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The Urgency of Sustainability Disclosure in Indonesia's Agricultural Regulations: A Legal Strategy for Achieving SDG 2

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Abstract: Agriculture has become one of the leading

contributors to climate change, with rapidly increasing

greenhouse gas emissions, despite its close connection to the

natural environment. The main problem lies in Indonesia's

unified legal framework under the Sustainable Agriculture

Law that lacks proper mechanisms to ensure sustainable

practices, focusing more on ethical agriculture rather than

true sustainability which requires identification of problems and solutions. This study aims to propose a mandatory sustainability disclosure as a means to promote sustainable

agriculture practices in Indonesia, thereby enhancing the

implementation of SDG 2. This research is a qualitative

research. The data used in this study were collected through

literature review techniques, to be analyzed using descriptive qualitative data analysis techniques.

primary legal source is Law Number 22 of 2019 concerning

Sustainable Agriculture. Primary data was taken to describe

the reality of sustainability disclosure in Indonesia. Through normative legal research method and supported by statutory

approach, findings suggest significant gaps in the current framework. This study develops a model of normative

construction to revise the narrative of the existing law, and

subsequently proposes a policy model based on this construction. The policy model essentially mandates agriculture establishments to provide a sustainability

disclosure report, as a means of realizing SDG 2.

Keywords:

Legal strategy; Agricultural regulations; Mandatory sustainability disclosure; SDGs.

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Introduction

Climate change and its impacts have long threatened the well-being of humanity, which is ironically responsible for much of its cause (Malm & Hornborg, 2014). This has made climate change a common concern for the global world, pushing for responsibility to take care of the planet, through a framework of sustainable development goals to make sure that the developments of many parts of the world aren't further exacerbating the already dire climate situations (Shingal et al., 2014). Ultimately, this gives way to Sustainable Development Goals (SDGs) as framework made to make sure that everyone can benefit from any type of development within the society, as a way to institutionalize a global moral responsibility (Chong, 2018; W. Tan, 2021). It can also make sure that people who are living now and the future generations can live in a suitable and habitable environment. The issue of climate change and its impacts remains one of the most critical aspects within

the framework of the SDGs, due to the visible damage it has caused to the wellbeing of many people.

Agriculture, as one of the oldest industries in history, has been a crucial support for both human civilization and human survival. At a glance, the development agriculture can help tackle the climate change and its impacts. due to its main reliance on the natural sources, such as plants and livestock. However, the mass industrialization of agriculture has been proven to have caused major damages to the environment, making agriculture one of the leading causes of environmental damage. These shocking and seemingly counterintuitive revelations need to be met with serious commitment and efforts from all stakeholders (McGee, 2015). One of the ways to make sure that this can happen is by providing a framework of regulations and inspections, to make sure that agriculture actors are not only in their businesses to make profit without a care about the future of the planet and the environments that their own future generations are going to live in. To achieve this, the government needs to prioritize finding an equilibrium between the development of agriculture for socio-economic purposes and efforts to save the planet.

The development of a legal framework to protect the environment and promote sustainability is crucial in ensuring that businesses align with the SDG agenda, especially when the environment is significantly impacted (Sopykhanova et al., 2023). The effective legal framework regarding the environment and sustainability then needs to be inspected, to make sure that they are positively affecting sustainability and the environment. Instead of conducting a study on the effectiveness of every regulation that exists, another way to inspect the application of sustainability within agriculture practices is to add an extra layer of legal compliance in the form of mandatory sustainability disclosure. This way, agriculture establishments are required to report their agriculture practices and to prove that they are not damaging the environment with their businesses. This has been shown to have positive impacts on the environment, while also accelerating the transition to green economy (Webster, 2020). This can also be used to detect whether an agricultural establishment is greenwashing, or falsely claiming sustainable practices, by ensuring transparency and accountability in their sustainability efforts.

Indonesia, as one of the megadiverse countries in the world, holds significant potential in the agriculture industry, which requires an efficient and robust legal framework to support its development. Indonesia is also playing an important role in managing global climate change impacts (Overland et al., 2021), as it's responsible for a huge portion of biodiversity, including plants and animals, and even the ones that are endangered (Gunawan et al., 2024). Therefore, Indonesia's green practices are important because the failure to implement them can significantly affect global biodiversity and exacerbate climate change. The country's approach to environmental management and sustainable agriculture not only shapes its ecological footprint but also sets a precedent for conservation efforts worldwide. Incorporating sustainability disclosure into Indonesia's agriculture sector can help ensure sustainability, while making it easier for the government to

monitor and analyze the implementation of SDGs. This will ultimately pave the way for a clearer trajectory toward better sustainable development.

