



ENFORCEMENT OF ENVIRONMENTAL AND FORESTRY LAWS AGAINST TAPPING OF PINE SAP IN SAMOSIR REGENCY, NORTH SUMATRA

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Essence

Pine tree sap is one of the benefits of forest products managed by farmer groups and the general public. The utilization of pine tree sap or in the Makkoak and Manderes areas, has a very bad impact on the sustainability of pine trees in protected forests or industrial forests in the Samosir district area. This paper explains related to management licensing, pine sap extraction, the impact of pine sap on the community's economy, adverse impacts on forest plantation and several other problems in the utilization of pine sap in Samosir district. In this paper, qualitative/quantitative descriptive analysis is used to analyze primary data obtained through interviews and observations in the field and secondary data through related institutions or agencies. The researcher in this writing found that there were violations of laws, regulations and also violations of agreements and agreements between the farmer group and KPH III Dolok Sanggul in the utilization of pine tree sap. As a result, pine tree plantations that are not good will have a very bad impact on protected forests and industrial forests.

Keywords: Wiretapping, pine sap, samosir

1. INTRODUCTION

Forests as the lungs of the earth are areas that are used as places for plant and animal species that are protected by law to maintain their sustainability, where an ecosystem unity in the form of a stretch of land containing biological natural resources dominated by trees in the natural communion of the environment that cannot be separated from the other. Based on Law No. 41 of 1999 concerning forestry, production forests are living areas that have the main function of producing forest products and protected forests are forest areas that have the main function of protecting the life



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support system to regulate water systems, prevent floods, control erosion, prevent seawater intrusion and maintain soil fertility.¹

Based on the Central Statistics Agency of North Sumatra in 2020, North Sumatra with 33 districts/cities has an area of protected forest areas of 1,99,336.15 hectares, nature reserves and nature conservation of 420,949.84 hectares, limited production forests of 634,935.06 hectares, permanent production forests of 674,856.32 hectares, and production forests that can be converted to 79,030.44 hectares with the year of Decree in 2018 and the last update on March 17, 2022.²

Forest damage due to violations of the implementation of environmental and forestry laws by corporations or individuals (communities) is a failure in law enforcement. North Sumatra, which has protected forest areas and productions, is currently not properly preserved by the government due to forest utilization activities that are not in accordance with laws and ministerial regulations. As one of them is the North Sumatra region, especially the Toba lake area, pine trees with their sap utilization which is used as a business activity that does not comply with regulations, resulting in damage to protected forest areas and industrial forests. The rampant use of pine sap, which in the regional language is referred to as mangkoak, makes individuals to compete more and more quickly in pursuit of profits until they forget to maintain the integrity of the forest. Forest damage in Indonesia is very high as evidenced by several studies by Magono et al reported that in a span of 12 years, from 2000 to 2012 as many as 6.02 hectares of forest have been damaged or lost, where in 2012 the rate of forest destruction was 804 thousand hectares.³ Departing from the above problem, the author was inspired to raise the title: "ENFORCEMENT OF ENVIRONMENTAL AND FORESTRY LAWS AGAINST THE TAPPING OF PINE SAP IN SAMOSIR REGENCY, NORTH SUMATRA".

2. RESEARCH METHODS

The type of research in this study is an empirical type of research, namely examining the efforts and law enforcement of the Environment and Forestry Service and the GAKKUM Center in North Sumatra in tapping pine sap that does not comply with the rules. This research prioritizes studies and observations in the field. The nature of the research in this study is descriptive where the theoretical foundation is used as a guide so that the focus of research in the field is achieved.

The data used in this study is primary data where researchers collect data directly without going through intermediaries or referred to as raw data. Or by collecting data in the field on the first object. The data collection technique used in this writing is primary data is a type of data collected with direct data sources from the main source, either directly or observationally.

¹ Law No. 41 of 1999 concerning Forestry

² North Sumatra Central Statistics Agency Sustainable Development

³ Adriyanto Wahyu Nugroho, Getting to Know the Lembonah Forest and the Surrounding Environment, Natural Resources Conservation Technology Research and Development Institute, East Kalimantan, 2019, p. 93



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In this study, the data analysis used in this study is a qualitative data analysis technique where data collection is obtained through interviews or observations.

