Implementation of illegal, unreported, and unregulated fishing policies in North Sumatera Province

Suhaidi¹*, Rosmalinda², Riahdhi Alhayyan² and Vita Cita Emia Tarigan²

Abstract: North Sumatra’s coastal and seawater represent a very large fishing potential with a catching that is estimated at 1,713,015 tons per year. This potential includes the Malacca Strait which accounts for 484,414 tons per year and the Indian Ocean which represents 1,228,601 tons per year. Unfortunately, this huge economic asset is being ravaged by a phenomenon commonly referred to as illegal, unreported, and unregulated fishing (IUUF). In 2012, the Indonesian Government issued the Decree of the Minister of Maritime Affairs and Fisheries of the Republic of Indonesia No. Kep.50/Men/2012 on the National Action Plan for Illegal, Unreported, and Unregulated Fishing Prevention and Control for the period 2012–2016 as the bedrock of national policies to comply with international and regional demand in terms of fisheries. This study discusses the issue of illegal, unreported, and unregulated fishing, especially its impact on the marine environment in the province of North Sumatera, and the role of the provincial government in mitigating it. The study uses normative juridical methods. Primary data derived from the North Sumatera Fisheries Court’s decision combined with interviews and Focus Group Discussions with relevant staff at the Department of Fisheries and Maritime Affairs and Supervision of Marine Resources and Fisheries of North Sumatera Province. The

ABOUT THE AUTHOR

Suhaidi is a lecturer at the Faculty of Law of Universitas Sumatera Utara, Medan in the Province of North Sumatera, Indonesia. He specializes in International Law, Maritime Law and Environmental Law. His research and publications focus on the protection of coastal and sea waters in Indonesia, especially in the province of North Sumatera. Prof. Dr Suhaidi is a strong supporter of the fight against illegal, unregulated and unreported fishing nationwide. He has published several articles and books on this topic and presented papers at many conferences around the world on the same issue. In addition to teaching Prof. Dr. Suhaidi also serves as the Rector of Universitas Juanda (UNIDA) Bogor, in South Jakarta, Indonesia.

PUBLIC INTEREST STATEMENT

North Sumatra’s marine and fishery potential consists of capture fisheries and Aquaculture, where capture fisheries consist of 276,030 tons/year in the Malacca Strait and 1,076,960 tons/year in the Indian Ocean. Meanwhile, aquaculture production consists of 20,000 Ha of pond cultivation, 100,000 Ha of marine cultivation, and 81,372.84 Ha of Freshwater Cultivation and 155,797 Ha of Public Waters. In total, the coastal and sea waters in North Sumatera province are estimated to 1,713,015 tons per year. Unfortunately, this huge economic asset is being ravaged by a phenomenon commonly referred to as illegal, unreported, and unregulated fishing (IUUF). One way to remediate this phenomenon is to raise the public’s awareness, which is the main purpose of this paper. Not only does the paper attempt to raise awareness but it also points out the weaknesses in the laws and regulations fighting IUUF and endeavors to put forward remedies.
results show that IUUF is harmful to the environment, the Gross National Product, and government revenues from landing fees, license fees, and taxes.

