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Evoryo Carel Prabhata,

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Jalan Kalimantan 37 Jember 68121

Phone +62 331 335462

Email: icls@unej.ac.id

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Preface

It is an honor for the Faculty of Law, the University of Jember to host the 1st International Conference on Law and Society: Agricultural Law Issues in Multicultural Societies. This event gives me great pleasure to write a few words of welcome to the presenters and the participants, with the agenda to promote academic research on law and society. The discourse on the relationship between law and society is complex, primarily in Indonesia. Its complexities encourage more academic discourses to highlight law in practice, not only its practice in courts but also in societies. Therefore, this conference will become an annual event of the Faculty of Law, the University of Jember to invite scholars worldwide to disseminate research and ideas from different backgrounds and perspectives.

In this first event, the 1st International Conference on Law and Society, the discussion will address Agricultural Issues in Multicultural Societies. As your information, the University of Jember is the university that focuses on the development of environmentally sound science, technology and arts, business, and industrial agriculture. While on the other hand, East Java's eastern region, which encompasses Jember, Banyuwangi, Situbondo, and Bondowoso, is part of a multicultural region. Discussing the intersection between agricultural law issues and multicultural societies portrays the local problems that link to the global conversation.

I hope that through this conference, there will be a stronger bond among scholars, and it will exchange new ideas and perspectives between presenters and provide more in-depth knowledge for participants. In addition, I hope it will be an emerging platform that will leverage you and other scholars and practitioners against the fast-changing issues of law and society in the area of agricultural law.

Prof. Dr. Bayu Dwi Anggono, S.H., M.H.
Dean, Faculty of Law, the University of Jember

Table of Contents

Cover	ii
Preface	iv
Table of Contents	v
Property Right of Agricultural Biotechnology in Indonesia: Islamic and Western Legal Philosophy <i>Siti Nur Shoimah, Dyah Ochtorina Susanti</i>	1
Environmental Issues in Exploiting Gumuk in Jember <i>Jaubari Zakkij Annas, Dina Tsalist Wildana</i>	15
Disclosure of Public Information on Food Safety as Consumer Protection <i>Mohamad Roky Huzaeni, Wildan Rofikil Anwar</i>	30
Optimization of Agricultural Land in Indonesia Against Land Reform Principles <i>Vicko Taniady, Robi Kurnia Wijaya</i>	44
The Concepts and Implementation of Sustainable Agricultural Development in Indonesia <i>Niken Larasati</i>	58
Implementation of Pesticides Reductant Law for Healthy and Food Safety in the Indonesian Agriculture <i>Mohamad Jazuli, Slamet Fauzi</i>	77
Legal Aspect of Patents for Agricultural Biotechnology Products in Indonesia <i>Nuzulia Kumala Sari, Dinda Agnis Mawardah</i>	88
Feminism Criticism on the Protection of Women in Agriculture <i>Nikmatul Keumala Nofa Yuwono, Eka Wulandari Larantika Mu'alim</i>	100
Farmer Regeneration Policy against Food Security: A Thing Left Unnoticed <i>Moch. Marsa Taufiqurrohman, Muhammad Toriq Fabri</i>	113

Legal Protection on Harvest Prices for Farmers and Agricultural Business Actors in Indonesia	132
<i>Ana Laela Fatikhatul Choiriyah, Inayatul Anisah</i>	
Legal Protection of Geographical Indication on Coffee in Jember, Indonesia	147
<i>Galuh Puspaningrum, Muhammad Habib</i>	
Women Workers in Palm Oil Industries: A Violation of Human Rights?	163
<i>Evyta Rosiyanti Ramadhani, Savira Anggraeni</i>	
Agricultural Policy and Food Security: Challenges and Opportunities	178
<i>Sulistina</i>	

Property Right of Agricultural Biotechnology in Indonesia: Islamic and Western Legal Philosophy

Siti Nur Shoimah

Faculty of Sharia, KH Achmad Siddiq State Islamic University

Dyah Ochterina Susanti

Faculty of Law, Jember University

ABSTRACT: The concept of ownership, in the end, gave birth to what is called "property rights" in Indonesian law still refers to the legal philosophy put forward by legal experts from the west; in its development, there is an Islamic legal philosophy that is also part of the national legal system. This article aims to compare the concept of ownership (property rights) in agricultural products in Indonesia, based on Islamic legal philosophy and western legal philosophy. This article uses a juridical research method with 3 (three) approaches, namely the statute approach, conceptual approach, and comparative approach, which is implemented through an analysis of laws and regulations, books, and legal journals that regulate the relevant theme, then conduct a comparison of the two philosophies. The results show similarities and differences between the concept of ownership in Islamic legal philosophy and western legal philosophy, especially on ownership of agricultural products. The similarities between the two are: first, recognizing that property rights are natural rights; second, protecting and upholding property rights; third, the use of property rights following the owner's will. There are also differences between the two philosophical thoughts related to the concept of property rights in agricultural products, namely: first, on the side of Islamic legal philosophy, the concept of individual ownership cannot be absolute because there are other people's property rights in it, while in terms of western legal philosophy, the concept of ownership is individual and materialistic; Second, property rights in Islamic law do not apply to registration because they are traditional, while property rights in western law apply for registration because they are modern declarative. Regarding the similarities and differences, in the end, the two philosophical ideas regarding property rights were born as special legal protections in the agricultural sector by patents and plant variety protection.

KEYWORDS: Property Right, Biotechnology, Agriculture, Legal Philosophy.

I. INTRODUCTION

The definition of property rights is born from the existence of ownership. In Indonesian, ownership means mastery and comes from the word belonging, which means eigendom, rights, hockey, property, good fortune, luck, *property* (Tim Redaksi Tesaurus Bahasa Indonesia, 2008). In Arabic, the word property, known as al-milk, means maintaining and controlling something freely (Akbar, 2012).

In terms of terms, according to Islam, ownership is control over something following the rule of law and has the authority to act on what is own long as it is carried out following Islamic sharia (Akbar, 2012). Based on that understanding, ownership according to Islam is defined as a person's control over a property that allows him to take advantage in any way permitted by syara', meaning that when other people want to take advantage of the property, then there must be permission from the owner of the goods by the form muamalah.

In connection with ownership according to western law, a philosopher named Frederic Bastiat put forward that property is not created because of the law, but because there is property, so humans make laws to protect ownership (Bastiat, 1998). The two concepts of ownership are then used as the legal basis in Indonesia to protect ownership.

In this scientific paper, the meaning of "ownership" will discuss ownership of biotechnology products in agriculture. Now, there are many biotechnology products by Indonesian researchers, which are made to be used by the wider community (Susanti, *et all*). In positive Indonesian law, the concept of ownership is regulated in Article 570 Burgerlijk Wetboek (BW), which states:

"Property Right is the right to enjoy the free use of an object, and to act freely on that object with full sovereignty..."

However, the above provisions regulate the concept of ownership of land-based on Law Number 13 of 2016 concerning Patents and Indonesian Law Number 29 of 2000 concerning the Protection of Plant Varieties. No specific rules govern the ownership of biotechnology products, including Islamic law has not yet regulated it. Ownership of a biotechnology product

is essential and must be protected from being claimed or misused by others—an example of a case between Apple and PanOptis regarding using LTE technology. Apple uses LTE technology commonly found in 4G internet services, where the LTE technology patent belongs to PanOptis; because of this action, Apple must pay compensation (CNN Indonesia, 2021).

Based on the case above, ownership of objects is very urgent; therefore, a product including biotechnology products in the agricultural sector needs to be ascertained who the inventor or inventor is and the owner of the property rights of a product. In this regard, it is necessary to analyze the concept of ownership in terms of legal philosophy.

Based on the above background, the writer wants to compare the concept of ownership (property rights) from the perspective of Islamic legal philosophy and western legal philosophy, which is contained in a problem formulation that will become a legal issue in the discussion of this scientific paper, namely how the concept of ownership (rights) property) on biotechnology products in agriculture in Indonesia, based on Islamic legal philosophy and western legal philosophy?

This research uses normative legal research methods or doctrinal research (doctrinal research), namely library-based research that aims to provide a systematic exposition of the rule of law, analyze the rule of law, and predict the development of the rule of law (Susanti & Efendi, 2018). Based on this understanding, the implementation of this method is used to analyze and examine the rules or norms related to property rights in biotechnology products in agriculture in Indonesia (the perspective of Islamic legal philosophy and Western legal philosophy). This study uses three approaches: 1) a statute approach is used to examine laws and regulations and other regulations related to the legal content that is solved (Susanti & Efendi, 2018). In this regard, the statutory approach in this scientific paper is applied to examine the rules governing property rights in biotechnology products in agriculture; 2) The conceptual approach is the approach used to find the views of legal scholars and doctrines that develop in legal science. 2) The conceptual approach is used to find the views of legal scholars and

those who are developing (Susanti & Efendi, 2018). The conceptual approach in this research is used to examine the meaning of ownership or possession, the concept of ownership according to western legal philosophy and Islamic legal philosophy, as well as the property rights of biotechnology products in agriculture; and 3) Comparative approach is an approach taken by comparing the law of one country with another or one legal system with another (Susanti & Efendi, 2018). The implementation of this approach is used by comparing two legal systems, namely Islamic law and western law, to examine the concept of ownership (property rights) according to western legal philosophy and Islamic legal philosophy.

In the discussion of this scientific paper, there are 2 (two): first, the concept of ownership based on western legal philosophy; second, the concept of ownership based on Islamic legal philosophy. Property consists of two different meanings in terms of property according to law and society in general. This is the reason why the word "property" is difficult to define. At the legal, property is seen as a right, the public, ownership is a thing, meaning that ownership is an object that is owned by someone (Efendi, 2019).

II. OWNERSHIP ACCORDING TO WESTERN LEGAL PHILOSOPHY

Following in connection with the above explanation, the law in Indonesia is much inspired by the concept of ownership of western law put forward by several western philosophers, including Philbrick, who provides the same information as the general public view that property is what is owned by a person or an object owned by a person (Phillbrick, 1938). Munzer in A'an Efendi gives 2 (two) conceptions of property, namely, first, the property is seen as an object, including tangible, tangible objects that can be seen such as land, houses, buildings, etc. intangibles such as copyrights, patents, trademark rights, and others (Efendi, *et.all*, 2019). Weir's opinion suggests 2 (two) meanings of ownership: first, property means objects that can be owned and transferred by legal subjects; second, property means the legal relationship between legal subjects and objects (Weir, 2001).

Based on the concept of property as described above, it can be found 3 (three) elements in the concept of property, namely:

1. Legal relationship in ownership is the relationship or relationship between people (subjects) and objects (objects).
2. Person (Subject), in this case, is the party who controls or owns the object or goods.
3. Objects (objects), in this case, are goods that are owned or owned by people (subjects).

Concerning the three elements above, the existence of an element of legal relationship in the concept of property results in the emergence of rights and obligations, and the rights referred to are called property rights. Discussing rights means discussing the central issue of philosophy (Curzon, 1995). At the etymological level, according to the Indonesian Thesaurus, rights mean (Tim Redaksi Tesaurus Bahasa Indonesia, 2008): Discussing rights means discussing the central issue of philosophy. At the etymological level, according to the Indonesian Thesaurus, rights meaning (a) true, straight, sah, sah, tahkik; (b) freedom, sovereignty, privilege, power, worthiness, authority, authority, prerogative; and (c) property rights.

According to Peter Mahmud Marzuki, rights are inherent in humans by nature; with these rights, the law is needed to maintain the continuity of the existence of rights in the pattern of people's lives (Marzuki, 2008). In line with Peter Mahmud Marzuki's opinion, Sudikno Mertokusumo said that rights are protected by law, and interests essentially contain powers that are guaranteed and protected by law in exercising them (Mertokusumo, 2018). In this regard, Fitzgerald, who refers to TPH Salmond in Dyah Ochterina Susanti, states that according to law, rights have characteristics, including (Susanti, 2011): First, the right is attached to someone who is called the owner or subject of the right; second, the right is directed to another person, namely the holder of the obligation; third, the rights that exist in a person oblige another party to do (commission) or not to do (omission) an act; fourth, the commission or omission concerns something that can be called the object of the right; Fifth, every right

according to the law has a title, namely a particular event which is the reason for the attachment of that right to its owner.

In Salmond's, rights are interests, namely interests that are recognized and protected by the rules on rights. The right that fulfills these requirements, then who has to fulfill it, obeying it is an obligation, ignoring it is a mistake (Salmond, 1902). Based on Salmond's view, it can be seen that Salmond's rights are legal rights with the condition that these rights must be recognized and protected by regulations concerning rights. Referring to the definition of rights above, it can be that rights consist of 2 (two) types, namely natural rights and legal rights.

Concerning property rights, Aristoteles stated that property rights are natural rights, not the rights of political or state power (Salmond, 1902). Likewise, John Locke gave a similar opinion that property rights are natural rights, meaning that everyone has ownership in himself and no one has the right to own other than the person himself, for the hard work of using his body, hands, and mind. This shows that although property rights are natural rights that already exist and are inherent in each person, the ownership is still protected and respected through the use of rights that can only be used by the owner himself (Locke, 2003).

This is as the philosophical idea put forward by Glen R. Butterson (Butterson, 1997):

"you should not take the property of another without permission."

(people should not take something that is not their right, not theirs).

In this regard, to ensure legal certainty for the owner, the way that can be done is by recording the ownership rights of an object or goods in the form of Intellectual Property Rights consisting of Copyrights, Patents, Trademark Rights, Geographical Indications, Trade Secrets, and Plant Variety Protection Rights (PVT) (Direktoral Jenderal Kekayaan Intelektual, 2021).

III. THE CONCEPT OF OWNERSHIP ACCORDING TO ISLAMIC LEGAL PHILOSOPHY

After knowing the concept of ownership of western legal philosophy in this subchapter, the concept of Islamic ownership law must be known. So, according to some Islamic philosophers' opinion, Muhammad Mushthafa al-Salaby defined al-milk as the specialization (privilege) of an object that obstructs others to do it, and it may be the owner to take direct action against it (Akbar, 2012). In line with Muhammad Mushthafa Wahbah al Zuhaily defined property is a privilege (*ikhtishab*) to an object that obstructs others from him/her, and the owner is free to do *tasharruf* (every word or act has a law) directly except there's an obstacle syar'I (Leli, 2019). The same opinion in line with two legal experts was said by Musthafa Ahmad Zarqa' defined al-milkiyyah, or ownership is the specialization (privilege) which is obstruct (others) syara' gives an authority to ownership to act except there's an obstacle (Akbar, 2012). Another definition said by Rawwas Qal'ah jie in Maisarah Leli that ownership had syaria relationship between human and something (treasure) that gave an absolute right to that people to do utilization (*tasharruf*) on it and prevent others from making use of it (Maisarah, 2019).

Based on some definitions of ownership above, so ownership means someone's pobstructsects in the form of goods or things in reality or law that frees someone to do anything about the goods and obstruct others to take advantage of goods. The principle on the basis of ownership, someone has the privilege to do something except there's an obstacle which is recognized by syara' (Akbar, 2012). It is showed that Islam respects one's freedom to has something as long as it is line with syara'. It means someone frees developing the goods or things that he/she has in a lawful way. In fact, the ownership or right of ownership is Allah SWT (Yusdani, 2013).

Based on the explanation above, it needs to understand that freedom in the concept of ownership refers to the statement that humans have basic tendencies to have goods or things individually, but the humans need others in their social life (al-Syalabi, 1960), although Allah SWT has given

an authority to the human to hold (istikhlaf) the right of ownership. It refers to God's word in Q.S. An-Nuur: 33, the translation is:

"Give to them part of Allah's treasure which he gave to you."

The term above has the meaning that in individual property rights, it has other rights, so the owner has the concept in Islamic is to move the ownership to give a benefit on the ownership to others. It shows that Islam recognizes and respects the ownership and gives the rule signs to create benefit for ourselves and others (Sularno, nd; Sufriadi, 2021).

IV. THE RIGHT OF OWNERSHIP ON BIOTECHNOLOGY IN AGRICULTURE

Based on the explanation of the concept of ownership according to western legal philosophy and Islamic legal in subchapters and above. It can be found that the equality and difference between the two concepts above, the equality are: firstly, the right of ownership is recognized as a natural right, which in Islamic law, the right of ownership is sourced and owned by Allah SWT and Allah SWT, human are given the freedom to utilize it according to syara'. So as the right of ownership according to western legal that all people have ownership of themselves and can take advantage of ownership.

Secondly, Islamic legal and western legal philosophies respect ownership, protect the right to ownership. It is proven that the concept of ownership according to both legal systems gives limitations to prevent others from taking advantage of ownership. Thirdly, the use of property rights by the owner's will means giving freedom to someone to develop goods or things that he/she has by the provisions of the law.

Different to ownership (property rights) according to Islamic legal philosophy, where ownership of an item or object does not only belong to the person absolutely because there are other people's property rights in it. This shows that ownership in Islamic law is not absolute, so no rule requires that ownership be recorded. Another reason it is not recommended for recording in Islamic law is that Islamic law is traditional, meaning that since the time of the Prophet Muhammad SAW, there have

been no provisions regarding the recording of ownership or property rights, but only provisions regarding the recording of accounts payable. This is as stated in the Q.S. Al-Baqarah: 282, whose translation is as follows:

"O you who believe, if you do muamalah not in cash for a specified time, then you should write it down and let a writer among you write it properly. The writer should not be reluctant to write it down as Allah teaches it, so let him write and let those who want to emulate (what will be written), and let him fear Allah and let him not reduce his Lord..."

Concerning the explanation above, comparing the concept of ownership according to western legal philosophy and Islamic legal philosophy, more details can be seen in the table below.

NO	SIMILARITIES	DIFFERENCES
1	Recognize that property rights are natural rights.	In terms of Islamic legal philosophy, the concept of individual ownership cannot be absolute because there are other people's property rights in it, while from the perspective of western legal philosophy, the concept of individual ownership is absolute and materialistic.
2	Protect and uphold property rights	Property rights in Islamic law do not require registration because they are traditional, while in Western law, property rights require registration because they are modern declarative.
3	Utilization of property rights following the wishes of the owner	

Table 1. *Similarities and Differences in the Concept of Ownership According to Western Legal and Islamic Legal Philosophy*

Source: author's note, processed, 2021

Regarding the table above, although Islamic law does not require or recommend the recording of property rights as in western legal philosophy, as the concept of ownership has in common in both legal philosophies, Islamic law also highly respects, respects, and even protects property rights, to provide legal protection as intended, Islamic law also supports the recording of ownership (property rights). This is based on the Hadith of the Prophet Muhammad, which was written by Muslim (al-Hajjaj, nd):

"You know more about your worldly affairs".

The hadiths above illustrate that world problems will always continue to develop in the future, and these developments are only known and can be overcome by humans living at that time. Likewise, the development of the meaning of ownership or property rights in biotechnology products in agriculture, where currently the need and competition for biotechnology products in agriculture is growing, so that the protection of property rights for these biotechnology products is essential so that the inventor's property rights can be maintained and protected.

In this regard, referring to the two ownership concepts above, the government issued a legal umbrella to protect biotechnology products in agriculture, Law Number 13 of 2016 concerning Patents and Law Number 29 of 2000 concerning Protection of Plant Varieties. It regulates the registration of property rights for biotechnology products that can be filed by registering a patent or Plant Variety Protection (PVT) right. In this regard, when the property rights have been recognized and granted by the state through the granting of a patent certificate or PVT rights for the submission of an application for the registration of their rights, then the patent or PVT is included as a legal right, not a natural right.

In connection with the explanation above, in the case of filing an application for registration of patent rights or PVP rights for biotechnology products in the agricultural sector, of course, the owner of the product must first know. In this regard, both Islamic legal philosophy and western legal philosophy divide the types of owners into 3 (three) types (Young, 2007): *First*, private property or private property is owned by a single individual, or in other words, that individual has the right to use, transfer, and negate the

rights of others to enjoy or use resources that are objects of ownership (Efendi *et all*, 2019). Referring to this type, then when biotechnology products in agriculture are produced by someone personally, that person is the sole owner of the biotechnology product and has the right to use, transfer, and prohibit others from using the product without his permission.

Second, collective property (collective property), namely joint ownership of an object consisting of two or more people, cannot prohibit the right to enjoy fellow members, but the owner can prohibit people outside the collective ownership (Cole, 1999). Concerning ownership of this type, as an example of biotechnology products in agriculture produced by a community or research group A the holder of the property rights in the community or group A jointly. This means that all members of group A can enjoy the product together, and if there are people who are not members of group A who want to use the product, then that person must obtain prior approval from the community or group A.

The *third* type of property is state property or public property, namely ownership or rights granted to all citizens, the management of which is under the authority of the caliph or the state, where the state has the right to give or specialize it to some citizens following *ijtihad* or its policies (Anto, 2003). State property rights can also be transferred to individual property rights if state policy requires it.

V. CONCLUSION

Based on the discussion above, the authors conclude that the concept of ownership (property rights) in biotechnology products in agriculture in Indonesia, based on Islamic legal philosophy and western legal philosophy, consists: *first*, product ownership rights in biotechnology products in agriculture are valued. Protected by the state, with the issuance of Law Number 13 of 2016 concerning Patents (Patent Law) and Law Number 29 of 2000 concerning Protection of Plant Varieties; *second*, product ownership rights to biotechnology products in the agricultural sector in the form of patents and PVP rights are legal rights; *third*, product ownership rights to

biotechnology products in the agricultural sector must be registered, because the owner, inventor, or owner of the property will get legal protection from the state when the product is registered.

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<https://www.dgip.go.id/tentang-djki/kekayaan-intelektual>.

Law Number 13 of 2016 concerning Patents

Law Number 29 of 2000 concerning Protection of Plant Varieties

Law Number 11 of 2020 concerning Job Creation.

Environmental Issues in Exploiting Gumuk in Jember

Jauhari Zakkiy Annas

Master of Law, University of Jember

Dina Tsalist Wildana

Doctor of Law, University of Jember

ABSTRACT: The name " Kota Seribu Gumuk " for Jember Regency represents that Jember has several gumuk beneficial from the abiotic and social point of view. However, the number of gumuk is decreasing because their contents have commercial value (such as stone and sand), thus encouraging people to clear or exploit them. The reduction of humps in Jember has a significant impact on the stability of nature and society. The gumuk has a biological function as a windbreak, preventing the area from the threat of a hurricane. Gumuk becomes a water absorption area that can support the surrounding community. In addition, gumuk can also affect the climate, whose presence greatly determines the quality of the vegetation and local agricultural products of Jember. These functions will disappear as the exploitation of gumuk is increasingly rampant in Jember. In this case, the government has a responsibility to conserve nature. This means that the government must respond to the void of the mechanism for protecting the gumuk in Jember, which will be detrimental to both nature and the surrounding community, so it is necessary to formulate a mechanism for protecting the gumuk from exploitation. This paper will analyze the legal ontology and epistemology to protect against gumuk by using a statutory and conceptual approach. The idea of establishing the gumuk as a nature reserve, as stated in the Regional Regulation Number 1 of 2015 About the Jember Regency Spatial Planning, is part of the mechanism for protecting the gumuk. However, the idea is "expensive" because the state, in this case, the Government of Jember, must acquire and pay compensation for all gumuk owned by individuals, and it will take a long time. Gumuk should be given a clear legal standing so that the number of gumuk in Jember does not run out. The legal standing contains at least a ban on gumuk exploitation and its legal consequences. The availability of legal standing for this gumuk is a safeguard that the Government must immediately prepare against gumuk to maintain the current number of gumuk in Jember.

KEYWORDS: Environment law, Gumuk, Jember

I. INTRODUCTION

Jember Jember is the easternmost regency on the island of Java before Banyuwangi. Astronomically, Jember Regency is located at 70° 59' 6" - 80° 33' 56" South Latitude and 113° 16' 28" - 114° 03' 43" (Jember, yy). While referring to geographical conditions, Jember Regency is surrounded by the Hyang Mountains, Mount Argopuro, and Mount Raung (Danuji & Sari, 2019, p. 30). Jember is known by various names such as the city of santri (TIMES Indonesia Biro Jember, 2017), tobacco city (*Tembakau Untuk Kehidupan*, tt), city of a thousand mounds (*Gumuk Mulai Habis Ditambang*, yy). Gumuk itself is a Javanese term that means a wide mound of earth or sand. This is in line with what was stated by Van Bemmelen, that gumuk is a special term given to a hill with a height of 1 m to 57.5 m (Hariani, 2015). Based on the content, gumuk can be divided into rock gumuk, sand gumuk, and stone gumuk.

Gumuk is a local natural wealth because not all areas have gumuk. The Jember Regency Government has succeeded in making an inventory of at least 1670 gumuk, and 285 others have not yet been inventoried (*Bupati*, 2021). Optimal efforts are implemented to ensure the existence of gumuk, which is intended to perpetuate the positive impact given by gumuk to the surrounding environment. Ecologically, gumuk is a flora and fauna ecosystem and a water catchment area, and a spring. From a macro-climate point of view, gumuk brings cool air and acts as a windbreak, thereby preventing the surrounding area from natural disasters caused by the wind (Iriyanto & Wildana, 2017). In the context of Jember, it is evident that many Islamic boarding schools place their water needs on the absorption of the gumuk. On the other hand, the domino effect caused by the cool air on the wind fragments by gumuk creates a new climate suitable for growing tobacco (*Gumuk Mulai Habis Ditambang*, t.t.).

Gumuk today is under serious threat. Various exploits that attempt to erode the commercial potential of the gumuk are becoming a trend today. Unfortunately, some gumuk is owned by a personal (Apriyanto, 2017), so the government has difficulty controlling to maintain the number of gumuk. The content of the gumuk, such as sand, foundation stone, and the stone plate, has a high selling value which encourages the owner of the

gumuk to exploit the gumuk. In addition, gumuk are sold using two methods: First, freelancing, when the community sells the mound of land and land. Second, selling the gumuk, when the community only sells the gumuk, so that the community can reuse the land for housing (Apriyanto, 2017).

This buying and selling activity is unavoidable because, in this case, the government is at a stalemate. The gumuk is privately owned by the community, so this condition is complex for the government to regulate through policy. On the other hand, rapid population growth, technological advances, and high consumerism patterns of society are increasingly making it difficult to control the existence of gumuk. Based on Keraf's opinion, there are differences in handling environmental problems due to human needs. The inability of the community to manage gumuk so that the mention of gumuk does not directly provide benefits to humans causes economic interests to be put forward (Iriyanto & Wildana, 2017).

So far, the Jember Regency Government is planning the gumuk to become a geological nature reserve, as proclaimed through Regional Regulation Number 1 of 2015 Regarding the Jember Regency Spatial Plan. However, this is a long-term plan that is not oriented towards maintaining the number of gumuk in Jember. Even the research conducted by Isnaini and Fauziyah (Citra Saisabela, Isnania & Fauziyah, 2017) stated that to protect the gumuk, the Jember Regency Government has yet to take any action. So that a hypothesis can be drawn that the narrative of geological nature reserves for the gumuk is nonsense that has no implementation. Departing from the urgency of the gumuk, which has received less attention from the Jember Regency Government, this paper attempt to examine the gumuk from the environmental law sector, then gives a prescription to the Jember Regency Government to act immediately to maintain the number and protect the sustainability of the gumuk in Jember Regency.

II. GUMUK IN THE STUDY OF ENVIRONMENTAL LAW

Outline, the Constitution gives special attention to the environment. This gives its significance to environmental management. First, it influences the

development of environmental policies on a national and regional scale. Second is the creation of jurisdiction over national laws that apply to every government territory, province, municipality, and regency. This means that the constitution requires capacity building and legal commitment in terms of environmental protection. Third, the constitution affects the relationship between substantive and procedural environmental law and efforts to integrate national environmental law with international environmental law. Environmental norms by the constitution are juxtaposed with economic norms contained in the constitution, at least in Article 28 H (1), Article 33 paragraph 2, Article 33 (3) Article 33 (4).

Concerning the right of welfare, the implementation standards of Human Rights as stated in the Universal Declaration of Human Rights (UDHR) related to the environment are discussed in article 25 (Universal Declaration of Human Rights, 2015). This article states that everyone has the right to a good life in terms of health and welfare. This is in line with the nation's goals, namely protecting the entire nation (humans) and the entire bloodshed (including the environment). In addition, ICESCR Article 12 (1) requires state parties to recognize health standards through environmental and industrial improvements.

Discussing state control, the guidance provided by the Constitutional Court covers five functions, namely policy (beleid), regulation (regelendaad), management (bestuurdaad), management (beleidaad), and supervisory function (toezichthoudendaad) (Mawuntu, 2012). The state's position is as a regulator and guarantor of the production branch that can provide benefits for the welfare of the people. Even though it provides opportunities for corporations and the private sector to manage, it does not mean relinquishing the state's responsibility in the supervisory function. This is intended so that natural wealth must significantly increase the prosperity of the people's welfare, guarantee the people's rights to natural resources, and prevent the loss of community rights to the environment.

Regarding environmental-based insights, it is necessary to present sustainable development, which according to Surna T Djajadiningrat, depends on three things: natural resources, environmental quality, and

population factors (Faiz, 2016). Therefore, development must maintain function and environmental sustainability. This is in line with various international instruments related to the environment. The 1972 Stockholm Conference was the basis for laying down global arrangements for environmental protection (Kamil, 1999). Why is it said so? This is because the efforts made by each country to prevent pollution are still partial. This movement has only begun to unite since the 1933 London Convention and the 1940 Washington DC Convention (Kamil, 1999). The Stockholm Conference, as outlined in The United Nations Environment Program (UNEP), gave birth to established principles regarding the environment (Kamil, 1999).

In this context, the state should ensure the use of natural resources for the general welfare. The form of control is through policies, regulations, administering, managing, and supervising the utilization of natural resources by environmental management principles. One of the examples of these principles is sustainability to emphasize that natural wealth must be utilized so that it remains until the next generation. Therefore, the principle of justice is essential, not only justice for all Indonesian people but also fair for future generations. With the principle of regional autonomy, the responsibility for ensuring environmental care rests with the government.

Discussing the right of the state to control natural wealth, then arrangements are made about the taking of natural resources. Basic Agrarian Regulations regulate who can benefit from natural resources, including Indonesian citizens, foreigners domiciled in Indonesia, Indonesian legal entities, and foreign legal entities with representatives in Indonesia. Including land ownership can be obtained through control or clearing vacant land in good faith for 20 years. This is the beginning of the process of private ownership of the gumuk in Jember.

Land regulation is the responsibility of the state as outlined by the constitution. Controlling does not mean owning, but other parties can own and manage it. This includes gumuk that can be owned by parties other than the state. However, the critical note of the constitution is that the

supervisory function must still be owned and carried out by the state, in this case, the Jember's government, to ensure the utilization of natural resources for the welfare of the people.

In line with the constitution related to the spirit of regional autonomy brought changes in terms of environmental management. The involvement of stakeholders at the regional level also determines the form of policies and directions for environmental protection. Regulations about the environment have ups and downs in Indonesia. Starting from Law Number 4 of 1982 concerning the Environment, Law Number 23 of 1997 concerning Management of the Environment and finally Law Number 32 of 2009 concerning the Law on Environmental Protection and Management, which has been equipped with Regulations Implemented in 2016, and underwent changes in the omnibus law of Law Number 11 of 2020 concerning Job Creation.

Concerning legislation, the author would like to state that the exploitation of anything cannot be adapted to environmental protection and management principles, especially for the gumuk, which are part of local wisdom (local genuine) in the Jember Regency. The distribution of gumuk that is not widely available in various areas is a separate asset for the Jember regency environment. Instead of maintaining the local genuine, indiscriminate clearing of the gumuk is carried out to reap commercial profits.

This exploitation is contrary to the principles of sustainability. Sustainability of the environment should be passed on to posterity, not only in one generation. Everyone bears obligations and responsibilities to future generations and each other in one generation by making efforts to preserve the ecosystem's carrying capacity and improve the quality of the environment. In simple terms, this principle mandates the responsibility to everyone to realize generational and cross-generational justice in terms of environmental sustainability. Radically, the exploitation of gumuk completely ignores the application of this principle. The natural formation of the gumuk that took a very long time was instantly annihilated for the

benefit of a group. Actions do not bring justice across generations because future generations will only enjoy the gumuk as a story.

Gumuk is a natural resource that cannot be renewed because the formation process takes a long time, so that its management must pay attention to the concept of prudence. This principle was not implemented, so resulting in a significant decrease in the number of gumuk. Therefore, it is necessary to strengthen the function of the state, in this case, the government, both central and local, through policies, regulations, management, management, and supervision of the use of natural resources by the principles of environmental management. Thus its use can be more controlled.

In terms of applying harmony principle, exploitation of gumuk solely prioritizes an economic aspect without considering social and natural balance aspects. At least, there will be a climate shock when the gumuk is fully exploited. In addition, the area around the gumuk is threatened by wind disasters because no one performs the function of breaking the wind. Another problem of drought in the dry season and flooding in the rainy season because the water catchment area decreases with the loss of gumuk due to exploitation. So if a question arises, does the exploitation of gumuk positively impact social life, culture, and the balance of nature? Practically not, because the exploitation of the gumuk denies the principle of benefits in environmental protection and management.

