THE ROLE OF GEOSPATIAL TECHNOLOGY INTELLIGENCE IN EFFORTS TO PREVENT NON-COMPLIANCE OF PALM OIL TAXPAYERS

Bollyazi Haru Bukit [1)]; Adang Supriyadi [2)]; Steph Subanidja[3]; Budi Prasetyono [4] ; Aloysius Mado[5)]

[1)] **bollygetz@gmail.com, Sekolah Tinggi Intelijen Negara**
[2)] **aadangsupriyadi@idu.ac.id, Universitas Pertahanan**
[3)] **steph@perbanas.id, Perbanas Institute**
[4)] **budiprasetyono@gmail.com, Sekolah Tinggi Intelijen Negara**
[5)] **aloysiusmado89@gmail.com, Sekolah Tinggi Intelijen Negara**

Abstract
This study discusses the forms of threats, the role of intelligence and geospatial technology intelligence in efforts to prevent the threat of tax evasion in the palm oil sector related to data on area, age of plants and the reasonableness of plantation productivity by utilizing geospatial data. This study is a qualitative study with a descriptive design. The results of the study indicate that there is a form of threat of palm oil tax evasion mode related to the unreasonableness of turnover reporting based on data analysis of area, age of plants and the reasonableness of plantation productivity by utilizing geospatial data, and the role of BIN is needed to oversee the Palm Oil Governance Task Force, and the role of tax intelligence through geospatial data-based technology intelligence to prevent tax evasion mode related to the reasonableness of the area, age and productivity of plantations reported by taxpayers. It is hoped that this study can be an input for the Directorate General of Taxes to complete the tools for monitoring taxpayer compliance in the palm oil sector, so that it is in line with the objectives of the palm oil governance task force together with other government stakeholders who are interested in the palm oil business in Indonesia.
Keywords: Intelligence, Geospatial Technology, Palm Oil, Tax Non-Compliance

INTRODUCTION

Palm oil is one of Indonesia's main commodities that places it as a global leader in palm oil production. Based on BPS data in 2022, Indonesia's palm oil production reached 45.58 million tons, showing a growth of 1.02% compared to the previous year (Sadya, 2023). According to BPS, FAO, and ITC data in 2022, CPO production as the main product of palm oil in 2021 recorded Indonesia's production figure of 48.24 million tons, with a land area of 16.38 million hectares, while Malaysia only produced 18.11 million tons with a land area of 5.35 million hectares, so if a comparison is made of the ratio of CPO production to land area between Indonesia and Malaysia, Indonesia's ratio of 2.78 is far behind Malaysia's ratio of 3.39. This could be due to differences in technological advances in the plantation sector and the processing of Malaysia's palm oil industry which is more advanced than Indonesia's. Another possible cause is that the amount of Indonesian palm oil production reported by entrepreneurs is much smaller than actual production, because entrepreneurs want to hide their actual turnover to avoid tax obligations and other obligations to the government.

The tax contribution from the palm oil sector is indeed not encouraging. (Prastowo, 2013) said that the tax ratio for the forestry and plantation sectors dominated by palm oil plantations is still very low at 1.25% (the ratio of taxes collected to GDP) when compared to the national tax ratio of 12.7% in that year. It is estimated that 150-200 trillion rupiah per year is the potential tax loss from this sector. The same thing is also agreed by (Arsal, 2018) who stated that although the palm oil plantation sector has the potential to provide income for the state, this potential has not been utilized optimally. This can be seen from the tax ratio indicator, where the overall tax ratio in Indonesia ranges from 11% to 12%, but in the case of the palm oil industry, the tax ratio is still below standard, which is around 6% to 7%. One example of a case of tax evasion in the palm oil plantation sector that once went viral was the case of the Asian Agri Group owned by the famous Indonesian businessman Sukanto Tanoto, which cost

the state 1.2 trillion rupiah due to attempts to evade palm oil taxes by understating income and increasing costs through the Transfer Pricing scheme (Ningrum et al., 2019).

There is a fact that there are still many palm oil business owners who have not registered their businesses with the tax office. The KPK stated that the results of the identification and estimation of potential tax revenue from the palm oil sector could reach 40 trillion rupiah per year, which far exceeds the amount of tax revenue collected so far per year. Based on data on the area of palm oil land cover combined with data from the Ministry of Environment and Forestry and the Geospatial Information Agency, there are 16.3 million hectares of palm oil plantation areas, but only 14 million hectares have official permits. Thus, there are millions of hectares of palm oil plantations that do not have permits and may not pay taxes (Sulistyanto, 2021). However, these illegal plantations can still be taxed, because the principle of taxation refers to the tax object attached as the basis for determining the tax, not to the legality which is the main basis.

The problem of oil palm plantations has also become a special concern of President Jokowi with the formation of the Palm Oil Industry Governance Task Force through Presidential Decree No. 9 of 2023, where Luhut Binsar Panjaitan was appointed as the Steering Committee Chair together with the leaders of other Ministries and Government Institutions. Luhut said that he had ordered the BPKP to conduct a comprehensive audit of oil palm entrepreneurs in Indonesia, the results of which were 20.4 million hectares of oil palm permits, and 16.8 million hectares had been planted and surprisingly 9 million hectares had not paid taxes (CNN Indonesia, 2023). The purpose of this task force was to regulate oil palm entrepreneurs in Indonesia as well as in order to optimize state revenues.

There are various modes of tax evasion carried out by taxpayers who are entrepreneurs in the palm oil industry. Generally, the modes used involve the practice of hiding the actual turnover and creating fictitious costs or increasing the value of costs from what they should be, with the aim of reducing several types of taxes such as income tax, VAT, PBB, and export duties. One method used is to manipulate data related to the area of oil palm plantations reported to the tax office. This includes differences in the area of business permits, the area of Cultivation Rights (HGU), the area of productive land, recognition of the year of planting oil palm, and other factors in the field that are not reported in accordance with the actual situation.