**Subjects:** Environmental Law - Law; Planning Law; Regulation; Socio-Legal Studies

**Keywords:** Illegal fishing; unreported fishing; unregulated fishing; fishing policies; North Sumatera

1. Introduction

North Sumatera Province is located on the massive island of Sumatera in the Western part of Indonesia. Its capital city is Medan and its landscape consists of pristine beaches and lowlands to the East and West and highlands of Karo, Toba, and Humbang. It is bordered by the Aceh Province to the North, the Malacca Strait to the East, Riau Province and West Sumatera Province to the South, and the Indian Ocean to the West. The territory of North Sumatera covers some 18,298,123 ha (182,981.23 km²) consisting of 7,298,123 km² of land and 11,000,000 km² of the sea (Central Bureau of Statistics, 2015). As mentioned at the outset of this paper, North Sumatera’s fishing capacity is estimated at 1,713,015 tons per year with the Malacca Strait accounting for 484,414 tons per year, and the Indian Ocean accounting for 1,228,601 tons per year. Marine catches are also diverse and abundant, including sea fish such as puffs, squid, shrimp, tuna, etc., all of which make up to 276 thousand tons in the Malacca Strait and 565 thousand tons in the Indian Ocean region. This does not include the aquaculture of catfish, gourami, vaname, shrimp, and goldfish (Andreas, 2020). Unfortunately, however, this immense commodity has not been exploited efficiently due to illegal, unreported, and unregulated fishing (IUU). Fishing industry observers believe IUU occurs in most fisheries and accounts for up to 30% of total catches in some important fisheries (World Wildlife Fund, 2008). This can apply to fisheries that are under the jurisdiction of a coastal state or high sea fisheries regulated by regional fisheries management organizations (RFMO). According to the UN Food and Agriculture Organization (FAO), Fisheries and Aquaculture Department, illegal fishing has caused losses estimated at US$23 billion per year, with about 30% of illegal fishing in the world occurring in Indonesia alone (Ella Syafputri, 2014).

As for the data on fishing vessel violations as a result of the supervision of the Marine and Fishery Resources namely, the size of 5 GT as many as 32 vessels in 2017, the size of 5–10 GT 2, and vessels 11–30 GT 16 vessels. North Sumatera’s Sea plays a significant role in the economic growth of the province. The territorial waters of the Malacca Strait and the Indian Ocean are rich in a variety of fish. Not only has illegal fishing caused economic losses, but it has also contributed to the degradation/disruption of the marine environment and the ecosystem in the province of North Sumatera. This study discusses IUU and its impact on the marine environment and explores the government’s effort to control it.

2. Research methods

This study uses a qualitative descriptive method drawing on a jurisprudential model. This research is limited only to the waters/sea within the Malacca Strait, precisely the marine environment of the North Sumatera Province. This study relies on secondary data consisting of fishing and environmental laws, policies, regulations, standard operating procedures, and court decisions regarding IUUF in North Sumatera, while primary data related to the marine environment derive from field observations and interviews with community members around the marine environment, and the North Sumatera Province’s Office of Marine and Fisheries. The open interview technique was used with respondents in the research area dealing with the existing regulations and SOPs as well as the North Sumatera Province’s Office of Marine and Fisheries regarding IUU Fishing Control. This open interview technique is deemed to be an appropriate tool to get real information.
The draft interview questions related to the enforcement of IUU Fishing laws and policy and court rulings in North Sumatera were asked to respondents. Formal and informal direct observations were carried out to record various activities and events taking place in the marine environment of North Sumatera Province. Relevant informants and research sources include the Government of North Sumatera Province, the Department of Maritime Affairs and Fisheries, Supervision of Resources, and Maritime Affairs and Fisheries (Partogi, 2020). Data were analyzed by using a qualitative descriptive method to provide an overview of activities in the marine environment of North Sumatera Province as shown in the following chart:

Research chart flow

3. Benefits and significance of the research
Theoretically, the findings of this study are expected to provide new insight into the scientific discussion and research on illegal and unreported fishing and its impact on the environment as well as the role of the provincial government in controlling it (Silvia, 2020).

For the North Sumatera Provincial Government, especially the Environmental Service Unit, the Maritime and Fisheries Service Unit, and other stakeholders, the results of this study can be used as a guideline for policymaking on the management of the marine environment after the implementation of IUU Fishing policies. For scientific research at the university level, this study will allow for the implementation of the Tri Dharma of higher education and efforts to boost empirical research. For policymakers, this study could be used as supplementary material for regulations relating to marine management after the implementation of the IUU Fishing policy for the marine environment to improve the welfare of the people of the North Sumatera. The importance of this study also lies in the fact that it will help boost the Indonesian economy in general and North Sumatera’s economy in particular. Indonesia is a country known worldwide as a maritime country because three-quarters of its territory is made of water/sea. Data from the North Sumatera Regional Development Planning Agency or Badan Perencanaan Pembangunan Daerah (Bappeda) suggest that in North Sumatera, 110,000.65 km² out of 181,860.65 km² consists of water. This represents an immense commodity for the economy.

