UNIVERSITY OF TROMSØ UIT

NORWEGIAN COLLEGE OF FISHERIES SCIENCE

The application of the European Community regulation No 1005/2008 on tuna longline fisheries in Khanh Hoa province, Vietnam

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Master's Degree Thesis in International Fisheries Management
(30 credits)

May 2011

ACKNOWLEDGEMENTS

First of all I would like to thank my supervisor Prof. Bjørn Hersoug. I would never have been able to start or finished this thesis without him. I have learned a lot from him. Then I would like to thank Sønvisen Signe Annie for great comments and contributions. I also would like to express my great gratitude to all lecturers of IFM program from Norwegian College of Fisheries Science for their teaching and supports. The knowledge that I learnt from them is extremely useful for my work. Many thanks my classmates who are very kind and interested. I would never forget the friendship of us. It is really happy for me to know them who come from many countries.

I also would like to thank Khanh Hoa Sub-department of Capture Fisheries and Resource Protection for providing necessary data and helping.

I wish to thank SRV 2701 project for funding. I would like to express my gratefulness to Prof. Knut Heen, Kokvold Kristoffe and Ane-Marie Hektoen for their taking care. Thanks to their help, I was easy to manage my live at Tromsø.

Finally, I would like to thank my wife and family for encouraging and helping during my study.

Thanks for all.

Tromsø, 05.2011

Nguyen Quoc Khanh

ABSTRACT

The fishery sector is a significant contributor to national income as well as a source of employment for local people. The export value of Vietnamese fisheries product is around US$ 4 billion annually. The tuna fisheries have become a key contributor to Vietnamese seafood export. The main markets for Vietnamese tuna products are the European Commission (EC), United States (US) and Japan. Vietnamese fisheries are considered as small-scale and traditional, with a large number of actors. The large number of actors coupled with incoherence between the legal frameworks and fishing practices has led to an increase in illegal, unregulated and unreported (IUU) fishing activities. According to the Food and Agriculture Organization (FAO), IUU fishing is a global problem that is negatively affecting the environment, ecosystems, biodiversity, fish stocks and social-economic conditions of people. To deter and eliminate IUU fishing, the EC adopted the IUU regulation, which came into effect from 1st January 2010. The IUU regulation applies to all countries that have fish trade with the EC. The goals of the regulation are sustainable resource management and exploitation, while providing sustainable economic, environmental and social conditions. According to the IUU regulation, the import of fishery products into the EC is only allowed when accompanied by a certified catch certificate that ensures that the products is not a result of IUU fishing. Thus, in order to export fish to the EC, Vietnam has introduced catch certificates. Although fisheries regulations in Vietnam have improved, there are mismatches between the Vietnamese regulations and the EC's IUU regulation. In its implementation of the IUU regulation, the Vietnam's tuna longline fisheries is facing various problems and challenges with regards to the process of issuing catch certificates and fishing licenses, resources management and conservation, lack of an updated resource database, keeping logbooks and reporting, low education of fishers, and corruption. This thesis analyzes these problems and challenges. The study found that due to the inconsistencies between the EC's IUU regulation and the Vietnamese regulations as well as Vietnam's practical implementation of these regulations, there seems to be limitations to how effective the combat against IUU fishing will be. Despite the apparent implementation of EC regulations in Vietnam, IUU fishing activities still take place and IUU fish products are still being exported to the EC from Vietnam.

Keywords: Khanh Hoa tuna fisheries, tuna longline, IUU regulation, mismatches, problems and challenges

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ABBREVIATIONS

CC – Catch Certificate

DCFRP – Department of Capture Fisheries and Resources Protection

EEZ – Exclusive Economic Zone

EC – European Community

FAO – Food and Agriculture Organization of the United Nations

GDP – Gross domestic product

GNP – Gross national product

HP – Horse power

IPOA – International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing

IUU - Illegal, Unreported and Unregulated

MRAG – Marine resources assessment group

MARD – Ministry of Agriculture and Rural Development

MCS – Monitoring, controlling and surveillance

MSY – Maximum sustainable yield

SCTB – Meeting of the standing committee on tuna and billfish

RIMF – Research Institute of Marine Fisheries

RFMO – Regional Fisheries Management Organizations

UNCLOS – United Nations Convention on the Law of the Sea

UN – United Nations

TAC – Total allowable catch

VASEP – Vietnam Association of Seafood Exporters and Producers

VMS – Vessel monitoring system

WCPFC – Western and Central Pacific Fisheries Commission

Species codes:

ALB – Albacore *(Thunnus alalunga)*

BET – Bigeye tuna *(Thunnus obesus)*

BFT – Atlantic bluefin tuna *(Thunnus thynnus)*

PBF – Pacific bluefin tuna *(Thunnus orientalis)*

SBT – Southern bluefin tuna *(Thunnus maccoyii)*

SKJ – Skipjack tuna *(Katsuwonus pelamis)*

SWO – Swordfish *(Xiphias gladius)*

YFT – Yellowfin tuna *(Thunnus albacares)*

Chapter 1: Introduction

1.1 Setting

Fisheries provide an important source of food, creating employment, income and recreation for people throughout the world. Millions of people depend upon fish for their livelihoods. If there is to be enough fish for current and future generations, everyone involved in fishing must help conserve and manage the world's fisheries (FAO 2002).

