

Combating Illegal, Unreported and Unregulated (IUU) Fishing and Removing Yellow Card From European Commission (EC): Vietnam's Determined Actions

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Abstract

Illegal, unreported and unregulated (IUU) fishing activities have negatively impacted Vietnam fisheries. As a result, the European Commission (EC) issued a yellow card warning in October 2017. This paper examines how Vietnam has responded to the EC's recommendations to address the yellow card. The analysis used a mix of documents analysis and online group discussion approaches. Although Vietnam has made considerable efforts to halt IUU fishing and clear the yellow card, the results are still insufficient to remove the yellow card. However, the yellow card has brought about positive signals for Vietnamese fisheries management. It is also an opportunity for the national marine fisheries sector and fishers communities to be more responsible in fishing. Institutional and legal regulations have been refined to be in line with international rules and enormously improved the enforcement capacity of the fisheries management system for fishers to end the situation of fishing vessels engaged in illegal fishing in the waters of Vietnam and other countries. Recommended actions to address the yellow card include finalisation of the fisheries guidance decrees in line with obligations to combating IUU fishing, more robust sanctions, strengthening the monitoring, control and surveillance (MCS) system, information dissemination and education of the fisheries law and relevant regulations, and apply an electronic catch documentation and traceability (eCDT) system.

Keywords: Vietnam fisheries, IUU fishing, EC's yellow card, determined actions

Introduction

The marine fisheries of Vietnam are essential to the country's economy for employment, food security and export earnings, especially for the 28 coastal provinces (Pomeroy et al., 2009). In the past two decades, the number of fishing boats has consistently been over 100,000 boats a year using a variety of fishing gears. Only about 30 % of these boats been eligible for off-shore fishing in 2020. Vietnam's seafood catch has maintained continuous growth with an average increase of 9.07 % per year, of which the marine landing is at 6.42 % per year (VASEP, 2018; Office of the Government, 2021).

Illegal, unreported and unregulated (IUU) fishing is a broad and popular term in use worldwide. It is found in all types and dimensions of fisheries that refers to activities conducted in contravention of national or

international laws and regulations (FAO, 2001; Miller and Sumaila, 2014; Leroy et al., 2016). In general, IUU fishing encompasses three different kinds of fishing activities: i) Illegal fishing conducted in contravention of national or international laws and regulations; ii) Unreported fishing operations not reported, or misreported, to Regional Fisheries Management Organisation (RFMOs) or the relevant national authority; and iii) Unregulated fishing in the water zone of a relevant RFMO application or nation conducted by fishing boats without nationality, or by those flying the flag of a State not a party to that organisation, or by a fishing entity, in a manner that is not consistent with or contravenes the measures of that organisation (FAO, 2001; Sodik, 2009; Leroy et al., 2016; Dien, 2020; Phuong, 2021). These activities have been deemed harmful to the health of fish stocks and food security for countries that depend on fishing resources (Li and Amer, 2015; Leroy et al., 2016;

Countries in Southeast Asia have suffered heavy economic losses due to IUU fishing. IUU fishing is typically about 20 % of these countries' total fishery production value and is a significant loss for the national economy. Indonesia has the most considerable loss in ASEAN, estimated at USD3 billion per year, followed by Vietnam losing USD1.6 billion per year (Leroy et al., 2016; Havoscope, 2019; Lee and Visawanathan, 2020).

IUU fishing is a significant issue in Vietnam. The types of IUU fishing in this country include i) Vietnamese vessels regularly fishing illegally in neighbouring countries' waters, mainly in Cambodia, Indonesia, Philippines, and Thailand; ii) most catch/landings are not certified, declared, or guaranteed the legal origin; catch certification and traceability is not done. Furthermore, there are regulatory gaps in document validation, and iii) the monitoring, control and surveillance (MCS) and fleet management do not align with the international regulations. In addition, the national legal framework from the fisheries law to circulars have no regulations and clear definition about IUU activities and the implementation and enforcement of regulations remain weak. The sanctions are not yet mandatory and effective in addressing illegal activities.

Consequently, the European Commission (EC) issued a yellow card to Vietnam's fisheries on IUU fishing in 2017. Although Vietnam has put much effort into improving the policy framework, law enforcement, MCS, and fisheries traceability, there is still more work to be accomplished to remove the EC yellow card (VGP NEWS, 2020a). This paper investigates how the Vietnamese Government has responded to the EC yellow card and recommendations. The paper uses a mix of documents analysis and online group discussion approaches to analyse Vietnam's efforts to address IUU fishing and remove the yellow card warning. The paper begins with a review of the Vietnamese fisheries situation before the yellow card, followed by a discussion of Vietnam's efforts to address IUU fishing. The paper concludes with recommendations to get the yellow card removed.

Materials and Methods

The paper relies on two sources of information. First are the Vietnamese Government documents, journal articles, official reports, and fisheries-related information. These documents are analysed to identify how the government addresses IUU fishing and the EC yellow card under the current fisheries legal framework across administrative levels. The legislation and regulations are scanned for keywords, including IUU fishing and EC yellow card, to search for laws, decrees, circulars and decisions related to fisheries launched between 2010 and 2021, especially from 2017 to 2021 when the EC yellow card was

issued. The official websites of the government (www.chinhphu.vn) and the Directorate of Fisheries (DoFi) (www.tongcucthuysan.gov.vn) were used for this purpose. In addition, the analysis used media articles, academic publications, and relevant papers from DoFi's offices and internet searches by using the keywords mentioned above.