3. RESEARCH RESULTS AND DISCUSSION

A. Law enforcement efforts of the Environment and Forestry Service and the North Sumatra Regional GAKKUM Center, related to the tapping of pine trees in Samosir Regency

Forest as a land area is a unit of ecosystem which is dominated by trees or vegetation as a biological natural resource whose ownership is controlled by the state. Forests are the alliance between plants and animals in a biotic association, where this association forms an ecological system with their environment where organisms in it influence each other in a complex energy cycle.⁴

This type of species lives naturally in northeastern India, Thailand, Laos, Cambodia, Vietnam, as well as the islands of Luzon and Mindoro in the Philippines. In Asia, there are 28 species, 3-7 of which are found in Southeast Asia, namely Mercury, Khaysia and Insularis. Based on the results of spatial analysis, Imanuddin et.al (2020) stated that the distribution of pine forests in Indonesia $\pm 1,420,950$ ha, consisting of 359,142 ha of pine natural forests in Aceh, Tapanuli, and Kerinci, and $\pm 1,061,808$ ha of pine plantation forests spread throughout Indonesia. The spread of this pine in other regions of Indonesia began in the early 1920s by planting in plantations on the islands of Sumatra and Java, then in the 1930s it was widely planted not only on the two islands but also in Bali and Sulawesi.

Based on the results of spatial analysis, Imanuddin said that the distribution of pine forests in Indonesia $\pm 1,420,950$ ha, consisting of 359,142 ha of pine natural forests in Aceh, Tapanuli, and Kerinci, $\pm 1,061,808$ hectares, and pine plantation forests spread throughout Indonesia covering an area of $\pm 1,061,808$ hectares.⁵ In Europe, America, Africa, and Asia, there are 107 species of this species. There are 28 species in Asia, 3-7 of which are found in Southeast Asia, namely Merkusii, Khaysia and Insularis.⁶

Tapping pine tree sap is one of the benefits of forest products, in the form of pine tree sap which is carried out in regional language terms such as mangkoak and manderes. The use of forest products is carried out by free communities and also farmer groups in protected forest areas and production forest areas as the provisions of the law explain

⁴ Putu Krisna Adwitya Sanjaya, UNHI Press, Sustainable Forests Social Aspects That Affect It, Denpasar, 2020, p.24

⁵ Sri Rahaju (et.al), Estimation of the Potential of Pine Sap Fermentation Based on Satellite Imagery Using Landsat 8 at KPH Banyumas Timur, 2020, IPBUNIVERSITY Bogor Indonesia, p. 3.

⁶ Mody Lempang, Pine Rubber Collection with Three Tapping Systems, Jl. P. Kemerdekaan Km 16 Makassar, South Sulawesi, p.6



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that the utilization of forest products is given for business activities of area utilization, business of exploiting environmental services and collection of non-timber forest products.⁷ Most of the perpetrators of forest product utilization have SOPs and permits from the Forestry Service, but many also do not have permits so they can be called illegal forest utilization activities. Mangkoak and Manderes are the same activity, where the goal is to produce pine tree sap from the pine tree trunk. But what distinguishes it is the way to produce the sap of the pine tree.

Mangkoak is a way to produce pine tree sap by hollowing out the tree trunk in a horizontal shape, so that the tree trunk seems to form a long hole, so that the tree will release its sap. Under the hole, a tool has been provided to accommodate the sap of the tree in the form of a bowl, which is attached to the tree trunk by tying and nailing. With the number of koakan 1 or more, the maximum koakan width is 6 cm, the maximum koakan depth is 2.5 cm, the distance between kokana is 2 times the width of the kokan, the maximum wound renewal is 0.5 cm/day and the maximum koakan height is 250 cm.⁸

Manderes is a way of producing pine tree sap by peeling pine bark of pine trees of varying sizes. It is different with koaks, which are still natural to do because tapping is only carried out at a limited point which does not have a major effect on the tree growth process. Manderes on the contrary greatly affects the growth of trees, because the method used by peeling the bark of the tree trunk and by having a depth that has a very bad impact on the growth of the tree even and it is not very difficult to cause death in the tree. This method is not recommended and is not regulated by the government or related agencies.