Gumuk and forests are the same things. Definitively, Kartasapoetra explained that forest is an overgrown natural land with various plants (AG, 1994). Meanwhile, according to Dengler quoted by Suginingsih, a forest is several trees that grow on extensive land, so that light, wind, humidity, temperature, and others are not decisive aspects in the environment, but are influenced by plants with conditions that grow on large and dense land (Suginingsih, 2008). Spur and Burton also explained that the forest is a unity of plants and animals in the abiotic association. As a result, an ecosystem is born where plants and animals influence each other in complex energy cycles (SH & Burton, 1973). If the context of the definition of forest is understood, then the content of forest aspects is contained on the gumuk. Gumuk in Jember is not only an arid mound of

land, but natural vegetation and wild animals grow together to form a unified ecosystem. Thus, the reduced number of gumuk has a domino effect on the loss of biodiversity and ecosystems around the gumuk.

Gumuk is also closely related to the local wisdom of the community. The teaching reinforces the high respect for nature that creatures record good and bad deeds as controllers for humans not to do evil. Likewise, the belief of the Malay community that considers other living things such as flora and fauna there are guards, whoever disturbs it will suffer the consequences (Iriyanto & Wildana, 2017). People's beliefs in the form of myths aim to protect the natural environment. Gumuk is no exception in Jember; there are various beliefs, such as "kesambet" a disease caused by nature not liking someone's behavior in a place (Iriyanto & Wildana, 2017). Therefore, someone has to maintain someone's attitude when around the gumuk. In addition, the existence of graves in the gumuk area, although the community does not widely believe the number to maintain the sacredness of an area. On the other side, the various myths and beliefs of the community have a good influence, namely preserving the environment, especially the gumuk. Unfortunately, local wisdom is in a weak position, eroded by the current of capitalization (Thamrin, 2013). The analysis used by the community is no longer good or bad, but more on economic values, profit and loss, and seeking convenience/practice.

PPLH regulations emphasize that environmental protection and management are the responsibility of the state. The objectives include protecting from pollution and environmental damage, ensuring the safety of human health and life, preserving ecosystems, preserving environmental functions, fulfilling future nation justice, and anticipating global environmental issues. This regulation stipulates several stages that must be carried out by the government, as follows:

<i>No</i>	<i>Stages</i>	<i>Activity</i>
1	Planning	Environmental Inventory, determination of ecoregion area, preparation of RPPLH

2	Utilization	Utilization is carried out based on RPPLH, sustainability of processes and functions, productivity, and quality of life for community welfare.
3	Control	The government carried them out through regional regulations, including prevention, control, and recovery.
4	Maintenance	It is carried out through conservation of natural resources, reserves of natural resources, preservation of atmospheric functions.
5	Supervision	Supervision is carried out by the minister, governor, or regent delegated to specialized agencies. If occur a violation, administrative sanctions may be imposed: written warning, government coercion, suspension of the environmental permit, or revocation of the environmental permit.
6	Law enforcement	Law enforcement on environmental disputes is carried out outside the court if it is unsuccessful, then through the courts. Settlement through the court provides sanctions in the form of compensation and environmental restoration.

The above steps will be used to see the concept of gumuk maintenance in Jember. Currently, Jember Regency already has a regional regulation on Spatial plans. In these regulations, Jember mentions several areas of nature reserves, nature conservation, and cultural heritage. There are policies such as ecosystem conservation, patrols to prevent natural damage, and efforts to cooperate between regions for area management to preserve the nature reserves. Management for nature reserves includes rehabilitation of critical areas and enhancement of protected functions of nature reserves. Unfortunately, the gumuk does not enter it. Gumuk has significant potential in the ecosystem. It is proven that the diversity of flora, fauna, and water absorption areas is essential to be preserved. On the other hand, gumuk is referred to as managers of disaster-prone areas, especially tornadoes, but their conservation is not given much attention, even though their existence is as essential as other natural resources.

III. RESPONSIBILITY OF JEMBER REGENCY GOVERNMENT AGAINST THE EXPLOITATION OF GUMUK

As stated earlier, the gumuk is the local natural resource of the region, which not all regions have. So that in the context of legislation, gumuk are included in a large circle of the environment whose existence has an impact on human life or environmental sustainability. Based on these provisions, the gumuk is very feasible to be associated with environmental law.

In its implementation principle, the state has full responsibility for ensuring the sustainability and sustainability of gumuk as a natural resource. It has been explicitly stated in Article 2 of Law Number 32 of 2009 concerning Protection and Management of the Environment, that to realize environmental protection and management, it is carried out based on the principle of state responsibility whose contents are:

1. The state guarantees that natural resources will provide the most significant benefit to the people's welfare and quality of life, both present and future generations.
2. The state guarantees the rights of citizens to a good and healthy environment.
3. The state prevents the use of natural resources from causing pollution and/or environmental damage.

In other words, environmental protection and management require developing an integrated system, as a national-scale policy oriented towards environmental protection and management. This policy integration can be implemented to understand the hierarchical and consequent adherence to the principle, coherently from the central to the regions. Based on these provisions, concerning the principle of state responsibility to protect and manage the environment, it must also be attached to the region, including the Jember Regency Government.

In addition to the principle of state responsibility, in the effort to protect and manage the environment, the principle of regional autonomy is also applied, namely that the Government and regional governments regulate and manage their government affairs in the field of environmental protection and management by taking into account the specificity and

diversity of regions of the Negara Kesatuan Republik Indonesia. This principle is a reinforcing principle that the Jember Regency Government has absolute rights to protect and manage the environment, especially the protection of gumuk from exploitation.

Two different perspectives characterize gumuk exploitation. According to the practical local community, gumuk is an economical source that can create jobs. This economic value ignores the sustainability of the gumuk as a regional natural asset because when viewed from the aspect of its formation, the gumuk is a non-renewable natural resource. Over-exploitation will erode the number of gumuk and cause significant impacts on the environment. In addition, this action also breaks the sustainability and intergenerational justice in the case of gumuk. So naturally, if this perspective gets a strong reaction from an environmental perspective, which holds tightly to protection efforts to realize sustainability, and generational justice for the existence of gumuk.

The Jember Regency Government is faced with a dichotomy of equally plausible perspectives. However, if referring to the spirit of the Law on Environmental Protection and Management, the Jember Regency Government must take a second step, which is oriented towards protecting Gumuk to maximize environmental sustainability and realize generational justice. So far, the Jember Regency Government has taken actions in the form of declaring a gumuk as a geological nature reserve area, the steps being the stipulation of a gumuk as a conservation area which results in a mining ban; public education through signboards about the importance of the role of the gumuk; and socialization through the media. Research conducted by Isnaini and Fauziyah (CItra Saisabela, Isnania & Fauziyah, 2017) revealed that to protect the gumuks, the Jember Regency Government has yet to take any action. As a result, today's gumuks are still open to exploitation.

In response to this fact, the Government of Jember Regency must be more responsive to maintain the current number of gumuk. The Jember Regency Government has full rights to control through a regional regulation oriented to preventing gumuk exploitation. Using the argument of the

principle of national responsibility and the principle of regional autonomy, the Jember Regency Government is very open to taking steps by regional regulations to provide legal standing for the gumuk. This step is much more concrete than proclaiming the gumuk as a geological nature reserve, which, when viewed again, is only oriented towards public awareness of the urgency of the gumuk to environmental balance. A particular legal standing regarding gumuk today is urgently needed in response to the significant reduction in the number of gumuk. Because it seems to be useless when busy educating and outreach to the public about the importance of the role of gumuk, the Government does not provide seat belts for the number of ulcers today. As a result, the gumuk will be more and more exploited.

The declaration of a geological nature reserve for the gumuk is also constrained by personal ownership of the gumuk. It will be hilarious when determining conservation areas, conducting education, and socializing on privately owned land. The legal mechanism that must be carried out is by providing compensation or compensation to the owner. This action will cause an increase in the budget for the special fund for the protection and management of the gumuk, and it will take a relatively long time. Thus, establishing a particular legal standing for the gumuk is a strategic step that the Jember Government can take to maintain and protect the gumuk from the current exploitation.

IV. CONCLUSION

Gumuk is a regional natural asset that is highly threatened. Therefore, the Jember Regency Government must do everything possible to maintain the number of gumuk and be oriented towards protection free from exploitation. The idea of establishing a gumuk as a geological nature reserve as stated in the Peraturan Daerah Nomor 1 Tahun 2015 Tentang Rencana Tata Ruang Wilayah is part of the mechanism for protecting the gumuk. However, the idea is "expensive" because the state, in this case, the Government of Jember, must acquire and pay compensation for all gumuk owned by individuals, and definitely, it will take a long time. Gumuk should be given a clear legal standing so that the number of gumuk in

Jember does not run out. The legal standing contains at least a ban on gumuk exploitation and its legal consequences. The availability of legal standing for gumuk is a safeguard that the Government must immediately prepare against gumuk, at least to maintain the current number of gumuk in Jember.

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Disclosure of Public Information on Food Safety as Consumer Protection

Mohamad Roky Huzaeni

University of Jember

Wildan Rofikil Anwar

University of Jember

ABSTRACT: The demands for reform changed the political system and paved the way for the return of democracy in its truest sense. A democratic government is a government that provides space for the people to take part and participate in all forms of state problems. Law Number 14 of 2008 concerning Public Information Disclosure guarantees the public to obtain the widest possible information as a form of supervision from the power owner. Obstructing and covering the disclosure of public information is a violation of human rights, including transparency in food safety supervision. Community involvement in obtaining information on food safety is not taboo because the community as consumers has the right to supervise and monitor food suitability. The purpose of this paper is to describe the importance of public information disclosure on food safety, especially in Indonesia, which is a Muslim majority country, food labeled Halal is very important. So that public information disclosure provides information and can also be used to evaluate the future direction of food feasibility. From this paper, implementing information disclosure in terms of food is essential because the consumer guarantees food safety. Then the problem that often occurs in the implementation of exposure is the absence of regulatory guarantees that can provide legal certainty for business actors who do not implement public information disclosure. This paper concludes that public information disclosure in the democratic era is essential. The existence of public information disclosure can protect and guarantee the public in obtaining food safety as consumers. What needs to be done regarding food safety is establishing regulations regarding the obligation to open up for every business actor.

KEYWORDS: Food Security, Public Information, Consumer Protection.

I. INTRODUCTION

The demands for reform changed the political system and paved the way for the return of democracy in its truest sense. Democracy places humans as owners of sovereignty, which is known as the principle of popular sovereignty. So every regulation that is formed is not intended to guarantee the interests of some people but to guarantee the interests of justice for all. So that a developing legal state is not absolute *rechtstaat*, but *democratische rechtsstaat*. (Jimly Asshiddiqie, 2005: 152-162) Thus, a democratic state is limited to individual freedom and independence and provides space for the people to take part and participate in all things form of state problems. In addition, democracy in the true sense if a country can guarantee and protect human rights. (Suparman Marzuki, 2014: 4)

Law Number 39 of 1999 concerning Human Rights states that one of the fundamental human rights is the right to a sense of security. The context of a sense of security means that every individual has the right to be protected from dangerous threats, including the protection of hazard threats in food safety. Food security then becomes a crucial thing in Indonesian society with many business actors in the food sector, not to mention food safety for consumers in the religious sector. So there needs to be openness of public information to protect consumer food safety. Based on Law Number 8 of 1999 concerning Consumer Protection, the right of consumers to obtain correct, transparent, and honest information is described as a preventive measure to prevent an unhealthy economy from occurring. However, this law does not explain in detail how the obligations of business actors to the disclosure of public information.

The rise of business actors in the food sector makes consumers have to be selective for choosing food because the influence of food will negatively impact health and even death. Based on BPOM data until 2019, it has been found that from 769 distributor warehouse facilities, 170,199 food product packaging is damaged, expired and illegal. (Lestari, 2020:49) Food that is not fit for consumption has caused various cases of poisoning. According to BPOM records, there are about 20 million cases of food poisoning per year. All countries in the world experience food safety problems. According to WHO, it is estimated that 70% of the 1.5 billion

diseases are transmitted through food. This indicates that the regulation on food safety in Indonesia is still weak. However, formally, food security efforts in Indonesia have received attention from the government with the issuance of Law Number 36 of 2009 concerning Health and Law Number 18 of 2012 concerning food and its implementing regulations.

On the other hand, conditions that endanger the health and lives of consumers after consuming unsafe food show that society's position as consumers is still weak. This is due to the lack of information and knowledge about unsafe food for consumption and the impact of consuming unsafe food. For this reason, people need to get guaranteed protection every time they buy food products. The guarantee of the safety of the public as consumers is an integral part of every business activity. For every good business activity, there must be balanced legal protection for consumers and business actors. If the legal protection efforts are not balanced, it will harm one party (usually the consumer). The imbalance in legal protection can cause business actors to abuse their monopolistic position, and ultimately it is the consumers who suffer a lot. For this reason, it is necessary to increase consumer protection efforts so that consumer rights can be enforced. (Hura et al., 2016: 3)

Then in Law 14 of 2008 concerning Openness of Public Information, it provides guarantees for the public to obtain the widest possible information as a form of supervision from the power owner. Obstructing and covering the disclosure of public information is a violation of human rights, including transparency in food safety supervision. Community involvement in obtaining information on food safety is not a taboo subject because the community as consumers has the right to supervise and monitor the feasibility of food. Based on this description, public information disclosure in a democracy is very important, especially information disclosure in terms of food. This is because food security will ensure the survival of a nation and is part of human rights. It is essential to describe how the disclosure of public information on food safety is an effort to protect consumers.

II. CONSUMER PROTECTION AGAINST FOOD SAFETY

Food problems have become a global concern, starting with the increasing food industry not matched by consumer protection regulations. This inequality then triggers commodity business actors to seek as much profit as possible, regardless of losses on consumers. Such as the case in the United States, which is estimated at 48 million cases of food poisoning society per year. In 1998, food poisoning resulted in 128,000 people being hospitalized and 3,000 people dying in America. Likewise, in 2000 in Japan, there was also a case of food poisoning which resulted in more than 14,000 people being poisoned. In Indonesia, based on BPOM data in the 2009-2013 period, it was estimated that there were 10,700 cases of extraordinary food poisoning events. During that period, 411,500 people were sick, and 2,500 died due to poisoning. (Surono S et al., 2018: 19)

The attention of significant world institutions such as the United Nations on consumer protection carried out for a long time. It is evidenced by the issuance of United Nations Resolution No. 39/248 of 1985. The main points in this resolution are none other than protecting the interests of consumers (Doly, 2012), which include:

- a. protection of consumers from harm to their health and safety;
- b. Promotion and protection of the economic interests of consumers;
- c. availability of sufficient information so that it is possible to make choices as desired;
- d. consumer education;
- e. there are effective ways of redress;
- f. freedom to form consumer organizations and express their opinions from the decision-making process related to consumer interests.

Consumer protection in Indonesia has also been long to consider. It is evidenced by the ratification of the "Agreement Establishing the World Trade Organization," which includes the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs), which was then followed by Law Number 8 of 1999 concerning Consumer Protection. As a consequence, of course, committed in its implementation will always pay attention to consumer protection.

Law No. 8 of 1999 on Consumer Protection aims to realize a healthy economy, regulate consumer rights and protection. There are four fundamental consumer rights: the right to security, the right to information, the right to vote, and the right to be heard. (Sinaga, 2015:84) Then the consumer rights that must be protected according to Zoemrotin K. Susilo, 1996:4) namely: the right to obtain safety and security, the right to get correct, transparent, and honest information, the right to choose goods, the right to be heard, the right to compensation, and the right to a clean and healthy environment.

Food safety then becomes very important for life. So that business actors and consumers must be selective in determining healthy and quality food products. On the other hand, the government also forms clear and firm regulations to protect business actors and the public as consumers. Law 18 of 2012 concerning food as amended in Law Number 11 of 2020, concerning Job Creation states food safety in general provisions that, "Food safety is a condition and effort required to prevent food from possible biological, chemical, and other objects that can interfere, harm and endanger human health and do not conflict with the religion, beliefs, and culture of the community so that it is safe for consumption." This provision describes the condition of food that is proper, safe, and halal to consume. It is very influential on the community safety as consumers and the compliance of consumer rights in terms of health, faith, culture, and religion.

Article 86 paragraph 1 of Law 18 of 2012 emphasizes that the government must establish food safety and food quality standards to ensure food safety. The food safety standard in question fulfills food safety requirements by business actors throughout the food supply chain, from on-farm to consumer. (Lukman, 2015) This requirement stated in article 69 includes food sanitation, food additives, genetically engineered products, food irradiation, packaging, and guarantee of halal products for those required. Then the provisions of Article 91 in terms of supervision of safety, quality, and nutrition, every processed food made domestically or imported for trading in retail packaging, food business actors are required to have a

distribution permit. However, this permit's mandatory provisions exempted specific food processing produced by micro and small businesses.

Then in Law No. 36 of 2009 concerning health was amended in Law No. 11 of 2020 concerning Job Creation, articles 109 to 112 explain the security of food and beverages. The article emphasizes that the production of food and beverages must pay attention to the safety and health of its products. The production of food and beverages marketed must meet the standards of health requirements to not endanger or pose a risk to consumers' health. Then in this regulation also applies strict sanctions against food and beverages that can harm consumers, can be revoked the distribution permit, confiscated, and even destroyed.

Various institutions that focus on food protection and safety under the auspices of the government also take part in the process as an effort to protect consumer food safety, such as BPOM, BP JPH, and BPKN. These three institutions have direct responsibilities to the government in terms of food protection. Organizations such as BPOM (Food and Drug Supervisory Agency) and BP JPH (Halal Product Guarantee Agency) are authorized to issue food safety and halal permits. In addition, the task of BPOM is to supervise before, after drugs and food are circulated to maintain the safety of medicines and food. Furthermore, BPKN or (National Consumer Protection Agency), which was born on the orders of Law Number 8 of 1999 concerning Consumer Protection, is an institution tasked with conducting research on goods or services concerning consumer safety. In addition, it becomes a place for complaints about consumer protection from the public, LPKSM (Non-Governmental Consumer Protection Agency), or business actors.

BPOM-licensed products and BP JPH Halal Certification cannot be issued immediately for distribution licenses. Business actors must register their products first to get permission from the two institutions. Then, it will be led to the rise of KLB (Extraordinary Events) of food poisoning because BPOM and BP JPH did not check the feasibility and safety of food before the food circulated. However, the agency studies the feasibility of food if the business actor wants to get a permit from one or both institutions. In

this case, the presence of the BPOM and BP JPH institutions cannot provide security guarantees for all types of drugs and food circulating in the community, except those that registered and obtained permission from the institution.

Consumer safety to food safety is essential. Strict legal action needs to be taken to protect consumer safety. According to Johanes Gunawan (Johanes Gunawan, 1999: 3), legal protection for consumers can be done before and after the transaction.

1. Protection before transactions can be carried out by protecting consumers through the laws and regulations that have been made. So that with this regulation, it is expected that consumers will get protection before the occurrence of transactions because some limits and provisions regulate transactions between consumers and business actors.
2. Then with Voluntary self-regulation, namely legal protection for consumers, business actors are expected to voluntarily make regulations for themselves to be careful in running their business.

Meanwhile, protection after the transaction can be carried out through the PN (District Court) or out of court by BPSK (Consumer Dispute Settlement Agency). Protection of consumers is needed because consumers are in a weak position. This is based on differences in interests between business actors and consumers. (Sinaga, 2015:83)

Concerning the implementation of consumer protection, Law Number 8 of 1999 concerning Consumer Protection mandates business actors to be responsible for solving problems that occur to consumers. The responsibilities of business actors include public accountability, where producers as business actors have the duty and obligation to create and maintain a supportive business climate for the national economy's development. Violations committed by business actors will be subject to liability in the form of sanctions, either administratively or criminally.

Private liability, in the form of providing compensation for damage, pollution, and consumer losses due to consumer goods or services produced or traded. This responsibility is civil, both contractual and outside the contractual relationship. (Pantouw, 2016)

III. PUBLIC INFORMATION DISCLOSURE IN FOOD SAFETY

Information is an essential component in today's modern era. Globalization factors also affect the development of the needs of human life, which continues to increase and develop, including the need for information that impacts the development of personal quality. The principles of transparency and accountability are the basic principles in carrying out activities that involve many people because if this is far from openness and lack of understanding and is contrary to these basic principles. It is feared that it will cause unrest and do not rule out the possibility of revealing and leading to social conflict. (Toni, 2017)

Transparency is the principle of opening oneself to the public's right to obtain access to correct, honest, and non-discriminatory information regarding the organization by taking into account the protection of personal, group, and state secrets. Disclosure of information will provide important social benefits and provide a foundation for democracy, boosting the ability of citizens to participate effectively and hold governments to account. Disclosure of public information is a means of optimizing public supervision of all forms of state administration and other public bodies and everything that results in the public interest. In addition, the disclosure of public information is a hallmark of a democratic country that upholds the people's sovereignty to realize good governance. (Yuliadi, 2020)

The attention of major world institutions such as UNESCO (United Nations Educational, Scientific and Cultural Organization), which is under the auspices of the United Nations on the Openness of Public Information, has imposed the principles of international standards in freedom of information. At least in implementing freedom of information, nine principles must be fulfilled, those are: (Tobi Mendel, 2008)

1. **Maximum Disclosure.** It means that freedom of information comprehensively includes four types of rights to information: (a) the right to know, (b) the right to obtain information (physical acquisition), (c) the right to be informed, and (d) the right to utilize and disseminate information.

2. **Obligation To Publish.** It is necessary to emphasize that public information is a fundamental right of everyone. Therefore, the need for information must always be available.
3. **Promotion of Open Government.** The obligation of public bodies as subjects of the Law on Freedom of Information to have an adequate information management system and public services.
4. **Limited Scope Of Exceptions.** Recognize the principle of maximum access limited exemption. This principle requires two things: (1) Enforcement of exclusion of information (which is confidential or access-restrictive). (2) This exception must be based on the precautionary principle
5. **Processes To Facilitate Access.** Dispute resolution is cheap, fast, competent, independent, and comprehensive (Not only relying on adjudication but also available for dispute resolution through a consensual approach).
6. **Costs.** Access to information takes into account the principles of cheap, fast, accurate, and timely.
7. **Open Meetings.** The scope of application of public bodies as providers of access is not limited to state institutions but also institutions outside the state that receive and use the state budget (including state/regional-owned enterprises)
8. **Disclosure Takes Precedence.** This means that it is necessary to confirm in the regulations that laws and regulations that are contrary to the contents of the Freedom of Information Act must be declared invalid
9. **Protection For Whistleblowers.** The threat of punishment is aimed not only at perpetrators of abuse of the exclusion provisions (Confidentiality) but also at individuals and legal entities that hinder public access.

Public information disclosure in Indonesia is regulated in Law Number 14 of 2008 concerning Public Information Disclosure. This law is motivated by several considerations that led to the formation of an information society. (1) Information is the basic need of every individual for personal and social development. (2) Obtaining information is a human right and

the disclosure of public information is a form of democratic government whose sovereignty is in the hands of the people. (3) Freedom to obtain information means monitoring everything that may result in the public interest. (4) Management of public information is one of the efforts to develop an information society. (Rifai, 2008)

In Article 3 of Law Number 14 of 2008 concerning Openness of Public Information, several objectives are stated as follows: (1) Guarantee the right of citizens to know about public policy-making plans, public policy programs, and public decision-making processes, as well as the reasons for making a public decision. ; (2) Encouraging public participation in the process of public policy-making; (3) Increasing the active role of the community in public policy-making and good management of public bodies; (4) Realizing good state administration, which is transparent, effective, and efficient, accountable and accountable; (5) Knowing the reasons for public policies that affect the lives of many people; (6) Developing science and educating the nation's life; and/or (7) Improving the management and service of information within the Public Agency to produce quality information services.

This regulation emphasizes the importance of public information disclosure in all matters concerning the needs of many people. With openness, it will provide public participation to realize public transparency, especially including public information sources through an active participation process with a high degree of political awareness. Through the guarantee of public access and participation, policies can influence public reasoning to have strong legitimacy as implied by the democratization scheme of public decision-making. (Pratikno, 2012)

The implementation of public information disclosure in Law 14 of 2008 is only limited to state institutions or institutions whose sources of funds come from the APBN, APBD, and donations from the public or abroad. So beyond that, by using personal funds, it is not required to disclose public information. In fact, in the food sector, private companies dominate more than state-funded institutions. Then this has become an imbalance where food is a daily need for the community, and the guarantee and safety of the

community should have the right to be accessed openly even though it is privately owned.

The guarantee of openness should not only be limited to public spaces. This guarantee of information disclosure should be comprehensive on everything that concerns many people's lives, including information disclosure on food safety. As mentioned above, it is the right of consumers to obtain information and the obligation of business actors to provide information. The Consumer Protection Act indirectly states that disclosing public information is very important to avoid anything that can harm consumers.

The feasibility and safety of food are very influential on the survival of consumers. Disclosure of public information in terms of food provides broad benefits to the community. The community is not only wasteful but can also monitor the feasibility and safety of its food. Thus the community can assess and be a supervisor of food safety.

Community involvement in obtaining food information is something that needs to be done. The presence of institutions, such as BPOM and BP JPH does not guarantee that all types of food are suitable and halal for consumption because these institutions tend to 'wait' and become commodities to obtain proper and halal permits for consumption; as explained above that these institutions are authorized to issue BPOM and Halal permits by Islamic law, if this is the case, then it is not surprising that the number of cases of food poisoning outbreaks continues to increase. As an effort to protect consumer food safety, public information disclosure is very important. There would be at least 6 (six) benefits if the disclosure of public information applied to food.

1. Transparency and accountability of business actors;
2. Increase public (consumer) trust in goods/services;
3. Protecting the community in the suitability and halalness of food;
4. Community involvement as food safety supervisor as a protection;
5. Creating a healthy economy; and
6. Evaluation of future food suitability.

While the regulation on public information disclosure on food safety is still not regulated, the absence of clear rules and sanctions against business actors in implementing disclosure will impact the lack of information about food safety in the community. So that people's rights to protect themselves are ignored. (Cahyani Saddu, 2016:3-8) The regulation of public information disclosure in food safety will increase the feasibility and quality of halal food. However, the disclosure must also pay attention to Intellectual Property Rights as excluded information. (Sastro et al., 2010:24-28)

IV. CONCLUSION

All countries in the world experienced the problem of food safety. Differences in interests between business actors and consumers trigger imbalances that lead to losses for consumers. Various regulations in Indonesia have been set with the hope that they can protect and ensure food safety for the community, as stated in Law Number 8 of 1999 concerning Consumer Protection. In general, there are four fundamental consumer rights, namely the right to security, the right to information, the right to vote, and the right to be heard. To ensure the creation of rights from consumers, institutions under the auspices of the government were formed, such as BPOM, BP JPH, and BPKN. The presence of these institutions aims to help ensure the achievement of the rights of consumers.

One of the rights of consumers is the right to obtain information. Based on Law Number 14 of 2008 concerning Public Information Disclosure, its implementation is limited to institutions or agencies funded by the state. In fact, in the food sector, private companies dominate more than state-financed companies. Openness should not only be limited to public spaces. The guarantee of information disclosure should be comprehensive on everything that concerns many people's lives, including information disclosure on food safety. With the disclosure of public information on food, the public is wasteful and involved in monitoring food safety to protect themselves.

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Optimization of Agricultural Land in Indonesia Against Land Reform Principles

Vicko Taniady

Faculty of Law, University of Jember

Robi Kurnia Wijaya

Banyuwangi District Attorney

ABSTRACT: In Indonesia, agricultural land shrinks every year by sixty thousand hectares. It is due to rampant land conservation due to population growth. Agricultural land has a strategic function both socially, economically, and religiously for the agrarian Indonesian people. This study aims to examine the implementation and regulation of the determination of agricultural land area based on the Land Reform principle in Indonesia. The research method used is normative juridical using secondary data, which is analyzed through library research techniques. The study results suggest that the regulation of agricultural land's determination becomes urgent as a sustainable agricultural land in Indonesia. Indeed, the decision of agricultural land area is based on the principle of Land Reform regulated in Law Number 56/PRP/1960 concerning Determination of Agricultural Land Area (UU PLTP). The existence of the PLTP Law intended to protect farmers from accessing agricultural land as their line of business and avoid the concentration of ownership or control of agricultural land on sure capital owners. However, efforts to protect agriculture that have been regulated in the PLTP Law have reaped problems. The implementation of the PLTP Law has several obstacles, such as setting the minimum and maximum limits for agricultural land and the lack of supervision from the government. It makes small farmers slowly disappear, and big companies become increasingly powerful, which causes farmers to be unable to access agricultural land. On the other hand, the PLTP Law is a product of the old order, requires legal adjustments. Seeing this, the effort to regulate the determination of agricultural land is a must in responding to the challenges of food security and sovereignty in Indonesia. Efforts to revise the PLTP Law answer problems related to the availability of agricultural land adapted to the community's social conditions and pay attention to local wisdom. On the other hand, it is necessary to have a supervisory agency supervising the implementation of the determination of agricultural land in Indonesia. Thus, optimizing determining agricultural land can reduce the number of land conservation.

KEYWORDS: Agriculture, Determination of Land Area, Land Reform.

I. INTRODUCTION

Land is an essential part of human life, especially in Indonesia. It is based on many Indonesians who focus on livelihood in the agricultural sector (Oktafiana Fortunika et al., 2017). So that Indonesia as an agrarian is very dependent on the availability of land. Land is a natural resource and natural wealth that is incomparable, so it must be maintained to prevent land damage to be more efficient and effective for the community's welfare. Indonesia's relationship with the land is a national wealth that determines prosperity, prosperity, justice, sustainability, and harmony for the Indonesian people. On the other hand, land has a strategic function both socially, economically, and religiously for the agrarian Indonesian people (Muharam, 2015). Article 33 paragraph 3 of the 1945 Constitution of the Republic of Indonesia (UUD NRI 1945) has provided imperative provisions because it contains orders to the state that the earth, water, and natural resources contained therein, which placed under the control of the state, are used for realizing prosperity for all Indonesian people.

In Indonesia, the agricultural policy concerning Basic Regulations on Agrarian Principles (UUPA) is contained in Law Number 5 of 1960. The provisions in the UUPA are reforms in agrarian law and include the main issue, namely the revolutionary program in the agricultural sector. The presence of the UUPA is also the legal basis for implementing land reform which is stated in Article 7, Article 17, Article 10, and Article 53 of the UUPA (Isnaeni, 2017). Land reform held in Indonesia is to improve the socio-economic conditions of the people through a more equitable distribution of farmers' livelihoods in the form of land (Sapriadi, 2015). Besides that, through land reform, it is hoped that it will increase the enthusiasm of working farmers by providing certainty of ownership rights to their land (Sapriadi, 2015). To sharpen land reform regulations, the government issued Law Number 56 of 1960 concerning Determination of Agricultural Land Areas (PLTP) and Government Regulation Number 224 of 1961 Land Distribution and Compensation and Government Regulation Number 41 of 1964. These provisions were born when the political conditions in Indonesia were unstable. Then, the political

approach was known as the commander in chief so that a political aspect always accompanied every government policy.

The provisions of agrarian protection regulated in some of these regulations, in fact, in their implementation, are still not optimal. During the New Order era, the UUPA arrangements had been used by providing interpretations that deviated from the principles and objectives of the provisions in question (Afsyahni, 2017). In addition, the New Order era also abandoned the people's orientation. The agrarian direction emphasized providing opportunities for investors and large investors to own land for development purposes and impacted the high level of poverty, especially in the farming community (Isnaeni, 2017). It continues until now; land conservation efforts are increasingly widespread for investment activities, even exacerbated by the increasing demand for housing.

Agricultural land is a very impactful land. Much agricultural land is decreasing because farmers cannot maintain their rice fields (Suharyanto, 2018). The cause of the decreasing number of agricultural land is rapid population growth, increasing food needs, and the amount of development, so that the amount of agricultural production is decreasing. Based on data from the Ministry of Agriculture in 2020, 60.000 hectares of agricultural land in Indonesia are shrinking every year (Ministry of Agriculture of the Republic of Indonesia, 2020).

PLTP Law as a form of limiting the maximum and minimum area of ownership and strengthening land becomes a rule that can protect farmers. Then they can access agricultural land as their business sector and avoid the concentration of ownership or control of agricultural land on sure capital owners. The PLTP Law also regulates the prohibition of the transfer of agricultural land, which results in land ownership less than the minimum limit of agricultural land area (Permatasari et al., 2014). However, the facts on the ground are inversely related to the existing rules. It is found that many farmers have a minimum land area, and many farmers have more than the maximum area. Therefore, in this study, there are two formulations of problems: 1) How is the regulation of Land Reform in

Indonesia; and 2) How is the arrangement for determining the area of agricultural land based on land reform in Indonesia?

This research uses normative juridical research with a statutory approach. This legislative approach is intended to analyze and identify the provisions of agrarian law, land reform, and determination of agricultural land area. This study uses secondary data, including primary legal materials, secondary legal materials, and tertiary legal materials (Soerjono Soekanto, 2015). The primary legal materials used are statutory regulations relating to agricultural law, land reform, and the determination of agricultural land area—secondary legal materials such as books, scientific journals, and previous expert research. Moreover, tertiary legal materials, such as legal dictionaries, black's law dictionaries, and online media, have credibility.