A study notes that sustainability has become one of the leading trends in global economies, as consumers increasingly recognize that their consumption behaviors can directly impact the well-being of the planet (Shaposhnikov et al., 2023). The study also highlights the importance of understanding this trend as a new paradigm of consumption. This finding is supported by another study, conducted in Turkey, where the rising number of purchase intention is associated with green purchasing behavior (Temizkan, 2022). However, the study also found that environmental values do not have direct correlation with purchasing behavior, particularly because price and availability remain some of the most dominant factors. These studies demonstrate that the SDGs, as a framework of goals, are more effective when implemented by the government on a larger scale, rather than relying solely on the private sector. This approach also requires a legal framework to effectively integrate the SDGs into the economy.

Agriculture with integrated sustainability practices has been widely discussed in the literature, particularly in studies explaining that sustainability revolves around creating a win-win system that benefits both the natural and social environments through sustainable innovation (Bekmezci, 2015). Furthermore, the study also noted that sustainability can add values to companies within the agriculture sphere, by differentiating them from their competitions, especially those who have not yet applied sustainable agriculture practices. Other study highlights the potentials of sustainability disclosures in making sure that SDGs, particularly SDG 2 is applied in a suitable manner and is in line with business practices (Strauss & Chlapaty, 2019). The study also details the kinds of data that need to be disclosed, including energy transition and waste, as two important green practice indicators. However, the study has limitations in its lack of exploration on the issues regarding sustainable agriculture, despite it having one of the worst numbers of sustainability indicators. It also did not explore the lack of control over local communities and their sustainability efforts, despite mentioning it as one of the challenges in implementing the SDGs.

Based on the literature review, there is a significant research gap in explaining why agriculture continues to lag behind other sectors in applying the SDGs, despite its close technical relationship with the environment. The gap also exists within the context of Indonesia, who happens to be one of the mega-diverse countries, with huge potentials in the agriculture sector. This research aims to fill these gaps by proposing mandatory sustainability disclosure as a method of regulatory inspection, ensuring that the SDGs, particularly SDG 2, are applied effectively. This approach would contribute to efforts in tackling climate change and its serious impacts in Indonesia.

Method

This is a doctrinal legal study, focusing on the analysis of norms within the existing positive laws (Disemadi, 2022). Normative legal research method is an approach used in legal studies to analyze and assess the applicable legal norms. This method focuses on the analysis of legal texts, legislation, legal documents, and other legal sources. The primary goal of the normative legal research method is to understand, interpret, and evaluate the legal provisions within a legal system (D. Tan, 2021). Normative legal research often involves steps such as identifying and analyzing legal norms, determining the relationships between different norms, and understanding the impact and consequences of applying these legal norms. Data used in this research are collected through the literature review technique, to then be analyzed with descriptive qualitative data analysis technique. Secondary data in the form of primary law source used in this study is Law No. 22 of 2019 on Sustainable Agriculture. Primary data is also briefly used in this paper to provide background on the current state of sustainability disclosure in Indonesia, extracted from a study conducted by (Wulandari & Saleh, 2024).

Results and Discussion

Environmental Impacts of Agriculture Practices in the Sphere of Law

As the backbone of food security and a primary source of livelihood for millions, agriculture is a vital part of the lives of Indonesians. However, due to the mass industrialization of it, coupled with the development of technologies multiply results to manifolds, the agriculture sector has become a major source of environmental degradation. The environmental impacts of agricultural practices, need to be seriously highlighted and analyzed, as a part of the broader framework of efforts to move towards sustainability, by applying sustainable approaches to mitigate adverse effects and support the achievement of Sustainable Development Goal 2 (SDG 2), which aims for zero hunger and promotes sustainable agriculture (Hurduzeu et al., 2022). It is crucial to first identify and analyze all the non-sustainable practices prevalent in today's agriculture industry in order to find sustainable alternatives and ultimately realize a sustainable agriculture sector.

