



# **Strengthening Information Networks and Internal Cooperation Environmental Criminal Law Enforcement and Forestry in Wildlife Reservation Area (*Case Study of Road Opening in the District of Barumun Wildlife Reserve, Padang Lawas Regency, North Sumatra*)**

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**Abstract.** The unstoppable development due to increasing community needs has led to massive deforestation. This is certainly very dangerous for the environmental ecosystem in the future. The impact of this deforestation can cause global warming that disrupts environmental ecosystems in the world. In Indonesia, the most cases of deforestation occur on the island of Sumatra and one of them is North Sumatra with a deforestation rate of 2.75 ha. Destruction of forest areas in North Sumatra also occurred in conservation forest areas where roads were opened in the forest area of the Barumun District, Padang Lawas District. This study will discuss more deeply related to finding information network models and work in handling these cases. The case study was chosen because it has a unique character because it involves many actors, such as the community, village officials, businessmen, and also members of the Indonesian National Army. The research method used in this study is an empirical research method using a socio-legal approach. In this study, we will answer several things related to these cases that have not been submitted to court, then how is the form of network and work developed by the Investigating Team in handling environmental and forestry criminal cases in the form of opening roads in the Barumun Wildlife Sanctuary area, Padang Lawas Regency, North Sumatra, and will discuss the information network model and the right work to handle the environmental crime case.

**Keywords:** environmental criminal law · forestry · wildlife sanctuary

## **1 Introduction**

Indonesia has great natural resource potential to be managed and utilized for the greatest benefit of the people. One of the indications that indicate the large potential of natural resources in Indonesia is the very large forest area. In fact, Indonesia's forests are one of the forests that support oxygen for human survival, which can absorb carbon dioxide, which is dangerous carbon and can produce oxygen needed by humans [1].

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Based on findings from Global Forest Watch, from 2001 to 2019 there has been a degradation of tree cover land or known as deforestation in Indonesia which reached 26.8 million hectares. The largest deforestation in Indonesia occurs in forests and land on the islands of Sumatra and Kalimantan. The largest deforestation occurred in Riau with a total damage of 3.81 million hectares, followed by three provinces in Kalimantan which totaled 3.33 million hectares [2].

Massive deforestation that occurred in a period of approximately twenty years, as data written by Global Forest Watch, certainly gave birth to various bad impacts for the world. This is because deforestation also reflects an environmental damage that has an impact on many things such as global warming, floods, erosion, and other disasters that are very detrimental to humans. Indonesia as a country with a large population and a very wide area, of course, has the potential to contribute to the negative impact not only for Indonesia itself, but also for the world. According to Greenpeace, Indonesia is the third contributor to carbon emissions after the United States and China, about 80% of which is caused by forest fires, forest fires also cause negative impacts on human health, such as causing prolonged shortness of breath [3].

Besides Riau, other provinces on Sumatra Island which have the largest land area are North Sumatra which in 2021 had 1,199,236.71 ha of land with the status of protected forest, then 421,150.83 ha of land with the status of nature reserves and nature conservation. then 674,340.41 ha of limited production forest area, 634,938.43 ha of permanent production forest area, 79,030.44 total convertible production forest. The total area of forests and waters in North Sumatra is 2,949,511.8 ha [4].

However, the area of this land has been greatly reduced since 2001 when the deforestation rate reached 1.3 million ha. This happens because of the large economic impetus to expand forest land in order to meet the demands of the large community needs. With the occurrence of very large deforestation, it shows that the environmental aspect is being sidelined compared to the economic aspect. Whereas the environment is an important factor for human survival, in addition to economic factors.

The number of environmental problems in North Sumatra, one of which is marked by horizontal conflicts and existing development conflicts, causes the environmental condition in North Sumatra to worsen. One of the cases currently being faced in North Sumatra relates to the opening of a road in the Barumun Wildlife Reserve Area, Padang Lawas Regency, North Sumatra. The legal problems in this case are related to the obstacles faced, namely limited funds in handling cases, as well as the lack of information and work networks owned by the relevant agencies, thus hampering the investigation of this case.

This case was deliberately chosen to be used as a reference in developing a model for strengthening information networks and working in environmental law enforcement. This case was deliberately chosen because it has a unique character and involves many actors in it. Starting from the community, village officials, entrepreneurs and village officials, even involving members of the TNI who are the main directors of a company.