Legal materials that have been collected and inventoried by researchers using the literature study method to obtain prescriptions for the legal issues studied. Then, the researcher uses pole deduction data analysis to explain various regulatory norms related to legal issues first and then explains legal facts later. The data analysis is arranged systematically, orderly, logical, thorough, and described holistic and detailed. Thus, the pattern of reasoning is arranged systematically to conclude the legal issues being studied.

II. LAND REFORM REGULATION IN INDONESIA

The birth of land reform in Indonesia is a land tenure journey during the colonial period that applied *Domein Verklaring* and *Agrarische Wet* by the colonial government (Masyrullahushomad & Sudrajat, 2020). Land reform in a broad sense includes the implementation of agrarian law reform; the abolition of foreign rights and colonial concessions to land; a gradual end to feudal exploitation; reform of land ownership and control as well as legal relations related to land tenure; planning for the supply and allotment of the earth, water and natural resources contained therein in a planned manner, by their capabilities and abilities. (Center for Law and Public Relations of the National Land Agency (BPN), 2007) Thus, going through a long overland tenure in Indonesia made the Indonesian government

develop its independent land law. National Agrarian Law is a form of regulation on land that provides for the achievement of the functions of the earth, water, and space by the interests of the Indonesian people (Sari, 2017). Since the promulgation and enactment of the National Agrarian Law, there has been a fundamental change in agrarian law in Indonesia regarding the conception and content contained in the consideration section. Because land reform is a series in Agrarian Reform, various basic principles and provisions regarding land reform are stated in the 1960 Basic Agrarian Law (UUPA). In this case, land reform is a form of reform regarding land ownership and control and various legal relationships related to land tenure (Muderana, 1997). So with the development of the UUPA, especially in the Preamble to Article 19 of the UUPA, various laws and regulations relating to the implementation of land reform are not allowed to leave the BAL systematics (Isnaeni, 2017).

In general, land reform is interpreted as legislation aimed at reclaiming ownership, realizing various claims or rights to agricultural land to benefit the community through increasing status, power, and absolute or relative income (Salim, 2020). The concept of land reform has two models, namely land reform by grace and land reform by leverage. *Land reform* by grace is defined as land reform that accommodates the demands of the community. In this case, efforts to demand and community participation are entry points for various community efforts in demanding land rights. The community's demands respond to state policies that have not created an ideal land tenure restructuring. Meanwhile, *land reform* by grace is defined as a policy carried out to organize a balanced and perfect land tenure structure based on the principle of justice (Soetarto et al., 2007).

Land reform is a form of reshuffling the legal structure of land regarding land ownership and control, which involves legal relations related to land acquisition (Syahyuti, 2016). This land reform principle is widely interpreted as agricultural land must be worked or actively cultivated by the owner (Sucianti, 2004). At the implementation level, land reform is not only limited to dividing land or politics. Still, it is an attempt to reform the relationship between humans and land that is more humane (Parlindungan, 1989). Article 33 of the 1945 Constitution of the Republic of Indonesia

aligned the implementation of the land reform principle with the provisions. The legal basis used as a reference in the implementation of land reform in Indonesia includes 3 (three) foundations, (1) the ideal foundation, namely Pancasila; (2) Operational Basis, which includes Articles 7, 10, 55 of UUPA No. 5 1960; and (3) the Constitutional Foundation, namely Article 33 paragraph (3) of the 1945 Constitution of the Republic of Indonesia (Martini et al., 2019).

In ensuring the effectiveness of land reform implementation, it is necessary to have clarity regarding compulsory land levies on land or land so that it cannot change hands or change land use functions. It intended to reduce the transfer of control and ownership of land to land speculators for other non-agricultural activities (Limbong, 2012). As following the provisions of Article 1 of Government Regulation no. 224 of 1961, land that will be levied and become the object of land reform, among others (Sapriadi, 2015):

1. Land that exceeds the maximum limit according to Law No. 56/PRP/1960, and land that owned by the state due to a violation of the subject of rights from the provisions of land reform;
2. The state took the land because the owner was domiciled outside the area on the land in question. As stated in Article 3 Paragraph (5) of Government Regulation no. 224 of 1961;
3. Self-governing land and state land of the former self-government which has been transferred to the state. It contained in the provisions of the Fourth Dictum letter A of the UUPA;
4. he state directly controls other lands.

In the reform era, political will, which is a manifestation of the government's legal politics, started from the MPR Decree No. IX of 2001 concerning Agrarian Reform and Natural Resources Management. In addition, the President's order to BPN was compiled through Presidential Decree No. 34 of 2003. Furthermore, implementing the land reform program in the Jokowi-Jusuf Kalla regime focuses on agrarian reform with conflict-free land and shows the resolution of these conflicts (Tigris, 2016).

It was realized by bringing in foreign investors to facilitate services for investors in a one-stop service.

On the other hand, by examining the regime of Susilo Bambang Yudhoyono (SBY), which has a similar program, this does not positively impact the issue of agrarian reform, but only data on increasing the rate of economic growth. So that in terms of implementing agrarian reform based on land reform, the right balance is needed between investment for development and agrarian reform for the advancement of Indonesia's land sector (Syahyuti, 2016). Supriadi and Soegijanto Padmo argue that there are land reform programs designed by the government, including (Butar, 2017):

1. Limitation of the maximum area of land tenure;
2. Prohibition of absentee or guntai land ownership;
3. Redistribution of land that exceeds the maximum limit;
4. Land subject to absentee prohibition, ex-self-government land, and state land;
5. Arrangements regarding the return and redemption of agricultural land mortgages;
6. Re-arrangement regarding the determination of the minimum area of agricultural land ownership accompanied by a prohibition on carrying out actions that split agricultural land ownership into small parts.

Referring to the opinion of A.P. Parlindungan that land reform is to reorganize the relationship between humans and land, which is carried out, among others, by distributing land (Syahyuti, 2016). One of the arrangements in land reform is the limitation of the maximum and minimum land area regulated in Article 17 of the UUPA. This provision is also emphasized in Article 17, paragraph 3 of the UUPA, which regulates the treatment of excess land of the maximum land area. Therefore, the following discussion will examine the application of agricultural land restrictions based on land reform in Indonesia.

III. PRACTICE OF LIMITING AGRICULTURAL LAND

The determination of maximum and minimum limits on agricultural land has an essential meaning for Indonesia. As in line with the development and population growth, it causes a decrease in ownership and control of agricultural land due to the transfer of agricultural land functions (Doly, 2017). The determination of the maximum and minimum area of agricultural land is regulated in Article 7 and Article 17 of Law no. 56 Prp 1960 concerning Determination of Agricultural Land Areas (PLTP). Article 7 stipulates that land ownership and control are not allowed to exceed the limit to harm the public interest. This article intended to prevent and end the accumulation of land in the hands of certain people or groups. Land ownership and control are related to the limited supply of agricultural land, especially in densely populated areas. Therefore, exceeding the right of land boundaries can harm the general public because there is a narrowing for farmers in owning their land (Zubaedi, 2020). It is as regulated in other supporting provisions, namely Article 17 of the UUPA.

In particular, the regulation of the maximum and minimum area of agricultural land in Law no. 56 Prp of 1960 concerning Determination of Agricultural Land Areas. It stated that the calculation of the maximum area for control of paddy fields and dry land is the area of paddy fields plus the area of dry land plus 30% of areas that are not densely packed, and 20% for dense areas with provisions. So, in this case, it is concluded that total land control is not allowed to exceed 20 hectares to achieve the people's prosperity (Sumaya, 2009). In terms of land tenure that exceeds 20 hectares, Boedi Harsono argues that this can reduce agricultural land and even allow the loss of many farmers who have their agricultural land (Rongiyati, 2013). However, in determining the maximum area using the family basis in the provisions of Article 17 of the PLTP Law, the total area of land is controlled by family members, and the number determines the maximum area of the family land.

Provisions regarding the maximum area and amount of land for housing and other development, the PLTP Law states that government regulation

will regulate it. However, there is still no government regulation in question. The other side government still controls the limitation of land area for companies, especially related to location permits, namely through the Regulation of the State Minister of Agrarian Affairs No. 2 of 1999 concerning Location Permits. In this provision, the maximum area of land that can be granted is related to the type of business, ranging from housing and settlement development to ponds for each province in Indonesia (Sumardjono, 2008).

The application of the provisions on the minimum area of agricultural land in line with the times is increasingly difficult to realize. Some factors influence it, namely, the increase in population and the need for land in non-agricultural activities. In the 1993-2003 period, BPS data noted that there was an increase in smallholders by 2.6 percent per year (Rongiyati, 2013). The conversion of agricultural land has been recorded every year, reaching 40,000-100,000 hectares, with 50% occurring on the island of Java. By examining the relevance between the condition of agricultural land and the development of the times, the experts express some urgency, among others (Sumaya, 2009):

1. The provisions of Article 1 paragraph (2) of the PLTP Law are no longer relevant. It is due to the consideration of various land uses in every development activity that has the potential to reduce the supply of agricultural land;
2. There is a need to review the determination of the maximum land area based on family members. It is due to the achievement of the family planning program, which affects the number of family members in Indonesia;
3. The subject of land tenure rights no longer lies with individual farmers as regulated in the PLTP Law, but is also controlled by business entities, both private and government. Thus, the determination of the maximum area of land tenure should not only be limited to agricultural land owned by individual farmers;
4. Review of Article 8 of the PLTP Law on the determination of the minimum limit of ownership of two hectares of agricultural land. It is

due to the tendency of the population growth rate with the number of members in one family decreasing.

The determination of the application of the maximum and minimum limits of agricultural land in Indonesia in the legislation needs to be studied and analyzed more comprehensively by involving various parties in it, considering that there is an expansion of the meaning of the subject of rights. If probed further, the weakness of law enforcement on ownership or control of agricultural land that exceeds the maximum limit becomes a problem. As for the sanctions for excess control of agricultural land, only Rp. 3.5 million per hectare, as stipulated in the Decree of the Head of the National Land Agency Number 4 of 1992, which was initially 50,000 Rupiah to 3.5 million Rupiah per hectare, the Land Reform Advisory Committee could not work. Maximum, due to the high potential for civil lawsuits by rights holders who have excess limits on the maximum area of agricultural land.

Therefore, there is a need to revise the PLTP Law to respond to Indonesia's widespread depreciation of agricultural land. Furthermore, it is also necessary to adjust the law, from sanctions, subject to rights, to stricter regulations regarding determining the minimum and maximum agricultural land limits in Indonesia.

IV. CONCLUSION

In general, land reform is interpreted as a form of legislation aimed at levying ownership, realizing various claims or rights to agricultural land to provide benefits to the community through increasing status, power, and absolute or relative income. The application of land reform provisions has been regulated in the UUPA. In this case, land reform is a form of land ownership and control and various legal relationships related to land tenure. However, efforts to implement land reform have not shown the expected results.

Setting restrictions on agricultural land is one of the policies in land reform as regulated in the PLTP Law. However, in practice, the direction of this regulation is still problematic. There are still many parties who own

agricultural land area that exceeds the specified maximum limit. This, of course, will result in the loss of many small farmers. In addition, regulations regarding the subject of rights and sanctions are also still weak. Therefore, there is a need for urgency to revise the PLTP Law to answer the existing problems.

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The Concepts and Implementation of Sustainable Agricultural Development in Indonesia

Niken Larasati

Faculty of Law, University of Jember

ABSTRACT: Sustainable development, including sustainable agricultural development, is a commitment of world countries that must be obeyed and implemented. Its role in capital formation demonstrates this strategic role, providing food, industrial raw materials, feed and bioenergy, absorbing labour, sources of foreign exchange, sources of income, and environmental preservation through environmentally friendly farming practices. Implementing development in the past, which only emphasized economic progress, has resulted in ecological damage and social problems. The sustainable development approach is essentially a development activity that combines economic, social, and environmental aspects. However, in its implementation, this concept has not been implemented by all countries according to the agreement. This is reflected in the fact that there are still many problems related to environmental damage and the degradation of natural resources. There are still many problems in implementing sustainable agricultural development, especially in developing countries, including Indonesia. In Indonesia, one of the prominent causes is the existence of sectoral egos, which causes the implementation to be blocked. The concept of sustainable development is multidimensional, so that in its performance, it must be an integrated cross-sectoral and multi-disciplinary program at the central and regional levels. The approach to sustainable development, including sustainable agriculture in Agenda 21, has become an agreement of world leaders at the Earth Summit in Rio de Janeiro, 1992, to be used as a reference for development in all countries. However, not all countries have been able to implement it according to the agreement, so there are still much environmental damage and degradation of natural resources that interfere with agricultural production processes and human livelihoods. Implementing sustainable agricultural development for developing countries (including Indonesia), which still faces many economic problems, is not easy. One of the reasons the sustainable development approach has not been fully implemented is applying the sectoral approach (sectoral ego), which is still an obstacle to implementation or implementation in the field. Sustainable development must be an integrated cross-sectoral and multi-disciplinary program that must be strongly coordinated, starting at the central level to the regional level and the broader community as economic development actors.

KEYWORDS: Agricultural Development, Sustainable Development, Synergism.

I. INTRODUCTION

Agricultural development plays a strategic role in the national economy. This strategic role is shown by its position in capital formation, providing food, industrial raw materials, feed, and bioenergy, absorbing labour, source of foreign exchange, and source of income and environmental preservation through environmentally friendly farming practices. Agricultural development in Indonesia is directed towards sustainable agricultural development as part of the implementation of sustainable development. Sustainable agricultural development (including rural development) is a strategically important issue and discussion in all countries today. Sustainable agricultural development is a goal and a paradigm for agrarian development patterns (Hannah, 1946). The concept of sustainable development began to be formulated in the late 1980s as a response to the previous development strategy, which was more focused on the primary goal of high economic growth, and which was proven to have resulted in the degradation of production capacity and environmental quality as a result of overexploitation of resources.

Initially, that concept was formulated in the Bruntland Report due to the congress of the United Nations World Commission on Environment and Development (World Commission on Environment and Development) in 1987. In simple terms, it is stated that sustainable development is the development that realizes (meets) the needs of life today without compromising the ability of future generations to fulfil their needs. The implementation of social justice economic development is carried out without compromising the environment so that the current development must also consider the needs of the next generation.

Given the importance of sustainable development in all aspects of human life, in 1992, all world leaders met at a world conference in Rio de Janeiro, Brazil, to discuss the concept of sustainable development for all aspects of social, economic, cultural, and environmental life known as Agenda 21. One of the 21 agendas directly related to the agricultural sector is the Sustainable Agriculture and Rural Development (SARD) program.

This moral message to create a better environmental condition for all generations is universally accepted by world leaders so that sustainable agriculture becomes the basic principle of agricultural development throughout the world, including in Indonesia. Conventional agrarian approaches and practices implemented in most developed and developing countries, including Indonesia, are farming rules that do not follow the principles of sustainable development. Traditional agriculture is based on an industrial approach with the orientation of large-scale agribusiness agriculture, capital intensive, technological innovation-intensive, planting seeds / superior plant varieties uniformly spatially and temporally, as well as dependence on production inputs, including the use of various types of agrochemicals (fertilizers and pesticides), and agricultural machinery. The application of conventional agriculture is considered an appropriate alternative technology to solve the problem of food and nutrition shortages and food security faced by the world's population (Taylor, Woiwod, & Taylor, 1988). However, it has recently been realized that conventional farming practices in some areas harm the environment, as reported by various research institutions, non-governmental organizations, and economic and environmental experts.

The exploitation of natural resources by plantation and mining development activities has exceeded the carrying capacity of the ecological (carrying capacity), resulting in excessive exploitation of natural resources. Various environmental, economic, social, cultural, and public health impacts are increasingly doubting the world community about the sustainability of agricultural ecosystems in supporting human life in the future. Economic globalization has impacted the necessity that the future agricultural development approach is directed to the "Paradigm of Sustainable Agricultural Development," which is in human development. This agrarian development paradigm rests on the nation's ability to realize the community's welfare with its capabilities, considering the potential for environmental sustainability. This paper discusses the concept, commitment, and implementation of sustainable agricultural development in Indonesia.

II. THE GENERAL CONCEPT OF SUSTAINABLE AGRICULTURAL DEVELOPMENT

The efforts of the international community to tackle the deterioration of environmental conditions in the context of economic development and social development began in Stockholm, Sweden, in 1972. Then the United Nations Environment Program (UNEP) in 1982 held a special session to commemorate the 10th anniversary of the world environmental movement (1972-1982). In Nairobi, Kenya, as a reaction to dissatisfaction with the current ecological management which tends to no longer or ignore the preservation of nature. Who agreed to establish a World Commission on Environment and Development (WCED) at the meeting. In 1992, a sustainable development session was held in Rio de Janeiro, Brazil, and finally, in 2002, in Johannesburg, South Africa. The term sustainable development, which in English is called "sustainable development," was introduced in the World Conservation Strategy (World Conservation Strategy) published by the United Nations Environment Program (UNEP) in 1980. The United Nations Conference on Environment and Development – UNCED) which was held in Rio de Janeiro in 1992, has established the basic principles and a program of action for realizing sustainable development. Then the Johannesburg Summit, apart from reaffirming the political commitment of all levels of the international community, has also laid the foundations that should be used as a reference in implementing sustainable development at all levels and sectors or aspects of development.

Since the early 1980s coinciding with the issuance of the World Conservation Strategy Document by the IUCN (International Union for the Conservation of Nature), various definitions of sustainable development have been raised by experts and scientific organizations. However, the definition generally accepted by the international community is the definition prepared by the Bruntland Commission. Sustainable development is developed to meet the needs of the present without reducing or destroying the ability of future generations to meet their needs (Higgs, 1978). Unlike most of the definitions of sustainable development compiled by most of the conservationist partner groups (deep ecologists),

the above definition does not prohibit economic development activities but recommends it on the condition that the rate (level) of development activities does not exceed the carrying capacity of the natural environment (Higgs, 1978).

Thus, it is sufficient for future generations to have the same natural resource assets and environmental services, or if possible better than the current generation. A development activity (including agriculture and agribusiness) is declared sustainable if the action is economically, ecologically and socially sustainable. Economically sustainability means that a development activity must produce economic growth, capital maintenance and efficient use of resources and investment. Ecologically sustainable means that these activities must maintain ecosystem integrity, environmental carrying capacity and conserve natural resources, including biodiversity. Meanwhile, socially sustainability requires that a development activity create an equitable distribution of development outcomes, social mobility, social cohesion and institutional development. Although there are many variations on the definition of sustainable development, including sustainable agriculture, the widely accepted one is based on three pillars: economic, social, and ecological. In other words, the concept of sustainable agriculture is oriented to three dimensions of sustainability, namely: sustainability of financial business (profit), sustainability of human social life (people), and sustainability of natural ecology (planet). The economic dimension is related to maximizing the income stream that can be obtained by at least maintaining the productive assets that are the basis for obtaining the income.

The leading indicators of this economic dimension are efficiency and competitiveness, the amount and growth of added value and financial stability. The economic size emphasizes the aspect of fulfilling human economic needs for both present and future generations. The social dimension, which is popular orientation, relates to the need for social welfare, which is reflected by a harmonious social life (including the prevention of social conflict), the preservation of cultural diversity and socio-cultural capital, including the protection of ethnic minorities. For this reason, poverty alleviation, equal distribution of business opportunities and

income, socio-political participation and socio-cultural stability are essential indicators that need to be considered in the implementation of development. Dimensions of the natural environment emphasize the need for natural ecosystems' resilience that includes biological living systems and raw materials. This provides the maintenance of biological diversity and biological carrying capacity, soil, water and agro-climate resources, and environmental health and comfort. Emphasis is placed on preserving the flexibility and dynamics of ecosystems to adapt to change, not on the conservation of a static ideal that is impossible to achieve (Csirszki, 2021). These three dimensions influence each other, so they must be considered in a balanced way. A stable and healthy social system, as well as natural resources and the environment, are the basis for economic activity. In contrast, economic prosperity is a prerequisite for maintaining socio-cultural stability and preserving natural resources and the environment. An unstable or sick social system will tend to cause actions that damage the sustainability of natural resources and damage environmental health, while threats to the preservation of natural resources and the environment can encourage social chaos and disease.

Two things are implicit in the Brundtland concept (Sewenet & Schwarcz, 2021). First, it concerns the importance of paying attention to the constraints of natural resources and the environment on the pattern of development and consumption. Second, it affects the concern for the well-being of future generations. The assumption of sustainability rests on at least three fundamental axioms; (1) current and future treatments that place a positive value in the long term; (2) realizing that environmental assets contribute to economic wellbeing; (3) knowing the constraints due to the implications that arise on environmental assets.

This concept is felt to be very normative, so that the operational aspects of this sustainability concept also experience many obstacles. We can elaborate this sustainability concept by proposing five alternative definitions, namely: (1) a condition is said to be sustainable (sustainable) if the utility obtained by the community does not decrease over time and consumption does not decrease over time (non-declining consumption), (2) sustainability is a condition in which natural resources are managed in such a way as to

maintain future production opportunities, (3) sustainability is a condition where natural resources (natural capital stock) are not reduced over time (non-declining), (4) sustainability is a condition where natural resources are managed to maintain the production of natural resource services, and (5) sustainability is the condition of balance and ecosystem resilience being met.

In line with the above understanding, there are several aspects regarding the operational definition of sustainable development (Plieninger, Bens, & Hüttl, 2006), including: (1) for renewable natural resources: the rate of harvesting must be equal to the rate of regeneration (sustainable production); (2) for environmental issues: the rate of waste disposal must be equal to the assimilation capacity of the environment; (3) non-renewable energy sources must be exploited quasi-sustainably, namely reducing the rate of depletion by creating energy substitution.

In addition to the operational definition above (Plieninger et al., 2006), sees that who can break down the concept of sustainability into three aspects of understanding. *First*, economic sustainability is defined as development that can produce goods and services continue to maintain government sustainability and avoid sectoral imbalances that can damage agricultural production and industry. *Second*, environmental sustainability: An environmentally sustainable system must maintain stable resources, prevent exploitation of natural resources and the function of environmental absorption. This concept also concerns the maintenance of biological diversity, stability of air space, and other ecosystem functions that are not included in the category of economic resources. *Third*, social sustainability is defined as a system capable of achieving equality, providing social services including health, education, gender, and political accountability.

III. SUSTAINABLE AGRICULTURAL DEVELOPMENT COMMITMENT

1. Agenda 21, Rio de Janeiro

Agenda 21 is an agenda for various sustainable development action programs agreed upon by world leaders at the 1992 Rio de Janeiro Earth

Summit. Promoting Sustainable Agriculture and Rural Development (SARD) details different concepts and programs of action for Sustainable Agriculture that need to be implemented by all countries. Agenda 21 includes aspects related to agriculture, such as those directly related to Sustainable Land Management, Safer Use of Toxic Chemicals and Strengthening Farmer Participation. Agenda 21 is also a multidimensional concept of sustainability that considers achieving ecological, social, and economic objectives. These three dimensions have a very close relationship and dependence. Agenda 21 also stated that strengthening feasibility and improving economic life in rural areas is the basis for maintaining their social and environmental functions. Maintaining ecological quality is also a prerequisite or necessary precondition for developing long-term economic potential in rural areas. The increasing food needs of the population need to be addressed through increased productivity and collaboration involving rural communities, the central government, the private sector and the international community.

Reducing losses due to pests and diseases, maintaining the degradation of land and water sources in the development of ecosystems is very important. Socialization and training in modern conservation and local wisdom, including minimal/no-tillage, integrated pest control, crop rotation, plant nutrition, agroforestry, terracing and intercropping, as well as dissemination of information and better use of genetics for crops and cattle (Brown, 2020). Furthermore, regarding Sustainable Land Management, it is stated about the need to strengthen laws and regulations on sustainable land use and prevent the use of productive land for other purposes/uses. Landscape planning based on ecosystems and watersheds and encouraging the creation of sustainable community livelihoods using conservation-minded land-use techniques, including "indigenous technology". They promoted the active participation of marginalized community groups in making decisions, such as women, youth, indigenous people. So that related institutions in land and natural resource management integrate environmental, social and economic issues in their planning.

Likewise, regarding the safety of the Use of Toxic Chemicals. Control the use of toxic chemicals through pollution prevention, emissions inventory,

product labelling, limited use. Make policies that encourage producers to reduce risk by using more materials that are not chemical or employing biological control. Socialization to people who often use these chemicals about the dangers they can cause with language and images easy for them to understand (Grossman, 2011). Including the policy of exporting and importing hazardous chemicals so that they can be appropriately limited and controlled. Agenda 21 on Strengthening the Role of Farmers, it is stated that to develop sustainable agriculture strategies, the government hopes to collaborate with international research centres and non-governmental organizations in developing agricultural technologies that can increase crop yields that are environmentally sound by maintaining land quality, recycling nutrients, saving use, water and energy, pest and weed control. Help share expertise with farmers in conserving land, water and forest resources, efficient use of chemicals, reducing or utilizing agricultural waste, and encouraging the use of technology that saves input/input and saves energy, including developing indigenous technologies. Encourage research on agricultural equipment that can optimize the use of human labour and animal power. Provide better incentives to men and women for land use rights, access to credit, technology, farming needs/inputs and training.

Requires researchers who can develop environmentally-friendly agricultural techniques and Academy (Universities) to provide ecological aspects in the agricultural training. Sustainability of development is the continuous improvement of the quality and welfare of the people/populations where they live and live, including the availability of various types of sufficient and quality food. Food security must be seen from improving the quality of life of the population and the environment in rural areas. (Richli, 2021) stated that Sustainable development has a broader meaning and purpose than sustainable economic growth. Economic, social and economic goals can, to some extent, synergize. However, under certain conditions in the field, all three can compete and are less supportive of each other. When this happens, the concept of sustainability leads to the need for the right balance between these three dimensions (Plieninger et al., 2006). Policy options need to be carefully defined, taking into account each of the

interrelated dimensions. Johannesburg-10 Earth Summit In 2002, ten years after the Rio de Janeiro Earth Summit again, world leaders attended the 10 Earth Summit in Johannesburg, South Africa, to evaluate the implementation of Agenda 21. The results of FAO's evaluation of the performance of Agenda 21 on SARD show many countries (including Indonesia) that have not implemented various SARD policies and programs agreed and signed in Rio in 1992.

In conclusion, the Earth-10 Summit still agrees that Agenda 21 remains valid and relevant to be implemented as a world agenda for sustainable development in this millennium era. The Johannesburg Summit produced the Johannesburg Declaration and Implementation Plan, which strengthened the previous declarations' strategic programs (Agenda 21). The Summit recognized the linkage of Sustainable Development with poverty, health, education, global trade, information technology and others through the Millennium Development Goals (MDGs). In Chapter II on "Changing unsustainable consumption and production patterns", several paragraphs of the Johannesburg Declaration are directly related to sustainable agriculture. Several vital issues from this Summit related to agriculture (Grossman, 2011), namely: (a) the issue of the use of toxic chemicals, (b) the issue of land resource degradation, (c) the issue of food security, and (d) the issue of biodiversity-related to the issue of land use. Toxic chemicals stated about: renewing commitments, as stated in Agenda 21, good management of chemicals throughout their life cycle and good governance of hazardous wastes for sustainable development and for the protection of human health and the environment aimed at achieving By 2020, chemicals are used and produced in a manner that leads to the minimization of significant adverse impacts on human health and the environment.

Furthermore, regarding the issue of land resource degradation, it is stated: to reverse the trend of natural resource degradation immediately, it is necessary to implement various strategies that must include targets set at the national level, and if necessary, at the regional level, to protect ecosystems and realize land resource management. , water and biological resources in an integrated manner while strengthening regional, national

and local capacities (Grossman, 2011). In paragraph 40 on food security, it is stated: increasing the role of women at all levels, and in all aspects of rural development, agriculture, nutrition, and food security is a must. Increase food production and strengthen food security and security in a sustainable and environmentally sound manner. And on the issue of biodiversity, it is stated: the importance of biodiversity in the overall implementation of sustainable development and the elimination of poverty is an essential element of our planet, human well-being and livelihoods, and people's cultural integrity.

2. National Conference on Sustainable Development

As a follow-up to the World Summit on Sustainable Development (WSSD) in Johannesburg, South Africa, Indonesia has held the National Conference on Sustainable Development-KNPB or the Indonesian Summit on Sustainable Development (ISSD) on January 21, 2004 in Yogyakarta. The purpose of implementing KNPB is to build commitment and joint responsibility of stakeholders (government and community) in implementing sustainable development. One of the results of the KNPB is the 12 points of the Sustainable Development Action Plan which were agreed to be used as guidelines by all parties in implementing sustainable development.

In the eighth point concerning sustainable agriculture, it is agreed that there are six points in the action plan for sustainable development in the agricultural sector, namely: (a) increasing the income and welfare of agricultural actors; (b) providing access to agricultural resources for the community by structuring a system of control and ownership; (c) increasing land productivity and environmental media as well as rehabilitating damaged lands to increase food production in the context of food security while still taking sides with farmers; (d) build and rehabilitate basic rural infrastructure, develop business diversification and improve transportation facilities and agricultural technology and ensure access to market information and capital; (e) developing appropriate science and technology that is environmentally friendly at least 5 percent per year; and (f)

implementing the transfer of knowledge and skills in sustainable agriculture for small and medium scale farmers and fishermen by involving stakeholders. Sustainable agriculture prioritizes the management of agricultural ecosystems that have high diversity or biodiversity.

According to FAO Agricultural Biodiversity includes the variety and variability of plants, animals and microorganisms needed to support key functions of agricultural ecosystems, their structures and processes to strengthen and provide support for food production and food security. Ecosystems with high diversity, are more stable and resistant to shocks, reduce the risk of financial losses, can reduce the impact of drought and flood disasters, protect crops from pests and diseases and other natural constraints. Diversification can also reduce economic stress due to increased prices for fertilizers, pesticides and other production inputs (Cardwell, 2011). Therefore Food Security is one of the main goals of Sustainable Agriculture. In line with sustainable agriculture is the concept of "green agriculture" which can be defined as: advanced agricultural businesses with controlled application of technology in accordance with the provisions of established protocols, in order to obtain optimal productivity, high product quality, maintained environmental quality and income. optimal farming economy. Green agriculture produces green food after the post-harvest handling process and its processing conforms to the provisions of the green food protocol (Sewenet & Schwarcz, 2021). The green agriculture movement is a positive response from producer actors to criticism of environmental issues and sustainability and consumption safety without having to deny advanced technology.

IV. IMPLEMENTATION OF SUSTAINABLE AGRICULTURAL DEVELOPMENT IN INDONESIA

In national development, since the beginning of the old order and mainly since the new order and until now in the reform era, development in Indonesia has always focused on economic development to accelerate economic growth and people's welfare. With the conventional approach, the logical consequence that occurs is that the success of economic

development has harmed the environment (Korai, Samad, Ghaffar, Ahmed, & Memon, 2021). Awareness of the environmental impact of the effect exists. This is reflected in ministries dealing with the environment, such as the State Ministry of the Environment in the New Order era. Concern for environmental impacts is stated in the obligation of environmental impact analysis (Amdal) on various development project implementation permits, including physical development in the agricultural sector. Although in practice, ecological problems often occur due to the construction of multiple projects that are not in accordance with the carrying capacity of nature. Indonesia's concern for environmental issues is also reflected in Indonesia's commitment to participate in implementing several international meetings and agendas related to saving the environment, such as Agenda 21, Rio de Janeiro and Earth Summit 10, Johannesburg.

However, the various environmental damage to natural resources is a reflection of the inconsistency of the Indonesian government and people towards the commitments of Agenda 21 on SARD (Rio de Janeiro Summit, 1992) and the agreement at the 10th Earth Summit meeting in Johannesburg, 2002 as well as the National Conference on Sustainable Development- KNPB, 2004. There are three sub-points concerning sustainable agriculture resulting from KNPB that have not been implemented optimally in relation to environmental damage, namely: a) increasing the income and welfare of agricultural actors; b) providing access to agricultural resources for the community by structuring a system of control and ownership; c) increasing land productivity and environmental media as well as rehabilitating damaged soils to increase food production in the context of food security while still taking sides with farmers. The implementation of conventional agriculture that was carried out in the past could increase productivity and agricultural production, especially food, significantly. However, production efficiency decreased due to the feedback effect of various adverse side effects mentioned above (Huang, Yuan, & Peng, 2012).

Conventional agricultural practices have continuously increased the use of chemicals that are not environmentally friendly and have a direct impact on

land and environmental degradation, and reduced the quality of agricultural production (McFarlane, Hopkins, & Nield, 2020). In this regard, the impacts of conventional agricultural development practices, namely: (a) increased surface erosion, flooding and landslides; (b) decreasing soil fertility; (c) loss of soil organic matter; (d) groundwater salinization and irrigation and soil sedimentation; (e) increasing water and soil pollution due to chemical fertilizers, pesticides, domestic waste; (f) eutrophication of water bodies; (g) pesticide residues and other hazardous materials in the environment and food that threaten public health and market rejection; (h) degradation of agricultural biodiversity, loss of traditional wisdom and local plant culture; (i) contribution to the global warming process; (j) increase in unemployment; (k) decrease in employment, increase in social inequality and the number of smallholders in rural areas; (l) increasing poverty and malnutrition in rural areas; (m) farmers' dependence on the government and agrochemical companies/industry.