One of the most important aspects of securing the future of the agriculture sector is the protection of soil health. Soil health is a fundamental aspect of agricultural success and a critical indicator environmental sustainability (Edrisi et al., 2021), as it is the foundation for many developments process of agriculture systems, such as plant growth, nutrient cycling, and water filtration (Lal, 2016). Healthy soil is important in supporting diverse ecosystems of organisms in soil, often referred to as soil food web. The lives of organisms in soil are crucial and often overlooked, despite their roles for decomposing organic matter and recycling nutrients. The development of agriculture from its primitive to modern mass industrialization has brought about many changes in what many would refer to as "classic" agriculture. Conventional agriculture, now often times include practices that contribute to significant soil degradation (Bhattacharyya et al., 2015). This degradation, manifesting as erosion, loss of organic matter, loss of fertility, and salinization is actually significantly compromising the soil ability to supports plant productivity and store carbon. Also, as important as loss of soil health, soil degradation is associated with the loss of agricultural yields, and increase in the release of the greenhouse gas carbon dioxide, thus speeding up climate change. Sustainable soil management practices, such as conservation tillage,

organic farming, and integrated nutrient management, play a crucial role in reversing degradation and enhancing resilience in the agricultural system.

Agriculture is the largest consumer of freshwater resources, accounting for approximately 70% of global water withdrawals, and in some developing countries, this figure can reach 80-95% (Anastasiadis et al., 2014). Water resource is one of the essential elements of agriculture, therefore, poor irrigation and water management practices in agriculture can contribute to large quantities of wastage of water as well as the depletion of aquifers (McLaughlin & Kinzelbach, 2015). In addition, the runoff of high doses of fertilizers and pesticides along with soil from agriculture lands is known to pollute rivers, lakes, and coastal ecosystems. Such eutrophication pollutes water and is harmful to aquatic life, in addition to also leading to inferior water quality meant for human consumption. The adoption of water-efficient technologies for irrigation and the promotion of integrated management of pests and nutrients can significantly reduce water use and water pollution, thereby promoting the sustainable management of water resources.

One of the most significant threats to biodiversity is invasive agriculture, often characterized by monocultures and the expansion of cultivated areas, which disrupt the natural balance of ecosystems. Elimination of several ecosystems through deforestation, drainage of wetlands, and conversion of habitats leads to basically the elimination of plant and animal species and the loss of ecologically functioning systems (Kuka et al., 2022). Biodiversity also stimulates agricultural productivity, as through it a web of life is maintained by services of pollination, pest control, and genetic diversity for the breeding and development of crops. Productivity has been an issue that Indonesia's agriculture sector has been dealing with, as data from the 2021 Agricultural Integrated Survey (AGRIS) conducted by Statistics Indonesia (BPS) reveals that approximately 90% of agricultural land in the country is economically unsustainable due to relatively low productivity levels (Ruslan, 2023). Agroecological practices are approaches capable of promoting biodiversity conservation in agricultural landscapes. Sustainable agricultural practices must integrate various agroecological aspects to ensure the continuity of ecosystems that play a crucial role in preserving the balance of nature, while also preventing ecological disasters.

Chemical pesticides represent another unsustainable agricultural practice, as they can harm the environment, disrupt ecosystems, and pose risks to human health. Their widespread use poses an enormous threat due to their potential for ecotoxicity and impacts upon human health. The impacts of pesticide use can even extend to non-target species, including beneficial insects, birds, and aquatic life, which can substantially cause the breakdown of ecosystems and undermining the effectiveness of natural pest control mechanisms. Figures show that 69% of Indonesia's land for agriculture have been categorized as severely damaged (barren) due to excessive use of chemical fertilizers and pesticides, as reported by the Food and Agriculture Organization's Tech-Cooperation Aspac (Handojo, 2025). In other words, the use of pesticide can affect other aspects of sustainable agricultural practice, such as soil health, water, and the prevention of invasive agriculture. Yet, all of these risks can be effectively minimized through the application of Integrated Pest Management (IPM). IPM is a comprehensive approach that involves the coordination of biological, cultural, physical, and chemical measures to forestall unnecessary environmental and human exposure to hazardous chemicals and to reduce reliance on chemical pesticides (Romeh, 2019). Therefore, the urgency for the establishment of comprehensive legal frameworks is really high, taking into account the importance of improving sustainable agricultural standards. The potential legal framework should not only mandate responsible agricultural practices, but also provide space for the development of sustainable practices that address specific sustainability issues within agriculture.