As in other coastal countries, fisheries and aquaculture are important sources of income in Vietnam. Seafood is the third largest export product after textiles and crude oil[1]. Vietnam is also one of the top ten countries exporting seafood in the world. The value of fisheries export was US$ 4.27 billion in 2008 (VASEP 2008). According to the General Department of Capture Fisheries and Resources Protection (DCFRP), Vietnam now has around 130,000 fishing vessels, most of which are small-sized, and they are estimated to catch 2 million tons of aquatic products per year.

Following shrimp and pangasius, tuna is the next important seafood exported of Vietnam. Furthermore, tuna products are of high value and in high demand in the global markets. According to the Vietnamese Association of Seafood Exporters and Producers (VASEP 2008), demand for tunas would grow strongly in key foreign markets such as the European Community (EC), Japan, Israel and the United States (US). The export value of tuna increases at a rate 25% per year. In 2008, Vietnam exported about 53,000 tons of ocean tuna at a total value of US$ 189 million. The main importers were the European Community with around US$63 million, the US with nearly US$55 million and Japan with US$23 million (VASEP 2009). These figures increased up to 84,000 tons and US$ 300 million in 2010 (VASEP 2011).

Being a costal country, Vietnam has long traditions in fishing. Formally, fishing only supported the need for food, nutrition and protein, almost self subsistence. On other hand, Vietnamese fisheries are the people's fishery industry and small-scale fisheries. The marine capture fisheries are open access in that a license application generally leads to a license being issued (Pomeroy et al. 2009). Although the Government, the Ministry of Fisheries (now, the Ministry of Agriculture and Rural Development, MARD) have adopted the laws, regulations and decisions of fisheries management, the efficiency of legal enforcement is poor. In

[1] http://www.fao.org/fishery/countrysector/FI-CP_VN/en [03.9.2010]

addition, illegal, unreported and unregulated (IUU) fishing occurs regularly in Vietnamese water by the foreign vessels as well as by Vietnamese vessels themselves. The common violation is the use of prohibited gears and unregistered vessels (FAO 2007). Some of the fishing gear used does not conform to national laws (FAO 2008) and foreign vessels exploit Vietnamese waters without an access agreement. IUU fishing by national and foreign vessels are increasing in the Exclusive Economic Zone (EEZ) (FAO 2007). However, since Vietnam has become more integrated into the world market, its foreign trade has to conform to international rules. Vietnam has to accept the regulations of the international community if Vietnam wants to maintain the export value of the fisheries. Effective from 1st January 2010, the capture fisheries production exported to the European Community (EC) has to enclose a catch certificate[2]. In the beginning implementation of the EC's regulation is likely to meet difficulties and challenges due to the weaknesses in fisheries management, as well as habitual poor law compliance among the fishermen. However, it is a good chance for Vietnamese fisheries to affirm the quality of their products and to be part of industrial fisheries. Thus, it is important to improve the awareness of the fishermen in complying with the laws and address the positive effects of the Vietnamese monitoring, controlling and surveillance system (Tam 2009).

Illegal, unreported, and unregulated (IUU) fishing is a global issue of significant economic, social and environmental concern. The impacts of IUU fishing are undeniably widespread, which has motivated the international community in recent years to unite on various fronts to deter and ultimately seek to minimize this activity (FAO 2001). Thus, it could be expected that the traditional activities of Vietnamese fisheries would be affected when the regulation-1005/2008 of EC (the IUU regulation) became effective from January 1st 2010. Ocean tuna production is one of the most affected sectors because the EC is one of the main markets for Vietnamese tuna export. Therefore, the IUU regulation has directly affected the tuna longline fisheries of Vietnam in general and Khanh Hoa province in particular. This is because the Khanh Hoa province is one of the main areas of tuna fishing, with 102 fishing vessels at total capacity of about 21,892 HP (Sub-DCFRP 2011).