The negative impacts of the use of agrochemicals include pollution of water, soil and agricultural products, health problems for farmers, and decreased biodiversity. Excessive use of pesticides in the long term will impact the life and presence of natural enemies of pests and diseases and affect the life of soil biota. This causes an explosion of pests and diseases and degradation of soil biota (Brawley, 2006). The use of chemical fertilizers in high concentrations and with high doses for an extended period causes a decline in soil fertility due to nutrient imbalances or other nutrient deficiencies and a further reduction in soil organic matter content. Planting superior rice varieties in monoculture without crop rotation will accelerate high levels of nutrient depletion in a short time. This, if allowed to continue, does not rule out the possibility of deficiencies or deficiencies of certain nutrients in the soil (Zombory, 2021).

The problems faced concerning future agricultural development are complex problems, including seeking to achieve the Millennium Development Goals (MDG's), which include poverty, unemployment, and food insecurity, creating proportional pricing policies for unique agricultural products, strengthening the ability to compete in the global market and overcome the weakening of economic growth due to the

worldwide crisis, improve the image of farmers and agriculture so that they are again attractive to the next generation, strengthen the institutions of productive economic enterprises in rural areas, create an effective agricultural extension system, and meet food needs, and develop superior commodities horticulture, animal husbandry and plantations. To achieve this, agricultural development is faced with various problems as formulated in the Strategic Plan of the Ministry of Agriculture 2010-2014, namely: (a) environmental damage and climate change, (b) infrastructure, (c) infrastructure, (d) land and water; (e) land ownership; (f) national seed and nursery systems; (d) farmers' access to capital, (e) farmer institutions and extension workers; (f) food and energy security; (g) Farmer's Exchange Rate (NTP); (h) inter-sectoral integration. By paying attention to various resource and agricultural, environmental problems that occur as well as pressures and demands from multiple parties, the government is increasingly aware of sustainable agricultural development. For this reason, in the strategic plan of the Ministry of Agriculture (Rienstra Kemtan) for 2010 – 2014, this aspect has received attention.

This is reflected in the component items in Rienstra Kemtan 2010–2014, which accommodates items from the agenda of Rio de Janeiro 21, 1992, and the National Congress for Sustainable Development 2004, as set out in Table 1. In the Strategic Plan of the Ministry of Agriculture 2010-1014 there are at least 10 components that in line with the commitments made in Agenda 21 Rio de Janeiro, 1992 and the 2004 National Congress for Sustainable Development, which are related to: (1) increasing farmers' income and welfare; (2) creating a balance of agricultural ecosystems that supports sustainable production increases; (3) achieving self-sufficiency and sustainable self-sufficiency; (4) making farmers creative, innovative and able to utilize science and technology and local resources; (5) structuring agricultural land regulations, area development and optimizing the use of abandoned land; (6) increasing protection and utilization of national germplasm; (7) improvement of agricultural human resources and agricultural institutions, including UK transfer of knowledge and skills in sustainable agriculture; (8) strengthening farmers' access to markets and low-interest capital; (9) improvement and development of agricultural

infrastructure (irrigation, reservoirs, village roads, and farm roads); (10) increasing food diversification.

As stated earlier, sustainable development relies not only on environmental aspects but also on economic and social development, which are interrelated. In this regard, the implementation of sustainable agricultural development is not only the task of the Ministry of Agriculture or the Ministry of the Environment but is also related to broad institutions. Unfortunately, it is precisely the coordination and cooperation between agencies and between sectors that is the weak point of our development implementation so far. There must be a solid political commitment so that both economic and social development can fully integrate environmental aspects. One of the causes of failure in implementing sustainable development is the sectoral and partial implementation approach (Lyson & Welsh, 2005). This ego-sectoral approach has resulted in many of Indonesia's commitments to many international conventions and agreements not being fully implemented on the ground. This ego-sectoral approach also causes in the current era of global competition; Indonesia is always behind and has not shown a high commitment to various international agreements. Sustainable Agricultural Development requires an integrated, cross-sectoral, and interdisciplinary application at the central and regional levels (Nie, 2018).

Regional autonomy at the district/city government or the provincial level, with all its powers, also seems to be very effective in supporting the implementation of sustainable agricultural development based on concepts, programs and strategies for achieving these programs at the regional level. Because after all, regional autonomy can be used as an umbrella of strength to synergize cross-sectoral programs, considering that the implementation of sustainable agricultural development activities still requires the support of linkages from various related sectors within the framework of a more holistic Regional Development Planning policy. At the national level, the synergy of concepts, programs and strategies for achieving sustainable development as well as sustainable agricultural development is jointly made into an integrated program between various development sectors, in this case through coordination of various existing ministry institutions and at

the same time related to national development programs. So that sustainable development programs and sustainable agricultural development can be implemented.

V. CONCLUSION

The approach to sustainable development, including sustainable agriculture in Agenda 21, has become an agreement of world leaders at the Earth Summit in Rio de Janeiro, 1992, to be used as a reference for development in all countries. However, not all countries can implement it according to the agreement, so there are still much environmental damage and degradation of natural resources that interfere with agricultural production processes and human livelihoods. Implementing sustainable agricultural development for developing countries (including Indonesia) facing many economic problems is not easy to implement. One of the reasons the sustainable development approach has not been fully implemented is applying the sectoral approach (sectoral ego), which is still an obstacle to implementation or implementation in the field. Sustainable development must be an integrated cross-sectoral and multi-disciplinary program that must be firmly coordinated starting at the central level to the regional level and the broader community as economic development actors.

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Implementation of Pesticides Reductant Law for Healthy and Food Safety in the Indonesian Agriculture

Mohamad Jazuli

Faculty of Law, University of Jember

Slamet Fauzi

Faculty of Agriculture, University of Jember

ABSTRACT: Law enforcement has always been problematic in Indonesia, including food safety and consumer health regulations. However, the Government of Indonesia has issued several rules on food safety, such as Law 18/2012 concerning Food and Government Regulation Number 28 of 2004 concerning Food Safety, Quality, and Nutrition. In reality, there are still many food producers who ignore food safety. The causes of food unsafety are the massive use of pesticides from farmers causes unhealthy food, reduced soil health, death of pest predators, and ecosystem imbalance. Who should anticipate these problems with a new legal breakthrough that can guarantee food safety by implementing the Pesticides Reductant Law? The Reductant is a breakthrough solution to reduce the dose of pesticide, and its effectiveness is the same as the application of a single amount of pesticide. Furthermore, the Reductant could reduce up to a half dose of the pesticide used and reduce the cost of using pesticides so that farmers will benefit more. This study will empirically analyze the advantages and disadvantages of the Pesticides Reductant Law is implemented in Indonesia. In addition, this study will provide conclusions in the form of the driving and inhibiting factors for the realization of Pesticides Reductant Law in Indonesia.

KEYWORDS: Law Reductant Pesticides, Consumer Protection, Food Safety.

I. INTRODUCTION

Pesticides are chemical substances that are mainly used in agricultural land or public health protection programs to protect plants from pests (destructive insects), weeds, diseases, and humans from vector-borne diseases (insects), such as cockroach could be a Food-borne disease vector (Stamati *et al.*, 2016; Donkor, 2020). However, there is a lot of evidence that the use of some pesticides causes long-terms severe negative effects on human health and the environment. More than 17.000.000 deaths have been reported to occur as a result of pesticide poisoning from 1960-2019 (Karunarathne *et al.*, 2019). Therefore, we must address these issues immediately to maintain consumer health and food safety. Food safety has been a global issue in recent years, and one of the most critical food safety issues in Indonesia is pesticide poisoning (Joko *et al.*,2020). Food safety is an aspect of human rights. This fundamental human right is guaranteed in Article 27, paragraph 2 of the 1945 Constitution, which states that every citizen has the right to life, liberty, and security. The state has the right to a decent living as a human being, including a food safety guarantee.

Unfortunately, the issue has not been paid much attention to in its application, including maintaining food safety from the hazardous pesticides that cause poisoning. Pesticides frequently poison farmers due to their propensity of utilizing excessive amounts and mixing harmful ingredient (Tri Joko, 2017). As a result, the pesticide reductant law must be implemented to reduce the danger of pesticide exposure to farmers while also ensuring food safety. The Reductant is a ground-breaking solution for reducing pesticide doses while maintaining the same level of effectiveness as a single dose. The lack of laws regulating the law's implementation has resulted in this breakthrough. This study will empirically analyze the advantages and disadvantages of the Pesticides Reductant Law is implemented in Indonesia. In addition, this study will provide conclusions in the form of the driving and inhibiting factors for the realization of law reductant pesticides in Indonesia. Hence, the novelties of this study are expected to provide input and consideration for policymakers, especially members Council, in revising the Food and Health Law in Indonesia.

II. STRATEGY IN IMPLEMENTING PESTICIDES REDUCTANT LAW

Indonesia adheres to multiple agency systems in organizing food safety supervision. According to APEC (2017), managing overview implementation of the numerous agency systems of food safety supervision and compilation of provisions in the Food and Health Law and their implementing regulation can be seen in the following table.

Food	Regulator	Supervisor
Fresh food from animals, plants and fisheries.	The Ministry of Agriculture and the Ministry of Maritime Affairs and Fisheries	District/city government
Processed food industry	The National Agency for Drug and Food Control (BPOM)	The National Agency for Drug and Food Control (BPOM)
Food processing and ready-to-eat food are produced in the home industry	The Ministry of Health	The Ministry of Health

Table 1. *Food Product Supervision Institutions in Indonesia*

Regarding the implementation of food safety, food products are divided into three types, as shown in the table above. This has a weakness when it is associated with efforts to prevent and handle cases of unsafe food distribution. With the condition of the multiple agent systems, this seems inefficient because it involves a bureaucratic path that is not short in each of the related institutions. Especially if there is no collaboration and coordination between food supervisory agencies due to any sector ego, therefore, it is necessary to consider a *single authority model* such as in the United States, namely the US Food and Drug Administration (USFDA), or in China, namely the China FDA, as a reference for a food control

system model that also pays attention to the social, cultural, and geographical conditions of Indonesia.

The two institutions in the two countries are devoted to regulating licensing, production, and supervision related to drug and food circulation in the community. Food safety is a significant condition in life, both for food producers and consumers. Producers must be responsive and aware that public awareness as consumers is currently getting higher and thus demands greater attention. To facilitate the implementation of food safety, the government and policymakers need to provide clear and firm laws to protect food consumers, including the regulations for maintaining the safety of pesticides by implementing the Pesticides Reductant Law. The steps suggested to policymakers or the government for implementing the Pesticides Reductant Law are as follows.

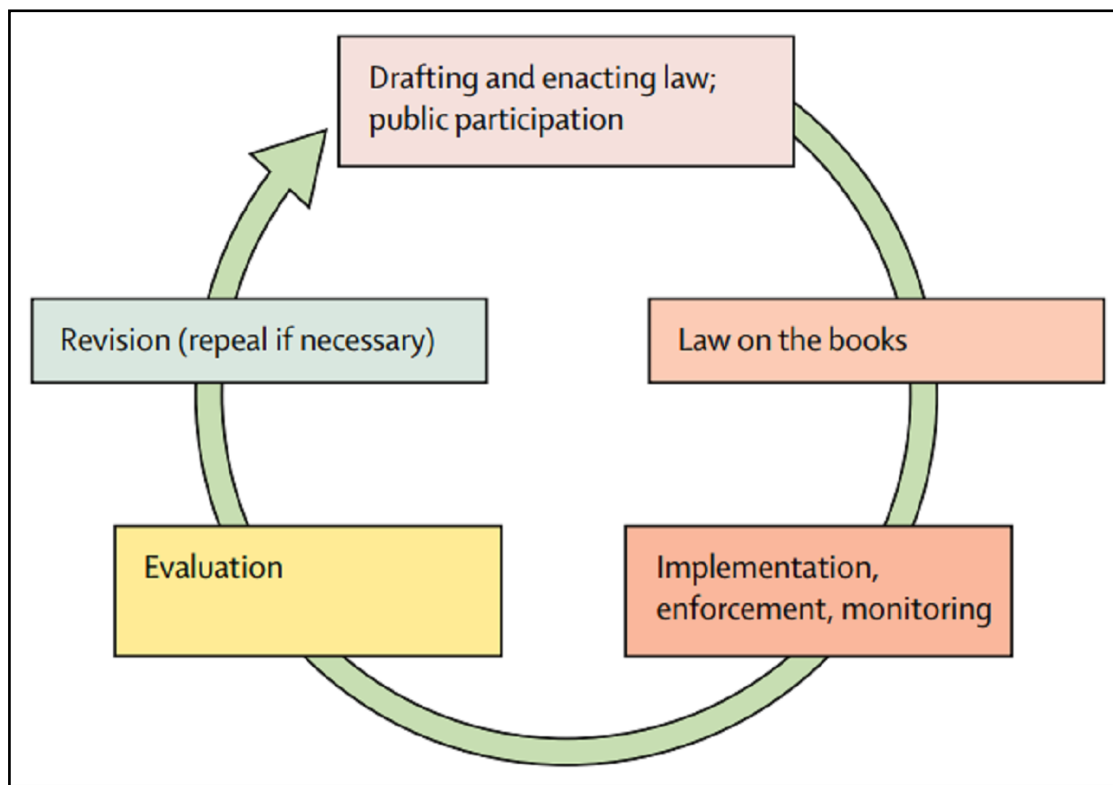


Figure 1. *Implementation of The Reductant Pesticide Law*

First, Drafting and enacting law. Formulating and enforcing The Reductant Pesticide Law must involve public participation. This is because the phenomenon became the reference for drafting this law based on unrest in the community. In addition, in formulating this policy, policymakers should look at examples of people who have applied pesticide reductants to strengthen it like a law is made. One example that has spread and produced this pesticide reductant is PT. Pandawa Agri Indonesia located in Banyuwangi. The advantages of this reductant can save the use of pesticides by up to 50% and reduce pesticide residues because they are made from environmentally friendly raw materials. *Second, the law on the books.* The Pesticides Reductant Law must be recorded to strengthen the quality of the law in writing and recognized by the state so that every citizen is obliged to follow it, especially food producers, to maintain food safety and reduce the risk of exposure to the harmful effects of the substances contained therein, such as pesticide residues. Thus, food safety and consumer health will be achieved. *Third, implementation, enforcement, and monitoring.*

Implementation is a concrete step in seeking the Pesticide Reductant Law to be enforced to achieve the common good for the society and maintain the safety of the food they consume. The law's implementation can be realized if law enforcement is carried out and accompanied by strict sanctions for those who violate it. Harsh sanctions are carried out so that every community does not underestimate the law's implementation, especially regarding the dangers of pesticide exposure to food and farmers. To assess the level of effectiveness of the implementation of this law, monitoring must be carried out by the authorities.

Fourth, evaluation. The evaluation is carried out to identify the difficulties or obstacles encountered in implementing The Reductant Pesticide Law so that the assessment can assist in resolving the problems and challenges faced. Furthermore, this evaluation is used to determine the effectiveness and efficiency of the methods or methods that have been used so that if there are any deviations from the plan, they can be addressed immediately.

Fifth, revision. Revisions are carried out if the policies that have been implemented are deemed less effective in terms of implementation, social

benefits, and other factors. This policy reference can be continued or discontinued depending on the level of help from the implemented program.

III. THE ADVANTAGE OF IMPLEMENTING THE PESTICIDE REDUCTANT LAW ON FOOD SAFETY

Regulation is a type of government intervention in society to manage it. The goal of regulation is to reduce fraud, misrepresentation, and unfair practices (Cranston, 1982). The idea that government intervention through regulation can solve societal problems is supported by Public Interest Theory. Regulations are intended to keep prices under control, to enforce safety standards, and to prevent accidents (Shleifer, 2005). Law is more than just a set of rules; it is a system that performs a variety of functions, such as constructing a society in which institutions govern actions (Hart, 2012). The goal of the law in the context of food safety is to protect people from hazardous behavior (Solaiman and Abu, 2014). Food safety is a condition and effort to prevent food from possible biological, chemical, and other substances that can interfere, harm, and endanger public health so that it is safe for consumption. According to (Pirsaheb *et al.*, 2015), one of the materials that can cause food contamination is pesticides. The level of contamination in food due to exposure to pesticides is influenced by low and high doses. Therefore, the implementation of the Pesticide Reductant Law is an effort to minimize the risk of contamination in food and can achieve food safety for the community.

Pesticide reductant raw materials must be environmentally friendly in order to reduce pesticide residue in food. PT. Pandawa Agri Indonesia is an example of a company that has implemented and manufactured pesticide reductants in Indonesia. *Weed Solut-ion* is the pesticide reductant product manufactured by PT. Pandawa Agri Indonesia. The advantage of using this product is that it can reduce pesticide use by up to 50%. Based on these facts, pesticide reductants are one of the few breakthroughs that are both economically profitable for agricultural producers and safe for the community. In other hand, Many pesticides have been linked to health and

environmental issues (Zheng *et al.*,2016), and the agricultural use of certain pesticides has been discontinued (Alewu and Nosiri, 2011). Pesticides can be absorbed through the skin, ingested, or inhaled. The type of pesticide, the duration and route of exposure, and the individual's health status (e.g., nutritional deficiencies and healthy/damaged skin) all play a role in the potential health outcome. Pesticides in the human or animal body can be metabolized, excreted, stored, or bioaccumulated in body fat (Persihab *et al.*,2015). Chemical pesticides have been linked to a slew of negative health effects.

Based on some of the problems above, the implementation of the pesticide reductant law will be able to reduce the risk of various negative effects caused by pesticides in the long term. The use of pesticide reductants, which have been shown to save up to 50% of pesticides, will undoubtedly reduce the negative effects, particularly in terms of farmers' and consumers' health. Therefore, the implementation of this law is a real effort that can protect farmers' and consumers' health. According to UC Sustainable Agriculture Research and Education Program (2021), sustainable agriculture is farming in ways that meet society's current food and textile needs without jeopardizing current or future generations' ability to meet their own needs. The pesticides reductant law is expected to accelerate the realization of sustainable agriculture that reduces the massive use of chemical pesticides. Sustainable agriculture is a principle that agricultural producers must follow in order to achieve food safety with very low levels of pesticide residues. As a result, the implementation of this law is one of the best efforts toward sustainable agriculture that also values ecological principles.

Thus, how about the challenges and obstacles of implementing the pesticide reduction law? *First*, the high cost of policymaking. The implementation of the law requires various considerations that are reviewed from multiple angles, ranging from social advantages and disadvantages, as well as fees that are not small. This is because policymaking needs to coordinate with various parties, bring in experts, and various other factors that the need for policymaking costs is one of the obstacles to realizing pesticide reductant law. Therefore, the government and policymakers must

carefully and precisely prepare to realize the pesticide reduction law. *Second*, purchasing power. The implementation of the pesticide reductant law causes various challenges, including people's purchasing power of pesticides. If the pesticide reductant law is implemented, people's purchasing power for pesticides in companies or shops will gradually decrease.

This will undoubtedly reduce the opinion of pesticide companies in Indonesia. Pesticide companies will undoubtedly try to increase people's purchasing power of pesticides because most pesticide companies are profit-oriented without thinking about adverse effects on the environment. One of the things that might happen is that they will do a product demo for their consumers that the products they produce are safe for the environment. If farmers are not equipped with adequate food safety knowledge, they will likely continue to use chemical pesticides without mixing them with environmental-friendly materials such as pesticide reductants.

Third, Lack of Awareness and Knowledge of Farmers. Farmers in Indonesia tend to accentuate the profit without considering the danger towards the consumers. The lack of knowledge of the farmer can also become the reason why pesticides poisoning cases occur. According to (Oktaviani and Eram 2020), research conducted in the city of Semarang discovered that pesticides had poisoned 75% of farmers. The problem was thought to be due to farmers level of concern for food safety and their knowledge of hazardous materials such as pesticides that they commonly used. Farmers' lack of knowledge prevents them from finding solutions to make pesticides safer for food and the environment, such as mixing them with pesticide reductants like those used by PT. Agro Pandawa Indonesia. When the level of awareness and compliance with the pesticide reductant law is low, this situation will undoubtedly challenge enforcing the pesticide reductant law.

IV. CONCLUSION

Food security is a fundamental human right that every Indonesian citizen must obtain. The pesticide reductant law is the most recent effort to ensure food safety, reduce agricultural production costs, protect farmers' and consumers' health, and maintain the ecological balance in the farming environment. To achieve agricultural sovereignty in Indonesia, implementing the pesticide reductant law necessitates several collaborative efforts from policymakers and the community. Who must consider various challenges and obstacles in implementing this law for policymaking to be appropriately and quickly overcome.

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Legal Aspect of Patents for Agricultural Biotechnology Products in Indonesia

Nuzulia Kumala Sari

Faculty of Law, University of Jember

Dinda Agnis Mawardah

Faculty of Law, University of Jember

ABSTRACT: Biotechnology is derived from the words "bio" and "technology", which is defined as living organisms or systems to solve a problem or produce a valuable product for humans. Humans utilize products produced by biotechnology, especially agricultural biotechnology, to meet their daily needs and survival. The use of biotechnology inventions has been widespread due to some of the advantages obtained in this product. Undeniably, biotechnological products that are genetically modified have several advantages. Some agricultural products that are biotechnological products can be resistant to pests and various diseases, use fewer pesticides, have a delightful appearance, have more nutrients compared to the original product, and other benefits. This article discusses the biotechnology development in Indonesia and the legal aspects of a patent for an Agricultural Biotechnology Product in Indonesia. The advancements that have existed in physics, chemistry, mathematics and biology have stimulated the progress of biotechnology. In addition, there is a greater demand to achieve the targets with faster processes and innovative breakthroughs, which can be advantageous for people also stimulate the inception of the biotechnological invention. Legal aspects of agricultural biotechnology products get legal protection in intellectual property rights, especially patents. Legal protection of patents on biotechnological products in agriculture is granted to the process, in this case, the process of making agricultural biotechnology and agricultural biotechnology products, for example, drought-tolerant transgenic sugarcane and high yield. Health biotechnological inventions, in this case, the design is in the form of technological discoveries or medical tools or processes from the manufacture of health biotechnology.

KEYWORDS: Legal Aspects, Patents, Agricultural Biotechnology Products.

I. INTRODUCTION

The main feature of the modern rule of law is the guarantee of human rights in its constitution. Following it, the founding fathers have built the Indonesian legal state by including the promise of human rights and the rights of citizens in the 1945 NRI Constitution. The provision of human rights and the rights of citizens then increased significantly in the 1945 NRI Constitution after the amendments. Included in this article, the 1945 NRI Constitution has regulated human rights and the rights of citizens in the form of guarantees of everyone to get an education and benefit from science and technology, cultural arts, to improve their quality of life and for the welfare of humankind as stipulated in Article 28C paragraph (1) of the 1945 NRI Constitution, which essentially gives everyone the right to develop themselves through the fulfilment of their basic needs, entitled to education and benefit from science and technology, cultural arts, to improve the welfare of humanity. Article 28C(1) of the 1945 Constitution is considered the primary constitutional basis for developing, implementing, and utilizing biotechnological products in Indonesia.

The provision can be used as a basis for protection and guarantees against the development, application, and utilization of biotechnological products in the form of goods and services for the benefit and welfare of the Indonesians. Biotechnology is not a new brand technology, but it is a series of technologies that have continued to develop and grow since thousand years ago, including various traditional processes such as the making of bread, wine, cheese, and the production of different oriental foods such as soy sauce and tempeh, also waste treatment that in the empirical process has developed the use of microorganisms since many years ago. Biotechnology is the implementation of technologies that use biological systems, living things or derivatives to create and modify products or processes for the particular use. Nowadays, in the 4.0 industrial revolution era, the advances of science and technology that have existed in physics, chemistry, mathematics and biology have stimulated the advancement of biotechnology. In addition, the greater the demand to achieve the targets with faster processes and innovative breakthroughs benefitting humankind also enable the inception of biotechnology inventions.

The use of biotechnology inventions has been widespread because of some of the advantages obtained in this product. Undeniably, biotechnological products that are genetically modified have some advantages. Some agricultural products that are biotechnological products can be resistant to pests and various diseases, use fewer pesticides, have a delightful appearance, and have more nutrients compared to the original product, etc. Some of the advantages of agricultural biotechnology products are claimed to overcome the problems of population and food faced by the world. In 25 years, the biotechnology plant journey has spent Rp. 1.9 trillion (\$135 million) as the average cost of discoveries, development, and authorization of new biotechnological plant properties. Female farmers have realized an additional \$96.2 Billion in income since the introduction of Genetically Modified Plants, which improve their quality of life and their families and the wider community. In 2018, farmers in developing countries received 4.42 Dollars (62,927 Thousand Rupiah) every time they invested in biotechnology seeds. Growing genetically modified plants has helped 16.5 million farmers, their families and communities mostly living in developing countries over the past 20 years (Indonesia, 2019).

Based on the report of ISAAA.org 2020 (International Service for the Acquisition of Agri-biotech Applications), it is recorded a percentage of the adoption rate of major biotechnology plants globally in 2019. For cotton with an adoption rate of 79% (25.59 Million Hectares), soybeans with an adoption rate of 74% (91.76 Million Hectares), corn with an adoption rate of 31% (59.95 Million Hectares), and canola with an adoption rate of 27% (10.15 Million Hectares) (Indonesia, 2019). The increasing use and utilization of biotechnological plants in only 20 years make biotechnology a technological discovery in agriculture that is fast and beneficial in human life. This means reflecting the level of satisfaction of farmers towards the superiority of biotechnological plants that provide benefits and increase yields in agriculture. Biotechnology is a future industry that offers abundant blessings for the doer and the wider community but negatively impacts it if it's not limited by regulations as a form of legal protection. On the one hand, the development of this technology has been so rapid, while on the other hand, in general, our

society does not know about biotechnological products and their legal aspects. Biotechnology development is one of the essential parts of efforts in maintaining food security in Indonesia. The use of biotechnology in agriculture and farming can overcome the food crisis because with biotechnology, who can maximize the production of food products. With the growth that tends to be high, Indonesia requires energy in various fields, especially agriculture.

In reality, the government seems to have not been moved to issue biotechnology-based policies. Until now, there are no legal products that can stimulate the development of biotechnology in the agricultural field. The story of biotechnology seems to be running in place while food problems continue to change. Political dynamics in the maelstrom of power also seem to have not shown severe attention concerning biotechnology. Many countries have successfully developed biotechnology in various fields to help the needs of the country. In the end, the competitiveness of countries that have developed biotechnology becomes higher because they get the time and financial efficiency to issue a product. Legal Aspects of Patents for Agricultural Biotechnology Product in Indonesia are interesting to be studied further in this article. The study will be conducted by knowing the development of biotechnology in Indonesia and the legal aspects of patents for agricultural biotechnology products in Indonesia.

The type of research that's used in this paper is Normative Juridical, it means that the issues which is raised, discussed, and outlined in this study are focused on applying positive legal rules or norms (Marzuki, 2016). Normative juridical research is carried out by reviewing various kinds of legal rules that are formal such as law, theoretical literature that is connected with the main problems. As for this paper, the author uses 2 (two) types of approaches, namely statutory approach and conceptual approach (Marzuki, 2016). Based on the description that is explained by the author in the background of study before, the research questions in this article is as follows: (a) How is biotechnology development in Indonesia? (b) How is the legal aspect of patents for agricultural biotechnology products in Indonesia?

II. BIOTECHNOLOGICAL DEVELOPMENT IN INDONESIA

According to researchers, biotechnology is application field of biosciences and technology that concerns about the practical application of living organisms or their subcellular components to the service and manufacturing industries also environmental management or can also be defined as technology that uses biological systems (biological processes) to obtain goods and services that are useful for human welfare. In general, who can say that biotechnology is an applied science of biological processes? Based on such limitations, biotechnology has become too broad. It needs to be defined by narrow boundaries. On the other hand, biotechnology applies technologies that use biological systems, living things or derivatives, to create, modify products or processes for a particular use. In line with this, biotechnology is the application field of biosciences and technology that concerns about the practical application of living organisms or their subcellular components to the service industry and manufacturing and environmental management, or it can also be defined as technology that uses biological systems (biological processes) to obtain goods and services that are useful for human welfare. Biotechnology utilizes bacteria, yeast, squash, algae, plant cells or animal cells that are bred as constituents of various industrial processes.

Biotechnology uses bacteria, yeast, squash, algae, plant cells or animal cells produced as constituents of different industrial processes. In its development, biotechnology was distinguished into traditional and modern biotechnology. Traditional biotechnology utilizes microbes (organisms) to modify materials and environments to obtain optimal products—for example, the manufacture of tempe, tape, bread, and composting garbage. Related to modern biotechnology, it is done through the utilization of human skills in manipulating living things so what can use them to produce products as humans wanted. For example, through genetic engineering techniques. Genetic engineering is a technique for producing DNA molecules that contain new expected genes or combinations of new genes or can be said as organism manipulation. In article 3 sub(i) of the *cartagena Protocol on Bio Safety to The Convention on Biological Diversity* explains:

“Modern Biotechnology” means the application of in vitro nucleic acid techniques, including recombinant deoxyribonucleic acid (DNA) and direct injection of nucleic acid into cells or organelles, or fusion of cells beyond the taxonomic family.

Modern biotechnology, as mentioned above produces Living Modified Organisms (LMO). LMO is contained in article 3 sub(g) *Cartagena Protocol on Biosafety to the Convention on Biological Diversity*, namely:

“... any living organism that possesses a novel combination of genetic material obtained through the use of modern biotechnology.”

Based on the explanation above, it can be known that LMO is a living organism that has a combination of new genetic material which is obtained through applications of modern biotechnology, or generally said to be organisms resulting from genetic engineering. In the next development, there are 4 (four) basic principles of biotechnology, namely: (i) Utilization of biological agents; (ii) Using certain methods; (iii) Manufacture of a derivative product; (iv) Involves many disciplines. Modern biotechnology is proliferating after molecular genetics is well developed. Starting with an understanding of the DNA structure in the 1960s until the development of various molecular techniques has made understanding genes even better.

The development of biotechnology developed rapidly until the 4.0 revolution era nowadays, including agricultural biotechnology and health biotechnology. Agricultural genetic resources are basic materials used by researchers in research institutions or farmers / local communities to improve the quality and production of food or agriculture. Agricultural biodiversity is also critical to get balanced nutrition to maintain the health and growth of the community. Population growth in the world is increasing, so there needs to be an increase in agricultural production to meet food needs and security what can achieve this through the use of genetic engineering or biotechnology (Lokollo, n.d.). Genetic engineering technology through biotechnology provides opportunities to get maximum quality in the agricultural sector or other sectors. Genetic engineering technology has the potential to support improved food security, reduce

pressure on land use, increase land productivity, reduce the use of water and agricultural chemicals, and improve the quality of human life.

In technical order, agricultural genetic engineering products are divided into several categories, namely: (i) First generation: pest resistant and tolerant to herbicides; (ii) Second generation: nutritional Value, resistant to stranglehold; (iii) Drought-resistant; (iv) New Crops: development of varieties or types of crops for developing countries, such as superior rice, virus-resistant potatoes, superior yams, sugarcane, and horticultural varieties; (v) New traits: mitigation and adaptation to climate change; (vi) *New techniques*. The application of biotechnology in the field of health includes the detection of various diseases including hereditary diseases that are very difficult to overcome, human organ transplants, various prosthanties, and new drug discoveries. Biotechnology in the field of health is divided into 3 (three) parts including *Healthcare Biotechnology*, *Agri Biotechnology*, and *Industrial Biotechnology*.

III. LEGAL ASPECTS OF PATENTS FOR AGRICULTURAL BIOTECHNOGY PRODUCT IN INDONESIA

Intellectual Property Rights Arrangement (from now on referred to as IPR) for inventors began with the inception of Law of the Republic of Indonesia Number 6 of 1989 concerning Patent L.N Year 1989 Number 39 (referred to as Law No. 6 of 1989). The law provides an opportunity for inventors to get protection in exclusive rights from the results of their inventions to encourage innovation. The critical thing stipulated in Law No. 6 of 1989 is the existence of the Appeals Commission. The Patent Appeals Commission is a fantastic body that is led permanently by a chairman. It is in a department headed by the Minister, who is tasked with examining appeals from applicants who are rejected based on reasons and grounds of substantive consideration (Purwaningsih, 2005).

In its development, Law No. 6 of 1989 changed to the law of the Republic of Indonesia Number 13 of 1997 concerning Amendments to Law No. 6 of 1989 on Patents (in the future abbreviated as Law No. 13 of 1997) Three crucial things contained in Law No. 13 of 1997 are the refinement,

addition, and elimination of some provisions in Law No. 6 of 1989 (Pakpahan, 1999). The presence of Law No. 13 of 1997 gives us a little touch of fresh air, where patents are not only available for technological inventions in the field of health, but any plant variety can also get patent protection. Related to this, the law still has a weakness, such as the invention of plants is not commanded thoroughly (Saidin, 2007). Law No. 13 of 1997 does not explain many terminologies related to the process of plant variety technology, making it challenging to implement it. This shows that Law No. 13 of 1997 has not accommodated legal protection related to patents in the field of technology.