The Directorate General of Taxes (DGT) can no longer rely solely on the equalization and analysis process based on data reported by taxpayers alone, because there is a high possibility that there are differences in data that are intentionally hidden by taxpayers. Therefore, the DGT needs to intensify supervision of palm oil taxpayers who have been registered with the Directorate General of Taxes, this is known as the tax intensification program. Meanwhile, palm oil entrepreneurs who are not yet registered as taxpayers must be immediately pursued to register themselves with the provision of data from the findings of the KPK and BPKP above and assisted by satellite imagery data, and this effort is part of the tax extensification program. The condition of this problem can be described in the flow of thought below:

Figure 1. Flow of Thought on Palm Oil Tax Problems in Indonesia
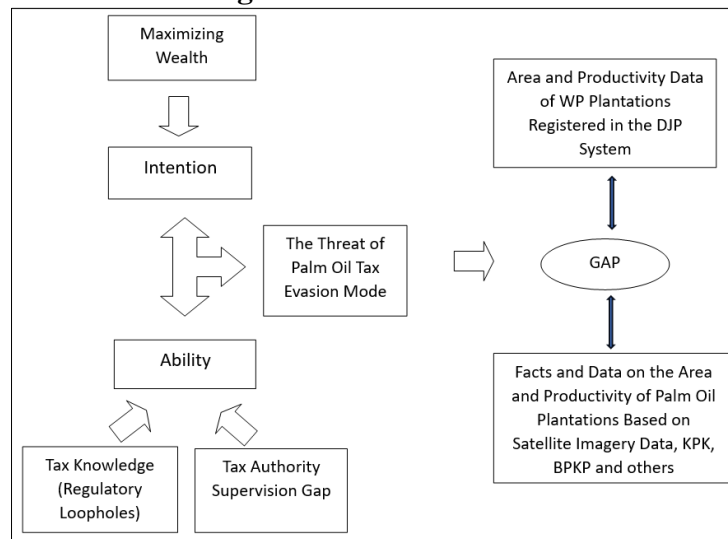
Source : processed by researchers, 2023

From the picture above, it can be seen that the emergence of the threat of palm oil tax evasion mode begins with the intention and ability of the taxpayer. This is in accordance with the threat theory according to (Prunckun, 2015) which states that threats come from the intention and ability of an individual, organization or country to realize their goals. Intention consists of desires and hopes while ability consists of knowledge and resources. In this context, the intention in question is to minimize tax payments through tax evasion practice modes so that the wealth of business owners will be maximized, while the ability in question is the level of taxpayer understanding of tax regulations and loopholes in these regulations, and knowledge of the weaknesses of compliance supervision carried out by the Directorate General of Taxes. This is the essence of the threat owned by the Directorate General of Taxes in an effort to secure the tax revenue target which is the backbone of the source of financing for state expenditure in running the wheels of government in order to maintain national resilience in the economic sector.

Based on the explanation of the background of the research problem, it can be assumed that the current condition still shows the threat of tax evasion by palm oil companies by exploiting the gap in tax supervision that is not yet optimal. From an intelligence perspective, this is a threat to national interests, especially in the economic sector in an effort to realize state independence through taxes. With the efforts of tax evasion by palm oil companies that are still ongoing until now, it can be assumed that the role of intelligence in carrying out early detection and early warning is still not optimal. Therefore, it is important to conduct research to answer two research questions, namely: 1) What is the form of the threat of tax evasion by palm oil entrepreneurs related to land productivity? and 2) What is the role of intelligence and technological intelligence in dealing with the threat of palm oil tax evasion related to land productivity through the use of geospatial data?

LITERATURE REVIEW
Threat Theory

The essence of a threat is something, a condition, an event, an action that can endanger, complicate, disturb, cause pain, harm other parties. The form of threat consists of Visible Threats and Invisible Threats. These visible threats are in physical and conventional forms, such as rebellion, drugs, terrorism and so on, while invisible threats are non-physical or non-conventional, such as monetary crisis, economic crisis, economic crime and so on (Sukarno, 2014).

Threat is the desire of an individual or group to cause risk to another group. There are 2 (two) factors that can cause threats, namely intention and ability. Intention is driven by hope and desire, while ability is influenced by resources and knowledge (Prunckun, 2015). (Sugirman, 2009) stated that as an intelligence agent, the threat that appears must be able to measure the level of urgency or danger as an impact of the threat. So that the steps taken will be appropriate without exaggerating or underestimating a threat. To measure the level of threat, Robert Ring's theory classifies the level of threat into 4 levels, namely minor, moderate, serious and critical. A threat falls into the critical category or at least serious if it disrupts the existence, unity, and sovereignty of the state, a threat falls into the serious category or at least moderate if it hinders national development, injures state symbols, or important objects, then a threat falls into the moderate category or at least minor if the threat disrupts local infrastructure or regional programs.

Intelligence Theory

Shermant Kent, who is known as the Father of World Intelligence Analysis, clusters intelligence into three pillars. The first pillar of Intelligence as a science/knowledge (Knowledge), explains that intelligence is knowledge about anything that places national policy in this case national security above the interests of other countries in the midst of very dynamic strategic environmental changes. The second pillar of intelligence as an organization, explains that intelligence must have a container in the form of an organization to carry out its activities. Therefore, intelligence organizations must have structures and processes that allow them to collect, store, analyze, and distribute information well. This includes recruitment and training of experts, use of the latest technology, and good cooperation between various parts of the intelligence organization. Finally, the third pillar of intelligence as an activity, explains that real activities or actions are taken based on intelligence information. This includes planning, implementing and evaluating actions based on intelligence analysis, or what is known as the intelligence cycle (Sukarno, 2014). Intelligence activities carry out judgment, forecasting and early warning. Through "Judgement" intelligence will gain interpretation and understanding of various situations such as cases, phenomena, events, trends, and policies. This is the initial step in analyzing strategic issues after the problem has been identified correctly. Next is "forecasting", which is a thinking process that produces a picture of possible changes in the situation in the future with various estimation methods, ranging from analogy, causal, cycle, to probability forecasting. And finally is "early warning", intelligence must be able to provide a picture of the potential impact, risk, or danger that may arise in the future, by considering the types of risks that can be measured and those that cannot (Sugirman, 2009).

Geospatial Technology Intelligence Concept

One of the intelligence tradecraft is GEOINT and IMINT, where surveillance activities are carried out using Geospatial Data and imaginary formed in a system called a geographic information system. Geographic Information System (GIS) is an information system through a computerized process that carries out the process of processing geographic data by carrying out various processes such as input, management, storage, and retrieval of data, as well as manipulating and analyzing data, so as to produce output that is useful for its users. GIS is able to integrate various types of data at certain locations on the earth's surface, combine them, analyze them, and ultimately create maps based on the results of the analysis. There are two types of data processed in GIS, namely spatial data and non-spatial data (attributes). Spatial data refers to information related to the geographic characteristics of an area and uses a certain coordinate system. Spatial data has a crucial role in supporting various activities and programs in government institutions, where around 90% of government work is related to spatial elements (Supriyadi et al., 2018).