Second, due to restrictions on travel and social distancing in the context of the COVID-19 pandemic, this analysis obtained information from online in-depth expert interviews and group discussions via Zalo and Google Meet applications that were carried out from April to May 2021. The interviews were conducted with 50 experts who are fisheries managers and officers from various coastal provinces from the north to south of Vietnam, including Thanh Hoa, Nghe An, Quang Nam, Binh Dinh, Khanh Hoa, Binh Thuan, Ca Mau, and Kien Giang provinces. These interviews focused on the issues, shortcomings, and difficulties terminating IUU fishing in Vietnam.

Results

Overview of Vietnam's marine fisheries before the yellow card

From a primarily small-scale fishery mainly operating in the near-shore area, Vietnam's marine fisheries have shifted towards becoming a mechanised fishery with increasing fishing activities in the off-shore waters, targeting high-value fish species (Pomeroy et al., 2009). By the end of 2016, Vietnam had nearly 110,000 fishing vessels equivalent to 10 million horsepower (HP) of total capacity, of which around 31,000 have the power of ≥ 90 HP inboard engine. The average total landings were about 3 million tonnes per year (VASEP, 2018). Products from small-scale near-shore and off-shore fishing activities have an important position in the export market. In the 5 years from 2013 to 2017, Vietnam's seafood exports accounted for 29–33 % of the total agriculture, forestry and fisheries export value annually. Seafood exports have grown continuously during this period, with an average annual increase of nearly 8 % (Sac, 2019).

The European Union (EU) was the second-largest import market of Vietnamese seafood products in the 6 years of 2012–2017, accounting for 19–22 % of Vietnam's total seafood exports. The nation's seafood exports to the EU market have been stable at 1.1–1.46 billion USD per year for this time. The top five importing countries in the EU for Vietnamese seafood included Germany, Italy, the Netherlands, France and Spain, accounting for 65 % of total exports to the EU (VASEP, 2018).

IUU fishing has been a problem formally recognised by the Vietnamese Government since 2010. The Government launched several directives to eliminate this problem. The Prime Minister issued Directive No.

689/CT-TTg in 2010, implementing some measures to prevent and reduce the situation of the nation's fishing vessels and fishers being arrested by foreign countries (Office of the Government, 2010). However, at that time, Vietnam's fishing industry was primarily small-scale, with limited awareness by most fishers and fisheries officials and a lack of adequate resources (human, finance, equipment) necessary to undertake fisheries management and enforcement activities. Consequently, illegal fishing increased over time, especially from 2015 to 2017 (Office of the Government, 2017b; USAID Oceans and Fisheries Partnership, 2020). According to the Directorate of Fisheries (DoFi), from December 2013 to the end of 2016, Vietnam had to deal with issues related to IUU fishing vessels and their crew members, with 726 fishing boats and a total of 5,752 fishers captured by other nations authorities (Ngan, 2018; DoFi, 2020b). When this problem was at its peak, Vietnam's Government issued Telegram no. 732 in 2017 requesting ministries, sectors, and localities to actively and earnestly implement the prevention, reduction and termination of Vietnamese fishing boats and fishers illegally fishing in foreign waters (Office of the Government, 2017b). However, once again, the request by the highest central level of government to terminate IUU fishing, especially in violating foreign waters, only stopped at a paper directive, not in practice. That was the main reason why Vietnam was warned with the yellow card from the EC on 23 October 2017.

EC's yellow card warning to Vietnam

The EU estimates that between 11 and 26 million tonnes of fish, or at least 15 % of global production, are caught by IUU fishing annually. The IUU activities' landing value is EUR8 to 19 billion (USD9.76 and 23.2 billion) (all currency exchange rates were based on average during 2020) (Holland, 2019). The EC started the consultation process on its IUU regulations through the first version approved in October 2007 (Johns, 2013; Minh, 2019). In 2008, this document reached a consensus in the EU, which the EC then adopted on 29 September 2008 and entered into force on 01 January 2010 (Decision No. 1005/2008). As a result, a management system across the EU was established to prevent and eliminate the import of fishery products sourced from IUU fishing into the EU's market (European Commission (EC), 2008; VASEP, 2018).

According to the EC's argument, IUU fishing is the biggest threat to the recovery and conservation of marine resources and biodiversity, causing severe environmental and economic impacts worldwide (Leroy et al., 2016). Exporting countries, like Vietnam, identified as having inadequate measures to ensure legal fishing, will be given an official warning (receiving a "yellow card") for improvement. If these countries do not improve, they will face a ban on exporting seafood products to the EU's markets

(receiving a "red card"). If these countries have made the necessary reforms, they will be cleared of the warning (receiving a "green card") (VASEP, 2018; VASEP, 2019; VGP NEWS, 2020a; FAO, 2021). Since the EC's IUU fishing regulations came into force in 2010, various countries have been issued yellow card warnings for failure to improve their fisheries management. The majority of these countries have undertaken reforms and then had the yellow cards cleared, and the others have failed to comply and therefore were shifted to the red cards. As of October 2019, there were 26 countries warned by yellow cards, of which three were issued the red cards. In Southeast Asia, four countries, including Cambodia, Philippines, Thailand and Vietnam, have been issued yellow cards, with Cambodia moving to the red warning (Chin., 2018; Ghazali et al., 2019; The World Bank, 2021).