Based on this, to create complete patent legal protection and can facilitate its use by the public, then law No. 14 of 2001 on Patents, which who later changed to Law No. 13 of 2016 on Patents (from now on referred to as the Patent Law), which is valid until now. The patent derives the patent word from the Latin "patens", meaning "to be open", and it is derived from a medieval practice created by the kingdom that who gave in the form of sealed letters or an open state that who could read without damaging the seal used for granting clemency, honorifics, office agreements and later giving, recognition of inventors (Mustafa, 2007). According to W.J.S. Poerwadarminta, the word Patent comes from a European language (patent/octroi) which means a business or permission from the government that states that a person or company can make its income goods (others should not make it) (Poerwadarminta, 1976). Other definitions of patents are also listed in the Patent Law article 1 which defines patents, namely:

"The exclusive rights granted by the State to the Inventor for the results of his invention in the field of technology for a period of time to exercise the invention themselves or give consent to the other party to carry it out."

Based on the definition of Patent above, there are several vital elements that can be found and need to be understood (Riswandi & Syamsudin, 2004). *First*, the patent is an exclusive right; patents as material rights that are intangible (intangible assets) are monopolized / special requests. The specificity lies in the control of privileges that only exist in the hands of

patent holders, while monopoly means that not everyone can use or carry out the invention without the permission of the patent holder; The exclusive rights attached to the patent holder consist of two types, namely: first, a product patent, in which the patent holder has the sole right in implementing the patent in their property and to prohibit another party without their consent, making, using, selling, importing, renting, handing over, or providing for sale or rent or submission of the patented product; Second, Process Patent, i.e. Patent holders have the exclusive right to carry out the patents they own and to prohibit others from using the patented production process to make goods and other actions.

Second, patents are granted by the state to inventors, which means that the state is the only party entitled to patents to inventors. Usually, this task is delegated to a specific office that handles registration applications, announcements, examinations and granting patent certificates. In Indonesia, this task is driven by the Directorate General of Intellectual Property Rights under the Ministry of Law and Human Rights. To obtain a patent, an inventor is required to file a patent registration. If substantive and administrative requirements have been fulfilled, the inventor will be granted such exclusive rights by the state. Patents are granted for inventions in the field of technology, meaning that the giving of patents is only devoted to the area of technology; outside the field of technology, the patent can not be requested.

Third, the patent gives a certain period to carry out the invention or to give approval to other parties to carry out the design, and it means that inventors who get a patent should carry out their vision or can also give permission to other parties who want to carry out their invention. Others may implement patent-protected designs through a licensing agreement, unless otherwise promised, as long as the patent holder's license agreement can continue to carry out the patent (Riswandi & Syamsudin, 2004). Therefore, the exclusive rights granted to patent holders are limited in nature. After the patent expires, its status becomes a public domain or becomes public property. An expired patent is not an invention; it is only a discovery. The story is essentially an inventor's idea poured into a specific problem-solving activity in the field of technology in the form of products

or processes or refinement and development of products or development procedures.

The above explanation states that the patent is granted for inventions in the field of technology in the form of ideas that can apply in industrial processes, where this is the object of patent protection as an immaterial or intangible object as an industrial property right which is also part of IPR. In line with the statements above, inventions in biotechnology are also protected in patents. Biotechnology covers several fields; one of them is biotechnology in agriculture. Agricultural biotechnology inventions are intended in non-biological or microbiological processes for producing genetically modified crops, including chemical, physical, or other forms of genetic engineering. This suggests that patent protection towards genetic products in agricultural biotechnology is given to the process, in this case, the process of making farm biotechnology and agricultural biotechnology products, for example, drought-tolerant transgenic sugarcane and high yield. The invention in the field of health biotechnology, in this case, the story, is in the form of the discovery of technology or medical tools or processes from the manufacture of health biotechnology (e.g. medications) to treat a disease.

The legal protection of patents through the granting of patents by the state to inventors generally has two purposes. (Gumanti, 2015) *First*, to provide incentives for the inventor, with the aim that the provision of such stimulants can stimulate the making of other discoveries or the development of the previous findings by the same person or others. *Second*, it aims that every invention is opened to the public interest, for the benefit of society and technological developments. About the purpose of the patent, for the inventor, the patent provides advantages, such as: (i) The holder of a patent or inventor is authorized to take the benefits from the invention for his or her own benefit both material and immaterial, in ways which is justified by the law; (ii) Transferring its usefulness to others, in the form of allowing, renting, selling, granting, or bequeathing the contents of patents to others; (iii) Prohibit others to take advantage of the invention without the right of a valid patent holder; (iv) Prohibit the importation or exportation of inventions that are protected by patents, without the

approval of the legal patent holder; (v) The patent holder or the inventor may produce his invention abroad, due to financial reasons, and the processing technology cannot be produced in his own country.

IV. CONCLUSION

The development of biotechnology inventions in Indonesia is growing rapidly until the current 4.0 revolution era. Ranging from traditional biotechnology to modern biotechnology, including the field of agricultural biotechnology whose invention provides benefits to human life. Regulation of Patents for Biotechnology Product including agricultural biotechnology in Indonesia is regulated in Law No. 13 of 2016 on Patents. Biotechnology covers several fields, one of it is biotechnology in agriculture. Agricultural biotechnology inventions are intended in nonbiological or microbiological processes to produce crops that are genetically engineered, which is done by including chemical, physical, or other forms of genetic engineering. This suggests that patent protection towards genetic products in agricultural biotechnology is given to the process, in this case the process of making agricultural biotechnology as well as agricultural biotechnology products, for example drought-tolerant transgenic sugarcane and high yield. Inventions in the field of health biotechnology, in this case, the invention is in the form of technological discoveries or medical tools or processes from the manufacture of health biotechnology (e.g. medications) to treat a disease.

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Feminism Criticism on the Protection of Women in Agriculture

Nikmatul Keumala Nofa Yuwono

Master of Law Program, University of Jember

Eka Wulandari Larantika Mu'alim

Master of Law Program, University of Jember

ABSTRACT: Feminism is a paradigm as well as a movement that focuses on gender justice. Feminism was born as a form of criticism of gender injustice in society, especially those that affect women. Within the scope of agriculture, there is often an imbalance in the roles of women and men. The inequality of roles that occurs indeed hampers the productivity of women who want to play a more profound role in the agricultural sector. One of the inhibiting factors is the double burden that women receive. The agricultural sector has put women at the lowest point, which is increasingly eroded by the industrial sector. It adds the suffering to women who are already burdened with household responsibilities are encouraged to maintain family survival by involving themselves as part of processing farmland left by men. Not infrequently, women workers in agriculture are only considered additional workers who are often paid less than male workers or even not paid at all. This is because there is still an assumption that women's main job is at home, while farming is only done to help or replace men who were not there at that time. The role of women in agriculture is often assigned to things that do not have a broad influence, namely only in physical roles. In contrast, their roles as planners, implementers of agricultural development programs to decision-making are still not recognized. Criticism of feminism intends to build a new paradigm that can generate ideas and policies to protect women's rights and empower women in agriculture. Furthermore, women are expected to improve the quality of agriculture by involving them in all aspects. The feminism-based paradigm used in policymaking can provide protection and justice for women, especially in the agricultural sphere.

KEYWORDS: Feminism, Women, Agriculture.

I. INTRODUCTION

Agriculture is one of the vital aspects in determining the growth and development of an agrarian nation, including Indonesia. Getting the nickname as an "agricultural country" is, of course, not without reason. It is because Indonesia has a relatively vast agricultural land stretching from Sabang to Merauke. Farming has existed for a long time and is passed down from generation to generation in Indonesian society. Farming is the best choice by the ancestors of the Indonesian people to date because Indonesia is a country with a tropical climate. After all, it is located on the equator. Rice fields and farmers are an inseparable part of the Indonesian nation. In 2019 it was recorded that rice fields in Indonesia reached 7,463,948 (Ha). (Azhar, et.al, 2020: 5) This figure is lower than in previous years. However, until now, agriculture in Indonesia has played an essential role in the prosperity of the people. There have been many government efforts to regulate it through regulations that are ideally right on target and able to accommodate the sector's needs. Ideally, it is a form of agricultural progress in Indonesia. In order to protect farmers, the government made a statutory regulation, namely the Law of the Republic of Indonesia Number 19 of 2013, concerning the Protection and Empowerment of Farmers (UU PPP).

The law regulates what farmers receive as protection. However, overall, it only prioritizes the agricultural aspect, not the human. In this case, the government does not provide access to exceptional health insurance for farmers. As we know, access to health for farmers, especially women farmers, is very much needed. Within the scope of farmers, women still get gender-biased treatment where they are only considered assistants to their husbands or men. It is due to the view that the fundamental task of women is to be in the house to dress up, cook, and have children. If a woman is outside of her duties in the house, then what she does is considered not the primary task but a side task. It has happened for generations. Women are known as weak and unsuitable to do the work that men do. (Amalia, 2021: 57) For example, a widow and daughter who inherit agricultural land left by her late husband or father, on average they will work on the rice fields themselves. However, they prefer to rent, sell or pay someone else to work

the fields. They feel reluctant or ashamed to manage the rice fields because the community still thinks farming is male work. Another example is a female cattle farmer in Karangploso, Malang. They feel reluctant to participate in extension programs from the government because most of those attending are men. (Noviryani, 2020) Of course, planning for agricultural cultivation in human resources cannot be carried out optimally. Not only the PPP Law, but several regulations such as Law No. 7 of 1984 concerning the Ratification of the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) also regulate in detail what rights women should receive in work. In this case, the government has a significant role in countering the stereotypes that develop today by creating or updating previously made regulations.

The regulations and their implementation are carried out without focusing on one particular gender and, if implemented, can have benefits and protection for both men and women. Gender mainstreaming has been through several trials, one of which is the example of the Ministry of Women and Children Empowerment (KPPA), which seeks to overcome this inequality through a memorandum of understanding made with the Ministry of Agriculture, which was released on February 23, 2016. (KPPA RI, 2016) The memorandum of understanding is to accommodate and increase the share and capacity of women farmers in planning and budgeting regulations from a gender perspective.

It is undeniable that the implementation practices and regulations issued by the government are still far from the expectations conveyed to the public. The welfare of women farmers is felt to be lacking because of marginalization, which is still considered normal by our society traditionally. Feminism itself is a paradigm and a movement that focuses on gender justice and provides space to create an environment free of gender bias, including agriculture. In this case, feminism criticizes the protection of women in agriculture, which is still not specific and comprehensive. Feminism that can be used as a science and an analytical knife tries to dissect how regulation is made and whether the new regulation can create a safe space for all genders. Previous research entitled "Women's Contribution in Agricultural Activities," written by Fera Nur

Amalia explained how women were involved in agricultural activities. She explained the critical role of women in agriculture and the challenges that occurred while being a female farmer. His research is limited to showing the contributions and challenges faced but has not come up with any solutions to these challenges. Unlike previous research, the author focuses on whether the law in Indonesia can protect women in agriculture with a feminist perspective as an analytical tool. It aims to open a safe and comfortable protection space within agriculture and optimize the government's goal to create a sustainable agricultural system suitable for all genders. Based on the description above, the author wants to raise how the law in Indonesia protects women in agriculture?

In this study, the author uses a socio-legal research method that is carried out to understand the law in the context of its society. (Suteki & Taufani, 2018: 158) In the socio-legal framework, the law can be seen both with the substance of social power and policymaking structure. Substantially, the law becomes an accurate and valid force regardless of whether the law is effective or not in society. Meanwhile, structurally, whether the law is effective or not is seen from the community affected or surrounded by the law. Law is also transformed into a judicial institution that processes rules into legal practices. (Komnas Perempuan, 2017: 6) (Soetandyo Wignjosuebrotto, 2002: 6)

II. FEMINISM

According to the Big Indonesian Dictionary (KBBI), feminism is a women's movement that demands full equality of rights between women and men. (Departemen Pendidikan Nasional, 2017: 315) Feminism, which initially stood as a social movement to create gender equality, has expanded its reach to become a science and analytical tool. The beginning of the emergence of feminism also promoted women's rights. However, over time feminism is talking about women's rights and the rights of all genders. Elizabeth Cady Stanton and Susan B initiated the Feminism movement itself. Anthony at Seneca Falls in 1848. At this first women's conference, the word "feminism" discussed the importance of women getting an

education like men. (Nadyya Karima Melati, 2019: 10) In the history of feminism itself, there are four main streams, namely; Liberal Feminism, Radical Feminism, Cultural Feminism, Postmodern Feminism.

Liberal Feminism emphasizes that men and women have equal status, therefore women should get equal opportunities in determining what they choose. However, several things in the law that emphasize feminism do not have a women's perspective, such as equalizing the leave obtained by female workers with male workers. It encourages female workers not to get the right to leave related to the specific needs of women, such as childbirth and menstruation. (Niken Savitri, 2006: 44) Radical feminism tries to dissect the meaning of the word "woman" and seeks an explanation and understanding of women's point of view. According to this sect, women's oppression occurs because of women's bodies. Radical feminists are also divided into Cultural Radical Feminists (FRK) and Libertarian Radical Feminists (FRL). The FRK stream glorifies womanhood and the womb of women, which considers heterosexual intercourse to be violence against women. Meanwhile, the FRL view sees the opposite, where masculinity and femininity must be equally valued and exist in one body that does not need to be contradicted. (Nadyya Karima Melati, 2019: 16)

Similarly, Cultural Feminism emphasizes the differences between women and men. The differences between men and women focus on the positive aspect of women in terms of attachments to others. Finally, Postmodern Feminism sees women as alienated beings due to women's ways of being, thinking, and language that does not allow openness. This school also states that symbolic rules full of 'male rules' have made it difficult for women because they are expressed in masculine language and ways of thinking. (Niken Savitri, 2006: 45) These feminist streams can certainly develop, such as Ecofeminism, Existentialist Feminist, Psychoanalyst Feminist, so on and so forth. The many streams in feminism show that feminism can reach anything from social, environmental, and even legal issues. So far, feminism has often appeared in the discussion agenda that focuses on gender mainstreaming. It is because feminism itself does not escape its role in reconstructing thoughts detrimental to all groups, especially women. As a knife of analysis, feminism is also used as a

reference in law and is known as Feminism Legal Theory or Feminism Jurisprudence.

In Indonesia itself, feminism has entered the roots and foundations of social life long ago. However, a strongly patriarchal culture started from the colonial era at the end of the 19th century to the 20th century. In the colonial era, feminist values initiated by R.A. Kartini in 1879-1904 arose because of a sense of injustice in the position of women who could not get higher education. In addition, to criticize the lack of education for women, R.A. Kartini also criticized the term "seclusion" for Javanese women and her rejection of polygamy. One of the letters he sent to Mrs. M.C.E Ovink-Soer emphasized that it was not men that R.A. Kartini wanted to fight but old-fashioned thoughts and outdated customs that had been passed down in Java. (R. A. Kartini, n.d.: 52) It confirms that R.A. Kartini's struggle in opening the gate of education in Indonesia is still considered a form of violating local customs because, at that time, women were only required to preen, give birth and cook.

Based on the equality of fate, several figures emerged who fought for justice for women, such as Dewi Sartika in West Java, who built the Wife School in 1904. Then in 1912, the first women's organization was pioneered, namely Poetri Mardika, which later gave rise to other women's organizations. Efforts for the women's movement continued and became even more intense after the Youth Pledge Congress, namely the birth of the Indonesian Women's Congress on 22-25 December 1928. (Sri Hidayati Djoeffan, 2001: 287) To unite the ideals and efforts of advancing Indonesian women. Historically, efforts to equalize rights to all genders have long been a dream in the life of a just state, intending to show that there is an equal position between men and women. There is no longer backwardness, especially in the modern era like today. There is no longer any attempt to marginalize nature under the guise of custom and culture.

In this issue, feminism tries to see and dissect how a policy can protect women in the agricultural sphere. Not only in the form of policies, but the implementation of policies also plays a vital role in overcoming problems in the field, one of which is the issue of the protection of women in

agriculture. The issue regarding the protection of women is also inseparable from many aspects, such as low levels of education, poverty, and the lack of attention from policymakers on women's rights in it. It is the focus of feminism regarding how regulation is appropriately implemented in the field.

III. WOMEN AND AGRICULTURE

Talking about women cannot be separated from their long journey as humans are often placed in the lowest position. Even if we look at ancient traditions such as ancient Arabia, women are seen as nothing more than goods than complete human beings. (Muh Endriyo Susila, 2013: 318) From a long time ago, women were portrayed as weak and unable to do everything men generally do. Gradually, the perspective that emerged like that gave rise to the idea that women would be considered taboo and/or just considered a substitute for the absence of men when they tried to do what men usually do. What women do will never be sufficient and comparable to men, even though they both do the same thing. It is also the case in agriculture. Women's existence will be considered mere helpers even though she does the same thing as the male farmers.

According to the results of an inter-census agricultural survey conducted by the Central Statistics Agency (BPS) in 2018, it is known that there are eight million female farmers or around 24 percent of the 25.4 million farmers in Indonesia. (Syahyuti & Sahat, 2021) In Asia alone, about 50 percent of the workforce in the agricultural sector is women. The data shows that the involvement of women in the agricultural sector is also quite extensive. However, workers in the agricultural sector are generally family workers who receive minimal wages. They are not even paid even though they carry enormous responsibilities such as planting, irrigating, harvesting, cleaning rice to risky activities such as fertilization, and even using pesticides. (Nur Hijrah Fatmi, 2021: 66) Another thing that must be considered is that women who work as farmers have a different place than men. Women have a double burden as housewives and also as farmers themselves. Therefore, it is not uncommon for women farmers to be placed in positions where they are only considered assistants to other farmers or

substitute for their husbands, not as the leading farmers. (Syahyuti & Sahat, 2021)

Although the role and participation of women are very dominant in the agricultural sector, it is not balanced with authority given to them. It is scarce for women to be involved in decision-making in matters relating to household welfare. The view that places women in the second class in the social sphere is very influential for activities in the agricultural sector. For example, the assumption that farming is the main task of a male farmer raises the view that if there is counseling for farmers, men are obliged to come and take the information. Although there is no specific provision on who can participate in the counseling activity, there is no provision requiring women to participate. As we know, female farmers still think that receiving information is better if men attend to it. Not only that, but the absence of women in terms of information sharing is also a question mark. Did the women finish their work as housewives after finishing their work in the fields? Doesn't a husband also help his wife with her work more or less so that both of them can attend the information sharing? These things often escape the scrutiny of those who make policies.

Congestion of access to information obtained by women farmers can also impact themselves, such as counseling about which pesticides are harmful to health and which are not. Of course, the effect of women's ignorance of such information has a more significant impact on them than on men. It is also supported because of the biological factors inherent in women, such as having a uterus, so the impact is more significant on their reproductive health. Maybe for some people, it is considered normal and has no impact on anything, but it has a significant effect on the sustainability of agriculture. It is conceivable that if the welfare of women farmers is not paid much attention to, especially in terms of health, they will indeed feel tired and helpless more easily. In addition, biological factors, there are also educational factors, which have been homework for the government for a long time. Not only for women and men, but education is also an essential thing that should receive more attention in agriculture and all spheres of life. In the case of agriculture, education is a determining aspect of how agriculture will be carried out well in the future. It is very influential for

farmers, especially in acting and making decisions such as accepting innovations. (Mohammad Shoimus Sholeh, et.al, 2020)

IV. WOMEN AND LAW

Law is often interpreted as something as principal in every aspect of life. Not without cause, the law itself was born from the womb of human knowledge. He was born through the intermediary of human thoughts and desires in realizing the life they aspire to. The law was discovered and how the law was created are two things humans have always studied until now. The fundamental law is the liberating master. Man cannot be free to sleep in tranquility if he is seized with fear when someone tries to kill him. The presence of the law is aimed at liberating fears in a form that we know as "regulations." The law itself is not born out of anywhere. It exists because of legitimate power because it is the legitimate power that can create law. (Sudikno Merto Kusumo, 2019: 31) This also applies after a law or a regulation has been established within that legal authority. Where the people who are in it inevitably have to submit and obey the law.

Talking about the law, of course, one should not miss the issues in it, one of which is the issue of women's protection and the law. Legal protection for women has been regulated in Law No. 7 of 1984 concerning the Ratification of the Convention Concerning the Elimination of All Forms of Discrimination Against Women (CEDAW). The law contains the rights that women should obtain. As humans are often placed in the second position, women need protection to save them from powerlessness. The existing social construction has continually made women lose their existence as human beings who think the same as men. No doubt, there have been movements that have raised women's issues so that society will be more open to seeing what difficulties have been faced by most women, including those who work.

The presence of regulations such as CEDAW creates a breath of fresh air for Indonesian law for women. The reason is, one person cannot change inequality in the work environment. It needs something solid and binding, like a rule that can change it slowly. CEDAW explains that all forms of

discrimination against women must be eliminated, including all forms of discrimination within the scope of work. Working women have the right to obtain occupational health and safety protections and protection for the function of continuing their offspring (UU Nomor 7 tentang Pengesahan Konvensi Mengenai Penghapusan Segala Bentuk Diskriminasi Terhadap Perempuan (CEDAW), 1984: Pasal 11), including female farmers who should get proper rights to their lives.

V. FEMINISM CRITICISM AGAINST WOMEN'S PROTECTION IN AGRICULTURE

Feminism as an analytical tool also highlights whether a legal product is also friendly to women or not. In the scope of agriculture, feminism tries to dissect whether *das sein* and *das sollen* have been in harmony and whether there is already a draft regulation that prioritizes gender equality. Protection of farmers is regulated in the Law of the Republic of Indonesia Number 19 of 2013 concerning the Protection and Empowerment of Farmers (UU PPP). As stated in the law, several things are offered in protecting farmers, namely, agricultural production infrastructure and facilities, business certainty, agricultural commodity prices, elimination of high-cost economic practices, compensation for crop failure due to extraordinary events, and handling the impact of climate change and agricultural insurance. (UU Perlindungan dan Pemberdayaan Petani, 2013: Pasal 7 ayat 2 huruf g). Furthermore, it is also explained that the agricultural insurance in question protects farmers from crop failure. (UU Perlindungan dan Pemberdayaan Petani, 2013: Pasal 37 ayat 2)

Of course, this is very far from the imagined protections such as the right to obtain occupational health and safety protections and protection for the function of continuing offspring, as stated in Article 11 paragraph 2 (f) CEDAW. As we know, the experience of women in the world of work and men is very different. Women have their own experiences with biological aspects such as menstruation and pregnancy, while men do not. Not only that, but women also have a double burden as housewives who have to take care of their children and husband, as well as farmers who have to take care

of the fields. As a female farmer, she must face difficulties in her daily life, such as excessive use of pesticides that affect her body which cause her to experience excruciating pain.

Not all regional leaders understand this. Information congestion and the absence of special health services for farmers in each region have opened up our agricultural opportunities to narrow. They feel that their physical health is not what it used to be, coupled with the absence of promising things in their old age when they became farmers, other than the results from selling rice fields. If the welfare of farmers continues to be ignored, of course, in the future, we will lose strong figures such as farmers who work from morning to evening and will no longer find rice fields because they have been sold for residential land, etc.

Feminism wants the presence of a new regulation that refreshes the agricultural sphere—a regulation that prioritizes aspects of human rights, in this case, women who work as farmers. Regulations are made on the record of women farmers' experience and provide benefits and protection for them. There is no longer any worry about being a female farmer because the state guarantees her rights. There is no longer a fear of being a female farmer because her future is no longer haunted by sickly aging. Regulations that can create a safe and comfortable space will undoubtedly have an impact on agricultural sustainability. If the human resources can be appropriately fulfilled, then their environment will also be fulfilled well.

VI. CONCLUSION

Feminism is a paradigm and a movement that focuses on gender justice and provides space to create an environment free from gender bias, including in agriculture. In this case, feminism criticizes the protection of women in agriculture, which is still not specific and comprehensive. Feminism as an analysis also determines whether a legal product is also friendly to women or not. Legal protection for women has been regulated in Law No. 7 of 1984 concerning the Ratification of the Convention Concerning the Elimination of All Forms of Discrimination Against Women (CEDAW).

The law contains the rights that should be obtained by women and the elimination of discrimination.

Meanwhile, the protection of farmers is regulated in the Law of the Republic of Indonesia Number 19 of 2013 concerning Protection and Empowerment of Farmers (UU PPP). In protecting farmers, several things are offered: agricultural production infrastructure and facilities, business certainty, commodity prices, elimination of high-cost economic practices, compensation due to crop failure due to extraordinary events, and handling the impact of climate change and insurance. This insurance itself is insurance that protects farmers from crop failure, not protecting the health of farmers. Feminism criticizes the assessment of a regulation that contains the protection of women. In this case, they are human beings, not as rice fields. Feminism also wants to establish a regulation that is more about aspects of human rights concerning their survival in terms of their health as farmers.

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Farmer Regeneration Policy against Food Security: A Thing Left Unnoticed

Moch. Marsa Taufiqurrohman

University of Jember

Muhammad Toriq Fahri

Banyuwangi District Attorney

ABSTRACT: There is so much recognition that food security is only determined by the availability of land, technology, seeds, climate, and weather. However, a rapidly growing body of evidence suggests that farmer availability also has a vital role in meeting food security challenges. This article aims to discuss how far the availability of farmers and their regeneration is related to food security. This article also wants to reflect how do agricultural and rural policies affect young people in farming. This article finds that as education spreads, the civil service or other professional careers that young educated people aim for are increasing an unrealistic target. This fact sometimes leads to doubts about 'where does the rural educated person fit?' has caused the successor to leave, sell, or replace their agricultural land, leading to food security problems and prosperity and regional stability. This article also finds that the world's agriculture faces a looming generational succession crisis, which has recently been unnoticed in research and policy discourse. In most countries, the farming population is aging. In many countries, large numbers of farmers appear to have no successor; even though rural youth unemployment rates are high, it is widely claimed that young people are not interested in farming. Policy and regulations only indirectly encourage young people to tend to be more oriented towards developing businesses in the industry. However, not many believe that industrialization is taking away agricultural land and eliminating the paradigm of guaranteeing food availability in the future. This article argues for targeted policy support to enable the availability of regulation on the development of young farmers to meet the challenges of food security. Therefore, this article clarifies that if sustainable agricultural futures are to be realized, and if young people will have a place in those futures, the food security problems and the support for young people face in establishing themselves as farmers have to be taken seriously in recent policy debates.

KEYWORDS: Food Security, Farmer, Regeneration, Agriculture, Policy.

I. INTRODUCTION

The world of agriculture faces threats and problems of successful regeneration, which has been missing; it is largely ignored in research and policy discourse (White, 2015, p. 330). In most countries, the peasant population is ageing, and in many countries, large numbers of farmers appear to have no successors (White, 2015, p. 332). In Indonesia, the agricultural census data by the Central Statistics Agency (BPS) conducted in 2013 showed a significant decline in the number of farmers. From 2003 to 2013, Indonesia experienced a drastic decrease in the number of farmers, reaching 16 per cent, from 31.23 million to 26.14 million people (*Badan Pusat Statistik*, 2013). In fact, in 2020, there will only be around 33.4 million farmers engaged in all commodities in the agricultural sector (*Badan Pusat Statistik*, 2020). This figure is smaller than the number of farmers in 2019, which reached 34.58 million, and in 2018, there were 35.70 million people (*Badan Pusat Statistik*, 2018). As for that number, only 8% of young farmers aged 20-39 years old are equivalent to 2.7 million people (*Badan Pusat Statistik*, 2018). Around 30.4 million people, or 91%, are over 40 years old (*Badan Pusat Statistik*, 2018).

The current fact is that the agricultural human resource development policy being implemented is more focused on developing food crops, technology, and land issues (Anwarudin et al., 2020, p. 220–221). Meanwhile, efforts to regenerate have received little attention from policymakers (Pradiana & Maryani, 2019, p. 431). In contrast, regeneration is a criterion (prerequisite) to achieve sustainability (Lohbeck et al., 2020, p. 9). These facts become interesting to analyze; why is there a policy gap, and has the farmer regeneration policy been forgotten? That is a paradox and even an irony. If a country is committed to sustainable agriculture to achieve food security, then regeneration is a criterion (prerequisite) to achieve that sustainability (Anwarudin et al., 2018, p. 229).

The discourse on this issue presents several questions which this article will answer. *First*, how far is the relationship between farmer regeneration and food security? *Second*, how do agrarian and rural policies affect young people in farming? *Third*, how to formulate farmer regeneration policies to maintain food security? Many studies have analyzed the problem of farmer

regeneration concerning food security, such as the article on farmer crisis by Suratha (Suratha, 2017), strategy and approach to farmer regeneration by Anwarudin et al. (Anwarudin et al., 2018), and public policy on farmer regeneration by RA Nugraheni (Nugraheni & Negara, 2019). However, no research describes substantively and in detail how to provide guarantees related to farmer regeneration through policy formulation. In particular, there has been no research that discusses and analyzes how a country's policies are related to maintaining food security through regulations for maintaining sustainable farmer regeneration.

In answering these questions, this study combines doctrinal and socio-legal research by using qualitative analysis. This article also incorporates the reform-oriented research method with literature, conceptual and case techniques. This article is organized into several sections. After the introduction and research methods, the third part of this article will discuss the relationship between farmer regeneration and food security. The fourth section will re-examine the regulation of farmer regeneration and analyze how agricultural and rural rules and policies affect young people in farming. The fifth section will discuss related to the formulation of farmer regeneration regulations to maintain food security. In the end, some conclusions and recommendations will be described.

II. THE IMPORTANCE OF FARMER REGENERATION TO FOOD SECURITY

A. How Important is Farmer Regeneration?

Regeneration, defined as the transfer of managerial control over the use of agricultural business assets, is understood to be one of the main objectives of family farming. In its most basic sense, intergenerational succession "represents the renewal of family farming" (Lobley et al., 2010a, p. 216) and, more broadly, forms "a fundamental aspect of the sustainability of agricultural systems" (Whitehead et al., 2012, p. 214), determining the structure of the industry. Overall, the total number of farmers and farming families and land occupancy (Paton et al., 2017, p. 29). The regeneration of agricultural actors in the world is slow and relatively low, and a solution

needs to be found immediately. The agricultural sector is one of the development sectors with an important role as an absorber of labor, a source of food and nutrition, industrial raw materials, and a driving force for the movement of other economic sectors.

Farmer regeneration must be sustainable for several reasons (Yi et al., 2009, p. 76). *First*, the regeneration of farmers is a prerequisite for the realization of sustainable agriculture. Sustainable agriculture actors can ensure food availability for present and future generations. *Second*, the resurrection of agricultural actors is essential for the completion of future food security. To ensure this is determined by the existence of young farmers today. *Third*, the regeneration of agricultural actors is vital for the realization of food sovereignty related to the ability to meet food needs independently. Fulfilment of food can be through imports, but this is very risky. When Indonesia experiences high food imports, the risk of being controlled by other countries becomes very large. When the state cannot control the impact of food insecurity, a form of food sovereignty occurs. Sustainable agricultural actors are needed to realize food sovereignty. If the BPS data analysis described in the introduction to this article is not taken seriously, it will lead to a continuous decline in farmers in Indonesia. For this, it is necessary to regenerate farmers. Farmer regeneration and agricultural inheritance must be considered complex phenomena that affect the core dimensions of farmer family life and the broader food security sector.

Based on the description of various pieces of literature, it can be said that farmer regeneration is significant. If farmer regeneration is not a concern, who can predict that sustainable agriculture and food security problems will stagnate and even experience a drastic decline.

B. Farmer Regeneration Regulation and Food Security Agenda

It is important to note that as a term, food security has undergone a significant transformation during its conceptual lifetime (Chen et al., 2016, p. 18). During the 1974 World Food Summit, a single definition of food security emerged, understood as "*the availability of an adequate world food supply at all times of basic foodstuffs to sustain a steady expansion of food*

consumption and to offset fluctuations in production and prices" (Piras & Botnarenco, 2018, p. 635).

This definition persisted until 1983 when the Food and Agriculture Organization (FAO) incorporated physical and economic access to food into its purpose: "ensuring that all people at all times have physical and economic access to the basic food they need" (Chen et al., 2016, p. 35). This change in definition makes the issue of food security a multidimensional problem that is not only determined by one factor.

In line with the objectives of the definition, the main component for achieving the broader production and multifunctionality goals, and the achievement of overall food security, is the sustainability of agricultural management itself (Trell et al., 2014, p. 17).

The prevalence and monopoly of family farms on productive resources essential for sustainable food production justify research efforts around regeneration in this context. This need is reinforced by Saran Defra that "one of the most important contributions that who can make to global food security is to have a thriving and productive agricultural sector" (Foguesatto et al., 2020, p. 19) – this statement means that global food security is also indirectly related to the regeneration process of farmers. Such a significant impact, food security needs to be appropriately managed and correctly. One way to improve national food security is by regenerating farmers. Farmer regeneration replaces farming business actors who have sufficient capabilities in running a business in the agricultural sector to respond to environmental dynamics (Hicks et al., 2012, p. 90). This regeneration of farmers can occur by entering new people such as family members or from outside with professionals into the agricultural business.