Efforts to enforce environmental law through criminal law are how the three main problems in criminal law are outlined in laws that more or less have a role in carrying out social engineering, namely which includes the formulation of criminal acts, criminal liability, and sanctions, both criminal and disciplined.⁹

The Forestry Service is a state institution in charge of coaching, coordinating and providing services in the implementation of forest destruction control and security activities, forest and land fire control as well as ecosystem natural resource conservation

⁷ Regulation of the Minister of Environment and Forestry No. 8 of 2021 concerning Forest Management and Preparation of Forest Management Plans and Utilization in Protected Forests and Production Forests. page 28

⁸ Standard Operating Procedure Number: SOP.1/JASLING/UHHBK/HPL.2/1/2020 Regarding the evaluation system for tapping pine sap on permit holders and cooperation with forest management units, pages 3 and 4

⁹ O Wahyu Lukito, Implementation of Environmental Conservation in the Field of Criminal Law Enforcement against Illegal Logging Cases (Rembang Police Case Study), Vol. 13. No. 1 March 2018, Master Program (S2) Students of Law, Faculty of Law, UNISSULA Semarang, p.4



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and climate change.¹⁰ Barda Nawawi Arief explained that what is meant by the application stage is the stage of application of criminal law by law enforcement officials ranging from the police to the courts. If it is associated with the enforcement of forestry criminal law, the relevant law enforcement officials are the educators of the Indonesian National Police, forestry civil servant investigators, the prosecutor's office as the public prosecutor, and the court (judge).

In accordance with the research permit at the North Sumatra Provincial Environment and Forestry Office, precisely on Jalan Sisingamangaraja Km.5.5 No.14 Furthermore, it was transferred to continue research at the Office of the Forest Processing Unit (KPH) XIII DolokSanggul Region as local and district level management in the protection and control of forest management planning, which includes Samosir district as one of the districts in the working area. The interview was conducted at the KPH XIII office in the Dolok Sanggul area (Bonani Onan, Dolok Sanggul District, Humbang Hasundutan Regency) with Mr. Toga Sinurat as the Head of PPHM KPH XIII.¹¹ In accordance with Mr. Toga Sinurat's confession, in field conditions, especially in Samosir regency related to the tapping of pine tree sap, there are many debates with the local community because there are people who tap pine sap who do not have permits. However, in the Samosir district area, there has been no criminal law enforcement process against the form of violation of tapping pine tree sap. In accordance with Mr. Toga Sinurat's statement, Palipi District as one of the pine sap interception areas whose forest farmer groups committed violations so that their permits were revoked.

The Environmental and Forestry Law Enforcement and Security Center is a technical implementation unit in the field of environmental and forestry law security and enforcement under the auspices of the Directorate General of Environment and Forestry and is responsible to the Director General of Environment and Forestry which is responsible for activities to reduce disturbances, threats and violations of environmental and forestry laws. The Sumatra Regional Environment and Forestry Law Enforcement and Security Center (PPHLHK) is a technical implementation unit for environmental and forestry law enforcement that is tasked with reducing disturbances, threats and violations of environmental and forestry laws.¹²

The PPHLHK unit for the North Sumatra region is located at Medan Jalan STM Suka Eka No.9 Lk XII Suka Maju Village, Medan Johor District, covering the region; Aceh, North Sumatra, Riau Islands, Jambi, West Sumatra, South Sumatra, Bangka Belitung Islands,

¹⁰ https://dishut.sumutprov.go.id/blog/page_id=181

¹¹ Sadino, *Managing Forests with a Criminal Law Approach*, Forestry Law and Policy Consulting Bureau, Jakarta, 2017, p.119