Palm oil plantation activities can be mapped through the Geospatial Information System, so that this system can provide precise information needed by management in decision making related to the palm oil business process from land acquisition to harvesting, so that it can improve the effectiveness of the performance and efficiency of the palm oil company PT Astra Agro Lestari (Suroso et al., 2004). More specifically, the benefits of remote sensing of this spatial data can help companies to develop methods to determine the age of oil palm plantations using high-resolution remote sensing data (Chemura et al., 2015).

Compliance Theory

The Compliance Theory introduced by Tyler in 1990 puts forward two fundamental views in the sociological literature that explain the factors that influence individuals to comply with the law, namely the instrumental view and the normative view. The instrumental approach assumes that individual behavior is influenced by personal interests and motivations in the form of incentives and sanctions as a consequence of their actions. In contrast, the normative view relates to the individual's moral beliefs, even though they conflict with their personal interests. This Compliance Theory is relevant in describing Taxpayer compliance. Taxpayers comply with tax payment and reporting regulations because there are legal regulations that require them to carry out these obligations. The instrumental approach in this compliance theory assumes that individual behavior complies with the law because of incentives and threats of sanctions. Therefore, tax supervision and audits are believed to be able to encourage Taxpayers to comply with their tax obligations for fear of being sanctioned *(Mimi & Mulyani, 2022)*.

Strategy Theory

The U.S. Army War College Guide to Strategy formulates that all types of strategies, whether in the military, political, or economic fields, depend on the elements used, namely Ends, Ways, and Means (Lykke, 1997). The explanation of these elements is as follows: a. Ends, refers to the goals to be achieved and requires proper analysis and clarity in determining the use of effective and efficient ways and means; b. Ways, refers to the methods used to achieve the goals that have been set, so that it is possible and capable of being carried out according to plan by considering the available resources; c. Means, refers to the available resources that can be used to achieve the goals that have been set according to the methods used. Researchers formulate that "Strategy = Ends + Ways + Means," which means that goals are the main targets, ways are the methods of implementation, and resources are those used to achieve these goals. Strategy from an intelligence perspective is needed to prevent and resolve problems related to the threat of palm oil tax evasion (problem solving).

Role Theory

According to (Soekanto, 2002), role is defined as a dynamic dimension of an individual's position, where an individual is considered to be carrying out his role if he fulfills his rights and obligations in accordance with the role he holds. In the context of an organization, each individual has various characteristics in carrying out tasks, obligations, or responsibilities that have been determined by the organization or related institution. In principle, a role can also be understood as a series of behaviors that arise as a result of a special position. In addition, the individual's personality also influences the way the role is carried out. The roles played by leaders at various levels (top, middle, and bottom) tend to have similar characteristics. According to (Soekanto, 2002), the division of roles consists of three types, including: 1) Active Role, is a role given to group members based on their position in the group, such as administrators, officials, and so on, who are involved in group activities. 2) Participatory Role, is a role given by group members to their group, which provides a very valuable contribution to the group, and 3) Passive Role, is a passive contribution of group members, where group members refrain from giving other functions in the group the opportunity to run well.

(Sukarno, 2014) explains that intelligence is directly related to national interest and national security. Intelligence plays a role in providing early warning and early detection to identify, avoid, face and prevent threats to national interests and security. According to (Sugirman, 2009), the role of intelligence can be grouped into: 1) Early detection; 2) Early prevention; and 3) Early warning.

METHODS

This study uses a descriptive qualitative design aimed at analyzing the threat of palm oil tax evasion from an intelligence perspective and a comparative study of the application of Geographic Information Systems in efforts to supervise palm oil taxes. Qualitative methods can form direct interactions between researchers and informants in order to obtain complete data in the study.

Researchers will triangulate data from various interrelated data sources, so that they will place greater emphasis on the meaning of the data obtained during the study, in line with the formulation of the problem and the objectives of the study. This study will adopt a descriptive analysis research design approach because the focus is on current events and current conditions. In this context, the analytical descriptive method is used to describe the object of research being investigated using samples or data that have been collected, so that the conclusions produced can be applied generally (Sugiyono, 2015). The techniques used in data collection consist of observation, semi-structured interviews and literature studies/comparative studies, then these three data sources will be triangulated.

The list of informants who became sources in this research interview consisted of officials and experts at the State Intelligence Agency, Directorate General of Taxes, National Innovation Research Agency, and Geospatial Information Agency which were divided into three groups of informant sources, namely academics/experts, practitioners and policy makers related to the topic of the research problem. Through observation techniques, researchers will actively participate in using various GIS-based applications in several places that are considered to have expertise in the geospatial field together with experts to support the interview results. Through literature study or comparative study techniques, the research conducted a literature study of various books, journals and other official information that is relevant to the research theme, so that the results of the study from these sources can support the results of observations and interviews in answering research questions about the form of palm oil tax evasion and the implementation of geospatial technology in an effort to counteract this mode.

The data analysis technique used is based on the theory proposed by Miles, Huberman, and Saldana. Research data analysis is carried out through several stages, namely: data condensation, data presentation, and drawing conclusions or verification. The data condensation process involves steps such as selection, emphasizing the core information, simplification, information reduction, and data transformation (Sugiyono, 2015). Then, based on the results of the data collection, a data validity checking technique will be carried out. Qualitative research is considered valid if it meets several minimum requirements for data validity, namely credibility, transferability, dependability, and confirmability (Sugiyono, 2015).

RESULTS AND DISCUSSIONS
Forms of Palm Oil Tax Evasion Threats Related to Land Area and Productivity

The researcher triangulated interview data from competent sources and concluded several answers that were the same or similar and declared valid, based on the division of each question indicator from the problem formulation variable "Forms of Palm Oil Tax Evasion

Threats Related to Land Area and Productivity". The results of processing the data from the sources answers above are presented in the table below:

Table 1. Results of Data Processing of Resource Persons' Answers Research Formulation of Threat Forms