Regeneration of farmers is essential to do to see the reasons and impacts for food security. The resurgence of farmers needs to be done because seeing from the age of farmers getting old; this results in a decrease in performance in the agricultural sector. The more open the world and market competition, the actors who have to work in the farm industry are productive and efficient farmers. Older farmers have low performance and productivity (Zou et al., 2018, p. 18). These farmers are also relatively

lagging in the use of technology in agriculture. In contrast to young farmers who have better performance and the results are more productive and efficient. Therefore, the regeneration of farmers is expected to provide new and more efficient, and professional workers to replace elderly farmers.

Farmers have an important role in the development of a nation. Because every living human need various necessity, farmers play an important role in providing these various needs (Chiswell, 2014b, p. 70). Within a country, farmers help meet the food needs of the country's needs. Like Indonesia, which is an agricultural country, where most of the population works in agriculture, it depends on the success of its farmers to support food security in Indonesia. Farmers in the world help the government in meeting the food needs of the entire population (Chiswell, 2014a, p. 18). Therefore, farmers in Indonesia must be carefully considered to continue supplying food sourced from domestic farmers (Arends-Kuenning et al., 2021, p. 17).

However, along with the development of the era, farmers faced various problems in the production process. These problems are influenced by various factors that cause the quality of farmers' production to decline. The number of problems faced has made the number of farmers decrease, causing a farmer crisis in Indonesia. If not addressed quickly, the farmers' crisis in Indonesia will threaten food security in Indonesia. Widespread land conversion is the main cause of farmers leaving their fields. On the other hand, the absence of land is in line with the cessation of the availability of farmer regeneration. The non-implementation of agrarian reform exacerbates that fact. Every day it is estimated that about five thousand farmers leave the profession. Farmers choose to go to cities and are forced to become coolies, migrant workers, or other informal sectors. That fact causes the number of farmers in Indonesia to continue to decrease.

High food needs due to a high population have caused the world to be threatened with a food crisis, which is exacerbated by the number of farmers in the world, which continues to decrease every year (Lobley et al., 2010b, p. 29). This situation will make the world face problems influenced by farmers' crises in the world. In the case of Indonesia as an agricultural

country and as one of the largest food suppliers in the world, data from the National Development Planning Agency (Bappenas) states that in 2015 the total population of Indonesia will reach 243 million people. With rice consumption per capita per year of 139 kilograms, 33.78 million tons of rice are needed. By 2030, the need for rice for food will reach 59 million tons for an estimated population of 425 million. That means Indonesia is at risk of experiencing a food crisis in 2025 (Adji et al., 2021, p. 87). Therefore, the government must increase food production because population growth follows a geometric progression.

The farmers' crisis due to the continued decrease in the number of farmers in Indonesia and the higher food needs due to population growth has caused Indonesia to be threatened with a food crisis. The crisis in farmers has made it difficult for the government to meet the domestic food supply because the existing farmers are unable to supply food according to the needs of the Indonesian population; as a result, food shortages in Indonesia will not be avoided if the government is not immediately addressed (van Vliet et al., 2015, p. 52). In addition, if the government experiences difficulties in importing food from other countries, the Indonesian population will find it challenging to obtain the nutrition they need. As a result, Indonesia will experience a food crisis that causes various problems in the country of Indonesia.

From the description above, one can conclude that the regeneration of farmers is an important thing that one must consider in overcoming food security in the future. Farmer regeneration is not only linked to the farmer family cycle but also the broader agriculture. With the resurgence of farmers, it is hoped that future food security conflicts can be anticipated and appropriately resolved (van Vliet et al., 2015, p. 18). Of course, it becomes a challenge for the government of a country to ensure the availability of farmers in the future. It is undeniable that regulatory and policy aspects are essential to encourage guarantees for the sustainability of agricultural businesses in future generations.

III. RE-EXAMINING FARMERS REGENERATION REGULATIONS AND POLICIES

There have been many regulations and policies globally and in Indonesia to ensure the farmer regeneration process runs effectively. In Indonesia itself, many regulations regulate to encourage the regeneration process of farmers to run successfully. Among them, the Regulation of the Minister of Agriculture 07/Permentan/OT.140/1/2013 of 2013 concerning Guidelines for the Development of the Young Generation of Agriculture as amended by Decree of the Minister of Agriculture of the Republic of Indonesia Number 10/Kpts/SM.210/I/05/2019 concerning Guidelines for the Growth of Young Agricultural Entrepreneurs. Then at the level of the law, namely Law Number 19 of 2013 concerning the Protection and Empowerment of Farmers. Then, Regulation of the Minister of Agriculture of the Republic of Indonesia Number 67/Permentan/Sm.050/12/2016 concerning Institutional Fostering of Farmers Regulation of the Minister of Agriculture Number 04 of 2019 concerning Guidelines for the Movement for Development of Agricultural Human Resources Towards a World Food Barn in 2045 as lastly amended by Regulation of the Minister of Agriculture Number 09 of 2019 implementing that law.

At the policy implementation stage, Indonesia has also implemented several programs. The majority of these programs are implemented through extension programs such as; Counseling and empowerment of young peasants) which has been carried out since the Dutch colonial period. Starting from the Low Agricultural School (SPR), then became the People's Farmers School (STR) and the Youth Farmers Course (KPT). The goal is to increase the agricultural knowledge of the youth so that they become modern and dynamic farmers, easy to accept suggestions and advice from the agricultural service so that the youth can become farmer cadres in their villages. After independence, farmer regeneration was carried out through the formation of farmer youth groups (agricultural cadets), Saka Taruna Bumi (Scouting), farmer youth exchanges abroad, IPM Field Schools, and internship programs (Gasson & Errington, 1993, p. 178). The Ministry of Youth and Sports also implements several rural

youth empowerment programs, such as the Undergraduate Program in Village Development, Mentoring, and Indonesia Teaching (Setiawan et al., 2015, p. 17).

The Ministry of Youth and Agriculture has also implemented several rural youth empowerment programs. The youth development program that now produces many reliable farmers in various regions in Indonesia is the Youth Farmer Internship Program to Japan. IPM and PTT Field Schools also gave birth to many successful farmers and innovators (Yunandar et al., 2019, p. 98). Other policies for farmer regeneration have also been initiated by the Ministry of Agriculture, such as the Growth/Development of Young Agricultural Entrepreneurs (PWMP). PWMP activities target the younger generation, both agricultural graduates and agricultural studies students. PWMP, held in West Java, the Ministry of Agriculture collaborated with universities such as IPB (Bogor Agricultural Institute), UNPAD (Padjadjaran University), and the Bogor Agricultural Development Polytechnic. Some PWMP activities carried out include entrepreneurship, technical training, business capital assistance, and facilities and infrastructure (Yunandar et al., 2019, p. 70).

Government alignments that have been initiated or have been running for a long time targeting the younger generation should increase the number of young farmers. Activities such as entrepreneurship and technical training are non-formal education, and internships are informal education which can increase entrepreneurial interest and capacity (Ledwith & Reilly, 2014, p. 220). Likewise, business capital assistance and infrastructure can incentivize recipients to develop their businesses (Trell et al., 2014, p. 120). Meanwhile, at the global level, regeneration efforts were also carried out by FAO, ILO, and UNESCO through the empowerment (reinforcement) of young farmers. The United States carries out the policy for fostering agricultural youth that is considered the most adequate. This policy is known as 4-H clubs, which aims to educate young rural farmers to regenerate previous farmers in the economic, social, and recreational fields (van Vliet et al., 2015, p. 51). The term 4-H itself is an abbreviation of Head (ahead used to think clearly and responsibly), Heart (a clean heart to understand and appreciate life), Hands (hands to work well), and health

(health to shape the body so that it is healthy) (Williams, 2020, p. 117). Able to work and manage his farm). This policy effectively increases the interest of the younger generation in the United States to engage in agriculture. Setiawan stated that the age of successful farmers is mostly alumni of 4-H clubs who are professionally involved as farmers (Setiawan et al., 2015, p. 414).

Meanwhile, countries in Europe are trying to consistently raise young farmers by accepting applications for assistance with conditions under the age of 40, holding an agricultural business for the first time, having skills and competencies, and submitting a business plan (Zagata & Sutherland, 2015, p. 39). European government support includes modernization, agricultural ownership, early retirement, training, information on food quality, and cooperation in the development of new products, processes, and technologies in the agricultural sector. Davis reported another effort, namely the early retirement scheme, which is one mechanism that has been used to reduce the average age of farmers and increase the entry of young farmers (Davis et al., 2009, p. 37). The scheme is optional and occurs mainly in Ireland, France, and Greece. In the UK, Ingram and Kirwan suggest that early retirement schemes for advanced farmers are suitable for young farmers to start farming businesses and strategies for older farmers to leave gradually (Ingram & Kirwan, 2011, p. 920).

Likewise, in China, efforts to regenerate agricultural actors are carried out by retiring elderly farmers. Old farmers (more than 60 years old) who are considered no longer productive are dismissed from their activities, then replaced with younger generations. Dismissed farmers are given a monthly incentive (cost of living) by the government. The age that continues is given high access to strategic agricultural resources (training, capital, technology, markets), thus becoming more productive (Yi et al., 2009, p. 98). Various programs that have been implemented in the world, especially in the case in Indonesia, ironically, contrast with the data released by BPS as described in the discussion in the first part. That becomes a paradox; where lies the error in the policy? After the government implemented the policy formally, Is the sustainable farmer regeneration program forgotten again? The independence of alumni from the policy program to return and

try rationally in their area of origin is the key to changing farmers' fate, self-image, and sustainability.

However, some of the internship alumni in Japan formed the IKAMAJA community (Japanese Apprentice Alumni Association). Some of the alumni managed to become successful farmers; some even became heads of farmer groups and farmer groups association (Anwarudin et al., 2018, p. 1010). But it is still an obstacle at the stage of empowerment and regeneration of farmers outside the program (Kilmanun & Astuti, 2019, p. 24). Moreover, this strategy is not good enough to attract the interest of the village youth to continue the profession that their parents have been living in. Although rural youth have a relatively high unemployment rate, it is claimed that the agricultural sector is still widely unattractive to young agricultural youth (Ranzez et al., 2020, p. 119). The selection of a farmer regeneration strategy through a policy of fostering the younger generation is needed to increase the attractiveness of life in rural areas and increase the knowledge and interest of the younger generation in the application of technology and improvement of farming in the region. In the next section, this article will describe and discuss the obstacles to the failure of farmer regeneration regulations and policies.

IV. REGULATION FORMULATION AND FARMER REGENERATION POLICY

A. Factors Causing Failed Regeneration of Farmers

Agricultural development in the world today focuses on sustainable agriculture. Sustainable agriculture can realize just agriculture to guarantee food demand for the current generation without compromising food needs for future generations. If the future of sustainable agriculture is to be realized, and if young people are to have a place in that future, the problem facing youth is that establishing themselves as successors to farmers must be taken seriously. Moreover, what should give this much attention in recent policy debates and recent research. If the world's food needs are to be met in the future, rural and agricultural life must be made more attractive to young people. While men and women formally have equal rights to own

land, there are many practical gender differences and barriers to young women's access to land and farming opportunities.

We must have a clear idea of the main – practical and cultural barriers for young people to enter the world of agriculture, either as a youth or as a life of choice in the future (Zou et al., 2018, p. 443). The issue of youth and access to agricultural land needs to be taken seriously. All broader issues such as intergenerational transfer of agrarian resources (including land, knowledge, and decision-making power) have attracted little attention in research and policy. Some research results show that the younger generation is less interested in doing agriculture (Korzenszky, 2019, p. 295). Studies on the younger generation's interest, which include indicators of interest, aspirations, and desire to become agricultural actors, are relatively low for food crops and horticulture commodities. That fact is due to the perception that agrarian businesses are less profitable, slums, dirty, muddy, lack of access and land assets, low income, and lack of knowledge or education of farmers (Wardani & Anwarudin, 2018, p. 19).

More broadly than that, the bargaining position of farmers is also low because middlemen determine prices. Another reason is that the land ownership area of most farmers is very small, an average of less than 0.5 ha (Wardani & Anwarudin, 2018, p. 21). Thus, based on the scale of business, it has not been able to meet the needs of families with adequate conditions, both clothing, food, and family education. The issue of land availability also plays a role here. The absence of agricultural land makes young people begin to be pessimistic about the future of agriculture (Zou et al., 2018, p. 445). The government's excessive attention to regulations regarding industry makes young people more interested in a more promising industrial world. Policies and regulations only indirectly encourage the younger generation to tend to be more oriented towards developing businesses in the industry. However, not many believe that industrialization eliminates agricultural land and removes the paradigm of how future food security can be guaranteed.

The urgency of the regeneration of actors in the agricultural sector is also closely related to the fact that there is low under-value and the low

participation of young farmers in the farming sector. The stagnation of regeneration, old farmers, and the young generation's inadequate assessment of the agricultural sector resulted in a lack of qualified young workers in the farming and rural sectors. The availability of quality human resources is crucial to running science and technology-based agriculture. Paying attention to the urgency of regeneration, it is evident that the innovation of resurrection of actors in agriculture (or agribusiness) is an urgent need, both to grow and develop agricultural human resources and to regenerate agricultural and rural development actors as a whole. The regeneration in question is sustainable value, which allows it to be a solution to solve the problem of inequality in development, agricultural ageing, and undervalue.

B. Formulation on Regulatory and Policy Agenda

Considering the problem of food security is a multidimensional problem, the strategy in overcoming it through farmer regeneration must also be carried out with a multidimensional perspective. In taking policy and regulatory steps, farmer regeneration can be carried out using two types of approaches. Inwood and Sharp identify the two regeneration approaches as the type driven by outsiders (adoption) and the type driven by the community (adaptation) (Inwood & Stengel, 2020, p. 90). The first type is called planned regeneration (base succession), and the second type is called regeneration without a plan (no succession plan).

Facilitators, counselors, consultants drive the type of adoption, and extension workers (government, private, and self-help), while adaptation is divided into four types—first, "pemekar," namely the expansion of farming business through land improvement. Second, reinforcement is the transition of agriculture to the development of high-value crops on the same land. Third, collectors are family members of collectors, processors, and production marketers who play a role in developing family-based agribusiness. Fourth, the binder, the entrepreneur group, binds in a complementary but independent manner. Agricultural entrepreneurs work together to produce products and retire on the same land.

In some countries, farmer regeneration programs run almost simultaneously. In South Korea, the farmer regeneration policy is carried out through a farm successor postering program, where young farmers can obtain loans for 10 years. In Thailand, the regeneration of farmers takes place through the young, smart farmers program with an age limit of fewer than 45 years. In 2018, each beneficiary participated in a six-month training that included two months in class followed by four months of agricultural practice. Participants were then allocated land up to 0.8 ha and given a loan for the first two years.

In its policy, Thailand made the 11th national economic and social development plan which includes three objectives to support young farmers, namely: (1) providing fertile land that is ready to be planted; (2) providing easily accessible funds, and (3) positively promote the agricultural profession (Ruiz Salvago et al., 2019, p. 30).

In Japan, pension schemes are given to farmers aged 60-65 years, and they get additional income if the farming business is continued by their successors (Yang & Chang, 2019, p. 21). Pension payments are higher if farming is continued by a successor who is less than 35 years old. For farmers who do not have successors, the government supports it by offering it to others interested in doing agricultural business (Luh & Wei, 2019, p. 41).

V. CONCLUSION

The availability of farmers has an essential role in meeting the challenges of food security. Civil service or other professional careers aimed at educated youth have become increasingly unrealistic targets as education spreads. World agriculture faces a looming generational succession crisis, which has recently gone unnoticed in research and policy discourse—targeted policy support to enable the availability of regulations on the development of young farmers to address food security challenges. If the future of sustainable agriculture is to be realized, and if the youth is to have a place in that future, the issues of food security and support that young people face

in establishing themselves as farmers must be taken seriously in recent policy debates.

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Legal Protection on Harvest Prices for Farmers and Agricultural Business in Indonesia

Ana Laela Fatikhatul Choiriyah

Faculty of Law, University of Jember

Inayatul Anisah

Faculty of Law, University of Jember

ABSTRACT: Agricultural development in Indonesia aims to improve the welfare of farmers. This is in line with Pancasila and the 1945 Constitution. When viewed from the empirical conditions of farmers who have made a real contribution to the rural economy, this ideal goal is deemed necessary for protection and empowerment to improve the welfare of farmers who generally have a weak position in obtaining production facilities, financing, and market access. This is all because the protection and empowerment of farmers have not been supported by comprehensive, systemic, and holistic laws and regulations, so that it does not provide guarantees for legal certainty and justice for farmers and agricultural business actors. This condition causes agricultural products sometimes to experience a drastic decline and cause losses for farmers and business actors in the farming sector. So, in this case, the government must provide massive legal policies regarding legal certainty and justice for farmers and business actors in the agricultural industry to maintain post-harvest price stability. So, now, the writer would like to review the Legal Protection of Harvest Prices for Farmers and Business Actors in the Agricultural Sector by using a normative juridical approach, conceptual and legal approach. So, in this case, the government must provide massive legal policies regarding legal certainty and justice for farmers and business actors in the agricultural sector to maintain post-harvest price stability. So, at this moment, the writer wants to review the legal protection of harvest prices for farmers and business actors in the agricultural sector using a normative juridical, conceptual and legal approach. So, in this case, the government must provide massive legal policies regarding legal certainty and justice for farmers and business actors in the agricultural sector to maintain post-harvest price stability. So, now, the writer wants to review the legal protection of harvest prices for farmers and business actors in the agricultural sector using a normative juridical, conceptual and legal approach.

KEYWORDS: Legal Aspects, Patents, Agricultural Biotechnology Products.

I. INTRODUCTION

Socio-political as a prerequisite for the implementation of development. Therefore, the Indonesian government is very interested in food issues, especially since household spending on food is still above 60%. The phenomenon of food production, trade and consumption demand the role of the government to protect domestic producers and consumers. Through the policy on prices of agricultural and food commodities, the government is expected to maintain stability in food prices to reduce farmers' uncertainty in marketing agricultural commodities and ensure that consumers obtain food at reasonable prices. The design and implementation of food commodity price policies, especially non-rice food, has not been formulated comprehensively but only based on the characteristics of each commodity. The policy on commodity prices, non-rice food, only applies to the introductory price without limiting the maximum price.

This is different from the introductory price of rice which is equipped with the provision of the highest retail price, which reflects the maximum price of the commodity. Timmer and Silitonga suggested that the introductory price of secondary crops is based on production costs and balances with the introductory price of grain. This reflects that the government still places the price of non-rice food commodities in second place after grain/rice (Surono, 2006). Other than that, regulations in price protection and market access for non-rice food commodities are still weak because the government is focused on accelerating rice self-sufficiency. This paper aims to: (1) examine non-rice food price policies for the sustainability of national food security, (2) examine non-rice food price policies and their effects on farmers' welfare, and (3) formulate alternative policies for determining non-rice food prices in Indonesia.

II. LEGAL PROTECTION FOR FARMERS AND FOOD SECURITY IN INDONESIA

Pancasila and the 1945 Constitution of the Republic of Indonesia mandate that the State has the responsibility to protect the entire Indonesian nation

and promote the general welfare, educate the nation's life and realize social justice for all Indonesian people. In the fifth precept of Pancasila and the preamble to the 1945 Constitution of the Republic of Indonesia, it is clearly stated that social justice for all Indonesian people is the basis of one of the philosophies of nation-building, so that every Indonesian citizen has the right to welfare. Therefore, every Indonesian citizen has the right and is obliged according to his ability to participate in business development in the framework of improving welfare, especially in agriculture. In line with the mandate of Pancasila and the 1945 Constitution of the Republic of Indonesia, one of the goals of agricultural development is directed at increasing the welfare of farmers as much as possible.

So far, farmers have made a real contribution to agricultural development and rural economic development. Farmers as actors of agricultural development need to be given protection and empowerment to support the fulfilment of food needs which are the fundamental rights of every person to realize food sovereignty, food independence, and food security in a sustainable manner. Farmers in carrying out agricultural development have a central role and make a significant contribution. The main actors in agricultural development are farmers, who generally do business on a small scale, namely: the average area of farming business is less than 0.5 hectares, even some of the farmers do not own their farming land or are called sharecroppers, even farm labourers. Farmers generally have a weak position in obtaining production facilities, financing for farming businesses, and market access (Eisen, 2021). Several specific activities have been focused on achieving farmers' welfare, for example, efforts to increase farmers' income through empowerment, increasing access to agricultural business resources, institutional development and protection of farmers.

Several sub-programs are further elaborated to achieve this goal, including farmer empowerment, institutional development, increasing farmers' access to productive resources, developing business diversification, reviewing and accelerating the dissemination of agricultural innovations, and poverty alleviation. The activities of implementing development programs in the community are not only carried out by government institutions but can also be carried out by the community groups themselves, private institutions,

educational institutions, and other stakeholders (Moeliono & Soetoprawiro, 2020). The Agricultural Research and Development Agency, as one of the institutions through the support of the "agro-innovation" model, has given birth to various empowerment efforts for the farming community, especially concerning rural agribusiness development, according to the function and existence of the Agricultural Research and Development Agency institution and its staff in various regions to be committed to supporting programs agricultural and rural development in the country.

Indonesia provides legal protection to farmers with Law Number 13 of 2019 concerning the Protection and Empowerment of Farmers, which in this law explains that the protection and empowerment of farmers aims to realize the sovereignty and independence of farmers in order to improve the level of welfare, quality, and a better life; protect farmers from crop failure and price risk; provide agricultural infrastructure and facilities needed in developing Farming Business; develop agricultural financing institutions that serve the interests of Farmers; improve the ability and capacity of farmers and Farmer Institutions in the running a productive, advanced, modern, value-added, competitive, market share and sustainable farming business.

The targets for the protection and empowerment of farmers are farmers, especially smallholders; a maximum of 2 (two) hectares (does not have land whose main livelihood is farming); a farmer who owns the land and conducts food crop cultivation in a maximum area of 2 (two) hectares; horticultural farmers, planters, or small business scale breeders following the provisions of laws and regulations. For food is a basic human need that must be met at all times. Food is a human right, as stated in Article 27 of the 1945 Constitution and the Rome Declaration (1996) (Cahyaningrum, 2019). These considerations underlie the issuance of Law no. 7/1996 on food. As a basic need and one of the human rights, food has a significant meaning and role in the life of a nation. The availability of food that is smaller than the need can create economic instability. Various social and political upheavals can also occur if food security is disturbed. This critical food condition can even jeopardise economic stability and national stability.

Food for Indonesia is often identified with Rice because this type of food is the leading staple food. Experience has proven that disturbances in food security - such as the skyrocketing increase in rice prices during the 1997/1998 economic crisis, which developed into a multidimensional crisis - have triggered social insecurity that jeopardises economic stability and national stability. The strategic value of Rice is also because Rice is the most important staple food. The rice industry has a significant influence in the economic field (in terms of employment, rural economic growth and dynamics, as a wage good), the environment (maintaining water use and air cleanliness) and socio-political (as the glue of the nation, creating order and security). Rice is also the primary source of nutritional fulfilment which includes calories. The definition of food security cannot be separated from Law no. 18/2012 on food. It is stated in the law that food security is “a condition of fulfilling food for the state to individuals, which is reflected in the availability of sufficient food, both in quantity and quality, safe, diverse, nutritious, equitable and affordable and does not conflict with religion, belief and community culture, to be able to live a healthy, active and productive life in a sustainable manner”.

The Food Law does not only talk about food security but also clarifies and strengthens the achievement of food security by realising food sovereignty with food independence and food safety. “Food Sovereignty is the right of the state and nation to independently determine food policies that guarantee the right to food for the people and which gives the community the right to determine a food system that is following the potential of local resources”. The definition of food security in Law No. 18 of 2012 above is an improvement and “enrichment of coverage” from the definition in Law No. 7 of 1996 which includes “individual” and “according to religious beliefs” as well as “culture” of the nation. The definition of Law No. 18 of 2012 is substantively in line with the definition of food security from FAO, which states that food security is a condition in which everyone at all times, both physically and economically, has access to sufficient, safe, and nutritious food to meet daily nutritional needs. -day according to his preference.

Various social and political turmoils can also occur if food security is disrupted, even if a critical condition jeopardises national stabilisation, which can undermine the current government. Historical experience has proven that disturbances in food security -- such as rising rice prices during a monetary crisis -- can trigger social insecurity that jeopardises economic and national stability. For this reason, it is not wrong if the government always strives to improve food security for the community, both from domestic production and by additional imports. Fulfilling food needs and maintaining food security are becoming increasingly crucial for Indonesia because the population is substantial with a wide and spread geographical coverage. Indonesia requires food insufficient and distributed quantities, which meet the consumption and logistical criteria, which is easily accessible to everyone, and it is believed that tomorrow there will be food for the people.

Food security cannot be separated from the nature of food commodity production itself, which is seasonal and fluctuates because it is very easily influenced by climate/weather. The production behavior, which is strongly influenced by the climate, greatly affects the national food availability. If the production behaviour that is vulnerable to climate change is not complemented by a firm food policy, it will be detrimental to both producers and consumers, especially small-scale producers and low-income consumers. Characteristics of food commodities that are easily damaged, farmers' production land is limited; Inadequate agricultural supporting facilities and infrastructure and weak handling of harvest and post-harvest have prompted the government to intervene by realising food security policies (Bulog, 2014).

The Government of Indonesia, in the Second United Indonesia Cabinet (KIB 2), made food security one of the eleven national development priorities, as stated in the National Medium-Term Development Plan., The results of research by Ilham et al. (2006) showed the influence of food price policy on food security. In the short and long term, food price policies and Gross Domestic Product (GDP) positively affect energy availability at the national level. This means that the funds issued by the government to finance food procurement through food price policies affect the availability

of energy sourced from Rice, corn, soybeans, sugar, cassava, sweet potatoes, eggs, and chicken meat (Mantau & Bahtiar, 2010). As for the provisions The government purchase price (HPP) set by the government in order to maintain price stability when the main harvest is still on the type of rice food, this is stated in the Minister of Trade Regulation number 24 of 2020, where this Minister of Trade Regulation was issued aiming to provide farmers protection regarding prices during post-harvest amid the COVID-19 outbreak

III. THE PRICE OF GRAY OR RICE ACCORDING TO THE MINISTER OF TRADE REGULATION NUMBER 24 OF 2020

The function of law is as a medium for regulating social interaction. In these arrangements, there are instructions on what to do, what to do and what not to do with the hope that everything will run in an orderly and orderly manner (Budiono, 2019). Law in an orderly society is used as a means to realize social justice. Here the law is expected to be useful for people's lives. The community is protected, safe and comfortable. Law can also function as a driver of development; namely: it can bring society in a more advanced direction. In addition, the law functions to increase people's thinking power to become more critical because people know their rights and obligations. The law aims to regulate public order in various aspects of life to guide everything to be organized in every behaviour and action (Rasjidi & Putra, 1993).

The functions of law in economic development in Indonesia are as follows: (i) Taking an active role in economic development, the law is always needed to regulate all economic activities in society; (ii) The law protects economic actors; (iii) Economic activities are regulated by law to create economic development that prioritizes the rights and interests of the community (Mawardi, 2015). The Government's determination of the HPP for grain or rice is expected to guarantee prices according to those set by farmers who aim to maintain their productivity. With this price determination, the Government expects: (a) rice production can be increased to meet national food needs; (b) stable grain and rice prices are

created in the market so that farmers' incomes can increase; (c) increased farmer profits; (d) Increased national economic growth from the agricultural sector, especially grain or rice. The policy for determining the HPP for grain or rice that the Government has set has taken into account the moisture content and broken grains of rice (Hermanto & Saptana, 2018).

The Government implements one price policy instrument to achieve stability in the price of grain and rice, namely: the base price policy and the maximum price policy. The introductory price is intended to protect farmers as producers from falling grain prices during the main harvest, while the maximum price is intended to protect consumers, especially from price spikes during the famine season. The basic price concept was then adjusted to become the introductory government purchase price (HDPP) as of January 1, 2002, and then to the Government Purchase Price (HPP) in 2005. Presidential Instruction No. 5 of 2015 stipulated that the Government Purchase Price (HPP) Rice for Rp7.300,- per kilogram in warehouse BULOG with the following qualities: (a) Maximum moisture content of 14%, (b) Maximum fracture of 20%, (c) The level of groats is 2% maximum, (d) The degree of soso minimum 95%. The purchase price of grain/rice excludes the quality as referred to in The Inpres is set by the Minister of Agriculture. As a follow-up to Presidential Instruction No. 5 of 2015, the Government has issued Regulation of the Minister of Agriculture of the Republic of Indonesia No 05/Permentan/Pp.200/2/2016 on Amendment to Regulation of Minister of Agriculture No 71/Permentan/Pp.200/12/2015 concerning Guidelines for Purchase Prices of Unhulled Grain and Rice (Hermanto & Saptana, 2018).

The concept of the maximum price is then stated in the Highest Retail Price (HET) policy as stated in the Minister of Trade Regulation no. 57/M-DAG/PER/8/2017 concerning Determination of the Highest Retail Price of Rice. The essence of the implementation of HPP is to provide incentives for rice farmers by guaranteeing prices above the equilibrium price, especially at harvest time. Through the HPP policy, the Government hopes that rice production can be increased to meet domestic supply needs, create stability in grain and rice prices on the market, and increase rice

farmers' income. The policy for determining the HPP for grain that has been carried out so far is based on water content and void content, while the HPP for rice is water content and broken grains of rice (Hermanto, 2017).

The prospect of implementing a multi-quality government purchase price (HPP) policy for unhusked paddy and rice in Indonesia has the following main findings: (a) The determination of HPP for single quality that has been implemented so far has indeed succeeded in protecting farmers from the phenomenon of falling prices at harvest time, but has not been able to improve the quality of grain and rice produced by farmers; (b) The multi-quality HPP policy on unhulled rice is estimated to be able to increase the production of better quality unhulled rice, gain farm business through increased productivity, and farmer incentives can improve the quality of grain and rice from medium to premium quality; (c) The multi-quality HPP policy on rice is believed to encourage traders/industries to increase the production of quality rice.

The implementation of the cost of goods sold at this time also pays attention to the conditions of void content and moisture content to the point of consideration of some farmers in producing grain at that quality, in the hope of increasing the welfare of most rice farmers. The main purpose of the HPP on Unhulled and Rice is so that Bulog can optimally absorb the absorption of Unhulled or Rice. In determining the Cost of Goods Sold (HPP), the minister of trade issued the latest regulation on the amount of HPP, namely the Minister of Trade Regulation Number 24 of 2020 which in this regulation follows the instructions of the President Number 5 of 2015 regarding the policy on the Procurement of Grain and Rice, which is distributed through the Government (Maulana & Rachman, 2016). The Cost of Goods Sold (HPP) of grain or rice is the purchase price of grain or rice by the Government at the producer level to be used as the availability of Government food reserves, in the form of Government rice reserves and needs for specific groups.

Details of the cost of goods sold (HPP) of unhulled rice or rice as stipulated in the Minister of Trade Regulation 24 of 2020, namely: (a) The purchase

price of domestically harvested dry grain with the highest moisture content of 25% and the highest void/impurity content of 10% is IDR 4,200/kg at the farmer or IDR 4,250/kg kilogram in the mill; (b) The purchase price of domestically milled dry grain with the highest water content quality of 14% and the highest void/impurity content of 3% is Rp. 5,250/kg in the mill or Rp. 5,300/kg in the warehouse of Perum BULOG; and (c) The purchase price of domestic rice with the highest moisture content of 14%, the highest broken grain 20%, the highest content of groats 2%, and the polishing degree of at least 95% is IDR 8,300/kg in the BULOG Perum warehouse.

The Cost of Goods Sold (HPP) for unhulled rice or rice, which was later known as the HPP policy, is a form of the Government's efforts to improve the protection of farmers' crop prices. Through the Minister of Trade Regulation Number 24 of 2020, it is possible for Perum Bulog to maximally absorb unhulled rice or rice from farmers to strengthen the Government's stock and ensure food security. The availability of rice stocks managed by Perum Bulog is expected to maintain the balance and availability of food supplies for the Indonesian people in the short and long term. Minister of Trade Regulation No. 24 of 2020 is an instrument for government intervention in market activities in order to achieve mutual stability (Sonny, 2020).

Determination of the Cost of Goods Sold (HPP) of unhulled or rice is one of the Government's strategies in providing protection for farmers. When the price of grain or rice in farmers or mills is below the Cost of Goods Sold (HPP), Perum Bulog is obliged to buy grain or rice following HPP and still pay attention to the quality requirements according to the provisions. If there is no change in the highest retail price at the consumer level, inflation will not rise. Irresponsible parties should not misuse this policy. The reality is that at harvest time, farmers are dissatisfied with the selling price below production costs. Such conditions disappoint farmers because they feel they are not getting a decent profit.

The appropriate selling price should be enjoyed by various parties, both producers and consumers. This emphasis is significant because there are

still sales prices that benefit consumers but cannot be enjoyed by producers. The policy on the Cost of Goods Sold (HPP) for unhulled rice or rice cannot be implemented effectively because the market price is higher than the price set by the Government, so farmers prefer to sell their rice to parties other than Bulog. In the Minister of Trade Regulation Number 24 of 2020, the price of GKP at the farmer level is set at Rp 4,200/kg. Meanwhile, the price of GKG at the milling level is set at Rp5,205/kg and the Bulog warehouse at Rp5,300/kg. Meanwhile, BPS noted that during January 2021, the average price of GKP at the farmer level was Rp.4,921/kg, up 3.03 per cent and at the milling level, Rp.5. 026/kg or an increase of 3.10 per cent compared to the exact quality grain price in the previous month.