Legal Barriers

The urgency for developing a legal framework to support sustainability efforts has been a part of numerous legislative agendas worldwide, even before the SDGs, through the Millennium Development Goals (MDGs), which were set with a 2015 deadline (Griggs et al., 2014). Unlike the MDGs, SDGs is better supported with many legal frameworks for the goals set within the conceptualization itself, including in Indonesia who has been an integral part of the sustainable development as a developing country. It's not uncommon that many legal issues regarding the support for SDGs often stem from the fact that there is a lack of identifications of specific sustainability goals, which in turn prevents uniformity and coherence (Abcede & Gera, 2018). However, it's important to note that legal frameworks to support SDGs isn't always designed in the form of disclosure. Most of the regulatory frameworks usually start at integrating sustainability as a part of requirements for the registration of many businesses. The underdevelopment for further legal support and as mentioned before, the lack of identification of goals, have made sustainable development quite the challenge for governments. To overcome this barrier, there is a need for the development of legal frameworks that are grounded in the principles of sustainable agriculture.

Interestingly, Indonesia has a unified legal framework that addresses one of the most specific issues related to the SDGs, particularly sustainable agriculture, which is crucial in the conceptualization of SDG 2. Indonesia is governed by Law No. 22 of 2019 on Sustainable Agriculture (Sustainable Agriculture Law). Article 1 of this Law defines sustainable agriculture as the management of biological resources in producing agricultural commodities to meet human needs in a better and sustainable manner, by preserving the environment. Additionally, agriculture is defined as the activity of managing biological natural resources with the help of technology, capital, labor, and management to produce agricultural commodities that include food crops, horticulture, plantations, and/or livestock in an agroecosystem. However, it is essential to analyze the aspects of sustainable agriculture in order to properly identify the goals within the existing legal framework.

Soil health is addressed within the law, specifically through Article 12, paragraph (3), which stipulates that land use for agricultural purposes must consider the suitability and capability of the land, as well as the preservation of the environment, particularly through soil and water conservation. However, there's no other stipulation or explanation regarding the importance

of soil health as a part of sustainable practices. Not only that, the law also allows the use of pesticides as stipulated in Article 75, 76, and 77, as long as the pesticide is registered. In correlation to soil health, there's no correlation between the norms, because the provision regarding the use of pesticide doesn't involve any limitation, as long as it's registered, which indicates very lenient or can even be considered a no-standard for sustainability. Interestingly, the issue of pest control is also covered by Sustainable Agriculture Law, particularly through Article 48 on integrated pest management system. Again, there's no further explanation or stipulation to support this integrated system, making it another no-standard for sustainable agriculture. Even worse, other mentions of pests are only governed stipulations regarding the use of pesticides, which is conceptually against what sustainable agriculture promotes with IPM. More importantly, there's no stipulation that prevents the practice of monoculture in Indonesian agriculture, despite the Sustainable Agriculture Law specifically designed to promote sustainable practices. As monoculture continues to be one of the biggest threats to sustainability in agriculture, the lack of governance on this issue represents a significant normative limitation.

Unlike other aspects of sustainable agriculture practices, the Sustainable Agriculture Law provides a more comprehensive set of stipulations for the management of water resources, which is crucial not only for agriculture but also for the livelihoods of many people, especially communities near agricultural establishments. Article 47 paragraph (3) letter a stipulates that water management for agricultural purposes must take into account hydro climatology, hydrology and hydrogeology. This is in line with the priority of water resource usage for human needs, as stipulated in the same article, specifically in letter b. However, it's important to take a step back and analyze the main narrative and goal of the Sustainable Agriculture Law, which is exactly what its name entails. Meaning, the stipulations, including the ones about water resource management, must include a mechanism that can be considered a sustainable practice, such as rain water harvesting (Shadeed et al., 2020), water-saving irrigation mechanisms (e.g., dripping systems) (Li et al., 2018), evapotranspiration (Wanniarachchi & Sarukkalige, 2022), and etc. In other words, the Sustainable Agriculture Law doesn't really support the narrative of sustainable agriculture, which needs to be distinguished from normal, ethical agriculture. Sustainable agriculture must offer solutions to the ongoing challenges in agricultural development, while maintaining or even enhancing agricultural productivity.