Threat Form Indicator	Threat Emergence Indicators (Intent and Capability)	Threat Impact Indicator
1. Manipulation of data on plant age and/or area of oil palm plantations reported to the DGT 2. Manipulation of financial reports and transfer pricing schemes to carry out profit shifting to low tax rate countries 3. Difficulty in exchanging data between related agencies due to ego-sectoral factors 4. Attempts to bribe certain tax officials	**a. Intention :** Desire and hope to maximize wealth by minimizing taxes **b. Ability: :** 1. Taxpayers with larger company sizes will have the resources to carry out tax planning to minimize taxes 2. Knowledge of the weaknesses of the Directorate General of Taxes' direct supervision of very large plantation activities and difficult terrain 3. Knowledge that the Directorate General of Taxes has not maximized the use of geospatial technology as one of the supervision tools 4. Knowledge of the lack of coordination and data exchange between government agencies related to palm oil 5. Knowledge of the probability of being caught committing tax crimes and the costs and benefits of these tax crimes (economics of crime theory) 6. Taxpayers have tax consultants who understand the rules and loopholes in supervision who are former tax people themselves. 7. Taxpayers have the resources to recruit high-skilled tax experts/consultants to carry out tax planning where the Directorate General of Taxes finds it difficult to find tax avoidance/evasion modes. 8. Taxpayers are members of certain palm oil associations, so they exchange tax evasion methods that are difficult for the Directorate General of Taxes to detect. 9. Taxpayers have the ability to negotiate and the resources to bribe certain tax officials to reduce the taxes they have to pay.	1. DGT credibility decreases 2. Tax compliance decreases 3. Injustice among taxpayers 4. Ultimately it will affect the risk of not achieving tax revenue targets So it enters the Serious Level at least Moderate, because it has an impact on national development due to the risk of not achieving tax revenues

Source: Researcher Processing Results, January 2024

From the results of the data processing above, several answers were taken from the informants who had been triangulated with the same answers from at least two informants, then the data was declared valid. To answer the first problem formulation of this study, an analysis of the form of threats of palm oil tax evasion related to the area and productivity of land was carried out, with three analysis indicators as follows:

1. Threat Form Indicator

Based on the results of data processing, there are four forms of threats of palm oil tax evasion related to the area and productivity of palm oil land, namely manipulation of plant age data and/or the area of palm oil land reported to the Directorate General of Taxes, manipulation of financial reports and transfer pricing schemes to carry out profit shifting to countries with low tax rates, difficulties in exchanging data between related agencies due to sectoral egos, and finally attempts to bribe certain tax officials. The results of data processing from these sources were also triangulated with literature studies from the 2016 Corruption Eradication Commission's Palm Oil Commodity Management System Study Report document, which

stated that there were efforts by taxpayers to manipulate data on the reporting of productive areas managed by taxpayers through the PBB SPOP and the difficulty of the Directorate General of Taxes in obtaining data that was integrated with data sources from related agencies and of course caused by the ineffectiveness of cross-agency coordination in issuing and controlling permits in the palm oil plantation sector (Komisi Pemberantasan Korupsi, 2016). The triangulation was declared valid.

The form of threat by manipulating the data on the area of productive oil palm plantations is also in line with the results of Pahala's research which stated that there was a difference in the area of productive areas reported by taxpayers through the PBB SPOP with spatial data from satellite imagery, where the difference of 650,000 M2 was manipulated by taxpayers by reporting it as an unproductive area (no oil palm plants) even though according to satellite imagery the area is a productive area that has been planted with mature oil palms, and of course there is the potential for PBB taxes and other taxes to be manipulated (Pahala, 2019).
2. Indicators of the Emergence of Threats (Intention and Ability)

Based on the results of data processing, it was found that the intention of the emergence of the above form of threat is the desire and hope to maximize wealth by minimizing taxes paid to the state. The desire of this taxpayer is in the form of the taxpayer's enthusiasm to carry out tax evasion to achieve the goal of minimizing tax payments, and the hope itself is the taxpayer's belief that the tax evasion plan through manipulation of oil palm plantation productivity reporting data can be realized considering that taxpayers know the weaknesses in supervision in the upstream oil palm. Meanwhile, the ability of taxpayers to carry out the above forms of threats is due to the existence of resources and knowledge, which consist of nine conditions, namely taxpayers with larger company sizes will have the resources to carry out tax planning to reduce taxes; knowledge of the weaknesses of the Directorate General of Taxes' direct supervision of very large plantation activities and difficult terrain; knowledge that the Directorate General of Taxes has not maximized the use of geospatial technology as one of the supervision tools; knowledge of the lack of coordination and data exchange between government agencies related to palm oil; knowledge of the probability of being caught committing tax crimes and the costs and benefits of these tax crimes, taxpayers have tax consultants who understand the rules and gaps in supervision who are former tax people themselves; taxpayers have the resources to recruit high-skill tax experts/consultants to carry out tax planning where it is difficult for the Directorate General of Taxes to find tax avoidance/evasion modes; taxpayers are members of certain palm oil associations, so they exchange tax evasion modes that are difficult for the Directorate General of Taxes to detect; and taxpayers have the ability to negotiate and the resources to bribe certain tax officials to reduce the taxes that must be paid.

The existence of the intention and ability of taxpayers is in line with Hanck Prunckun's threat theory which states that a threat is the desire of an individual or group to cause risk to another group, and there are 2 (two) factors that can cause a threat, namely intention and ability. Intention is driven by hope and desire, while ability is influenced by resources and knowledge.

The existence of the intention of taxpayers in the form of a desire to maximize wealth by minimizing taxes paid to the state is in line with the statement (Mangoting, 2004) stating that almost everyone, both in developed and developing countries, both in personal capacity and as a group or legal entity, tries to manage the amount of tax they must pay. The tax authorities also realize that there is a tendency among individual and corporate taxpayers to reduce the amount of tax to be paid, by implementing tax planning strategies, both in accordance with regulations (tax avoidance) and those that violate the law (tax evasion).

Meanwhile, the ability of taxpayers to carry out forms of threats because they are influenced by the size of the company, which is getting bigger, will have the resources to carry

out tax planning to reduce taxes, in line with the research of Richardson et al in 2013 which states that with political cost theory, there is a positive relationship between company size and aggressive tax avoidance. These resources can be in the form of money or strong capital to pay tax experts who are able to make tax planning or data manipulation actions that are difficult to detect by the Directorate General of Taxes' tax oversight system.

3. Threat Impact Indicator

The form of tax evasion threat related to asymmetric information on the area of land, age of plants and productivity of oil palm plantations has an indirect impact on the security and interests of the state. If this tax evasion mode cannot be detected early and no preventive measures are taken, then this mode will continue to be used by taxpayers because taxpayers are able to see the inability of the Directorate General of Taxes to supervise the accuracy of reporting data on the area, age of plants and productivity of oil palm land. This mode will of course have an impact on the credibility of the Directorate General of Taxes in supervising tax compliance. Tax compliance will decline and so will tax payments from the palm oil sector, making it difficult to pursue a reasonable tax ratio from this sector. This will certainly cause social jealousy and a sense of injustice among taxpayers, where other business sectors will also try to do other modes to reduce their taxes. This certainly has a macro impact on efforts to secure national tax revenues. The national tax revenue target that is not achieved is very disruptive to national development, where the country will experience a budget deficit, so that state spending will not be maximized for national development, or increase state debt again to cover the deficit, and of course state debt has an interest burden that continues to burden the APBN.