On 23 October 2017, the EU officially issued the yellow card for Vietnam's seafood industry related to IUU fishing after visiting Vietnam to assess the possibility of meeting IUU requirements (Ngan, 2018). The reasons provided for the issuance of the yellow card included: i) Vietnam still lacks a comprehensive and unified system of legal regulations to manage marine fisheries; ii) Vietnam's fishing fleet does not meet the standards and conditions for operating at sea, such as the mismatch between the vessel size and the actual marine resources status; iii) the inspection and vessel monitoring system at sea is inadequate and inefficient; iv) lack of a catch certification system to confirm the origin of seafood products effectively, leading to the majority of the catch being untraceable; and v) Vietnamese fishing vessels violating foreign waters.

The EC made nine recommendations that Vietnam needed to overcome for its yellow card to be removed (see Table 1).

Consequences of issuance of a yellow card to Vietnam's fisheries

After almost 4 years of the EC imposed "yellow card" for Vietnam's marine products, it has resulted in the following five consequences:

- 1) The EC warning of the yellow card has negatively affected the reputation of Vietnam, in general, and the seafood industry in particular, internationally. For example, in its position and diplomatic relations, such as when Vietnam was president of the ASEAN Chair in 2020.
- 2) Vietnam's seafood exports to the EU's markets have been affected by a marked decrease. There has been a continuous reduction from 2018 (6 %) to 2019 (15 %). In 2020, the value of seafood exports to the EU was USD340 million, down 10 % compared to 2019 and down 28 % compared to 2017 (VASEP, 2018; Office of the Party Central

Table 1. List of 9 European Commission's recommendations for Vietnam fisheries.

No.	Recommendations from European Commission for Vietnam fisheries
1	Revise the legal framework to ensure compliance with international and regional documentation for applicable to the conservation and management of fishery resources;
2	Ensure effective implementation and enforcement of revised Vietnam's national fisheries legislation;
3	Strengthen the effective implementation of international regulations and handling measures through a fully enforced and monitored sanction regime;
4	Overcoming identified deficiencies in MCS related to the requirements set forth by international and regional regulations and within the framework of the certification system as well;
5	Strengthen the management and improve the fishing license and registration system;
6	Balancing fishing effort and vessel management policy;
7	Strengthen the traceability of fishery products and take all necessary steps, in accordance with international law, to prevent illegally landing;
8	Strengthen and develop cooperation with other countries (especially coastal countries in the waters where fishing vessels flying the Vietnamese flag can operate) in accordance with international obligations;
9	Ensure compliance with reporting and retention obligations in RFMOs.

Committee, 2020; DoFi, 2020a; Office of the Government, 2021).

- 3) Vietnam's position as the second top exporter to the EU's markets rapidly dropped to the 5th position since 2018, behind Japan, the US, Korea, and ASEAN (DoFi, 2020c). Consequently, other countries have applied more stringent control regulations for countries warned with an EC yellow card. For example, the US used an import control system to combat IUU fishing from 01 January 2018 (VASEP, 2018; DoFi, 2020a).
- 4) During the yellow card period, 100 per cent of seafood containers exported from Vietnam to the EU were checked for the origin of the seafood products (traceability). The cost of this check is high, up to 3–4 weeks container⁻¹ and an inspection fee of about USD708 container⁻¹, excluding port storage fees and business implications for the customer. The most considerable risk is that many seafood containers will be refused or returned leading to loss. For example, in the case of the Philippines, up to 70 % of seafood containers were denied and returned. The loss of seafood exports to the EU can be up to USD12,200 container⁻¹ due to the yellow card (Ngan, 2018; The World Bank, 2021).
- 5) After the yellow card warning, Vietnam had 6 months to fix its shortcomings; if the EU assesses no improvement, it will be converted to a red card warning, which means banning the export of seafood products to the EU (VGP NEWS, 2020b).

Outcomes of the last four years of progress on the EC's recommendations

To address the EC's recommendations, over 4 years,

the Vietnamese Government has issued 16 directive and executive documents, including official letters from the Secretariat of the Vietnam Communist Party, 11 directives and official letters from the Prime Minister, and 4 executive documents from the National Steering Committee IUU prevention. In addition, the Ministry of Agriculture and Rural Development (MARD) has launched 100 guiding documents for these urgent issues. The central government has formulated, finalised, and promulgated, including a fisheries law, two decrees and 10 guiding circulars and legal documents related to IUU fishing, as shown in Figure 1.