From the analysis of the existing legal norms, it is clear that there is no standard set by the Sustainable Agriculture Law, despite its name specifically referencing agriculture and sustainable practices. Not only that, the law also doesn't require any form of disclosure in any type of reporting regarding agriculture practices and contains only basic norms that don't really amount to anything that can be set as a standard of sustainability practices. Furthermore, the lack of regulatory inspection mechanisms in this law exacerbates the problem, creating the possibility of one-time compliance. Agriculture establishments may claim to implement sustainable practices,

only to discontinue them once no further inspections are conducted to verify ongoing compliance.

Furthermore, the lack of specificity and identification of goals can be problematic, as there are no foundational norms to build upon, especially when developing provisions such as mandatory disclosure. This is because the lack of specificity and identification of goals can cause disclosures not be fully representative of the sector's sustainability performance, undermining the credibility and utility of the information provided. Therefore, it's imperative to integrate a detailed, goals-based approach for the design of sustainability disclosure standards, to create a legal system that would enhance the relevance and effectiveness of the reporting, providing clearer guidance for agricultural establishments, while also making sure that there's a fixed line of regulatory inspection for relevant government bodies. This can also prevent agricultural establishments from engaging in selective disclosure, where they only report favorable sustainability information and omit critical data that may reflect negatively on their environmental and social impacts.

The lack of a proper mechanism for comprehensive disclosure has contributed to a low rate of disclosure, as highlighted by the primary data provided by (Wulandari & Saleh, 2024). The study focused on the CSR (Corporate Social Responsibility) and disclosure practices of some companies in Indonesia, providing qualitative data regarding mining and agricultural companies, with the added lens of sharia compliance. Excluding sharia compliance and mining companies, Chart 1 presents the filtered data regarding CSR-related disclosures of several agricultural companies.



Chart 1. CSR-Related Disclosures of some Agricultural Companies



The chart 1 above illustrates the current state of sustainability disclosure in agricultural companies, highlighting significant gaps across all categories. While environmental disclosure appears relatively higher at 39.5%, economic aspects remain particularly neglected at only 26.3% disclosure. The most frequently reported items include energy consumption, water withdrawal

metrics, biodiversity conservation efforts, waste management practices, occupational health and safety information, local community engagement, and direct economic value generation. This selective reporting pattern underscores the need for mandatory sustainability disclosure. The current voluntary framework enables agricultural establishments to cherry-pick favorable information while omitting potentially negative data, resulting in an incomplete picture of their environmental impact. This undermines effective regulatory oversight and compromises stakeholder decision-making processes.

Legal Developments and Policy Reforms

The damages caused by the current conventional agricultural practices, as identified earlier, highlight the urgent need for serious efforts from the government to promote sustainable agricultural practices. This requires a strong legal framework focused on advancing specific sustainable aspects of agriculture. Aspects such as soil degradation, excessive water usage, loss of biodiversity, and the harmful effects of chemical pesticide use. Addressing these issues is essential for the country's food security and environmental health, as conceptually idealized within SDG 2, highlighting the importance of integrating sustainability into agricultural legal frameworks.

Aspect of Sustainable Agriculture	Current Legal Framework Analysis	Proposed Normative Adjustments
Soil Health	The existing legal provisions lack comprehensive standards for maintaining and improving soil health, which is vital for sustainable agriculture.	Implement regulations that mandate soil conservation techniques, restrict activities leading to soil degradation, and promote organic farming practices.
Water Management	Current laws do not adequately address the efficient use and management of water in agriculture, resulting in wastage and pollution.	Introduce specific requirements for water-saving irrigation technologies and practices, such as drip irrigation, and enforce water quality standards to reduce pollution.
Biodiversity	There is a lack of legal mechanisms to prevent practices that harm agricultural biodiversity, such as monoculture and habitat destruction.	Require the adoption of agroecological practices that enhance biodiversity, including crop diversification and the protection of natural habitats. Harsher provisions can include criminalization of habitat destruction, as a part of ecological terrorism.

Table 1. F	Proposed Model	of Normative	Construction	as Basic	Norms for
Sustainability Disclosure					

Chemical	Regulations allow the use of	Mandate the use of Integrated
Pesticides	pesticides with minimal	Pest Management (IPM)
	consideration of their	strategies to reduce reliance on
	environmental and health	chemical pesticides and promote
	impacts.	alternative pest control methods.

Source: Authors' original analysis.