¹² <https://gakkum.menlhk.go.id/organisasi/tusi>



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Bengkulu and Lampung. Based on the research license number; 030/SPH/UNPRI.F6.01.E/III/2023 at the PPHLHK office in the North Sumatra region, the researcher was transferred to continue his research at the Section I office of the PPHLHK center in the North Sumatra region with the work area of Aceh and North Sumatra with letter number S.741/BPPHLHK I/N/DTN.1.O/3/2023. Furthermore, the interview was conducted at the PPHLHK Region I section office (Pasar 4, Jl. Karya, Kedai Durian, Patumbak District, Deli Serdang Regency) with Mr. Herwin Hermawan, Commander of Sporc Macan Tutul/Polhut Madya/PPNS and Mr. Alfian Hardiman, Head of the Regional Section of the PPHLHK North Sumatra Regional Center. As a result of the interview, the results were that until March 23, 2023, there was no enforcement or legal process carried out by the section I unit against violations of the law on tapping pine sap in the North Sumatra and Aceh regions. The next interview was held at the office of the Region II Production Forest Utilization Monitoring Center located at Jalan Sisingamangaraja K, 5.5 No. 14 with Mrs. Sri Sihombing, based on her assessment that the Region II Production Forest Monitoring and Utilization Center institution as the task and responsibility of this institution for tapping pine tree sap is a form of training or socialization activities to each FMU per region related to operational mechanisms and standards pine sap tapping procedure. And that every FMU in the West Sumatra region totaling 17 FMUs has been implemented.

B. Legal Responsibility for Perpetrators of Tapping Pine Sap Not Obeying the Rules

Crimes in the forestry sector, from illegal logging, transfer of land functions outside the forestry sector, certification of forest products, corruption in the forestry sector, money laundering of forestry products, corporations, and information systems related to public access to information in the forestry sector. At the level of law enforcement, it is also carried out to provide a deterrent effect for forestry actors, both individuals/groups and corporations, both administrative, civil, and criminal sanctions. All of this is done in the context of forestry law enforcement that provides a sense of justice, certainty, and usefulness, so that in the end the community and all citizens, who are in forest areas, can enjoy justice and prosperity mandated by the 1945 Constitution of the Republic of Indonesia. According to Von Feurbuch's opinion, it is to prevent humans from committing crimes, meaning that with the provision that an act can be punished if committed, it can discourage a person's intention to commit a criminal act.¹⁴ Difficulties in enforcement in the criminal law are due to the strictness of the criminal procedure law which includes rules for arrest, detention, search, confiscation and

preliminary examination. And it may also be a substantive crime due to the length of the filing process and the lack of coordination among other agencies.¹³

The interception of pine tree sap that occurs in protected forests and production forests of Samosir district is the collection of non-timber forest products without damaging the environment and the main function of the tree. As explained in the Regulation of the Minister of Environment and Forestry No. 8 of 2021 concerning Forest Management and Planning. Forest Management and Utilization in Protected Forests and Production Forests in the utilization of protected forests and production forests. However, based on the results of research in the field, precisely in the protected debt area in Salaon Dolok village, Ronggur Nihuta District, as a result of tapping pine tree sap, with many perpetrators who do not comply with the SOP, they have not obeyed the rules. Apart from the mechanism determined by the ministry through SOP with tapping with the koak method, it turns out that there are other methods outside the SOP used by the perpetrator, namely Manderes with the aim of speeding up and getting more sap yields.

In accordance with the results of an interview from the office of the North Sumatra Regional GAKKUM Center aimed at Section I, then an interview at the Office of the Regional Production Forest Utilization Monitoring Center II, that there was no legal enforcement due to the absence of reports from the community or other elements related to violations of pine sap tapping in Samosir district. And research at the North Sumatra Provincial Environment and Forestry Service through KPH XII Dolok Sanggul explained that for the perpetrators of tapping pine sap through forest farmer groups, there is only one group of forest farmers whose permits have been revoked due to violations of regulations related to the payment of non-tax state income, so that the Palipi sub-district forest farmer group has had its permit violated in 2021. Regarding criminal acts, Mr. Toga Sinurat stated. There is no offense according to the ministry's SOP on tapping pine sap to sue the community or forest farmer groups. Administrative sanctions are a set of legal means that are in the nature of imposing obligations or orders to withdraw state administrative decisions imposed on the responsible person on the basis of non-compliance with provisions or laws and regulations.¹⁴