Legal framework reforms and enforcement

After the EC's yellow card was issued, the Vietnamese Government delivered Directive no. 45/CT-TTg dated 13 December 2017, requiring it to perform several urgent tasks and solutions to overcome the EC's warning about IUU fishing (Office of the Government, 2017a). The phrase urgent tasks show the government's priority to address the many barriers to clear the yellow card. It is rare to see fisheries issues be given priority by the top leaders of the Vietnam Communist Party. It delivered Official Letter No. 81-CV/TW dated 20 March 2020 to provide specific instructions on strengthening leadership and directing the effective implementation of the prevention of IUU fishing activities. The Secretariat emphasised that the whole political system, fishers, and businesses must take measures to focus and give priority to this matter and resolve it urgently to remove the yellow card (Tuan, 2019; Office of the Party Central Committee, 2020).

At the national government level, the Prime Minister established a National Steering Committee on IUU prevention in 2017 led by a Deputy Prime Minister in charge of general economics and the Minister of Agriculture and Rural Development (MARD) as members of the Standing Committee. The National

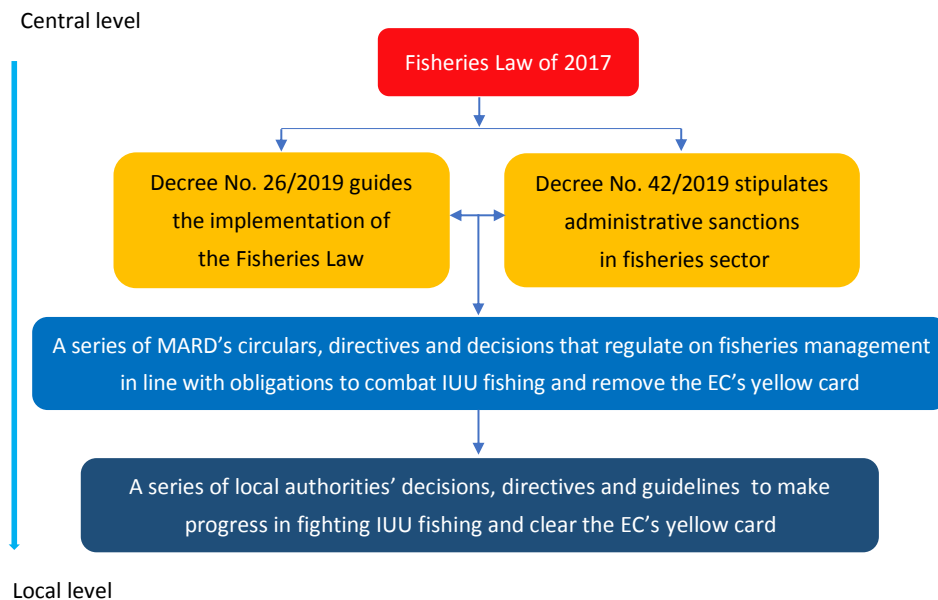


Fig. 1. Legal framework reforms to combat illegal, unreported and unregulated fishing in Vietnam's fisheries.

Steering Committee and MARD issued several legal documents to direct and address the yellow card's recommendations.

Fisheries Law No. 18/2017/QH14 dated 21 November 2017

Regulated on quotas and allowed catches for some distant migratory fish species and grouping marine species. The law has two chapters on fishing activities and vessel monitoring systems (VMS) (chapters IV and V). In general, the EC's recommendations to amend regulations on management and combating IUU fishing was fully legislated in the Fisheries Law of 2017 and reflected in most chapters and articles. For example, i) legislate formally the contents related to combating IUU fishing, including EC's recommendations (Articles 60 and 61, Chapter 4); and ii) stipulation on duties and obligations of fishing port authorities on catch statements, in collaboration with organisations controlling IUU fishing operations; vessel owner's responsibilities, ship master entering and leaving a fishing port (Articles 81-83, Chapter V) (National Assembly of the Socialist Republic of Vietnam, 2017).

Decree No. 26/2019/ ND-CP dated 08 March 2019 guiding the implementation of Fisheries Law

They are stipulated clearly about operations of fishing vessels in Vietnamese waters. The allowable fishing zones were designated by the size of the boats, such as fishing vessels maximum length (L_{max}) under 12 m, 12-15 m, and beyond 15 m are obligated to separately operate in the coastal, inshore and off-shore high seas, respectively, and are not allowed to catch in each other's areas. This decree also regulates specific procedures to permit Vietnamese vessels to fish outside of the national water areas. VMS is

stipulated to be equipped for the boats in L_{max} from 15 m or above. These VMS need to be turned on during operation at sea for management and monitoring activities (Article 44). The VMS has to be synchronously connected with a central management system and the 28 coastal provinces and the VMS must automatically transmit via GPS or satellite at least 2-3 hours time⁻¹ depending on the size of the vessels (Office of the Government, 2019a).

Decree No. 42/2019/ ND-CP dated 16 May 2019 stipulates administrative sanctions in the fisheries sector

Eleven types of IUU acts regulated and penalised through Vietnam's Fisheries Law of 2017 (Office of the Government, 2019b) (Table 2).

The MARD, the permanent member of the National Steering Committee in IUU prevention, issued various official circulars to direct and guide the 28 coastal provinces to urgently overcome their shortcomings and limitations in fighting IUU fishing, as summarised in the primary documents presented in Table 3. The MARD issued six circulars relating to EC's recommendations within a year (2018), although the order and procedure for delivering legal documents are complicated and take a long time (DoFi, 2020c).