Therefore, in this study, further analysis and identification of environmental cases related to road opening in the Barumun Wildlife Reserve area will be carried out, Padang Lawas Regency, North Sumatra. The formulation of the problem in this study is related

to why cases of environmental crimes and forestry in the form of road opening in the Barumun Wildlife Sanctuary area, Padang Lawas Regency, North Sumatra have not yet been able to be submitted to the Court? Furthermore, what is the form of information and work networks currently being developed by the Investigative Team in handling environmental and forestry criminal cases in the form of road opening in the Barumun Wildlife Reserve area, Padang Lawas Regency, North Sumatra? and How the right information and work network model can be used for handling environmental and forestry criminal cases?

## 2 Research Methods

This study uses empirical legal research to examine the right information and work network model in handling environmental and forestry criminal cases in the form of road opening in the Barumun Wildlife Reserve area, Padang Lawas Regency, North Sumatra. This study uses an approach, including a socio legal research approach, specifically using a sociological legal approach and legal anthropology as well as criminology to reveal various limitations in handling environmental and forestry criminal cases as well as finding a model for strengthening information networks and work in handling environmental crime cases. Life and forestry in the form of road opening in the area of the Barumun Wildlife Sanctuary, Padang Lawas Regency, North Sumatra.

The informants were selected through the purposive informant method, namely 1) the Investigation Team in Case Handling, (2) the Head of the Environment and Forestry Office of the Province of North Sumatra, 3) the Head of the Directorate General of Legal Affairs of the Ministry of Environment and Forestry, (4) a local NGO in Sumatra who focuses on forestry issues, (4) people living in the forest area of the Barumun Wildlife Sanctuary, Padang Lawas Regency, North Sumatra, (5) Director of the Coal Company around the Wildlife Reserve area, and (6) the head of Barumun Village, Padang Lawas, North Sumatra. The data obtained in this study were then processed and described for further analysis through information and organizational theory. Data analysis in this study uses descriptive qualitative analysis through descriptions and analysis of theories relevant to the facts found in the field.

## 3 Discussion

According to Angelsen, there are two general factors that cause deforestation, namely changes in the proportion of households that clear fields which are responsible for 70% of the total and the total number of households responsible for 23% of the total and the average size of fields is responsible for 7% of the total [5]. This shows that demand is an important factor in deforestation.

These factors at the same time refute deforestation in general caused by an increase in population. Fraser also agrees that increasing population is not necessarily the main cause of deforestation [6]. So that the most basic thing that causes deforestation is the proportion of households that open new fields.

However, this assumption is very different from the field situation in the case that occurred in the Barumun Wildlife Reserve area, Padang Lawas Regency, North Sumatra.

This is due to different causative factors. This case has been known since Monday, June 14, 2021, but until now the case has not been followed up until it enters the investigation stage. This case generally occurs because of the opening of a road in a wildlife reserve area.

The factor conveyed by Angelsen is certainly an absolute thing because of the geographical and geographical differences of each country. As a comparison, for example, in the case of deforestation in Way Pmerihan, West Lampung, there are at least three factors of deforestation, namely, smallholder cultivation, smallholder agricultural production, and illegal logging [7]. Meanwhile, to see that the biggest actors in environmental problems are dominated by corporations engaged in mining, plantations, and the government.

The next actor is the company in cooperation with the government, and the last is the community. A wildlife sanctuary is a nature reserve area that has a characteristic in the form of diversity and/or uniqueness of animal species, which for their survival can be carried out on the guidance of their habitat. This makes the wildlife sanctuary included in the sanctuary area as referred to in Article 14 of Law Number 5 of 1990 concerning the Conservation of Biological Natural Resources and Their Ecosystems. That way, the wildlife sanctuary area is given protection to maintain its integrity.

Protection of wildlife sanctuaries can be seen in Article 19 of Law Number 5 of 1990 concerning Conservation of Biological Natural Resources and Their Ecosystems, i.e. Everyone is prohibited from carrying out activities that may result in changes to the integrity of the nature reserve area. The changes referred to include reducing, eliminating the function and area of the nature reserve area, as well as adding other non-native plant and animal species.

Findings obtained in the field based on existing facts and the results of the examination of witnesses and evidence, the PPNS investigator of the Environmental Service of North Sumatra Province found several things related to allegations of criminal acts in the field of Conservation of Biological Natural Resources and their Ecosystems in the form of: Everyone is prohibited from carrying out activities that can result in changes to the integrity of the nature reserve area and such actions violate Article 19 paragraph (1) in conjunction with Article 40 paragraph (1) of Law Number 5 of 1990 concerning Conservation of Biological Natural Resources and Their Ecosystems.

The obligation to protect wildlife sanctuaries is in line with the meaning of natural resource conservation and environmental damage control, namely as an effort to manage natural resources to ensure their wise use and continuity of availability while maintaining and improving the quality of their values and diversity by controlling direct changes and/or indirectly to the physical, chemical, and/or biological characteristics of the environment that exceed the standard criteria for environmental damage.