4. Understanding IUU fishing control
IUU fishing is a type of fishing that goes unnoticed or misreported to the relevant national authority in violation of applicable laws and regulations. Unregulated fishing generally refers to fishing by vessels without nationality, vessels flying the flag of a country not a party to the Regional Fisheries Management Organizations (RFMO) governing that fishing area or species on the high seas, or harvesting in unregulated areas. The drivers behind illegal, unreported, and unregulated fishing are similar to those behind many other types of international environmental crime: pirate fishers have a strong economic incentive—many species of fish, particularly those that have been over-exploited and are thus in short supply, are of high financial value. One economic impact of illegal, unreported, and unregulated fishing on developing countries such as Indonesia is the direct loss of the value of the catches that could be taken by local fishermen if the IUU fishing was not taking place. These losses include a loss to GNP, and government revenues
from landing fees, license fees, and taxes. There is further indirect impact in terms of loss of income and employment for families working in the fishing industry.

The word “control” refers to a process, method, restraint, and monitoring of progress (tasks) by comparing the results and targets accordingly as well as facilitating efforts (activities) with surveillance results. Control is very important because it is the last chain in the series of management processes. It is meant to determine whether or not a work was carried out efficiently, and whether or not results have been achieved based on the plans. According to Harold Koontz and Cyrill O’Donnell as quoted by Nanang Fattah (2007), control is the measurement and correction of activities of subordinates to assure that the work/task conforms to plants (Fattah, 2008). In other words, control is related to comparing the work with plans and taking necessary corrective actions. According to Firdous Abdullah and Dan Wasilah (2009, p. 5), Control is a management effort to achieve the goals that have been implemented by making continuous comparisons between implementation and plan. Through the process of comparing actual results with programs or budgets that are compiled, management can conduct an assessment of business efficiency and the ability to make profits from various products (Abdullah & Dan Wasilah, 2009). In addition, managers can take corrective actions if deviations come from the results of the comparison.

In general, it can be said that the main function of control is to create an operational mechanism and good work procedures in an organization so that it can suppress and avoid mistakes and abuses, both intentional and unintentional. Control plays a crucial role in the fight against IUUF. In Indonesia, illegal fishing is carried out by national or foreign fishing vessels in the sea territory without permission from the government or contrary to relevant laws and regulations. Fishing violates laws, rules, and regulations, as well as conservation and governance adopted by the State that is the flag of the fishing vessel, or generally violates national law or international obligations. Unregulated fishing is in broader terminology that includes fishing carried out without nationality marking, or ships flying the flag of a country that is not a member of the RFMO. More generally, it is fishing that is contrary to the rules set by RFMOs ("FAQ," 2001). In Indonesia, IUU Fishing Policy is regulated by Law No. 45/2009 on Fisheries which says that the government may sink fishing vessels conducting illegal fishing in Indonesia. As argued at the outset of this paper, the illegal fishing practice caused big losses to the fisheries sector and harms the marine environment ecosystem. Therefore, the government has taken and continues to take a leading role to tackle the issue by empowering law enforcement.

5. Role of the government of North Sumatera
North Sumatera Provincial Government plays a crucial role in the fight against IUUF through the Fisheries and Maritime Affairs Office. Eradicating illegal fishing requires extraordinary law enforcement efforts that integrate power between government agencies regarding appropriate strategies and the use of the latest technology to deter and recover state losses. Law No. 45/2009 on Amendment to (Law No. 31, 2004) on Fisheries has a series of provisions regulating illegal fishing, one of which is the possibility of sinking a ship that is proven to have conducted fishing without permission or whose activities have not been reported. Unfortunately, it has been 13 years since the enactment of this law but it seems to be ineffective due to a lack of proper enforcement by the government.