The main conclusions of the visit conducted by the EC in November 2019 to check on the status of addressing the yellow card showed that the revised legal framework is the basis for Vietnamese authorities to build a new system to control IUU fishing. Overall, and although some adjustments might be needed, the new Fisheries Law, together with the implementing decrees and circulars, constitute a comprehensive legal basis in line with the existing international obligations (DoFi, 2020a).

Table 2. List of administrative penalties related to illegal, unreported and unregulated fishing.

No.	List of acts	Punishment frameworks (USD1,000)	
		First acts	Recidivism
1	Removing vessel monitoring systems (VMS) on the fishing vessel without the supervision of supplier and authorities	13-22	22-30.5
2	Fishing vessels do not operate VMS or disable the device at sea (except in the case of force majeure).	13-22	22-30.5
3	No VMS on fishing vessels in L_{max} from 15 m to 24 m	13-22	22-30.5
4	No fishing license or expired fishing license for vessels in L_{max} between 15 m and 24 m	13-22	22-30.5
5	No logbook, for fishing vessels in L_{max} beyond 24 m	13-22	22-30.5
6	Un-reporting or misreporting on damaged VMS (except in case of force majeure)	13-22	-
7	Purchasing or using VMS equipment that does not meet technical requirements	13-22	-
8	Concealing, forging, or destroying evidence of regulations about fishing and protection of marine resources violations	22-30.5	35-43.5
9	Overfishing licensed by the Regional Fisheries Organisation	22-30.5	35-43.5
10	Using fishing vessel in L_{max} beyond 24 m - No fishing license or expired license - No VMS equipment	35-43.5	-
11	IUU fishing activities	35-43.5	
	Deprivation of the right to use fishing vessels' captain certificates or diploma from 6 - 12 months (if recidivism)		

Table 3. Vietnam's circulars on marine fisheries management in line with obligations to combat illegal, unreported and unregulated fishing and remove EC yellow card.

No.	Name of legal documents	Main contents related to IUU fishing
1	Circular No. 02/2018/TT-BNNPTNT dated 31 January 2018	Amending and adding several circulars at MARD that mainly focus on the requirements of maintaining the logbook, issuing certificates of traceability of fish caught domestically without violating illegal fishing regulations at the ports.
2	Circular No. 19/2018/TT-BNNPTNT dated 15 November 2018	Providing procedures and guidelines for the investigation and assessment of aquatic resources and the living environment of aquatic species, including decisions on establishing Marine Protected Areas (MPAs); procedures for managing aquatic resources; promulgating the list of fishing gears, water areas banned from fishing.
3	Circular No. 23/2018/TT-BNNPTNT dated 15 November 2018	Stipulating all fishing vessels must be marked with different colours to facilitate the management and supervision at sea. From the beginning of 2020, the entire cabin of fishing vessels in different L_{max} , such as under 12 m, 12-15 m, and over 15 m, will be painted green, yellow and light grey, respectively.
4	Circular No. 24/2018/TT-BNNPTNT dated 15 November 2018	Regulating strictly the usage, management, and updating data digitisation of the national fisheries database management system.
5	Circular No. 25/2018/TT-BNNPTNT dated 15 November 2018	Guiding in implementing Article 98 of the Fisheries Law in assessing risks and granting permits to import live aquatic animals and plants, not on the list of marine species permitted to be traded in Vietnam (for food, entertainment, display fairs, exhibitions, and scientific research).
6	Circular No. 13/2020/TT-BNNPTNT dated 09 November 2020	Amending several articles, Circular 21/2018/TT-BNNPTNT after nearly 2 years of implementation in 2018. This circular regulates transparency regarding the logbook entries on fishing activities, reporting, certifying marine materials and traceability.

Source: MARD, 2018a; MARD, 2018b; MARD, 2018c; MARD, 2018d; MARD, 2018e; MARD, 2018f; MARD, 2020c.

However, the EC still suggested two recommendations:

“Vietnam’s authorities have to put in place all the necessary mechanisms (including audits by inter-administrative teams) to guarantee that the new legal framework is effectively implemented, paying special attention to ensuring that the coordination with the provinces results in a harmonised approach. Also, to monitor the implementation of the new legal framework to assess its effectiveness and to make the necessary adjustments, if any, there are practical issues or reinforce the new provisions” (DoFi, 2020a).

Monitoring, control and surveillance and fleet management

The two significant bottlenecks that still need to be overcome are installing VMS devices and stopping violations in regulated fishing areas, especially in foreign seas (DoFi, 2020a). As a result, the active participation of all stakeholders in equipping fishing boats with VMS has resulted in good outcomes (Table 4), although it is relatively new to Vietnamese fisheries.

Table 4. The number of fishing vessels equipped with the vessel monitoring system (VMS) and marked by different colours (updated Dec. 2020).