The normative analysis of Indonesia's existing legal framework for sustainable agriculture, as shown in Table 1 above, reveals significant gaps in promoting and enforcing sustainable practices within agricultural companies. The normative issues within the legal framework makes it difficult to jump into creating a policy of mandatory disclosure, specifically due to lack of focus on sustainable aspects of agriculture. To move towards sustainability, it is essential to establish clear, enforceable norms that address the key areas of concern identified above, which can eventually be used to create a policy in the form of mandatory sustainability disclosure for agriculture establishments in Indonesia. The next legal effort to promote sustainable agricultural practices is the development of mandatory sustainability disclosure, grounded in the proposed basic norms outlined earlier. This is as shown in table 2 below:

Table 2. Proposed Model of Normative Construction for Sustainability
Disclosure

Disclosure Category	Description	Implementation Strategy
Soil Health	Impact on soil quality, including erosion rates, organic matter content, and fertility.	Require detailed reporting on soil management practices, restoration efforts, and soil quality monitoring results.
Water Use and Management	Usage patterns, efficiency of water use, and impact on local water resources.	Mandate the disclosure of water consumption data, water-saving measures implemented, and effects on aquifers and local water bodies.
Pesticide and Fertilizer Use	Types and quantities of pesticides and fertilizers used, including measures to minimize their use.	Implement guidelines for reporting on Integrated Pest Management (IPM) practices, the use of organic alternatives, and efforts to reduce chemical use in agricultural operations.
Biodiversity Conservation	Impact on local biodiversity, including practices that promote or harm biodiversity within agricultural lands.	Require disclosures on habitat conservation efforts, impact assessments, and practices that support ecosystem services and biodiversity.

Source: Authors' original analysis

Based on Table 2 above, it is clear that when it comes to soil health, sustainable disclosure must include actual efforts to maintain, or even better, improve soil health through various initiatives. This can also include the efforts to restore damaged soil health to make a targeted area of land usable again for agriculture and the continuation of many ecosystems around it. Previous analysis argued that providing report on hydro climatology, hydrology and hydrogeology, aren't necessarily about solving environmental issues of agriculture practices along with the past damages done. True sustainability should focus on providing solutions to water resource management issues (Foghagen & Alriksson, 2023), which can be manifested through actual mechanisms to efficiently use water while also avoiding any mechanism that can end up wasting water resources, such as water-saving measures, and other possible efforts. These efforts must then be analyzed by the relevant government bodies to determine whether the mechanisms in place are yielding positive results in advancing sustainable practices within the agriculture sector.

As previously explained in the normative analysis, the Sustainable Agriculture Law does not set any limits on pesticide use, as long as the pesticide is certified. Truth is, this can still lead to massive amounts of damage to many ecosystems around an agriculture establishment and endanger the health of many people, especially when pesticides are used without proper control or standard (Sharma et al., 2020). By having a standard, Indonesia can then integrate the report on the use of pesticide in accordance to that standard, while also promoting PMI which is already supported by the Sustainable Agriculture Law. The disclosure must include actual reports on how PMI systems are managed, to make sure that it can actually bring positive impacts to the environment. Lastly, the protection of biodiversity should include expansion methods and the analysis of damages done to nearby ecosystems, ensuring that agricultural establishments are not harming the local environment.

Conclusion

Despite having a unified legal framework that specifically governs sustainable agriculture, the existing norms within that legal framework do not necessarily promote sustainability. The law instead serves the purpose of a reminder that agricultural practices must be done ethically. Sustainability, on the other hand, should bring about the much-needed changes and solutions to change the status quo of conventional agricultural practices that are dangerous for the environment. Before providing the normative model for sustainability disclosure, the paper argues that Indonesia should first provide basic norms to holistically change the narrative of the Sustainable Agriculture Law from merely promoting ethical agricultural practices, to fully supporting and promoting sustainable agricultural practices with solutions, which are identified based on the existing environmental issues in the agriculture sector. Only then, can Indonesia create a policy stipulating mandatory sustainability disclosure, to better protect the environment by making a line of regulatory inspection methods from the reports. The proposed model of sustainability disclosure policy is also based on the problems identified within the previous

analysis. A limitation of this research is that the analysis is purely normative, and it requires further support through qualitative data, particularly regarding the application of various sustainable practices to address the identified issues across different agricultural establishments with varying characteristics.

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