A president can also be removed from office when the realization of the APBN deficit exceeds the maximum target limit enacted in the APBN each year, so this will be a serious concern for a president. The risk of not achieving state revenues so that it has an impact on disrupting national development is a threat that is categorized as serious, at least moderate. This is in line with Robert Ring's theory which groups threats into four levels of evaluation, namely minor, moderate, serious, and critical. A threat will be classified as critical or at least serious if it threatens the existence, unity, or sovereignty of the state. Meanwhile, a threat will be considered serious or at least moderate if it hinders national development, damages important symbols or objects of the state. A threat will be considered moderate or at least minor if it disrupts local infrastructure or regional programs (Sugirman, 2009).

The form of threat of tax evasion in the upstream palm oil sector is a form of invisible and non-conventional threat, because it is different from threats such as terrorist attacks, war, drugs and so on which are conventionally faced with military force or security personnel. This tax evasion threat is carried out with tax evasion modes that exploit weaknesses in DJP supervision, and have an impact on the risk of not achieving state revenues so that national development and national economic resilience are disrupted. This is in line with the threat theory put forward by (Sukarno, 2014) which states that threats can be divided into two types, namely Visible Threats and Invisible Threats. These visible threats are real and generally in physical and conventional forms, such as rebellion, drug abuse, terrorism, and so on. While invisible threats are more abstract and non-physical or non-conventional, such as monetary crises, economic crises, tax crimes, economic crimes, and so on.

The Role of Geospatial-based Technology Intelligence

One of the intelligence trade craft is GEOINT and IMINT, where surveillance activities are carried out using geospatial and imaginary data formed in a system called a geographic information system. The Directorate General of Taxes can utilize spatial data generated from intelligence activities that utilize geospatial-based technology capabilities.

The results of data collection from informants concluded that geospatial technology is very useful for the Directorate General of Taxes to measure land area, number of trees, and age of plants, so that the fairness of its productivity can be estimated using geospatial data analysis that has experienced a lot of technological developments, especially the presence of artificial intelligence (AI) and using geospatial time series data. This geospatial data is juxtaposed with Plantation Business Permit map data, Cultivation Rights maps, taxpayer reporting planting year maps, and other spatial data as comparative data, so that after overlaying a spatial data gap is produced. Even if oil palm plants are found from satellite imagery that are outside the permit limits, if they have the same plant pattern and are patterned in one unit with plants that are within the permit limits, then there is an indication that they still belong to the same taxpayer. Therefore, the Directorate General of Taxes obtains data on the actual area and productivity of the land.

The results of this interview data collection were triangulated with observation data carried out by researchers on the mapping information system owned by the Data Collection Sub-Directorate, Directorate of Extension and Assessment, Directorate General of Taxes. Where researchers obtained one example of geospatial analysis results on a company that could not be named due to the article on the confidentiality of tax officers' positions to maintain the confidentiality of taxpayer tax data, as mandated by the General Provisions of Taxation Law. Researchers conducted direct observations with officers on January 26, 2024 by comparing plantation map data reported by taxpayers to the DGT, with HGU map data owned by the DGT from other agencies, and satellite image data as seen in the following image:

Figure 2. Results of Overlay Observation of PT ABC Plantation Area Data
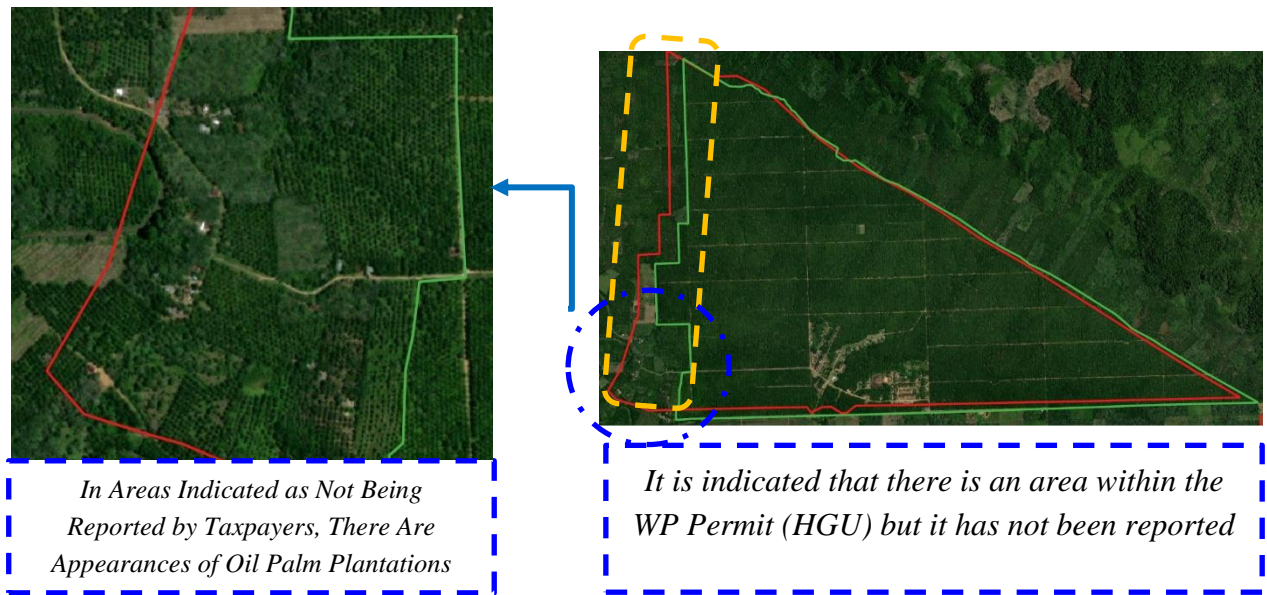
1. PT ABC HGU MAP

2. Tax Object Map (Map reported by Taxpayers to the DGT) and Tax Object Map equipped with a planting year block map

3.   HGU Map Overlaid with Tax Object Map

In Areas Indicated as Not Being Reported by Taxpayers, There Are Appearances of Oil Palm Plantations

It is indicated that there is an area within the WP Permit (HGU) but it has not been reported

Source: Results of direct observations by researchers, DJP Head Office, January 26, 2024

The analysis of the overlay image above produces a gap or difference in the number of hectares of land area managed by taxpayers that is still within the HGU boundary with the land area reported through the PBB SPOP attachment each year. There are two data difference analyses, first, the land area based on the HGU map is larger than the plantation map reported to the DGT, second, in the area difference, based on satellite imagery geospatial data, oil palm stands were found that still have the same pattern as the plant pattern reported by taxpayers, so it is suspected that taxpayers do not report a number of productive area areas according to the actual facts. From this analysis, the potential for PBB tax and other types of taxes (PPh and PPN) that have been manipulated in the tax report can be produced.