The average price of GKG at the farmer level was IDR 5,318/kg, down 0.73 per cent and at the milling level, IDR 5,432/kg, down 0.80 per cent. This price gap ultimately makes farmers prefer to sell rice to private buyers willing to pay more than the predetermined price. This has resulted in the competition between Perum Bulog and the private sector, which affects the absorption of Perum Bulog's crops cannot be maximized. This price gap ultimately makes farmers prefer to sell rice to private buyers willing to pay more than the predetermined price. This has resulted in the competition between Perum Bulog and the private sector, which affects the absorption of Perum Bulog's crops cannot be maximized. This price gap ultimately makes farmers prefer to sell rice to private buyers willing to pay more than the predetermined price. This has resulted in the competition between Perum Bulog and the private sector, which affects the absorption of Bulog's crops cannot be maximized.

Based on data from Bulog in 2020, Bulog's rice absorption from farmers decreased from 2.96 million tons of GKG in 2016 to 1.48 million tons in 2018. This result occurred because Bulog was unable to compete with budget constraints ("Lindungi Petani, HET Dan HPP Beras Diminta Dievaluasi," 2021). Indonesia adheres to the Pancasila economic system, namely: sourced from Pancasila, especially the fifth principle "Social justice for all Indonesian people" and the mandate of Article 27 paragraph (2), Article 33-34 of the 1945 Constitution (4th Amendment). This fifth

precept explains that all national and state orientations, political economy, law, social and culture, are imbued with the spirit of comprehensive justice and are intended for all Indonesian people. Thus, the Pancasila Economic system exists with Pancasila as its ideal basis and the 1945 Constitution as its constitutional basis.

There are several points related to the effectiveness of the Minister of Trade Regulation number 24 of 2020 in dealing with the farmer crisis in Indonesia with the establishment of HPP. *First*, domestic rice stock is safe. Blog conveyed that the availability of rice as of July 2021 was in a safe condition. In the condition of the Covid-19 pandemic, which imposes restrictions on community activities (PPKM), rice stocks are safe so that the discourse on imports that had become news that was troubling to farmers has not been taken into consideration. The rice stock per July based on the Bulog report, the Government's rice stock is 1.37 million tons, and the commercial stock is 13,969 tons.³¹ Absorption of grain and rice by Bulog can increase, but on the one hand, farmers are not entirely satisfied with the price set. From the facts, farmers prefer to sell their crops to the private sector when the price from BULOG is lower. *Second*, the Minister of Trade Regulation number 24 of 2020 has not been able to increase the community's enthusiasm, especially the younger generation, to become farmers. The profits from the sale of harvests are still not felt by farmers, and it is not uncommon for farmers to experience losses because in the initial process to harvest, the costs are higher; moreover, it is not balanced with the pricing of cheap and abundant fertilizers.

The determination of HPP by the Government is deemed not to provide a price that is following farmers' productivity. The cost of goods sold (HPP) of grain or rice set by the Government is still below the farmers' production costs. It can be proven by looking at the Minister of Trade Regulation Number 24 of 2020, namely HPP GKP of Rp. 4,200/kg, while based on a study by the Association of Seed Banks and Indonesian Farmer Technology (AB2TI) in 2019, the cost of domestic rice production reached Rp. 4,523/kg. this proves that the cost of production is higher than the selling price

IV. CONCLUSION

Indonesia has provided legal protection and empowerment of farmers with the enactment of Law Number 13 of 2019 concerning the Protection and Empowerment of Farmers, wherein this law is explained that the Protection and Empowerment of Farmers aim to realize the sovereignty and independence of Farmers to improve the level of welfare, quality, and a better life; protect farmers from crop failure and price risk, while regarding food security in Indonesia it is divided into Rice and Non-rice, but regarding the determination of post-harvest prices in Indonesia only regulates HPP Rice with the issuance of Minister of Trade Regulation Number 24 of 2020 which in this regulation follows Presidential Instruction Number 5 of 2015 concerning the policy of the Procurement of Grain and Rice, which is distributed through the Government. The determination of the HPP for grain or rice by the Government as outlined in the Minister of Trade Regulation Number 24 of 2020 is expected to provide a price guarantee as determined by the Farmers, which aims to maintain their productivity. However, in practice, this regulation has not been fully effective due to competition between the private sector and Bulog; Bulog cannot fully absorb harvest yields after the law is issued.

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Legal Protection of Geographical Indication on Coffee in Jember, Indonesia

Galuh Puspaningrum

University of Jember, Indonesia

Muhammad Habib

Airlangga University, Indonesia

ABSTRACT: The coffee commodity has a strategic role in the plantation sector and the economy in Indonesia. Coffee commodity as a geographical indication and spread in several districts. Geographical indications are intellectual property rights, one of based on natural factors. Coffee commodities in several regions have also experienced very rapid development, as happened in Jember Regency. The types of Jember coffee commodities include Robusta, Arabica, and Liberica. This diversity represents by the enthusiasm of the community to become farmers and coffee business actors. It indicates that coffee is one of the strategic commodities that can improve people's welfare. The protection of geographical indications must go through complex and difficult registration. It is a problem for farmers and coffee commodity business actors when there is an acknowledgment from other parties of the ownership of the coffee commodity. It is due to the absence of local government regulations and policies. This research uses normative legal research to find the truth scientifically, using a conceptual approach and legislation. The conceptual approach is used to provide a perspective and analysis of legal issues from legal concepts. At the same time, the statutory method is used to examine statutory regulations in which there are still shortcomings in their normalization. Strengthening coffee commodities through government policies is part of the concept offered by industrial and agribusiness law. This study aims to provide contributions and ideas for local governments to make policies and legal protection for coffee commodities to encourage the people's economy and welfare for coffee farmers.

KEYWORDS: Local Government, Geographical Indication, Coffee.

I. INTRODUCTION

Coffee is the most familiar drink found in any part of the world, including Indonesia is a country with coffee lovers and a massive producer of coffee commodities. The contribution of coffee commodities as a foreign exchange earner is also not in doubt. In facing global trade competition, it is necessary to protect this superior coffee commodity from the threat of claims from other parties by registering the coffee commodity in intellectual property rights. Today, intellectual property rights can also be interpreted as holders of rights to ownership of ideas that arise to produce works because they can think in science, technology, art, and so on that can benefit others. (Prasetyo Adhi et al., 2019) Its definition can be interpreted narrowly that the inventor/creator can enjoy intellectual property rights to enjoy intellectual creativity economically. (Yessiningrum & Risna, 2015) This economic profit right is obtained due to the use of the intellectual property by other parties based on a license. From that fact, we can say that intellectual property is one of the objects of trade. (Muhammad, 2001)

One of the scopes of intellectual property rights that attracts attention for coffee commodity producers in Indonesia is its geographical indication. Geographical indications are intellectual property rights, one of which comes from natural factors. (Effida, 2019) Coffee commodities in several regions in Indonesia have grown quite rapidly, which also applies in Jember Regency. There are many coffee commodities in Jember Regency, namely Robusta, Arabica, and Liberica coffee. The diversity that exists in Jember Regency is marked by the enthusiasm of the coffee farmers in Jember. It makes coffee a commodity that can improve people's welfare. The definition of Geographical Indication itself is a marker in which a name indicates the regional origin of the goods/commodities that exist due to geographic-environmental factors. These include natural elements, human factors, and a combination of natural and human factors that produce an item/commodity with pretty unique characteristics and have good quality and reputation resulting from these products. (Sanjaya, 2016) Geographical Indications are communal ownership of rights because, by their nature, they are collective subjective. Therefore, cannot transfer ownership of the

Geographical Indication intellectual property license cannot be transferred to another party.(Aridhayandi, 2018)

Geographical Indications provide legal protection for registered commodities. It would add to the reputation of these commodities, which can increase the economic value of these goods and increase people's income and increase the country's economy. (Prasetyo Adhi et al., 2019) The use of Geographical names can also guarantee consumers, not only as information on where the goods come from but also ensure that the goods are products of superior quality produced from the area.(Sasongko, 2012) This Geographical Indication Protection must be registered. It is a problem for local farmers and coffee commodity business actors when one day there will be a claim from another party for the ownership of the coffee commodity. It is due to the absence of regulations and policies of the Jember local government to protect the coffee commodity into a geographical indication intellectual property.

This research method uses normative legal research to find the truth scientifically, using a conceptual approach and legislation. The conceptual approach is used to provide a perspective and analysis of legal issues from legal concepts. At the same time, the statutory method is used to examine statutory regulations in which there are still shortcomings in their normalization. This study aims to provide contributions and ideas for local governments to make policies and legal protection for coffee commodities to encourage the people's economy and welfare for coffee farmers.

II. GEOGRAPHICAL INDICATION

Firstly, the origin of the protection of intellectual property rights was in Europe, which has an individualistic and capitalist culture. In its development, Indonesia, with its membership in the World Trade Organization, has ratified the Trade-Related Aspects of Intellectual Property Rights (TRIPs) agreement.(Rifai, 2017) By law, Indonesia has been bound by the protection of Intellectual Property Rights as stipulated in the TRIPs. The definition of Geographical Indication based on the TRIPs agreement is a sign that provides information on an area of the

country or region as the goods originate and have inherent characteristics and have a reputation and superior quality from the area which is strongly influenced by natural factors and human factors. Then the interests can be protected by law.(Jazuli, 2016)

Legal protection for Graphical Indications in Indonesia is crucial after issuing Law no. 20 of 2016 concerning Brands and Geographical Indications. The provisions contained in this law are explained explicitly in Article 53 to Article 73. This regulation is expected to increase the role of local communities and local governments to register their Geographical Indications to the DJKI. (Hariyani et al., 2018)

Geographical Indications get legal protection after being registered by the Ministry of Law and Human Rights. The application for Geographical Indications is applied by institutions representing the community and local government, which strive to ensure that natural and human factors influence the goods/products produced. However, the application for Geographical Indications cannot implement carelessly. Several factors make geographical indications unable to be registered, contrary to state ideology, applicable regulations, morality, religion, decency, and public order. If the goods/products are produced from deceiving or misleading the local community regarding quality, reputation, and characteristics, the origin of the process of goods and their use. There are similarities in names that have been used in PVP rights holders who use similar names but can be excluded if there are additional words that show Geographical Indications. As the reasons for rejection of the application for Geographical Indications, if the documents described in the Geographical Indications cannot be verified, the similarities in all geographical indications have been registered.

One factor to developing an item/product into a Geographical Indication is that the resulting product must have superior quality and a unique characteristic that is not owned by other regions and can compete with products from the different areas. Furthermore, the role of the producer organization must determine the boundaries of sites that can be used as Geographical Indication products to be registered and make a specification book that has been required for complete registration. Furthermore, what is

no less important is that the registered product has received official recognition where this recognition is regulated by law, namely related agencies, non-governmental organizations, research/research institutions, and institutions that have links with the local government.(Nugraha, 2020)

It is crucial for Geographical Indications applications alongside the law. There is a name to be submitted for Geographical registration, the item's name to be applied for, an explanation of the quality and characteristics that distinguish the object from having its uniqueness that is not the same as other items belonging to the same category of goods. The same and also explains the relationship with the area where the goods originate, an explanation of the geographical environment as well as the influencing factors, namely natural factors and human factors which are an inseparable unit and have an influence on the products produced which affect the characteristics and quality of the goods, an explanation of the boundaries of the area that becomes a geographical indication, explanation of the history and traditions that are related to the use of Geographical Indications to signify goods produced from the site and including claims from the surrounding community regarding the geographical indications, explanations of starting from the production process to processing and manufacturing processes from upstream to downstream on the products/goods used so that it is possible for every producer from the area to produce, process and manufacture these goods, an explanation of the method of testing goods to test the quality of the goods made from these products and no less important is the label used for the goods which contains information about the Geographical Indications of the goods.

Geographical Indications get legal protection since the product is registered with the DJKI. The validity of geographical indications is that they do not have a period or are not limited as long as the product's characteristics and quality are still present. The features and quality of the product have been written in the requirements book applied to DJKI, which influences geographical environment and factors such as the human factor. Ownership of Geographical Indications: the applicant and community groups and the local government are interested in maintaining the Rights of Geographical Indications.(Hariyani et al., 2018)

A. Geographical Indications Potential of Jember Coffee Commodities

Coffee commodity in Jember Regency has Geographical Indication Potential which has natural resource production in Arabica, Robusta and Liberica Coffee. Coffee beans produced from coffee plantations in Jember are managed by farmers, farmer groups, and forest village community institutions, some of whom manage land owned by Perhutani. From all regions in Jember, the most coffee commodity production is Robusta coffee. The Jember Regency area has a variety of coffee plant heights; therefore, there are various species of coffee in the Jember area.(Pratama et al., 2021) The taste of the coffee produced is determined by the provisions of the site's altitude and the place of processing which causes each region in Jember to have a different taste. However, for Liberica coffee, even though it is grown in other areas, it still has a very inherent characteristic, namely the smell of Jackfruit in each production.(Nugraha, 2020)

The influence of place of planting can make a difference in the taste of the coffee produced in each region. The factors of altitude, slope, depth of the soil, and climate also affect the taste of the coffee plant. Coffee plantations in Jember are very suitable because many areas of Jember include the slopes of the Argopuro Mountains, whose soil is very fertile and can be used to plant coffee commodities.

Applications for Geographical Indications are made by applicants who have the right to represent farmer groups or local institutions and can also be carried out by the local government by completing the requirements which have been regulated in the law, namely the name of the geographical indication requested can use the proposed name Together with the local farmer group with adding the name of the area can be a village, sub-district or district. In contrast, you can add the location of the planting area, such as Arabica Argopuro, Liberica Jember, Robusta Arjasa, which indicates that the product originated from the area. Furthermore, the name of the requested goods originating from nature which is related to the goods to be registered Geographical indications,

An explanation of the characteristics and quality gives a different picture of specific goods with the same category by explaining the area where the

goods are produced. Of course, the aspects of coffee grown in various regions have differences due to differences in soil, altitude, climate, temperature, solar radiation (Supriadi, 2017). Coffee commodities grown in several areas of Jember Regency have their characteristics, namely being planted above an altitude of 1000 meters above sea level, which causes the taste of the coffee produced from the Jember area to have a robust acidic character. (Nugraha, 2020) different from the coffee made from the Bondowoso district, which has a sweet and sour taste. (Suhartono et al., 2020) The flavor produced by farmer groups in the Jember area has different characteristics from other coffee-producing sites because both farmer groups manage the coffee made from Jember Regency and forest village community (LMDH) with appropriate care; geographical, environmental factors affect the taste of the coffee produced, and this is a different thing from coffee made in areas outside Jember.

The description of the geographical environment and natural and human factors significantly influences the characteristics and quality of the coffee produced. The slopes of Argopuro and some surrounding areas, where the slopes of Argopuro have an altitude of 1000-1500 meters above sea level with a temperature of 21-24 C utilized to grow coffee. With a height of land used for plantations and a sufficient temperature. The cold makes the coffee is grown to be fertile, which is relatively high. The area also has a reasonably high rainfall, which causes the coffee plant's water needs to always be fulfilled. The intervention of human factors is also essential where farmers use natural farming systems without using additional chemicals. With routine monitoring and care, the coffee produced also has superior quality. (Nugraha, 2020)

Explanation regarding regional boundaries or regional maps covered by Geographical Indications, the applicant is more specific in explaining the borderline to be used by the application. Namely, to register with the borderline of the Jember district or use the borderline of sub-districts in Jember. For example, Sukorambi, Arjasa, Sidomulyo, etc. Suppose the registration of Geographical Indications uses the Jember area. The northern borderline is bordered by Bondowoso district, eastern borderline with Banyuwangi district, southern borderline with Lumajang district, and

western borderline with Probolinggo district. The determination of this borderline with the approval of the community and related agencies where coffee processing is usually done per sub-district.

The history and traditions related to geographical indications indicate goods produced from the area where coffee was grown. In Jember was initiated by the impact of the cultuurstelsel system carried out by the Dutch. The large family of Victor Clemens Boon rented plantation land in Jember in 1902. He got the rights in the Pace area of the Silo sub-district, which is better known to the public as the Wangkal Curah plantation. In 1934, coffee cultivation was carried out in the Jember Regency area, which PTPN carried out, and in 1939 it was expanded to the surrounding community to jointly grow coffee in their gardens and on the forerunner of the coffee planted by the community until now. (Izzah, 2015) Based on the history and some recognition about the potentiality of coffee located in Jember could be a geographical indicator because of strong sour taste rather than another coffee from a different city.

Furthermore, an explanation of the production process, processing process, and manufacturing process allow producers from the area to process and produce related goods. In the production of coffee plantations in Jember, the farmers sell to the treasurer of the farmer group, which is then carried out in the post-harvest processing. The processing of the coffee will be processed in various ways. Namely, the Full Wash processing process is carried out by separating the meat and skin of the coffee, which will be soaked in water repeatedly to remove the mucus in the coffee cherries, then the drying process is carried out. This Full Wash process produces coffee with a more acidic taste, and this technique is usually used for Arabica coffee. Then there is the Semi Wash Technique, where this technique is almost the same as Full Wash, but this technique in the water immersion process is enough to do once and will produce a powerful coffee aroma.

Furthermore, the method is no less interesting, namely the natural processing with this straightforward technique. The coffee that has been picked from the garden is directly dried 1 (one) meter above the ground surface, without going through stages such as Full Wash and Semi Wash.

After the coffee beans are dry, some are directly sold, and some are sold in powder by roasting the coffee first and then packaged in attractive packaging. Furthermore, the technique is no less interesting, namely the natural processing with this effortless technique. The coffee that has been picked from the garden is directly dried 1 (one) meter above the ground surface, without going through stages such as Full and Semi Wash. After the coffee beans are dry, some are directly sold, and some are sold in powder by roasting the coffee first and then packaged in attractive packaging.

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In the method test, the quality of the goods produced by the coffee commodity in Jember has carried out tests at the testing laboratory of LP PUSLITKOKA. Some have UtzKapeh and UTZ Certified certificates that have met international standards with high-quality coffee processing exported overseas.(Pertiwi, 2018)

The marker, more familiarly known as the label on the goods used in the application for Geographical Indications, which contains all information related to the goods being produced, comes from using captivating words or pictures showing the area. In the marketing of coffee commodities, of course, it is written where the coffee comes from, namely Jember Regency. As well as being affixed with a picture that symbolizes the place for coffee cultivation, you can use an image of Mount Argopuro. By fulfilling the requirements described in the conditions for Geographical Indications, it is feasible for Coffee Commodities in Jember Regency to register their coffee in Geographical Indications.

B. Efforts of Legal Protection for Jember Coffee Commodities

According to Philipus M.Hadjon, there are two types of legal protection: first, preventive legal protection. The public has the opportunity to apply for government decisions to obtain definitive or protective rights to avoid disputes. The second form of legal protection is repressive, namely legal protection, which has the objective of resolving a disagreement.(Phillipus, 1988)

Goods/Products that have the potential as Geographical Indications do not rule out the possibility of many things that will interfere or even threaten the occurrence of counterfeiting of goods/products because these goods have superior characteristics and quality from other goods. It can happen because a few people want to get personal benefits, which is detrimental to the owner of the goods/products and coffee commodities in Jember, which have superior quality and characteristics, namely having a strong sour taste. This characteristic can cause coffee commodities other than Jember, which taste not like coffee from Jember, to give the reputation of the coffee commodity and coffee products from Jember, even though the place of planting and processing coffee is not in the Jember area. Following the definition of geographical indication in Article 1 point 6 of Law No. 20 of 2016, concerning Marks and Geographical Indications, from now referred to as the Law on Marks and Geographical Indications, that geographical indication is a sign indicating the area of origin of an item and/or products that due to geographical-environmental factors including natural factors, human factors or a combination of these two factors give a particular reputation, quality and characteristics to the goods and/or products produced.

Legal protection for coffee commodity products located in Jember Regency has not yet fully received strong protection because it has not yet received a Geographical Indication certification from the DJKI. Suppose some parties buy coffee from the Jember area that gives a name to the coffee product with a name that has a related geographical indication, then the farmer groups. In that case, relevant government agencies cannot take legal action against the party who gives the other name. However, if the party buys coffee from the Jember area and when it is produced and packaged, the product changes the name of the coffee to another product that has no

connection with the name of the geographical indication of Jember, then legal action can be taken.(Ridla, 2019)

When some parties produce coffee outside Jember who commit fraud by using the name of coffee originating from Jember, this can be done repressively by filing a lawsuit to the Commercial Court.(Asyfiyah, 2015) Because this is tantamount to tarnishing the name of the coffee commodity product in Jember, which has a characteristic sour solid aroma that makes coffee products in Jember a superior coffee product. As a result of this action, it will undoubtedly mislead consumers that the coffee products they enjoy are not the same as coffee products from Jember.(Nugraha, 2020)

If the coffee commodity in Jember has been registered as a geographical indication, it will undoubtedly have a considerable impact on the community's economy and the region. With the geographical indication certificate, the goods produced have characteristics that cannot be found elsewhere. However, irresponsible parties can make this an opportunity to carry out counterfeiting actions to gain the Geographical Indication certificate holder's reputation. As a result, this is very detrimental to the cultivators and producers and the Geographical Indication certification right holder.

Geographical Indication certificate holders have firm legal certainty if other parties do not have good intentions to carry out a dispute in court. The certificate can be used as evidence that the Geographical Indication certificate holder holds that right.(Sembiring, 2018) To prevent the occurrence of greater losses caused by irresponsible parties, Geographical Indication certificate holders can also apply for compensation suffered and stop production and use and destroy goods used without rights. The threat of punishment for those who violate there are also criminal sanctions and fines that have been regulated in the Law on Marks and Geographical Indications, namely a maximum sentence of 4 (four) years and a maximum fine of IDR 2,000,000,000.00 (two billion rupiah).

III. ROLE OF LOCAL GOVERNMENTS

Local government policy becomes a preventive measure in protecting national assets, like coffee. It prevents claims and violations against intellectual property rights/geographical indications, even they must be obtained through the registration stage. The local government, in this case as a government official, has a central role in autonomy in protecting coffee commodities. Protection of geographical indications can provide benefits to rights holders and increase product value even more. Geographical Indications are also considered capable of improving the economy in the area of origin; geographical Indications are registered. The concept of Geographical Indications is some form of communal protection or, together with farmer groups, non-governmental organizations, and related government agencies, cooperating in the empowerment of Geographical Indications. Geographical Indications will protect the rights holders adopted by the Indonesian HKI system registering the first recognized rights holders. (Ganindha & Sukarmi, 2020)

Intellectual property rights' linkage with other aspects is within reach, namely technology, social, culture, industry, and other elements. The connection with the technological part is quite dominant in the development of IPR, and it is elementary to promote IPR products to the world. With this condition, legal protection for rights holders is increasingly paramount because it becomes a monopoly right that aims to protect them. (Ganindha & Sukarmi, 2020). The lack of maximum attention from the local government of Jember, which until now there is no coffee commodity in Jember as one of the geographical indications, causes a lack of understanding of the local community on this matter. People are more familiar with patents and trademark rights. Geographical Indications can be used as assets that provide welfare facilities for the community with appropriate and wise use. With adequate human resources (Munawaroh, 2019)

In an aim to increase the effectiveness and efficiency of the autonomous government, it is necessary to innovate by the regional government and add additional sources of financing that are enhanced from this creativity by

encouraging the potential that exists in the region to create a prosperous society.(Lukito, 2018) Local governments have strategic authority to carry out guidance and supervision in their areas.(Munawaroh, 2019) In the provisions of the law, geographical indications are, in principle, a sign that provides information on where the goods originate. The goods/products are influenced by the geographical environment, in which these factors are a mixture of natural elements and human factors. These two factors give birth to the characteristics, quality, and reputation of the goods that make these goods superior products.

Geographical Indications are not directly attached to areas with potential but must be registered first before getting complete legal protection. Farmer groups and non-governmental organizations can make applications for geographical indications. The district/city government can make this application, and it is the district government of Jember's rights. Thus, the Jember district government can position itself as an applicant for Geographical Indications. The government also has a crucial role in terms of guidance and supervision. This guidance, as referred to in the applicable provisions, is preparation before registration is carried out, application for registration of Geographical Indications, utilization and commercial use of geographical indications, socializing related to understanding the protection of Geographical Indications, mapping, and recording so that a good inventory of the potential of Geographical Indications is carried out, conducting training and assistance to farmers, monitoring, monitoring, evaluating and educating, assisting legal protection and facilitating the development, processing, and marketing of goods / Geographical Indication products.(Darwance et al., 2021)

The critical role of local Geographical Indications experts who have qualified competencies in their fields is beneficial in maintaining the quality, reputation, and quality of the goods produced as geographical indications, which are later marketed both within the region and outside the area exported abroad. This team of experts can monitor and evaluate future-sell products; of course, good supervision is needed, and later there is no need to worry about their authenticity again.(Nugraha, 2020)

IV. CONCLUSION

A geographical indication is a form of intellectual property. Jember Regency is a specialty coffee-producing area that has the potential to be registered in geographical indications. The limited knowledge of the community and the lack of protection for coffee commodities in Jember Regency have led to claims for coffee products from outside parties. The role of local governments in providing legal protection for the intellectual property rights of coffee commodities is to apply for registration of geographical indications and form regional regulations covering planning, area directives, empowerment of planters and business actors, and marketing and institutions. Strengthening coffee commodities through local government policies is part of the concept offered by industrial and agribusiness law, which provides legal protection.

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Women Workers in Palm Oil Industries: A Violation of Human Rights?

Evyta Rosiyanti Ramadhani

Faculty of Law, University of Jember

Savira Anggraeni

Faculty of Law, University of Jember

ABSTRACT: Palm oil is an essential commodity that is quite versatile. It has a function for almost everything, from potato chips to beauty products. It also ends up in the supply chains of some of the biggest names in the beauty industry, including L'Oréal, Unilever, Procter & Gamble, Avon, and Johnson & Johnson. But behind those important uses of palm oil lies horrible facts about women workers in the industries. Women workers in palm oil industries act as the spearhead of palm oil production. They are in charge of some of the industry's most dangerous jobs, spending hours exposed to chemicals and carrying heavy loads such as fresh palm fruits. Subcontractors recruit workers on a day-to-day basis without benefits, let alone health insurance. They did the same-old jobs for the same companies for years. These women workers work in brutal conditions from discrimination, abuse, and harassment. This study uses a library research method and statutory approach. The Authors found an absence of policies in protecting women workers in palm oil industries. Based on the provisions of the Cedaw Convention, Article 3 emphasizes the core of the obligation of the state to make appropriate regulations in fulfilling women's rights, especially in this case are women workers working in oil palm plantations. Indonesia has ratified the Cedaw Convention into Law No.7 of 1984 on the Elimination of All Forms of Discrimination Against Women. The law has explicitly outlined women's rights, political civil rights, and social rights. However, women's rights have not been implemented optimally, either reflected in policies or government programs. The involvement of women as workers in palm oil plantations is a challenge, especially for the government as a policymaker, to protect and provide safety guarantees, especially to women workers.

KEYWORDS: Women Workers, Human Rights, Discrimination.

I. INTRODUCTION

Palm oil is one of the essential commodities for the Indonesian economy. According to The Statistics of Indonesian Palm Oil Industry issued by the Palm Oil Research Center, palm oil businesses contributed the largest state foreign exchange worth \$ 22.97 billion or equivalent to Rp320.5 trillion in 2020. The palm oil industry also absorbs a total of 5.5 million workers or one-tenth of the labor uptake from the national formal industrial sector—Indonesia is the largest palm oil-exporting country globally. Among the many workers absorbed by the oil palm plantation sector in Indonesia, women workers are included in the vital part, ranging from fertilization, weeding, spraying, harvesting, and collecting oil palm remains that fall on plantation land. Female workers spearheaded the palm oil plantation sector until the production process into palm oil became the largest food oil commodity traded globally, which reaches 40% of food oil trade transactions in the world. In addition, behind the world's leading products, especially the beauty industry, including L'Oréal, Unilever, Procter & Gamble, Avon, and Johnson & Johnson (Mason & McDowell, 2020) targeting female consumers is tucked into the terrible facts regarding the condition of female workers in the palm oil plantation sector that supports the supply chain of these products.

In their jobs in oil palm plantations, female workers have to spend long hours carrying heavy loads and exposed to pesticide chemicals, and they work under subcontractors without health insurance. They also operate under pressure, vulnerable to gender discrimination, rights violations, even sexual harassment. Foremen often do this case of harassment against freelance women who work daily in oil palm plantations. (CNN Indonesia, 2020)

Writings related to women workers have previously been written by Yuyun Feriyanti Amandasari, Postgraduate Student of Public Health UGM, in a journal entitled "Sexual Harassment: Health Literacy in Women Workers in Oil Palm Plantations"; (Amandasari, 2021) The paper focuses on the rights of women workers, especially in the public health perspective that discusses the right to protection from sexual harassment, discrimination, and reproductive rights. While in this paper will be more targeted about

discussing how the labor system of the oil palm plantation sector in Indonesia, especially regarding regulations and legal umbrellas from the government, related to the protection of the rights of women workers in the oil palm plantation sector so that later it is expected to open up insight and legal awareness of women workers about their rights and review how the regulations established by the government to date to ensure the legal protection of women workers and the role of oil palm industry actors as the main responsible for the welfare of their workers, especially women workers.

II. PALM OIL IN INDONESIA

The oil palm plantation industry sector is not only related to palm oil crops but furthermore is an industry of significant long-term investments and natural resource consumption. This research is limited to the on-farm process carried out in the oil palm plantation area, and this phase is divided into two main points, namely the not yet produced phase that generally starts from the land clearing process, the breeding process, and the process of planting palm seedlings to begin crop management before making their products. In the phase "plants have not produced" (TBM) generally spends about 0-4 years to then change to the next stage, namely the "plant produce" (TM) phase in this phase, we will find the process of crop management in the form of the fertilization process, plant care process, palm oil harvesting process to produce a quality palm product, in the resulting garden phase generally spends more than four years. (Dalimunthe et al., 2019) Female workers, both women oil palm farmers (plasma farmers) and women workers, play a significant role in the two phases of the on-farm process of oil palm plantations from various activities in these phases identified violations of the human rights of women workers.

Plantations at the beginning of its development came as a new economic system that was not previously known, namely the colonial-patterned commercial agricultural economic system. The system brought by the colonial government or established by foreign capitalist corporations is a European plantation system, which is different from the garden system that

has long prevailed in developing countries in pre-colonial times. (Heru Purwandari, 2011) There is a big difference regarding the garden system and plantation system that is developing at this time. The Garden system shows that plantation business in household business is an additional or complementary business of basic agricultural life activities, especially food agriculture as a whole. This business is usually encountered in small businesses, not capital intensive, and land use is not too broad. Labor resources are centered on family members, less market-oriented, and more focused on serving the needs of subsystems. At the same time, the developing today is better known as a large plantation company that is included in the economic system of commercial and capitalist agriculture. This system is realized in the form of agricultural businesses on a large scale, monoculture, capital intensive, widespread use of land area, large labor organization, detailed division of labor, use of wage labor, complex labor relations structure, and proposed to meet market needs (export commodities). (Achmad Surambo, 2007) The system of large plantation companies requires many workers to support high-scale production. From this point of view, women workers are also members of the palm oil industry even though this type of work is classified as high risk, especially for women.

A. The Involvement of Women Workers

The oil palm plantation industry, for some, is considered a heavy and menial labor sector dominated by male workers as its primary workers. The use of mechanical tools that are relatively large to help work during harvesting also formed the opinion that only men are employed by oil palm plantation companies to take care of menial work in oil palm plantations. But the reality of what happens on the field is not that simple. Recorded on a global scale, data from the International Labour Organization (ILO) shows that more female workers than men occur in the agricultural sector. (Databoks, 2018) According to a report conducted by the Food and Agriculture Organization (FAO) that 61% of women in rural Indonesia are working in the agricultural industry sector. In many cases in Asian

countries such as Malaysia, Indonesia, the Philippines, and Sri Lanka, there are more female plantation workers than men. (Saptari & Holzner, 2016)

Several factors drive women's involvement in various industrial sectors, including the agricultural industry, namely due to economic pressures or family economic needs that are increasingly unaffordable, husbands do not work, and increase the husband's income. In addition, the average woman working in the industrial sector is a lower middle class of the economy whose level of education and expertise is still lacking. (Rahmaharyati et al., 2017: 231) Women as workers have a heavier burden when compared to male workers. Female workers instinctively have their roles related to domestic affairs. The role question is a woman's role as a wife, a mother, and a woman who has a career outside the home. (Rahmaharyati et al., 2017: 233) As with female laborers, they have dual roles as wives and mothers as well as breadwinners. Their involvement in making a living as workers creates conflict and inner pressure in dividing their role in living daily life in a balanced manner.