No.	Fishing vessels in L _{max}	Adoption by number of vessels/Total number of vessels(per cent)
I	VMS equipment	
1	Beyond 24 m	2,248/2,624 (85.7 %)
2	From 15 m to under 24 m	23,434/28,347(82.7 %)
II	Marked fishing vessels	
1	Beyond 15 m	28,900/31,075 (93.0 %)
2	Under 15 m	51,296/63,497(80.8 %)

However, Vietnam has not completed the installation of VMS equipment on fishing vessels with L_{max} beyond 15 m and marking them to comply with scheduled Decree no. 26. In 2020, more than 1,400 fishing vessels disengaged their VMS equipment to avoid being tracked by monitoring stations without any significant punishment from local authorities (DoFi, 2020a). According to the EC’s conclusions, monitoring vessels already equipped with VMS still requires substantial improvements. Procedures to deal with fishing boats that were not reporting their position at sea were still in their preliminary implementation stages, and the coordination between the national fisheries management centre and the provincial authorities remains weak (DoFi, 2020a).

In a discussion on the EC assessment, a provincial fisheries authority official stated the following, with

considerable agreement from other provincial fisheries officials:

“As the regulations require, the fishing vessel owners and captains are not aware of the need for VMS installation and its operation while out in the sea. Also, the sanctions by the local and central authorities for violation of not operating the VMS has not been consistent, timely and effective. Moreover, no significant sanctions are applied to VMS suppliers that do not ensure equipment quality. Unclear responsibilities and coordination of the ministry, provincial agencies, and other stakeholders lead to weak legislation enforcement. As a result, the authorities are still afraid to seize fishing vessels and impose a penalty for fear of the consequences in ensuring the safety of detained fishing vessels because the decision by the higher authority on the penalties is unclear”.

It should be noted that 27 of the 28 coastal provinces have established offices located at the fisheries ports to inspect and control fisheries activities. The authorities coordinate with the border guard in MCS activities, including fishing logs, registration certificates, fishing licenses, captain and chief engineer certificates, and maritime safety and navigation equipment, especially the VMS (Office of the Government, 2020c). From 2019 to 2020, about 2,500 IUU fishing cases were recorded with total penalties of over VND62 billion (around USD2.7 million). Three main types of IUU fishing activities identified are i) operating at unregulated fishing grounds, including foreign water zones; ii) uninstalling or disconnecting VMS to escape the fisheries monitoring authorities; and iii) using banned fishing gears. The fisheries authorities have also applied enforcement measures such as rescinding fishing licenses and no new permits to owners of fishing vessels that violate foreign waters (DoFi, 2020c). As a result, the number of illegal fishing vessels arrested by neighbouring countries has decreased, from 220 cases in 2019 to 144 in 2020. These vessels mainly violate the waters of countries in the region, including Thailand, Malaysia, Indonesia, Brunei, the Philippines, and Cambodia (DoFi, 2020a).

Recently, Vietnam’s Prime Minister gave new tasks to relevant agencies, ministries, and people’s committees of 28 coastal provinces to achieve the target of eliminating IUU fishing, in general, to eradicate violation of foreign sea zones by the end of 2021 (SGGP NEWS, 2021).

A group discussion with provincial fisheries officers on the implementation of Decree 42/2018 (administrative sanctions) in general, and specifically in the case of Vietnamese vessels arrested in the waters of other countries, said that the implementation of rules are inconsistent and unclear among authorities at the central and provincial levels. The officials stated that fishers have economic

motives to violate the laws intentionally, so eliminating IUU fishing by 2021 is challenging. According to a provincial fisheries official, crucial reasons for violation of IUU laws are:

"Limited awareness and high economic returns motivate fishers to do illegal fishing persistently in foreign waters. Besides, some central, local officials, and administrative agencies still lack the sense of responsibility in performing their official duties, have not yet ensured the principle of; the fishers know, understand, believe, follow and do".

Notably, another official in group discussion responded:

"It should be noted that three targets of eliminating illegal fishing were announced earlier in different directives and official telegram and were not achieved. However, this is also an opportunity for the national marine fisheries sector and all stakeholders to be more responsible and work together to achieve sustainable fisheries".

Catch certification and traceability

Vietnam has improved the existing process to ensure synchronised catch certification control and traceability at the fishing ports and seafood processing plants. However, the fisheries currently remain entirely or largely reliant on paper-based catch documentation. In 2020, more than 19,400 tonnes of seafood imported from foreign vessels were verified upon landing in Vietnam according to the requirements of Article 70, Decree No. 26/2019/NĐ-CP. The authorities issued about 3,100 certificates of catch for over 38,500 tonnes of fish at the fishing ports. Vietnam has also published a list of 30 designated fishing ports with sufficient systems to confirm traceability in 16 of the 28 coastal provinces and the list of illegal fishing vessels (MARD, 2020a; MARD, 2020b).

The MARD organised over 30 inspections at the processing plants to check food safety conditions and the traceability regulations before appraising and granting food safety certificates for around 2,300 batches of exported marine catches to the EU in 2018–2019 (MARD, 2018b). However, traceability is still limited as the certification of the catch is not a concern to the fishers. It is a concern of the processing and exporting companies since they require certificates to ensure the export quality of their product (USAID Oceans and Fisheries Partnership, 2020). The provincial fisheries officers stated:

"There is limited awareness and capacity of the small-scale fishers to comply with the requirements of logbook and traceability. The fishers tend to record fishing logs with wrong coordinates and time of fishing at sea, and at the port after landing".