The next data triangulation is the result of a literacy study from research (Pahala, 2019) which shows that based on data processing and satellite image analysis results using the NDVI method and sensing of the RGB map, the entire plantation area of PT ABC is an area planted with oil palm. From the results of the comparison between the 2019 SPOP contents and the measurement results, it is known that there is a difference for productive areas and unproductive areas. The unproductive area of 650,000 m2 should be included in the productive area. Therefore, there is data or information that can be used as material for conducting research on the PBB Object of PT ABC. And of course, from the difference of 650,000 m2, it can be calibrated to calculate the fairness of turnover and income tax and VAT as regulated in the Circular of the Director General of Taxes number 27 of 2017.

This result is in line with the results of a literacy study from research (Arisandi, 2023) which shows that with geospatial data, it is possible to analyze the fairness of reporting the number of trees and the age of plants in productive areas compared to geospatial data based on satellite imagery. The number of trees can use planting density analysis, namely how many oil palm plants can be planted per hectare in an area. In oil palm plantations managed by the company, the number of oil palm plants can be identified because they have a uniform and regular planting pattern. As seen in the image below:

Figure 3. Image of Oil Palm Plant Pattern
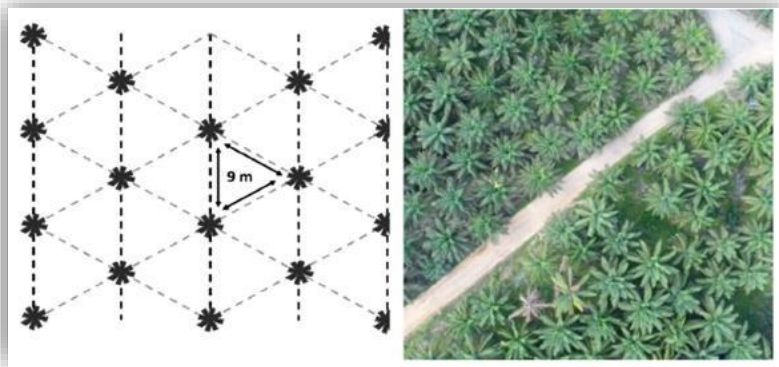
Source: Arisandi Research (2023)

The distance between trees varies, so the Planting Density formula (Number of Trees/Ha) can be calculated mathematically as follows:

$$Planting\ Density = \frac{10.000\ m^2}{\frac{d^2\sqrt{3}}{2}}$$

Source : R-Open Education (2022)

Therefore, if the measurement result of the distance between plants (d) is 9 m, then the mathematical calculation result of the formula is 142.56 or around 142 trees in one Ha.

Furthermore, this study can also estimate the estimated age of oil palm plants using Canopy Density analysis which refers to the level of density of oil palm plant cover in an area. Another definition of canopy density is the percentage of area covered by oil palm plants in the area of planted land. Canopy density is useful for estimating the age of oil palm trees by assuming that older trees will have denser canopy cover. The canopy density method is often used by various related parties to monitor and manage the sustainability of a plantation or forest area using remote sensing technology.

The canopy density formula can be calculated as follows:

$$Canopy\ Density = \frac{Canopy\ Area}{10.000\ m^2}\ x\ 100\%$$

$$Canopy\ Density = \frac{Canopy\ Area\ Per\ Plant\ x\ Planting\ Density}{10.000\ m^2}\ x\ 100\%$$

Source: Arisandi Research (2023)

The results of the calculation of the canopy density percentage above correlate with the estimated age of the plant and are positively correlated with the average number of TBS/Tree (kg/6 months). According to research by Fitrianto et al. (2017) the correlation can be seen in the table below:

Table 2. Correlation of Oil Palm Plant Age with Canopy Density

No	Class	Stands Age	% Canopy Density
1	Seed	0-3	<10
2	Young	3-8	10-40
3	Teen	9-14	41-80
4	Mature	15-25	>80

Source : Fitrianto et al., (2017)

Table 3. Correlation between Oil Palm Plant Age and FFB Productivity

No	Class	Stands Age	Average FFB/Tree (kg/6 months)
1	Seed	0-3	0
2	Young	3-8	68,77
3	Teen	9-14	109,08
4	Mature	15-25	73,91

Source : Fitrianto et al., (2017)

The results of the calculation of planting density and canopy density analysis can produce estimates of the number of trees, plant age, and average productivity of FFB produced per 6 months, and this analysis data is then compared with the data reported by taxpayers to the tax office, then a data gap will be found so that the potential tax that should be paid can be calculated. However, it should be underlined that this geospatial data gap analysis can only be used to test the reasonableness of the productivity of its productive area, not as a means of proving the truth of taxpayer reporting. However, this geospatial data analysis is one of the monitoring tools that is very helpful in complementing the effectiveness of DJP supervision.

Geospatial data in the form of satellite imagery can also be used by utilizing time series data owned by GIS, where changes in the surface of satellite images of taxpayers' land over time can provide analysis that helps explore tax potential. This was once done by researchers when they were tasked with supervising oil palm taxpayers in Ketapang, West Kalimantan. Taxpayers reported replanting costs, road construction costs and other costs that could be analyzed by looking at changes in the appearance of the land within a certain period of time according to the period reported by the taxpayer. The taxpayer acknowledged the existence of large replanting costs in a period, then the researcher opened the Google Earth Engine time series data for the time span reported by the taxpayer, it turned out that in terms of satellite imagery visualization at the location referred to by the taxpayer, no changes in land form were found that proved the existence of replanting activities. So it is suspected that the taxpayer has manipulated the existence of replanting costs to reduce the company's profits and corporate income tax.