Some of the obstacles faced are lack of coordination between relevant agencies such as the Navy, Police, Fishery Monitoring Vessels (under the Ministry of Maritime Affairs and Fisheries), the Marine and Coast Guard Units (under the Ministry of Transportation), which use the principle of multi-agency and multi-task. Although various government programs have been conducted to explore the potential of marine and fisheries, much attention is still paid to the sustainability of marine and fishery resources. The temporary suspension policy or moratorium on business permits of fisheries in the Indonesian fisheries management area written in PERMEN KP No. 56/Permien-KP /2014 is one of the efforts of the Indonesian Government to eradicate IUU Fishing. Supported by PERMENKP No. 57/Permen-KP/2014 on the Fisheries Catching Business in Fisheries Management
Area. This supports the termination of trans-shipment in the middle of the sea. There are also regulations governing the state civil apparatus that support the eradication of illegal fishing as specified in PERMENKP No. 58/Permen-KP/2014. It is expected that the application of these regulations will help prevent IUU Fishing in Indonesia.

6. Findings

Interviews with informants revealed that in law enforcement on IUU Fishing, the Provincial Government of North Sumatera is only involved depending on the size of the fishing vessel. For ships/boats with engines below 7 GT, monitoring is performed by the Provincial Government, while for fishermen whose vessels are above 7 GT the authority is vested in the ministry of marine affairs. For the IUU Fishing policy, there are no significant changes in policies between the current minister of marine affairs, Susi Pujistahtut, and her predecessor Eddy Prabowo. The only major change is the sinking of captured ships. Unlike other global commercial activities, there is no international fishing union. The study showed that many agencies such as the Bakamla (Coast Guard), KPLP, and AL (Navy) are involved in the sea. This has resulted in overlapping authorities. The Provincial Government was never involved in IUU Fishing because most of the illegal ships only covered 7 GT, as argued above. This has caused a lot of difficulties for stakeholders and the community due to the confusion as to which authority communities must obey. This has increased operational costs.

North Sumatera Province only acts as a party that is notified if there is an IUU Fishing policy in the area (for coordination only) but no further involvement. The province feels that the authority of IUU Fishing cannot be optimally carried out by them because it does not have the authority in that area. It is important to note that the North Sumatera Research and Development Agency has never had a study about IUU Fishing due to budget constraints. And as a result, no change in IUU Fishing policy has been felt since the era of Susi Pudjiastuti to the Eddy Prabowo era.

The Department of Maritime Affairs and Fisheries of North Sumatera Province through the Unit of Supervision of Marine Resources and Fisheries has implemented the IUU fishing policy through supervision of the exploitation of marine and fisheries resources by Marine Operations/Patrol activities carried out independently (routinely) or together with other agencies (police, Navy, PSDKP Station and Satwas of the Ministry of Maritime Affairs and Fisheries, the regency/city Fisheries Port and Marine and Fisheries Service unit).

In 2019, an examination of 266 Indonesian Fishing Vessels (KII) revealed that 225 ships were registered based on laws and regulations, and 17 ships (Size ≤ 10 GT) used prohibited fishing gear (Trawler) based on the Regulation of Minister of Maritime and Fishery Affairs No: 71/PERMEN-KP /2016 on Fishing Tracks and Placement of Fishing Equipment in the Fisheries Management Area. The examination also found that 10 ships conduct fishing activities without a Fishing Permit (SIPI) and 24 ships violate fishing lines. The sea of North Sumatera Province with 110,000 km2 enters the Fisheries Management Area (WPP NRI) 571 (Malacca Strait) with a coastline length of 545 km and WPP NRI 572 (Indian Ocean) with a Coastal Length of 755 km. Both of these seas are vulnerable to IUU Fishing Activities, especially in the Malacca Strait which borders directly neighboring Malaysia. (Law No. 23, 2014) on Regional Government that the management and supervision of marine and fishery resources up to 12 miles into the sea are under the authority of the Province of North Sumatera through the Department of Maritime Affairs and Fisheries. This law allows the province to:

1. Supervise marine and fishery resources through marine patrol/operational activities both independently and together with related agencies.
2. Improve advice, infrastructure, and human resources (HR Supervision)
3. Strengthening coordination between law enforcement institutions in fisheries (Decree of North Sumatera Governor No. 188.44/642/KPTS/2016 dated 4 November 2016)
4. Provide technical guidance on legislation in maritime affairs and fisheries.
(5) Involve fishing communities in the supervision of marine and fisheries resources through the Fisheries Supervisory Community Group (Pokmaswas).

(6) Preserve fish resources and the environment.

(7) Create legal certainty and fair business competition at the sea.

(8) Increase the availability of fish for domestic consumption and exports.

(9) Increase the availability of raw materials that support the fishing industry.

(10) Increase local government revenue through increased fishery business permit levies based on Regional Regulation No. 6/2013

(11) Increase the availability of reliable data in the field of marine and fisheries.

7. Discussion
The control of IUU Fishing is a systematic and structured effort covering planning, implementation, supervision, and evaluation in terms of eradicating IUU Fishing. IUU Fishing is often carried out by national or foreign fishing vessels without permission or contrary to the laws and regulations. Unregulated fishing is contrary to the rules set by RFMOs. The impact of controlling IUU Fishing on the marine environment in the province of North Sumatera is very beneficial because it helps preserve fish resources and the environment, increases the production of catches which in the end increases the income of fishermen, minimizes conflict between fishermen, regulates fuel subsidies, ensures certainty and fair business competition and increases local government revenues through the issuance of Fisheries Business Permits based on Regional Regulation No. 6/2013 (Suhaidi, 2017).

The role of the North Sumatera provincial government in controlling IUU Fishing after the implementation of the IUU Fishing policy is to supervise marine and fisheries resources through marine patrol operations/activities both independently and together with related agencies. The government also supervises and coordinates the collaboration between law enforcement agencies in fisheries ("Governor No. 188.44/642/KPTS/2016"). The government provides technical guidance on legislation on maritime affairs and fisheries to allow for better participation of fishing communities in the supervision of marine and fishery resources through the Fisheries Supervisory Community Group Suhaidi (2018). However, the role of the North Sumatera Government remains less effective due to:

(1) Limited facilities/infrastructure when compared to the sea/waters being monitored: 1-speed boat for Single-Roof Administration System Marine Supervision I located in Lake Toba waters, 1 boat for Single-Roof Administration System Marine Supervisory II, located in Belawan for port/coast surveillance, 1 boat for Single-Roof Administration System Marine Supervisory III for supervision up to 12 miles along with the East Coast Waters of Sumatera North that located in Belawan.

(2) The lack of a surveillance ship dock, a warehouse where evidence is stored, or a detention house.

(3) Limited human resources: the number of personnel in the field of supervision of Marine Resources and Fisheries in the Department of Maritime Affairs and Fisheries of North Sumatera Province is 19 people, 15 civil servants, 4 daily freelancers, 3 individuals acting as Civil Servant Investigator (PPNS).

(4) Limited institutional supervision.

(5) The lack of strict regulations.