Media communications

Fisheries authorities at several levels have organised a series of seminars, conferences and training courses to inform fisheries stakeholders on combating IUU fishing. Five thousand books on the Fisheries Law 2017 and nearly 60,000 leaflets about IUU fishing were distributed to fishers in 28 coastal provinces and cities (DoFi, 2020c). In just 6 months (November 2019 to April 2020), around 130 national digital media productions related to IUU fishing and the EC yellow card have been presented in Vietnam Television, Voice of Vietnam, and National Fisheries Magazine (DoFi, 2020c).

When using the Google search engine using keywords such as "combating illegal fishing" and "remove yellow card" (in Vietnamese), it only took 0.36 and 0.5 seconds to generate more than 8 million and 850,000 results, respectively (accessed on 19 May 2021). It shows the media's attention and the Vietnamese people's interest in the IUU and the EC's yellow card issue.

After 4 years of combating this problem, the Vietnam Association of Seafood Exporters and Producers (VASEP) have launched the program "Seafood enterprises committed to combating IUU fishing". This programme involves 62 seafood processing plants and enterprises. VASEP has committed to purchasing and importing marine seafood products from legal fishing vessels with clear seafood origin and traceability (VASEP, 2020). They have actively participated in combatting IUU fishing activities through four main activities: i) campaign against IUU fishing - "Say! NO catches from IUU fishing; NO purchasing, importing, transporting, processing and exporting from IUU fishery to any market"; ii) proposing and commenting on the development of relevant national legal documents; iii) cooperating with the government and international relations; and iv) communication about IUU fishing (VASEP, 2017). The discussion with provincial fisheries officers shows that although the government authorities, from the central and local levels, have vigorously attempted to inform fishers and fisheries communities about the laws against IUU fishing, their awareness has not considerably improved. Consequently, IUU fishing activities by Vietnamese fishers have continued in Vietnam's and foreign waters.

Discussion

Although Vietnam has made considerable efforts to combat IUU fishing and clear the yellow card, the results are still insufficient to remove the yellow card. However, the yellow card has brought about positive changes to Vietnamese fisheries management. Institutional and legal regulations have been refined to align with international rules and enormously improved the enforcement capacity of the fisheries

management system for fishers to end IUU fishing in the local and foreign waters. It is also an opportunity for the national marine fisheries sector and fishers communities to be more responsible in fishing. It may also be a turning point for the industry to have more responsible and sustainable fisheries. Nevertheless, there are still several constraints and challenges to overcome.

First, the penalties have increased compared to before. Still, it is not as severe as in other countries, where the penalty may include imprisonment. Consequently, law enforcement has many limitations; some local government authorities still ignore the handling of violations, and a minimal number of cases are prosecuted as a deterrent (VGP NEWS, 2020b). Various agencies are still afraid to seize ships and impose sanctions for fear of consequences in ensuring the safety of detained fishing vessels, as penalty decisions made by higher authorities are uncertain. The process and mechanism to resolve the punishment takes a long time and is almost unfeasible in practice. As a comparison, the penalties for IUU fishing activities in neighbouring countries of Vietnam are shown in Table 5.

Second, although mass media communication on IUU has been carried out for 4 years, Vietnamese fishing vessels' violations in foreign waters are complicated and are increasing. This may be due to limited awareness regarding IUU fishing and the high economic returns that motivates fishers to continue illegal fishing. The fishers violate the IUU regulations by catching fish in neighbouring country's fishing grounds to compensate for the variability in Vietnamese waters, fulfil family obligations, and repay their debts. Vietnamese fishers often do not comply with regulations within and outside allowed fishing grounds because of the race to fish caused by declining catch and competition and the lack of alternative income sources. There is also a lack of national and provincial resources (staff, budgets and facilities) for implementing MCS at sea and law enforcement (Boostra and Dang, 2021).

Neighbouring countries have arrested and sanctioned Vietnamese fishing boats without registration or flag. However, arrangements are often made to allow Vietnamese fishing boats to operate in foreign waters illegally. There are also arranged payments for Vietnamese fishing vessels and fishers arrested by foreign countries to be returned. It is challenging to collect data and evidence on IUU fishing because the violators use sophisticated tricks to avoid detection of their illegal activities (Kantaprawira et al., 2018; Ngan, 2018). Notably, three main drivers affect the motivation for IUU fishing: economic, social, and institutional factors. As the cost of IUU fishing increases, the level of IUU fishing will decrease, while increasing profits from IUU fishing will exacerbate it. From a social perspective, population growth or education level plays a vital role in the story of IUU fishing. Institutions must have appropriate laws, regulations and policies, plus proper enforcement, to help reduce IUU fishing activities (Lee and Visawanathan, 2020).

Third, the VMS and fleet surveillance/monitoring have not met management objectives. Numerous fishers violate regulations by removing or turning off VMS devices or are placed on another vessel when fishing at sea. Monitoring to control such activities is still limited and thus decreases the enforcement of regulations. Notably, reports on Vietnamese fisheries emphasise that the capacity to enforce or control fishing activities at sea by using patrol vessels and other direct monitoring tools is infeasible, costly, and inadequate (Ha and Dijk, 2013).