Intelligence Strategy and Constraints/Challenges

The strategies that can be carried out by intelligence in an effort to prevent palm oil tax evasion related to the manipulation of data on the area and productivity of palm oil plantations are analyzed using Lykke's strategy theory (1997) which states that there are three basic elements in determining a strategy, namely Ends (goals to be achieved), Ways (how to achieve goals) and Means (resources owned), with the following formula: Strategy = Ends + Ways + Means.

The results of data collection related to Ends, resulted in the goal of the strategy being that palm oil governance is expected to improve so that data exchange and cooperation with the Directorate General of Taxes are easier, tax supervision is effective, tax compliance increases and tax revenues in the palm oil sector are optimal.

Ways, or the methods used to realize the strategy are by making geospatial technology one of the supervision tools owned by the Directorate General of Taxes so that the Directorate General of Taxes is able to intensify registered taxpayers and extend unregistered taxpayers equipped with data from the Palm Oil Governance Task Force and data from third parties that the Directorate General of Taxes has had so far. This intensification and extensification activity is in line with the efforts of the palm oil governance task force which collects and reconciles data from taxpayers and related agencies, so that it is expected that the DGT will obtain data from the reconciliation of the task force and compare it with data that has been reported by

taxpayers or other data owned by the DGT. Likewise, entrepreneurs who have never been registered, of course this will be new data for the DGT to implement the extensification program.

Another momentum is the launch of the DJP Core Tax Administration System (CTAS) system as of January 1, 2025, which will certainly make the DJP's supervision tool even stronger, supported by geospatial data integrated with the PBB mapping information system owned by the DJP which is part of the CTAS system. It is hoped that CTAS will produce a more optimal gap in tax potential data, so that it can be followed up to the stage of tax supervision, examination and investigation.

One of the functions of intelligence is fundraising. In order to support the supervision efforts carried out by the DJP by adding geospatial data as one of the supervision tools, the DJP together with the Palm Oil Governance Task Force also need to fundraise taxpayers by conducting positive propaganda through public communication that the Palm Oil Governance Task Force together with Articles 110a and 110b of the Job Creation Law asks taxpayers: "Please tidy up your palm oil business, because the government has facilitated it in the Job Creation Law!", and the next propaganda is "The DJP has geospatial technology that is able to analyze the fairness of the productivity of WP plantations, so that they immediately report and pay taxes in accordance with tax regulations". The propaganda that is built will show the seriousness of the government in resolving the palm oil problem in Indonesia, including in efforts to optimize state revenues from this business sector.

With the combination of the strategies above, it is hoped that taxpayers will be more compliant in the accountability of palm oil businesses to the government, including compliance with tax obligations will increase, because there are sanctions that will be carried out by the government if palm oil entrepreneurs do not follow the government's direction in the palm oil governance task force can be in the form of revocation of business licenses, and also strict sanctions from taxation through inspection efforts and even investigations because there are elements of state losses due to suboptimal tax revenues. This is in line with the research of *(Mimi & Mulyani, 2022)* which states that the instrumental approach in compliance theory according to Tyler (1990) assumes that individual behavior obeys the law because of incentives and threats of sanctions. Therefore, tax supervision and audits are believed to be able to encourage Taxpayers to comply with their tax obligations for fear of being sanctioned.

Obstacles and challenges that can be faced in implementing the above strategy include the lack of commitment to cooperation and the still strong ego-sectoral between government institutions, and are usually followed by the desire of certain government officials who are trying to protect palm oil entrepreneurs because they get personal benefits from these entrepreneurs. The use of geospatial data is only one of the tools for the fairness of plantation productivity, the reliability of other third-party data is still needed to strengthen the analysis of potential taxpayer non-compliance, and cannot be used as a means of proof during tax disputes in court. The use of this geospatial data is also not easy, because geospatial data that is increasingly real time and increasingly accurate/high resolution and geospatial data that is in accordance with needs (by request) certainly has a relatively expensive price, and so is the human resources owned by the Directorate General of Taxes who are not experts in the geospatial field, so it takes learning in this field and the willingness to use geospatial data as one of the monitoring tools to find potential palm oil tax gaps. Challenges also come from tax consultants who have high skills in taxation, many of whom are former tax officials who understand the loopholes in regulations and weaknesses of the Directorate General of Taxes, so that more effort is needed to uncover the tax avoidance and evasion methods carried out by taxpayers.

CONCLUSION
Summary

The results of the study indicate that there are several forms of threats of palm oil tax evasion related to asymmetric information about the extent and productivity of palm oil plantations. which occurs in the coconut business sector, including: Manipulation of data on the age of oil palm plants and the area of land cultivated, differences in tabular data and geospatial data between related government agencies, manipulation of financial reports and transfer pricing to carry out profit shifting to countries with low tax rates, and attempts to bribe certain tax officials. This form of potential threat has the potential to create a threat of increasingly massive tax evasion modes in the palm oil business sector, so that palm oil taxpayer compliance has the potential to decrease as well as state revenues from this sector, so that it can disrupt national tax revenues and of course disrupt national development because it widens the risk of a budget deficit. So according to Robert Ring's Theory, the impact of this form of threat of palm oil tax evasion mode is at a serious level at least moderate, This form of threat occurs because of the intention of taxpayers to maximize individual wealth by minimizing the taxes that must be paid. Then this intention is supported by the ability of taxpayers in the form of the increasingly large size of the company will have large capital and resources to use consultants or tax experts who know the weaknesses of DJP supervision, then the lack of coordination and data exchange between agencies with DJP and efforts to try to bribe certain employees so that their taxes are not monitored.

The role of intelligence to ward off the threat of palm oil tax evasion related to the area and productivity of land is to maximize the intelligence organization owned by DJP and coordinate with BIN as the coordinator of the intelligence community. The role of Intelligence as an activity, DJP carries out early detection and early prevention of the emergence of threats of tax evasion related to asymmetric information on the area and productivity of oil palm plantations and carries out intelligence functions in the form of LIDPAMGAL. This role cannot be separated from the thinking of strategic intelligence that sees the phenomenon and problems of supervision that are still low in the palm oil business sector, holistically and can capture opportunities for the momentum of the presence of the palm oil governance task force formed by the government, the BIG one map policy and DJP which is building a sophisticated big data CTAS system, so that a strategy is produced to prevent tax evasion based on geospatial / utilizing the role of geospatial technology intelligence. Therefore, the Directorate General of Taxes in its Lid (Investigation) function, carries out observation or investigation activities on taxpayers who are suspected of committing palm oil tax evasion, by utilizing geospatial data-based technological intelligence.