C. Legal, Social, Environmental and Forestry Influences due to Pine Tree Tapping

¹³ Zulfahri, Law Enforcement of Wildlife Trafficking Crimes Protected by the Environment and Forestry Law Enforcement and Security Center (BPPHL North Sumatra Region, 2019, Master of Law, Master of Law Program, Riau Islamic University, Pekanbaru, p.102

¹⁴ Rasio Ridho Sani, Environmental and Forestry Law Enforcement Authority Book, Directorate General of Environmental and Forestry Law Enforcement, Ministry of Environment and Forestry, Jakarta, 2022, p.41



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The Indonesian legal system is a system that applies in Indonesia as a source of law for the courts, judges, to formulate decisions, and at the same time includes the values or ideals that underlie it. Every nation has its own legal system, along with the value system that underlies it, including Indonesia.¹⁵

Without considering forest protection and regulations in utilizing pine tree sap, in the field findings there are parties who produce pine tree sap not in accordance with the mechanism that has been determined by the government. Starting from methods that are not determined by the government, namely mandates, control of koakan sizes, and changes in koakan as stipulated in the standard operating procedures Number: SOP 1/JASLING/UHHBK/HPL.2/1/2020 concerning the evaluation system for tapping pine sap for permit holders and forest management cooperation. The impact of this violation of the regulation resulted in the destruction of forests and changes in the mechanism in producing pine tree sap by forest product managers. Referring to article 32 of law number 41 of 1999, it is explained that the permit holder as regulated in the previous article, namely article 27 and article 29. In the case of collecting non-timber forest products or sap management, pine trees are obliged to maintain, maintain, and preserve forests.

In this case, the activity of tapping pine sap in protected forest areas and production forest areas of Samosir district is the utilization of non-timber forest products that are not in fact licensed and have permits. In terms of licensing and regulatory provisions in tapping pine tree sap, many people have committed violations, but economically. The community experiences economic growth as a socio-economic impact. Judging from the addition of jobs for the community and an increase in household income. The production of pine sap produced by tappers has a real positive effect on the household income of pine sap tappers. The higher the production of pine sap obtained, the higher the household income will increase. In terms of obtaining optimal forest products from forests for the welfare of the people, in principle, all forests and forest areas can be utilized while still paying attention to their nature, characteristics and vulnerabilities, and are not allowed to change their main functions.¹⁶

Based on the confession of Amanda Situmorang, a resident of Sideak Village, Palipi District, Samosir Regency, who is one of the collectors or buyers as well as the perpetrators of tapping pine tree sap. Those who were successfully interviewed in terms of tracing the social impact of tapping pine tree sap. The explanation is that the enthusiasm of the community in managing pine tree sap is very high, because of the ease

¹⁵ Manan Sailan and Herman, *Introduction to Law in Indonesia*, 2012, Makassar : Makassar State University Press, p. 16

¹⁶ Agus Wiyanto, *Forests, Humans and Their Management Dynamics*, Center for Education and Training of Human Resources for Environment and Forestry, Bogor, 2022, p.33

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of producing sap, does not require a lot of money as capital and some do not have capital, and do not take a long time to produce tree sap. Amanda also stated that in this process, hard work is needed and the large number of tree trunks managed. Many people around this area rely on their family's economic needs or household needs, as a result of the sale of pine tree sap.

In addition to the positive impact on economic growth for most people, it does not negate the negative impact on the social environment of the Samosir community. Making it easier to produce economic value actually causes conflicts in the community, as a result of competition for land control in the pine sap tapping area. Precisely in Marlumba Village, Simanindo District, Samosir Regency, the perpetrator of tapping pine tree sap almost clashed with journalists because the journalist took documentation in the form of photos from the trunk of a pine tree. When this happened, the journalists who questioned the legality or the license of the eavesdropping perpetrator could not prove it to the journalists.