Deforestation is certainly an action that is contrary to the meaning of conservation of natural resources and control of environmental damage. Deforestation of course also harms optimization in natural resource management. According to Malthusian, natural resources must be used carefully because they are limited in number and will not be able to support population growth which tends to grow exponentially [8].

The problem of opening roads in the Barumon wildlife reserve area is of course also very contrary to the meaning of natural resource conservation and environmental damage

control. The opening of the road will certainly change the shape of the wildlife reserve area as referred to in Article 19 of Law Number 5 of 1990 concerning Conservation of Biological Natural Resources and their Ecosystems.

This case has actually been realized, but until now no follow-up has been carried out at the investigation stage, thus causing delays in law enforcement. The obstacle faced by this case is that it faces several obstacles, among others, due to limited funds in handling cases, experts, and the lack of information and networks owned by the North Sumatra Provincial Forestry and Environment Service.

The main obstacle faced by PPNS investigators in conducting investigations was caused by several things, witnesses/experts in this case did not live in one place (Different Regencies and even Provinces with the existence of the PPHLHK Regional Office for Sumatra Region). Furthermore, the witness in this case has a place of residence that is different from the address listed in the identity card. This includes the address of the company. In this case, there is a witness who claims to be the titular TNI (rank of appreciation) who needs to be verified to facilitate the investigation by the witness himself. If it is indeed the titular TNI, the investigation is carried out through Government Regulation 39 of 2010 concerning the Admiral of TNI Soldiers. The next obstacle is the involvement of Witnesses/Experts involving several related agencies and even academics.

The next obstacle is the non-optimal involvement of the police in arrests and detentions due to the limited authority of PPNS in Law Number 5 of 1990 concerning Conservation of Biological Natural Resources and Their Ecosystems. In addition, in Law Number 5 of 1990 concerning the Conservation of Biological Natural Resources and their Ecosystems, it is not regulated by special actors, namely corporations. The next obstacle is the information network model that is not optimal.

These various obstacles have hampered the development of this case. Therefore, from these various obstacles, it is necessary to make better improvements in the future because it is closely related to technical matters. For constraints on the information network model that is not yet optimal, this study provides a new model for a more optimal information network through 10 strategic concepts, namely clarity of mandate, authority and tools for environmental and forestry law enforcement, preparation of operational standards for environmental law enforcement business processes. And forestry, formulating restorative justice standards for the quality of the restoration environment, applying additional penalties, formulating the authority to investigate money laundering crimes against environmental and forestry investigators, establishing a multidoor approach, applying technology: center of intelligence, strengthening cooperation networks, formal cooperation with the directorate general law and human rights with relevant agencies, as well as strengthening collaborative work "Gakkumdu Karhutla".

## 4 Conclusion

That there have been allegations of criminal acts in the field of Conservation of Biological Natural Resources and their Ecosystems in the form of: Everyone is prohibited from carrying out activities that can result in changes to the integrity of the nature reserve area. This act violates Article 19 paragraph (1) in conjunction with Article 40 paragraph (1) of the Republic of Indonesia Law Number 5 of 1990 concerning Conservation of

Biological Natural Resources and Their Ecosystems. There are several obstacles faced by PPNS investigators so that they cannot be followed up to enter the investigation stage.

## References

1. Shafitri, Prasetyo, & Haniah, Analysis of Forest Deforestation in RIAU Province with Polarimetric Methods in Remote Sensing. *Undip Journal of Geodesy*, 7(1), 2018.
2. Andrea Lidwina, 10 Provinces with the Largest Tree Cover Land Reduction in Indonesia (2001–2019), [databoks.katadata.co.id](http://databoks.katadata.co.id), diakses pada 16 Oktober 2022
3. Han, Goleman, Boyatzin, & Mckee, Land and Forests on a Large Scale. *Journal of Chemical Information and Modeling*, 53(9), 2019, 1689–1699.
4. Anonim, Area of Forest and Water Conservation by Regency/City, [sumut.bps.go.id](http://sumut.bps.go.id), diakses pada 16 Oktober 2022
5. Angelsen, Shifting cultivation and “deforestation”: a study from Indonesia, *World Development* 23(10), 1995.
6. Fraser, A.I, *Social, economic and political aspects of forest clearance and land-use planning in Indonesia*, Unpublished manuscript, 1996.
7. Suyadi and David, Trends and Causes of Deforestation in Way Pemerihan, Bukit Barisan Selatan National Park, West Lampung, *Indonesian Journal of Biology*, 4(1), 2006.
8. Akhmad Fauzi, *Economics of Natural Resources and Environment: Theory and Applications*, Gramedia Jakarta: Pustaka Utama Publisher, 2004.

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