Suggestion

Further development of research in the field of geospatial technology application is needed that is able to provide geospatial technology solutions and the best GIS application models that can be applied to assist the Directorate General of Taxes so that the benefits of this geospatial data analysis can be immediately implemented properly as part of the DJP CTAS system. The next suggestion is that the geospatial benefits in the palm oil business sector from this research can be developed into the surface mining sector, because it has almost the same geospatial analysis so that it can be used to analyze the tax potential of the surface mining business sector. And the last suggestion is that research related to tax avoidance/evasion from an intelligence perspective is needed, because research related to this is still rarely found.

The Directorate General of Taxes can take advantage of the momentum of the palm oil governance task force, the BIG one map policy to help maximally reconcile data related to palm oil taxpayers, because the data from the palm oil governance task force reconciliation will later be very useful for the DJP, because it presents new data in the form of tabular or geospatial that

the DJP may not have known so far, so that it can be additional tax potential analysis data. Specifically related to geospatial data, the Directorate General of Taxes can utilize geospatial analysis that can measure land area, plant age, number of trees and the reasonableness of oil palm plantation productivity, so that this geospatial analysis data can be one of the monitoring tools that can enrich the analysis of the potential exploration of the Directorate General of Taxes in the CTAS system that is being built.

REFERENCES

Arisandi, A. (2023). Pemanfaatan Analisis Planting Density Dan Canopy Density Dalam Penghitungan Produktivitas Perkebunan Kelapa Sawit. Jurnal Survei Dan Penilaian, 29.

Arsal, Y. (2018). Ditjen Pajak Akan Benahi Penerimaan dari Sektor Sawit. Https://Sawitindonesia.Com/. https://sawitindonesia.com/ditjen-pajak-akan-benahi-penerimaan-dari-sektor-sawit/

Chemura, A., van Duren, I., & van Leeuwen, L. M. (2015). Determination of the age of oil palm from crown projection area detected from WorldView-2 multispectral remote sensing data: The case of Ejisu-Juaben district, Ghana. ISPRS Journal of Photogrammetry and Remote Sensing, 100, 118–127. https://doi.org/10.1016/J.ISPRSJPRS.2014.07.013

CNN Indonesia. (2023). Luhut Lapor Jokowi 9 Juta Hektare Lahan Sawit Belum Dipajaki. CNN Indonesia. https://www.cnnindonesia.com/ekonomi/20230509123945-92-947152/luhut-lapor-jokowi-9-juta-hektare-lahan-sawit-belum-dipajaki

Komisi Pemberantasan Korupsi. (2016). Kajian Sistem Pengelolaan Komoditas Kelapa Sawit.

Lykke, Arthur. F. (1997). Defining Military Strategy. Military Review.

Mangoting, Y. (2004). Tax Planning : Sebuah Pengantar Sebagai Alternatif Meminimalkan Pajak. Jurnal Akuntansi Dan Keuangan, 1(1), 43–53. https://doi.org/10.9744/jak.1.1.pp.43-53

Mimi, & Mulyani, S. D. (2022). Pengaruh Pelayanan, Pengawasan Dan Pemeriksaan Pajak Terhadap Kepatuhan Wajib Pajak Badan Yang Dimoderasi Digitalisasi Administrasi Perpajakan. Jurnal Magister Akuntansi Trisakti, 9(1), 37–54. https://doi.org/10.25105/jmat.v9i1.10573

Ningrum, D. R., Thaariq, R. M., & Kartika, W. (2019). Mengungkap Aliran Keuangan Gelap Komoditas Ekspor Unggulan Indonesia. https://theprakarsa.org/wp-content/uploads/2019/09/LAPORAN-MENGUNGKAP-ALIRAN-KEUANGAN-GELAP-KOMODITAS-EKSPOR-UNGGULAN-INDONESIA-full-size.pdf

Pahala, F. (2019). Penggalian Potensi PBB Perkebunan Kelapa Sawit Menggunakan Sistem Informasi Geografis Dan Citra Landsat 8. Jurnal Survei Dan Penilaian, 25.

Prastowo, Y. (2013). Rimba Belantara Mengelabuhi Negara: Sisi Gelap Penghindaran Pajak Sektor Kehutanan dan Perkebunan. Indonesia Corruption Watch. https://www.antikorupsi.org/sites/default/files/dokumen/Rimba%2520Belantara%2520Mengelabuhi%2520Negara%2520Sisi%2520Gelap%2520Penghindaran%2520Pajak%2520Sektor%2520Kehutanan%2520dan%2520Perkebunan.PDF

Prunckun, H. (2015). Scientific Methods of Inquiry for Intelligence Analysis (Security and Professional Intelligence Education Series). 2nd. Ed., Rowman & Littlefield.

Sadya, S. (2023, April 10). Produksi Kelapa Sawit Indonesia Capai 45,58 Juta Ton pada 2022. DataIndonesia.Id.

Soekanto, S. (2002). Teori peranan. Jakarta: Bumi Aksara.

Sugirman, S. (2009). Analisis Intelijen: Sebuah Kontemplasi. Jakarta: CSICI.

Sugiyono. (2015). Metode Penelitian Kuantitatif, Kualitatif, dan R&D. CV Alfabeta.

Sukarno, I. (2014). Ilmu Intelijen. Puslitbang BIN & STIN.

Sulistyanto. (2021, September 16). KPK soal Pajak Sawit: Potensi Rp40 T, Baru Dapat Rp2,1 T. CNN Indonesia. https://www.cnnindonesia.com/ekonomi/20210916135658-92-695230/kpk-soal-pajak-sawit-potensi-rp40-t-baru-dapat-rp21-t

Supriyadi, A. A., Kemala Sari, D., Karel, D., & Mandagie, L. (2018). Penentuan Lokasi Gudang Pusat Penyalur Logistik Dan Peralatan Penanggulangan Bencana Dengan Menggunakan Sistem Informasi Geografis. Jurnal Teknologi Penginderaan, 6(1), 37–52.

Suroso, A. I., Seminar, K. B., & Satriawan, P. (2004). Pengembangan Sistem Informasi Geografis Untuk Pengelolaan Perkebunan Kelapa Sawit. Jurnal Manajemen Dan Agribisnis, 1(1), 34–41. https://scholar.google.com/scholar?hl=id&as_sdt=0%2C5&q=pengembangan+sistem+informasi+geografis+untuk+pengelolaan+perkebunan+kelapa+sawit+arif+imam+suroso&btnG=