The exploitation of natural resources is an important part of the country's economy, as a result, various sectors related to natural resource management such as the forestry sector are in a state of concern because their resources continue to deplete.¹⁷ Indonesia is one of the 17 megabiodiversity countries, and is included in two regions of the world's 25 biodiversity hotspots for conservation priorities. However, the impact of Indonesia's higher biodiversity, the higher the threat. 43In the ecological system, many people do not understand and do not care about the consequences of forest destruction for profit. Including in the tapping of pine tree sap, consciously or unconsciously, the people who are tapping them, indirectly they have destroyed the forest. Judging from this type of work, it begins with koakan that has physically injured the tree on the bark and tree trunk which will have an impact on the tree growth process.

The koakan carried out on the tree trunk mostly exceeds the requirements that have been made by the forestry service, meaning that in the process of tree growth, the more tree trunks are chopped or dried, the growth of the tree will slow down and can cause death in the tree. Especially in the case of Manderes, this method is very damaging to the physical nature of the tree trunk by peeling the bark of the tree trunk with an area that exceeds the provisions that lead to the peeling of the trunk, can stunt the growth of the tree and kill the tree. It can be imagined that all trees that have been cut down will experience damage to growth and result in death.

With an unspeakable time, this pine tree will die and will have a bad impact on forest sustainability. Apart from the destruction of the process and growth of the tree, the impact of this tapping is also found in the quality of the wood from this tree is very poor. This is evidenced by Dhen House Simalango, one of the residents of Sabungan Nihuta village, Ronggur Nihuta District, Samosir Regency who is a timber entrepreneur who is managed in various types, namely chairs, tables, cabinets, doors and others.

¹⁷ Reda Rijal, Environmental Feasibility Study (AMDAL, UKL-UPL & SPPL), 2016, Jakarta: Publisher of the Institute for Research and Community Service, National Development University "Veteran" Jakarta, p. 16



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Based on Dhen House's confession, he has felt the difference between the wood of the pine tree that was tapped and not the tapped tree. Dhen House said that the qualification is very different from the weight of the wood, the durability of the wood and the identical wood that has been tapped will be drier so that wood-eating insects or termites are in great demand. So a lot of the wood that we stock is damaged due to being eaten by termites, as a result of which we can no longer use the wood. Also in wood paint processing, wood that is not a tapping mark does not need a lot of paint, just 1 to 3 sprays is good, we already consider it a thick version of paint.

The difference is with wood that has been tapped, we spray one to 3 the quality is still different, the wood that has been tapped is very dry so that if we spray paint, the wood will continue to suck until it needs a lot of paint, this makes us lose in using this type of pine wood. And now because in the forestry field approximately 80% of pine pohin has been in the woods, we no longer recommend using this type of wood in business. In terms of ecosystem, it will also have a bad effect on the quality of protected forests and production forests. This is evidenced by the study of the condition of pine trees that have deteriorated and the quality of the wood is not good, so that not only the destruction of tree types causes large-scale destruction of forests. The death of pine trees, which are one of the types of forest trees as a buffer for Lake Toba, is considered to be able to damage the sustainability of natural resources which is a great potential for foreign exchange earners from the tourism sector.

4. CONCLUSION

In accordance with the Standard Operating Procedure Number: SOP.1/JASLING/UHHBK/HPL.2/1/2020 concerning the evaluation system for tapping pine sap on permit holders and cooperation with the forest management unit. The tapping of pine sap in the Samosir regency area is not in accordance with the rules and some do not have permits, but it is not in accordance with the minimal enforcement of the law carried out by the relevant institutions.

The legal responsibility of the perpetrators of tapping pine sap in Samosir district does not exist in the form of a criminal offense, only in the administration, namely the revocation of the permits of problematic forest farmer groups.

The impact of tapping pine tree sap, economically, is indeed true to increase employment for the community and also increase income for the community who participate in the utilization of forest products, besides that it also has a negative impact, namely commotion for the community due to the struggle for land control. The interception of pine tree sap has a very bad impact on the pine tree itself, both from inhibiting the tree growth process, declining tree quality, and causing the death of the tree. This tapping also has a great impact on the Samosir forest, which in the Samosir forest this type of tree is one of the types of trees that are widely spread in protected forest areas and production forests. As a result, it is suspected that after the damage and death of these trees, the quality of the Samosir forest will be poor and will have an impact on other events such as landslides, deforestation, ecosystem destruction and other influences.

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