil plantation companies, it is known that the results of the IE matrix show that in quadrant V it can be described as Hold and Maintain. Suitable strategies: Market Penetration or Product Development. In this position, palm oil plantation companies need to carry out strategies related to: Market Penetration The market penetration strategy is most often used and combined with other strategies. How to penetrate the market by intensifying production, promotion and price elements, namely by increasing the number of sales personnel, increasing the advertising budget, aggressively offering various sales promotion items, or even increasing publicity activities. Product Development Is a strategy that is carried out to increase sales by improving or modifying existing products. Carrying out this strategy means involving large research and development costs.

9. TOWS

TOWS analysis is generally in the form of a matrix that clearly describes how the external opportunities and threats faced by the company can be adjusted to the strengths and weaknesses of the company.

Table 1. TOWS Matrix

Always Leave Blank	S (Strength):	W (Weakness):
	1. The quality of palm oil provided by the Palm Oil Plantation Company is better than competitors 2. The facilities owned by the Palm Oil Plantation Company are complete	1. Consumer demand is still lacking due to the condition of Palm Oil Plantation Companies which tends to increase.

	3. In dealing with problems, the Palm Oil Plantation Company is done quickly 4. The condition of the Palm Oil Plantation Company tends to improve 5. The quality of the Palm Oil Plantation Company's human resources	2. There tends to be a lot of competition in this field so Palm Oil Plantation Companies have to follow market prices
O (Opportunity):	OS Strategies:	OW Strategies:
1. Consumer demand is still potential due to the condition of Palm Oil Plantation Companies which tends to increase. 2. There tends to be a lot of competition in this field so Palm Oil Plantation Companies have to follow market prices.	1. The quality of palm oil from palm plantation companies tends to increase and the facilities owned by palm plantation companies (O1, S1, S2). 2. Competitors in Palm Plantation Companies must follow market prices so that Palm Plantation Companies tend to increase (O2, S4).	1. The condition of Palm Oil Plantation Companies tends to improve (O1, W1). 2. There tends to be a lot of competition in this field so Palm Oil Plantation Companies have to follow market prices (O2, W2).
T (Threats):	TS Strategies:	TW Strategies:
1. Palm Oil Plantation Companies do not provide quality human resource development and the facilities owned by the company are still lacking. 2. In dealing with problems, Palm Oil Plantation Companies are slow.	1. Palm Oil Plantation Companies often provide HR training/skills and the quality of palm oil provided by Palm Oil Plantation Companies is better than competitors (T1, S1) 2. In dealing with problems, Palm Oil Plantation Companies act quickly (T2, S3) 3. Palm Oil Plantation Companies often provide quality HR skills training (T1, S5)	1. Palm Oil Plantation Companies often provide HR skills training and Palm Oil Plantation Company Conditions tend to increase (T1, W1). 2. In dealing with problems, Palm Oil Plantation Companies are carried out quickly in consumer demand so far, which is still potential because the conditions of Palm Oil Plantation Companies tend to increase (T2, W1).

Source: Processed Primary Data, 2024.

The strategy that will be used is a product development strategy, namely by using the superiority of palm oil quality to face competitors, using consumer demand so far is still potential because the condition of the Palm Oil Plantation Company tends to increase to face competitors and competitors in this field tend to be many so that the Palm Oil Plantation Company must follow market prices. This can be done by updating the production of palm oil that is sold so that it can face competition.

5. CONCLUSION

Developing the Penta Helix model for the sustainable performance of oil palm plantation companies in South Sumatra Province with several stakeholders consisting of Penta Helix elements in the role of academics, namely Academics in the sustainable performance of oil palm plantation companies in South Sumatra, are very necessary for stakeholders so that in implementing one of the oil palm plantations in South Sumatra Province, it can be carried out properly. Another role played by academics in the sustainable performance of oil palm plantation companies in South Sumatra is by involving several academics from various campuses to become resource persons in seminars or workshops related to the company, both held by the government and the private sector. Furthermore, in the role of the government, namely cooperation with the Government has been well established, every year the provincial government provides supervision or monitoring and evaluation to oil palm plantation companies in South Sumatra from the side of the oil palm plantation company itself, it has been very supportive regarding infrastructure and access, one of which is

public facilities and social facilities. The government is a leader in creating regional and community development including in the development and development of sustainable oil palm plantation companies. And in the role of businessmen, the role and efforts of business parties in South Sumatra are to be invited to participate in formulating the sustainable performance of oil palm plantation companies in South Sumatra. Business actors want to always be invited to determine the direction and policies of sustainable palm oil plantation companies in South Sumatra, so that they can adjust the targets and needs of sustainable palm oil plantation companies that will visit this province. the existence of businessmen and investors and or the implementation of investment in palm oil plantation companies The opportunity for implementing palm oil plantations in South Sumatra according to this businessman is that this province benefits from a population that is mostly farmers. With a population that is mostly farmers and who will run palm oil plantations and supported by natural nature, it is believed that it will add value to South Sumatra to develop palm oil plantations. The Penta Helix model strategy for the sustainable performance of palm oil plantation companies in South Sumatra Province, the five stakeholder pentahelix strategy for sustainable performance of palm oil plantation companies in South Sumatra establishes relationships between each other, although the relationship between stakeholders is still seen as very minimal and requires a "strong leader" in building strong synergy, so the role of palm oil plantation companies in South Sumatra is very important.

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