With regard to what precedes, improvement is needed. There is a need to strengthen the institutional supervision and the need to involve Regencies/Cities in the management and supervision at sea (0–4 mil).
8. Conclusion
The province of North Sumatera is one of the richest provinces in Indonesia thanks to its immense and rich fishing waters that stretch from the Malacca Strait to the Indian Ocean both of which are home to some of the world’s largest fish populations. North Sumatera fishing capacity is estimated at 1,713,015 tons per year with the Malacca Strait accounting for 484,414 tons per year, and the Indian Ocean accounting for 1,228,601 tons per year. Unfortunately, however, this immense potential has not been exploited efficiently due to illegal, unreported, and unregulated fishing. It is believed that IUU fishing accounts for up to 30% of total catches. This makes illegal fishing one of the biggest threats to fisheries in the North Sumatera region. Illegal fishing has caused many economic, environmental, and social harms including the destruction of the marine environment and ecosystem in the region. To address the issue, the Indonesian Government issued the Decree of the Minister of Maritime Affairs and Fisheries of the Republic of Indonesia No. Kep.50/Men/2012 on the National Action Plan for Illegal, Unreported, and Unregulated Fishing Prevention and Control for the period 2012–2016 as the bedrock of national policies to comply with international and regional demand in terms of fisheries. But much remains to be done. This study suggests that further research is needed due to the importance of the issue as there has not been any such research so far in North Sumatera Province.

Funding
The authors received no direct funding for this research.

Author details
Suhaidi1
E-mail: suhaidi2021@yahoo.com
Rosalinda2
E-mail: rosmalinda@usu.ac.id
Riadhi Alhayyan2
E-mail:riadhi.alhayyan@usu.ac.id
Vita Cita Emia Tarigan2
1 Faculty of Law, Universitas Sumatera Utara, Indonesia.
2 Faculty of Social Science, Universitas Pembangunan Panca Budi.

Citation information
Cite this article as: Implementation of illegal, unreported, and unregulated fishing policies in North Sumatera Province, Suhaidi, Rosmalinda, Riadhi Alhayyan & Vita Cita Emia Tarigan, Cogent Social Sciences (2022), 8: 2086282.

Note
1. Visit: http://www.medanbisnisdaily.com/news/read/?id=168231.

Disclosure statement
No potential conflict of interest was reported by the author(s).

References
Abdullah, D., & Dan Wasliyah, F. A. (2009). Akuntansi Biaya. Salemba Empat.
Andreas, S. (2020). Design and development of the directorate general of sea transportation, ministry of transportation. Belawan main port authority. Interview.
Badan Pusat Statistik. (2015). http://bps.go.id. Accessed on 5 May 2015 at 5.00pm
Decree of North Sumatera governor no. 188.44/642/KPTS/2016, November 4, 2016.
FAO international plan of actions to prevent, deter and eliminate illegal, Unreported and Unregulated Fishing, 2001.
Fattah, N. (2008). Landasan Manajemen Pendidikan. In Cet (Vol. 9). Remaja Rosdalarraya.
Law No. 32/2014 on Maritime Affairs
Law No. 32/2014 on Maritime Affairs
Partogi, H. P. (2020). The head of section in handling violations and law enforcement of the North Sumatera province’s maritime and fisheries office. Interview.
Silvia, D. P. (2020). Research and development agency of north Sumatera province. Interview.
Suhaidi. (2017). A proposed special area to protect the marine environment from ship pollution in Indonesia. Journal of Biological & Environmental Sciences, 11(5), 124–130. https://innsnub.net/jbes/proposed-special-area-protect-marine-environment-ships-pollution-indonesia
Suhaidi. (2018). The readiness of the North Sumatera regional government in the field of the marine environment to realize the world’s maritime axis on the east coast. International Journal of Civil Engineering and Technology (IJCIET), 9(10), 1695–1705. https://iaome.com/Home/article_id/IJCIET_09_10_169
Syafputri, P. (2014). Lmost Half of Illegal Fishing Occurs in Indonesia. Antara News. https://en.tempo.co/read/594/269/almost-half-of-illegal-fishing-in-the-world-occurs-in-indonesia
World Wildlife Fund. (2008). Fishing problems: Illegal fishing. Archived 2008-04-11. Wayback Machine.