B. Vulnerability of Women Workers in the Oil Palm Plantation Industry

The expansion of territory or regional development has a good effect on the country's economy and negatively influences the social environment, one of which is gender issues. The Center for International Forestry Research (CIFOR) estimates that about 1.5 million Indonesian female workers work on oil palm plantations. (Theresa & Wahyuni, 2021: 106) Therefore, the protection of female workers is no less important in business activities and is inseparable from human rights. Moreover, there are still many female workers often experiencing violations of their rights as workers. For example, female workers in Sumedang¹ and Jambi² in pregnant conditions perform to submit resignations so that the dispute in the Industrial Relations Court. In addition, violations of menstrual leave rights against

¹ Supreme Court Decision No. 94 K/Pdt.Sus/2013.

² Jambi Industrial Relations Court Decision No. 03/G/2013/PHI. JBI

female workers are also experienced by women workers of oil palm plantations in Medan.³

The vulnerability of female workers to men tends to be different. In some types of jobs on the farm phase, there are forms of oppression that neglect the rights of female workers. In North Sumatra plantations, workers in charge of harvesting are dominated by men, and 90% of the male workers bring their wives or children to be freelance day laborers as a response to meet the targets charged by the company to him. With a workload of 75 bunches/1500 kg per day and get an average wage of Rp 39,000, - Meaning 2 or 3 people do the wages received. It means that the wife/woman is bound to work on the plantation to achieve the impossible work for one worker to do. (Relis, 2009: 41) In this harvester process, women work to move at least five palm fruit (average 25 Kg/janjangan) to the yield shelter (TPH), quote brondolan, and put it in a burlap measuring 50 kg, tidying the leaves that have been cut and placing it in the cracks between palm plants. In addition, in the North Aceh area, women's majority workers in a day can separate and knock out palm seeds as much as 250 kilograms with a wage of Rp200 per kilogram or receive a salary of Rp.50 thousand per day. (Subagyo, 2021) Even though the burden they bear, both physical and mental, is not proportional to the wage. Sadly, they work without adequate occupational safety and health tools such as helmets, gloves, and boots. Women wear gloves and boots but are brought by the workers. This job is vulnerable enough to take lives.

The vulnerability of female workers is also reflected in the applying pesticide phase. Female workers mainly carry out with a percentage of 90% and status as freelance day laborers (BHL) in the process. There are two ways, namely manually and other ways of using electric/micron batteries. (Hotler et al., 2014: 25) These methods are equally at high risk of adverse exposure to chemicals contained in these pesticides. When explained about the manual way female workers do, they must carry 22 Kg of poison plus 5 Kg of spray tubes. (Hotler et al., 2014) The foreman will bring the necessary pesticides and hand them over to the worker in this manual way.

³ Supreme Court Decision No. 81K/Pdt.Sus/PHI/2015

The latter will put it in a spray and mix it with water (provided by the company) using the correct dose. Workers are responsible for lifting and bringing back to the warehouse spray plantation and must reach the target of one hectare per day (fill the spray three times). (Relis, 2009: 42) The company does not provide masks, gloves, hats, unique clothing and footwear, eye-protecting devices, etc. for use as protection (CNN Indonesia, 2020) when the content in such pesticides is at risk to humans. Gramoxone, Ally, Rhodamine, and Roundup are products used in the work process. The company does not provide information about the potential impacts and harms of pesticides used, nor does it explain how to use pesticides appropriately and avoid health hazards. Therefore this work is hazardous and has an impact in the long run. (CNN Indonesia 2020) It happened to a female worker named Supriati middle-aged woman who experienced hives and sores on her shoulders, blurred eyes that only have a rare 2m view. He shared it because of the risks of his work as a sprayer since 1999 at PT Socfindo Mata Pao, Serdang Bedagai. (Relis, 2009: 43) In addition, in the process of harvesting and applying pesticides, another technique that also has a significant risk to female workers is applying fertilizer with the materials used generally containing urea, TSP, NPK, Kurater, Borat, and ZA. (Hotler et al., 2014: 27) Other processes in the on-farm phase that are pretty risky, namely the clearing process, (Relis, 2009) In clearing and cleaning grass amongst palm trees, with work support tools in the form of machetes, hoe, and other sharps objects that are certainly at risk if female workers do it.

Inequality is also partly due to the wage factor. Women workers still experience discrimination and injustice. According to data from the Ministry of Protection and Empowerment of Women and Children noted in 2015, there was still a wage gap between men and women in all jobs, including agriculture, forestry, and fisheries. (Kementerian Pemberdayaan Perempuan dan Perlindungan Anak Indonesia, 2016: 58) Selain hak atas upah, pelanggaran hak maternitas juga terjadi. About 20-25% of female workers experience such violations where they work. (Widyaningrum & Rohman, 2021: 315) Such obstacles for female workers to get their rights

to reproductive health because of the difficult procedure of filing rights to ignorance from the workers of their rights. (Relis, 2009)

III. HUMAN RIGHTS AND FEMALE WORKERS

According to Law No. 18 of 2004 (amended to Law No. 39/2014) on Plantations, there are three functions of plantations: economic, ecological, and socio-cultural. As Economic function with the plantation, one of them is as a container to improve the welfare of the people. As an ecological function, plantations become a medium of providing oxygen, carbon sequestration, and buffering protected areas. As for socio-cultural functions, plantations can be one of the unifying means of the nation. (Theresa & Wahyuni, 2021) However, behind the regulations that often occur is an injustice for female workers who are widely harmed and seem not protected rights either by the government or by the company they work for. Not even a few workers experience sexual harassment in the plantation area. (Wirawan, 2020) Female workers play a role in the treatment of oil palm plantations, Indonesia's mainstay export commodity. These women also face more burdens because of the inflexible work system, which sometimes forces them to choose between meeting family needs or taking care of the household. This condition is very discriminatory and can lead to human rights violations.

The discrimination and injustice of women in all aspects of social, political, economic, and cultural have been happening for a long time. (Kaplan, 2014: 162) Women's rights are also part of human rights. (United Nations, 2014) As women's conditions in oil palm plantations currently stated by the Cedaw Commission (elimination of discrimination against women) at Cedaw's general assembly on July 27, 2007, in New York, the committee is concerned that widespread poverty among women and socioeconomic poverty conditions are the cause of violations of women's human rights and discrimination against women. (Surambo et al., 2010: 67) The committee is particularly concerned about the situation of rural women, including the unavailability of legal protections, health care, and education for women. To that end, the Cedaw Committee recommends

that states ensure the improvement of gender equality to the degree of socialization of gender equality issues explicit components of, fully implemented in, national development plans and policies, primarily aimed at poverty reduction, sustainable development, and natural disaster management. (Surambo et al., 2010: 23) For this reason, legal protection is summarized and regulated in an international convention called CEDAW (Convention On The Elimination Of All Forms Of Discrimination Against Women). Indonesia ratified this convention through Law No.7 of 1984 concerning Ratification of the Convention on All Forms of Discrimination against Women. Recognition of women's rights as workers is included. Not enough, the ILO (International Labor Organization) is also involved in honor of women's rights as workers contained in various ILO conventions such as: (Legal Aid Institute and The Indonesian Association for Justice, 2001: 58)

1. ILO Convention No. 100 of 1952 on Wage Equality
2. ILO Convention No. 111 of 1958 on Discrimination of Employment and Occupation
3. ILO Convention No. 156 of 1981 on Equal Opportunity and Equal Treatment for Male and Female Workers: Workers with Family Responsibilities
4. ILO Convention No. 183 of 2000 on the Protection of Pregnant Women

In general, it is crucial to see how government policies guarantee women's rights in oil palm plantations represented in related policies. Although Indonesia has ratified the CEDAW Convention through the CEDAW Convention, which emphasizes anti-discrimination provisions, especially on women, as stated in Article 1 of the CEDAW, which reads:

"Any distinction, exclusion, or restriction of any kind made based on a sex that has the influence or elimination of the recognition, completion, or use of human rights and fundamental freedoms in any political, economic, social, cultural, civil or other field by a person and any other fundamental freedom in the political, economic, social, cultural, civil

or any other field by women, regardless of their marital status, based on equality between men and women."

However, until now, plantation women workers still experience discrimination. The rights that must be granted as such are not accepted by the workers at all. Furthermore, the CEDAW Convention covering Political Civil Rights (articles 7-9) and The Rights of The Ecoob (articles 10-14) can be used to see if government policy already refers to the CEDAW Convention. (Surambo et al., 2010: 67) The explanation of Article 3, which is at the core of the obligation of the state in fulfilling women's rights, states:

"States Parties make appropriate regulations, including law-making in all fields, particularly in the political, social, economic and cultural spheres, to ensure the full development and progress of women, to ensure they exercise and enjoy human rights and freedoms based on equality with men."

The CEDAW Convention has explicitly addressed women's rights, both political civil rights, and social rights. More on the rights of women workers, in particular, it is stated in Article 6 and Article 11(1).

However, women's rights have not been in force optimally, either in policies or programs. Policies related to oil palm plantations, such as the Plantation Law, currently still do not touch the interests of women, not even integrating Law No.7 of 1984. (Surambo et al., 2010) Commodity and economic interests take precedence over the protection and safety aspects of women. This makes women often victims of the presence of oil palm plantations. The continuous and systematic exploitation of women workers occurs in oil palm plantations, even in the domestic sphere. As explained above, where domestic burdens continue to grow and have implications for the exploitation of women's power. Women, who are still seen as second entities, have inflicted injustice on them to this day, even further exacerbated by oil palm plantations. Where women's space to express themselves is increasingly limited, even women's habits begin to erode. (Surambo et al., 2010: 68)

The regulation of various protections of women workers' rights in national law is also regulated in Law No. 13 of 2003 on Employment (UUK). The UUK regulates the rights of women workers as stated in article 5 of the UUK, which regulates the labor force without exception having an opportunity without discrimination to get a job, article 6 concerning the right of workers to obtain equal treatment without any discrimination from employers, Article 81 states that female workers during the first and second day of menstruation are not obliged to attend work, Article 82 explains that when they have a miscarriage of the womb or before and after childbirth for female workers are entitled to 1.5 months of rest leave, Article 83 explains that women who have children in breastfeeding should be allowed to breastfeed their children at any time if needed. The rights of women workers in Law No.36 of 2009 on health, especially Article 128, also regulate the obligation of the workplace to provide support facilities for nursing mothers. Article (164), (165), (166) also states that workplace managers must make efforts to prevent, improve, treat, recover and bear all costs of maintaining workers' health.

Seeing the above, some of these points are also recognized both by human rights law No. 39 of 1999 Article 49 paragraphs 2 and 3 on the recognition of special rights protections for women workers related to reproductive rights and in the Employment Law on the part of Women such as non-discrimination treatment, work safety, leave rights, human rights, breastfeeding to social security. Unfortunately, the regulations that already clearly exist are still ignored by the company because it is considered a burden, so that it becomes an additional cost that must be incurred. (Ismono, 2018: 363)

Initiatives from civil society have emerged by carrying out the principle of sustainability in the palm oil sector, such as the *Roundtable on Sustainable Palm Oil* (RSPO), which has paid attention to gender aspects. The RSPO is a non-profit association of stakeholders in the palm oil industry sector that aims to implement global standards for sustainable palm oil production. "Sustainable" status is granted through palm oil mill certification that has complied with RSPO principles and sustainable palm oil production criteria, including gender aspects. Therefore, companies

include being obliged to provide equal pay, form gender committees, and create workplace security and eligibility to prevent gender-based violence and discrimination. Companies should also create training that considers gender-specific needs and provides equal opportunities for workers to take training and participate in voting and making decisions. However, initiatives such as the RSPO will not be effective if Indonesia itself does not have adequate regulations to protect women workers.

Based on the explanation above, the existing regulations on the protection of women workers, in general, have been established by the government, but the enforcement of the law on violations of women's workers rights is somewhat not yet maximal, and existing law enforcement tends to only be used in some cases related to wage violations. (LBH Jakarta, 2019: 75) Though the vulnerability of female workers is not only in terms of wages but more broadly than that, including the dual role of a woman as a supporter of household balance plus more as a breadwinner to help her husband's income meet daily needs. The risk of work accidents and the long-term effects of exposure to chemicals from the fertilization process and the pesticide process have taken a lot of victims. Female workers do not understand well the impact of exposure to chemicals on the body of women workers, especially the palm oil industry sector, which can be hazardous. In the current condition, a factory certified by the RSPO has not fulfilled the rights of women workers because of the regulatory vacuum that regulates explicitly and protects the rights of workers in the oil palm plantation sector, especially regarding women workers, and the lack of a sound supervision system in Indonesia. Existing laws such as UUK are more suitable for workers in the manufacturing sector because the character and working conditions of plantation workers, especially palm oil, are very different from other industries, both in terms of wages, plantation locations, and job burdens.

IV. CONCLUSION

Female workers in oil palm plantations do housework and work as laborers, which means they bear a double burden. Both the government and

companies marginalize the role of women workers as the spearhead of the palm oil industry in Indonesia. There are still exploitative practices and discrimination that women workers feel in oil palm plantations. They work at the most dangerous risk given the anatomical and physiological differences of women that are not balanced with appropriate personal protective equipment.

The State of Indonesia has ratified the CEDAW convention in Law No. 7 of 1984 on the convention on the Elimination of All Forms of Discrimination against women. The state recognizes all rights of women workers listed in the UUK. But law enforcement and labor supervision in the oil palm plantation sector cannot run optimally, especially for female workers because the character and working conditions of oil palm plantation workers are very different, both in terms of wages, plantation location, job burden, and so on compared to female workers in the manufacturing sector. Therefore, there needs to be another policy by the government with a more preventive approach in protecting the rights of women workers, especially in the palm oil industry sector.

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Agricultural Policy and Food Security: Challenges and Opportunities

Sulistina

Master of Law, University of Jember

ABSTRACT: The green revolution promoted a worldwide industrial form of agriculture. This revolution focuses on development and research, which aims to increase agricultural production. Food and farming frameworks were rebuilt at the end of the Green Revolution through market progression programs and the change from socialism to private enterprise in different locales in the late 20th century. They prompted changes in how individuals got to the food, the sorts and measures of food processing, and the manners by which homesteads are claimed and overseen. These progressions were part of the way determined by underlying change programs during the 1980s, implemented by worldwide money foundations, just as the consideration in 1994 of agribusiness on the planet exchange system. Industrial agriculture's negative impacts on human and environmental health and future food security were unforeseeable during the Green Revolution. However, since the Green Revolution, the costs of industrial agriculture have grown more widely recognized, and alternatives have become more mainstreamed and created. Instead of the many impacts of industrial techniques, modern agriculture has far too many adverse side effects. Comprehensively, however, industrialized horticulture has determined the total humiliation of regular assets and ecological administrations worldwide.

KEYWORDS: Agricultural Law, Food Security, Green Revolution.

I. INTRODUCTION

The Green Revolution is the most important of all agricultural revolutions. It fostered the industrial techniques of agriculture that are prevalent now all over the world. From the 1940s to the 1970s, the Green Revolution was a series of efforts devised by international agencies and industrialized countries. These projects centered on agricultural research and development and technology transfer programs to boost agricultural production, particularly in emerging countries. (*Peter Hazell, 'Green Revolution: Curse or Blessing?,' 2003*) The Green Revolution encouraged the use of high-yielding cultivars, irrigation equipment, and inputs, such as irrigation, fertilizers, pesticides, and other chemical information and access to them. (*Peter Hazell, 'Green Revolution: Curse or Blessing?,' 2003*) The Green Revolution describes as either a miracle that rescued hundreds of millions of lives from famine or a worldwide injustice that exacerbated pre-existing disparities while undermining potential structural change. (Larsen, 2006)

On the one hand, the population of low-income countries nearly doubled between 1966 and 2000, but the Green Revolution raised food production by 125 percent. (Khush, 2001) The implications of industrial agriculture, on the other hand, and the known effect of aggravating pre-existing disparities show that the Green Revolution's contribution to long-term food security is not as significant or favorable as its proponents initially claimed. (Freebairn, 1995)

Food and farming frameworks were rebuilt at the end of the Green Revolution through market progression programs and the change from socialism to private enterprise in different locales in the late twentieth century (Liefert & Swinnen, 2002). They prompted changes in how individuals got to the food, the sorts and measures of food processing, and the manners by which homesteads are claimed and overseen. These progressions were part of the way determined by underlying change programs during the 1980s, implemented by worldwide money foundations, just as the consideration in 1994 of agribusiness on the planet exchange system. (Mckeon, 2011) Industrial agriculture's negative impacts on human and environmental health and future food security were unforeseeable during the Green Revolution. However, since the Green

Revolution, the costs of industrial agriculture have grown more widely recognized, and alternatives have become more mainstreamed and created. (Goodman, 2000)

Instead of the many impacts of industrial techniques, modern agriculture has far too many adverse side effects. Comprehensively, however, industrialized horticulture has determined the total humiliation of regular assets and ecological administrations worldwide. On and off-ranch, environmental change, the increment underway expenses on ranches along these lines influencing ranch pay, general medical problems, and animal brutality. (Kimbrell, 2002) The existing international regulatory system for food and agriculture is well-known to be uneven, imprecise, and ineffectual, with overlapping standards and rules. Scholars, institutional institutions, and non-governmental organizations employ a variety of value-laden notions to examine agriculture and food challenges and related regulatory measures.

Food security is the most critical policy idea and goal at both the international and national levels. It holds that agriculture ought to contribute in the short and long haul to all individuals having physical and financial admittance to sufficient food that meets their healthful requirements. Henceforth, further developing food security at worldwide, public, and individual levels is predictable with generally held natural qualities concerning human endurance and prosperity.

In contrast, food security lies as the ultimate objective of administrative intercessions into agriculture. This paper examines the definition of agriculture and food security, also describes issues and challenges for food security and agriculture. This study blends food security with human rights and environmental norms to address the variety of external drivers interacting with agriculture and food security. This article will focus on a single food system activity (agriculture) and water. It should be an organized, rigorous assessment of international regulations that interface with agricultural systems. As a result, given the project's restrictions, it is designed and analyzed as systems-based as feasible.

II. AGRICULTURE AND FOOD SECURITY

Agriculture is an economic sector and human activity that significantly contributes to food security locally, nationally, and globally. Agriculture influences the nutritional quality and varieties of food accessible by determining the amount of food consumed, generating wealth that allows people and countries to purchase food, and choosing the food consumption. In many developing nations, it is the most critical sector, and it also plays a significant part in the economies of many wealthy countries. (*Top Agricultural Producing Countries*, n.d.) As a result, agriculture contributes to domestic revenue, which may use to pay for food security-related services and activities. Moreover, it is generally perceived that agribusiness associations engage helpless people in creating countries. Despite its importance to food security outcomes, agriculture confronts two interrelated problems that threaten the sector's ability to advance food security in the short and long term. The first issue is supply, or agriculture's ability to produce enough food to feed everyone in the future. The prevalence of unsustainable farming models has harmed long-term food security. Climate change, water scarcity, reliance on non-renewable energy sources, large-scale biodiversity loss, soil fertility loss, and pollution across air, water, and soil are all issues that industrial agriculture is responsible for. (Giovannucci et al., 2012)

In the last thirty years, food security concepts have developed to match shifts in government policy thought. (Edward Clay, 2002) Food security is a lens through which regulators and humankind can comprehend food and agricultural challenges. Food security has traditionally been equal to sufficient calories, and the answer to food insecurity has generally been to raise agricultural output to provide more food. (Simon, 2012) However, ensuring food security and the tools to do so are far more complex than increasing production. As a result, the UN's Food and Agriculture Organization (FAO) and the World Bank have gradually enlarged definitions of food security in many policy statements since the 1970s. (Simon Maxwell, 1996) Food security has become an element of broader security discussions in the previous decade. Policymakers are increasingly combining the notion with other problems arising from the distribution

and depletion of natural resources, such as water and energy insecurity. (*Global Risks 2011, Sixth Edition*, n.d., p. 20) Given the significance of horticulture to food security, this absence of a good assortment of rules with shared destinations and guidelines fundamentally restricts the viability and association of the administration and administrative plans for food and agriculture. (Gonzalez, 2012) Accordingly, this theory maps the current organizational structure for farming. It starts with the guidelines encompassing the regular assets used to deliver food (land, soil, water). Movements to the instruments that impact how ranchers and homestead laborers apply abilities, information, and data sources (e.g., seeds and pesticides) lastly move to the various elements of world exchange that impact how farming items are created and conveyed. Its investigations these instruments by thinking about how they advance or frustrate the result of food security. Policymakers have steadily added additional aspects to the concept of food security since the 1970s. Similarly, stakeholders have increasingly recognized that food security research, regulation, and policy must take a holistic approach to food systems. (Ericksen, 2008) Food systems, in this view, are the foundation for food security outcomes. Food processing, retail, consumption, and other related social, political, and environmental elements are part of food systems.

Food security is the most common policy concept and goal associated with food and agricultural activities at the international and national levels. Agriculture's worldwide regulatory system is a jumble of environmental treaties, human rights agreements, and trade and investment rules. With the rise of regional trade agreements and the expanding regulatory role of non-state entities, this framework is getting increasingly difficult. On the one hand, international law's specialized, independent regimes may encourage focused regulatory actions. On the other hand, fragmented regulatory authorities are incompatible with the determinacy and consistency essential for a rule or regulator to have legitimacy and impact. There is no comprehensive view of the laws that affect agriculture; rules frequently clash, and institutional practices, such as the CFS and the World Bank, differ significantly. (Pauwelyn, 2004)

One element that has precluded integrated responses to food and agriculture's difficulties is the fragmentation of norms, institutions, and regulatory tools that intersect with agriculture. Such a condition contradicts international actors' acknowledgment that global food security is a core goal of the international legal and political system. (*Transforming Our World*, 2018). Given the multifaceted character of food security and the growing recognition of the importance of food systems-based approaches, a holistic approach to the law in this area is not only acceptable but essential. The absence of connection between human rights and environmental agreements and principles was prominent throughout the chapters. Agriculture encapsulates the relationship between human and ecological health; therefore, the lack of integration was especially noticeable.

Scholarly publications, international policy texts, and international declarations are progressively integrating environmental and human rights concerns. Although human rights and ecological accords are not formally or institutionally linked, they share a common focus on future generations, procedural fairness, and better environmental management for human well-being. Another central area of discord was the intersection of international economic law and environmental and human rights law. Subjects regarded outside of trade and investment issues are divided under international trade and investment law. In reality, the World Trade Organization refers to these as "non-trade" problems, whereas investment treaties are only concerned with safeguarding investors against governmental meddling. The impact of the Agriculture Agreement on low-income developing nations' agricultural industries and food security while permitting industrialized countries to maintain market access obstacles.

As a result, the Agriculture Agreement has been formulated and implemented in ways that go against the establishment of specific measures for vulnerable groups mandated by human rights law. The role of social movements, particularly the food sovereignty movement, is crucial in bringing about social change and expressing the interests of farming communities that are otherwise excluded from international policy creation and decision-making. However, as food and agriculture become more globalized, a practical global regulatory framework for the food system

activities that support food security, which includes agriculture, is required. Such bottom-up activities can be facilitated by an enabling international regulatory environment backed by a wide range of interdisciplinary projects and contributes to food security. In general, international economic governance structures have not evolved in lockstep with the massive expansion in global food and agricultural production and distribution during the last fifty years. The failure to govern multinational agricultural corporations at international levels and the out-of-date function of international investment legislation are examples.

According to Korbin, we are in the midst of a transition from an international to a global or post-Westphalian political-economic system. We have yet to create the modes of collaboration, institutions, or even the language required to administer an interconnected world economy. (Stephen J. Kobrin, 2008) In line with Korbin's view, global governance must be scaled up to address the fact that few firms can directly enhance or reduce food security with little third-party scrutiny. The Guiding Principles on Business and Human Rights, as previously mentioned, are a vital first step. (Secretary-General & Enterprises, 2017) Transnational corporations must wear to enforceable international law requirements at the international level. Given the extraordinary story of concentration in this sector and its strong connection to food security and the realization of related human rights, such a development should pay special attention to food and agricultural corporations. (International Assessment of Agricultural Knowledge, Science, and Technology for Development (Project) & McIntyre, 2009) At the same time, global changes should not obscure the necessity for governments, particularly wealthy nations, to improve extraterritorially regulated corporate players.

III. ISSUES AND CHALLENGES

Agricultural and food security issues were once inextricably linked, but they have increasingly been treated as independent entities in the last century. Food issues are frequently incorporated into agriculture strategies in nations where the primary sector has long dominated the economy. The majority of

people in these countries affected by food insecurity are rural and agricultural, and they make up the bulk of the population. Food insecurity is traditionally thought to be caused by a lack of food supply. Hence increasing agricultural production is the primary technique used to combat hunger. (Bricas, 2019) Water is a critical input in agrarian productivity and contributes to food security. Irrigated agriculture accounts for 20% of all farmed land and 40% of all food produced globally. Irrigated agriculture is at least twice as productive per unit of land as rainfed agriculture, allowing for more crop diversification and output intensification. (The World Bank, 2020) Agriculture that is rain-fed is reliant on renewable freshwater sources. Rain-fed agriculture accounts for over 60% of global agricultural output. Therefore, it is the most common method of watering crops. Because enormous gaps exist between the amount of food that could produce and the amount of food produced by rain-fed systems, rain-fed agriculture is sometimes regarded as having enormous and untapped potential. (Wani et al., 2009) Droughts and other weather or climatic disturbances make rain-fed agricultural systems extremely vulnerable. However, Rockstrom et al. discovered that better farm-level water management, which relies on agro ecological soil improvement and land tenure stability, can prevent rain-fed food production from dropping during a drought. (Rockström et al., 2010)

Furthermore, rain-fed agriculture benefits from effective water collection techniques and the utilization of captured water on farms in a way that successfully infiltrates crop root zones. (Critchley et al., 1991) As a result, agriculture will have to be done in a more water scarcity environment, food security will have to be enhanced with less water, and agricultural impacts on water quality will have to be significantly decreased. Farming activities are so reliant on water that they are a significant cause of water scarcity. Agriculture is responsible for 69% of global freshwater withdrawals. (FAO's Global Information System on Water and Agriculture, n.d.) A variety of farming strategies can improve water management on farms. External and on-farm water collection systems, sustainable soil management, agroforestry, crop rotation, mulching, and adequate irrigation are all examples of agro-ecology or improved crop varieties.

A rights-based approach to food security and the human right to water rights are obtained from customary law or legal documents on a domestic level. They might be owned by a corporation, a state, an individual, or a community. (D. E. Fisher, 2010) Since the Committee of Economic, Social, and Cultural Rights issued General Comment No. 15.848 in 2002, progress toward recognizing a human right to water has been steadily increasing at the international level. According to this document, the right to an adequate standard of living, which includes the right to food, should be understood to have a water right. Following that, the United Nations General Assembly established a human right to water in 2010, recognizing "the right to safe and clean drinking water and sanitation as a human right that is necessary for the full enjoyment of life and all human rights." The UN Human Rights Council then recognized the right to drinking water, explaining that it stems from the right to an adequate level of living, which is intrinsically linked to the right to the most significant achievable standard of physical and mental health, as well as a right to life...'. Only non-binding accords recognize the human right to water at the international level, limiting the rights' credibility, influence, and enforceability. Some critics have questioned whether the right to food and food security can coexist with the water right, given that the right to water does not include a right to water for food production. (Chopra, 2011) Given that agriculture is one of the most significant users and polluters of water, the growing human right to water may have ramifications for agricultural water use.

Regulatory interventions to respect, safeguard, and fulfill the right to water for drinking and sanitation, in particular, are feared to harm the water available for agriculture. Nonetheless, it appears that these fears are predicated on the persistence of unsustainable agricultural models. Water for agriculture and water for sanitation and drinking reasons do not have to be traded off with sustainable water management, as mentioned in the preceding two sections. (Mueller et al., 2012) An RBA to FS cannot occur if water is being used unsustainable, as current and future generations will struggle to produce food when water is scarce. In other words, an RBA to

FS is not being implemented if food production infringes on existing or future generations' right to water for drinking or sanitation.

This is acknowledged in General Comment No. 12 on the right to enough food, which stipulates that the right to adequate food must be advanced in methods that are sustainable and do not conflict with the enjoyment of other human rights. It is also supported by Article 11(2)(a) of the ICESCR, which requires states to 'improve methods of production...' by 'developing or reforming agrarian systems in such a way as to achieve the most efficient development and utilization of natural resources, both individually and through international cooperation. Rather than clashing with food security, recognizing a human right to water helps support an RBA to FS. The glory of the water right supports the need for water management that is both sustainable and equitable. Food production must be managed and carried out so that the supply of water for drinking and sanitary purposes is protected. The agricultural policy must strive to limit the influence of agriculture on water quality to maintain and respect the right to water for drinking and sanitation to be compatible with an RBA to FS. In addition, the conditions under which people gain or lose access to water for food security must be based on human rights values, including equity, transparency, and participation.

In a report on the human right to water, the UN High Commissioner for Human Rights stated, "Once a sufficient amount of safe drinking water has been secured for all, allocation among various uses—water for personal and domestic uses beyond this sufficient amount, water to produce food, water to sustain livelihoods, and water to ensure environmental hygiene—remains unclear." However, the water right prioritizes water for drinking and sanitation but provides no additional direction. Given that food is a basic need and a human right, it is plausible that agriculture should be given priority over other industrial uses when it comes to water. Nonetheless, not all farms contribute to food security, particularly industrial, and generate non-food items. Prioritizing agricultural water over other uses may not always be compatible with an RBA to FS. Furthermore, where national food security can be addressed by food imports or family food security can

be reached through food purchases, there is no human rights requirement to provide water for food production. (Lundqvist & J., Grönwall, 2015)

However, based on this conversation, low-income, agricultural-based populations should be given priority access to water, as farmers rely on agriculture for food security. To put it another way, once the right to water for drinking and sanitation has been established, subsistence farmers' water needs should be prioritized. This is in line with CESCR General Comment No. 15, which stated that water rights for personal and domestic use must be given priority in water allocation. Water and water management systems, particularly sustainable rain harvesting and irrigation technology, should be accessible to poor and marginalized farmers, including women farmers. (Inga Winkler, 2012) To minimize agricultural threats to the human right to water for drinking and sanitation, countries experiencing water scarcity may need to focus on importing food and diversifying from agriculture into other tradeable commodities.

The regulation of navigational uses of international lakes and rivers was the beginning of international water law in the early nineteenth century. (Salman, 2007) Since then, attention has switched to non-naval uses of international rivers and lakes. The 1997 UN Water Convention and the Convention on the Protection and Use of Transboundary Watercourses and International Lakes, and the 1997 UN Convention on the Law of Non-Navigational Uses of International Watercourses are the two major treaties in this area that have both come into force. Despite their ecological linkages, MPTG combines water quality and quantity concerns, formerly treated as separate matters under international law. Given the dangers to food safety and availability posed by lower water levels and increased pollution, the connection between these water issues is critical for food security. Limiting the amount of water withdrawn from groundwater sources, on the other hand, could have a severe impact on agriculture and food security if rain-fed agricultural methods and technologies are not explored and developed before the limitations are implemented.

Regulation of "intensive agricultural techniques" is one strategy to "avoid, control, and mitigate" transboundary groundwater pollution. This is the

first international instrument to include industrial farming techniques and the necessity to regulate them more stringently to mitigate their impact. Food cultivated with dirty wastewater is projected to feed 10% of the world's population. (Water and Food Security | International Decade for Action “Water for Life” 2005-2015, n.d.) Given the dangers of dirty wastewater to environmental services, food safety, and food security, much more needs to be done to regulate wastewater, especially in light of urbanization. As a result, the Water and Health Protocol is an essential first step in closing significant gaps in worldwide water governance in the context of agriculture and food security.

If an RBA to FS is to be created effectively in international agriculture law, a stricter rule of law is required at the international level. Strengthening the rule of law and governance at the international level entails more than only resolving the fragmentation of international law and increasing state and global institution regulation of non-state actors. It also necessitates a greater involvement of civil society (including farmer and consumer organizations) and business players in developing and implementing international laws. In this context, the Committee on Food Security is becoming a helpful model. Scholars have proposed various options for how a reorganization of international institutions and rules could promote the rule of law at the global level. (bloomsbury.com, 2006) International economic law's agreements and mechanisms, such as trade liberalization and investment treaties, are tools for improving food security and the progressive realization of human rights. (Charles J. Whalen & Hyman P. Minsky, 1996) Protectionist measures linked to agricultural investment and trade should be used as part of an inclusive approach at national and international levels if these tools do not function for food security and the progressive realization of human rights.

IV. CONCLUSION

This paper has given a policy-oriented legal study of international agricultural regulation using a rights-based approach to food security. It started with creating a normative foundation for international agricultural

law and evaluating regulatory measures that connect with agriculture. The public international regulatory instruments that intersect with each element engaged in food production are rigorous investigation. This study looked at how the global agricultural regulatory framework is consistent or incompatible with a rights-based approach to accomplishing the goal of food security. As a result, this paper contributes significantly to Human Rights Law and International Food Policy. A stricter rule of international agriculture law is an obligation at the global level. It addresses the fragmentation of international law and enhances the control of non-state actors by states, and international institutions are not the only ways to strengthen the rule of law and governance at the international level. It also necessitates a greater involvement of civil society (including farmer and consumer organizations) and corporate actors in developing and implementing international regulations.

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