Fourth, catch certification and traceability at the fishing port still have limitations. Specifically, the traceability work has not met the EC's requirements to control the legality of products exported to the European market. Consequently, countless applications for certification of catch origin to the EU market required verification (Phuong, 2021). Fishing boats docking at ports without declaration is still common, and there are no measures taken when violations are detected. Keeping a fishing logbook is

Table 5. The highest fines for illegal, unreported and unregulated fishing in several Asian countries.

No.	Countries	The highest fines			Additional penalties	Source
		Domestic currency	International currency (million USD)	Imprisonment (years)		
1	Thailand	THB200 million	6.38	3	-	Hung, 2018
2	Indonesia	IDR20 billion	1.5	7	Burn, sink fishing vessels	Kantaprawira et al., 2018; Kasim and Widagdo, 2019; International Labour Organization (ILO), 2004
3	Philippines	PHP47.6 million	1.0	10	-	Ngan, 2018
4	Taiwan	TWD30 million	1.08	0	-	Tsai and Yi, 2019
5	Malaysia	MYR1 billion	0.26	2	-	Ngan, 2018
6	Vietnam	VND1 billion	0.044	0	Deprivation of captain certificates	Office of the Government, 2019b

still a formality, and many captains fill it in at the port as catches are unloaded rather than at sea. Catch documentation scheme is utilised at the point of landing or catch (capture, port, buying, and shipment for domestic). The combination of paper- and electronic-based techniques is used only at processing and shipment (air or ship) for exporting. Although electronic catch documentation and traceability (eCDT) systems are relatively new for fisheries managers and seafood companies, they have a vast potential to be applied in Vietnam for multiple types and scales of marine fishery supply chains (USAID Oceans and Fisheries Partnership, 2020).

Fifth, it seems that political will and political capacity in fisheries governance are still missing in Vietnam, leading to a disconnection to move IUU prevention efforts from the state level to local levels (Carbonetti et al., 2014). As a result, the effectiveness of formal institutions is negatively affected in managing marine fisheries in Vietnam because of the weak capacity of the administrative agencies and the social-political organisations, high level of non-compliance in enforcement, and the failure of the fisheries programs in practice (Dang et al., 2017). Fortunately, local (provincial and district) fisheries authorities can still make moderate progress on this complicated issue if they use community networks to enforce fishery policies (Carbonetti et al., 2014). In Vietnam, the existing fisheries law supports fisheries co-management, which could deter IUU fishing. Political will and political capacity for supporting co-management activities are strong at local management levels to enhance effective regulations enforcement (Carbonetti et al., 2014).

Conclusion

Four years after receiving an EC yellow card due to illegal, unreported and unregulated (IUU) fishing, Vietnam has taken several actions to address the issue. The measures taken consist of new laws and policies, legal enforcement and handling vessels that violate foreign waters, managing fishing fleets, and monitoring, control and surveillance (MCS) activities. Nonetheless, Vietnam's efforts have been inadequate in removing the EC's yellow card. The reasons include limitations in law enforcement, continued fishing vessels' violations of fishing in foreign waters, removing or turning off VMS devices, and lack of keeping a fishing logbook. However, the yellow card can provide an opportunity to restructure Vietnam's fisheries sector to recover and grow back in the EU market. It can result in a turning point for the industry to transform into a more responsible and sustainable fishery.

To deal with the yellow card's problems, the political will and political capacity play a crucial role at the national government and the local levels. Specifically, Vietnam needs to pay attention to building

institutional capacity from top to local management levels to deal with policy planning and regulation and enforcement on halting IUU fishing. The government needs to unite all actors in the fisheries supply chain against IUU fishing and clear the EC's yellow card. Accordingly, the Vietnamese Government needs to consider several recommendations:

The first is to accelerate the revision and finalisation of the fisheries guidance decrees in line with obligations to combating IUU fishing. The regulations need robust sanctions, such as prosecuting criminal charges against violators and regularly publicising the list of fishing vessels and owners caught conducting illegal fishing activities.

Second, the Vietnamese Government should strengthen the monitoring, control and surveillance system and clarify the responsibility of stakeholders in law enforcement. They also must have strict handling of violations in IUU fishing to ensure deterrence, especially for the vessels fishing illegally in foreign waters and to maintain the commitments not to encroach on other countries' waters. It is necessary to step up the information dissemination and education of the fisheries law and relevant regulations. Vietnamese fishers need to be educated about the law and IUU fishing-related rules at sea and stop intentionally fishing in foreign waters.

Third, there is a need to harmonise the institutional, economic, and social perspectives of fishing. Notably, restructuring the fisheries industry, improving fisher's living standards, and raising their awareness is crucial in Vietnamese fisheries. The authorities can undertake this by expanding fisheries co-management to serve as a motivating factor against IUU fishing.

And finally, it is necessary to move towards digitalisation using the electronic catch documentation and traceability (eCDT) system in small-scale and commercial fisheries in fisheries supply chains. In the long term, international cooperation activities play a vital role, and Vietnam needs to join relevant international treaties on IUU fishing.

More broadly, research is also needed to determine aspects of fishers and IUU fishing, especially the motivations for illegal fishing in national and foreign waters. It is also necessary to understand better the gap in law enforcement from the central level to local agencies, and the barriers to removing the EC yellow card.

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