To prevent, deter and eliminate illegal, unreported and unregulated fishing, the IUU regulation provides four basic components, namely port control over third country fishing vessels; catch certification requirements; establishment of the Community IUU vessel list; and establishment of a list of non-cooperating third countries (Tsamenyi et al. 2010). Among

[2] Regulation (EC) No 1005/2008 (IUU regulation)

these, the catch certification scheme is a key component. By means of fisheries trade, the EC asks states to have measures to combat IUU fishing. The catch certification requirements set out in the EC's IUU regulation and may be viewed as consistent with international instruments and measures (Tsamenyi et al. 2009). Vietnam is considered to be dominated by small-scale and traditional fisheries. Fisheries law and regulations are not complete and suited to the requirements of international regulations (Long and Dung 2010). Therefore, the application of the IUU regulation is facing several problems and challenges. The aim of this study is highlight to discuss and analyse the problems and challenges of the tuna longline fleet in Khanh Hoa province, Vietnam when applying the EC's IUU regulation.

1.2 Significance of the study

The study provides reliable information, a scientific database and an analysis of the mismatch between Vietnam's regulations and requirements of the IUU regulation. Moreover, the study indicates the weakness of fisheries management and enforcement in the Khanh Hoa province. Furthermore, the study analyses the problems and challenges when applying the IUU regulation. The results may have implications for the management of the tuna longline fisheries in Khanh Hoa. From this, fishery authorities can seek measures and solutions to effectively deal with the IUU regulation.

1.3 Research questions

The main objective of the study is to determine the status of Vietnam's fisheries regulations in dealing with the IUU regulation. With its small-scale fisheries, what does Vietnam do to fully enforce the IUU regulation? To seek that objective, a number of subordinate questions need to be answered. Due to limited time, the research is limited to the study of tuna longline fisheries in Khanh Hoa province and will focus on answering the following questions:

1. What is the structure of the tuna long line fisheries in Khanh Hoa province?
2. How does the IUU regulation deal with IUU fishing and resources management?
3. What are legal frameworks of Vietnam and Khanh Hoa to deal with the IUU regulation?
4. What are the problems and challenges in the tuna longline fisheries in Khanh Hoa when applying the IUU regulation?

1.4 Structure of thesis

The study includes nine chapters. The first introduces the research issue of the regulation No 1005/2008 of the European Community on the tuna longline in Khanh Hoa province, Vietnam. In addition, chapter 1 describes research questions and the structure of the study.

Chapter 2 presents the research methods. The study is based on primary and secondary data. Primary data is collected through interviews with fishers and fisheries managers. Secondary data are achieved from articles, reports and literature. Furthermore, this chapter indicates the analysis method.

Chapter 3 presents the theoretical framework. The issues related to IUU fishing, such as definition, causes, impacts of IUU fishing and international measures dealing with IUU fishing are done in this chapter.

Chapter 4 describes the background of the Vietnamese fisheries. The readers will get an overview of the Vietnamese fisheries, including fisheries production, contribution of fisheries to the nation's income, the importance of fisheries sector in the nation's economy, introduction of the tuna longline in Vietnam, as well as the tuna longline in Khanh Hoa province. This part also introduces the fisheries management regime of Vietnam.

Chapter 5 is a brief review of tuna fisheries in the world and in Vietnam. The information of yield, target species, distribution and value of tuna are covered in this chapter.

The background and requirements of IUU regulation on sustainable resource management, fishing report and logbook keeping, and catch certificate are made in chapter 6. The situation of the IUU fishing in the world is also presented in this part. The causes and impacts of IUU fishing are also presented here.

Chapter 7 presents the legal Vietnamese framework on IUU fisheries. The status of IUU fishing in Vietnam and the legal framework dealing with the IUU regulation are found in this chapter.

Chapter 8 is a main part of the study. The chapter indicates the matches and mismatches between the IUU regulation and the Vietnamese regulations. The study analyses the problems and challenges when applying the IUU regulation.

Finally the conclusion chapter summarizes the main results of the study, giving some recommendations.

1.5 Limitations of the study

The study only focuses on the tuna longline fisheries in Khanh Hoa province. Therefore, the thesis does not reflect the whole picture of the Vietnamese fisheries after implementing the IUU regulation.

The addresses of the owners boat was obtained from the Khanh Hoa Sub-department of Capture Fisheries and Resources Protection (DCFRP), but there is no knowledge in the addresses of ship maters because there is no official record of this. Therefore, the interviewees are almost only owners, so the information related to fishing logbooks that needs to be confirmed by masters is not adequately covered.

Furthermore, fishermen usually lament poverty, fishing disadvantages and their unfair facing. In some cases they dodge to answer the questions. Hence, I had to spend much time on explaining and persuading them that their responses will be confidential and have no effect on gains, profit and fishing. However, some fishermen were very enthusiastic and helpful. They were ready to provide all the information that I requested.

Chapter 2: Methodologies

2.1 Research site

Tuna longline fisheries in Vietnam is developed in the southern part of central Vietnam, including the provinces of Binh Dinh, Phu Yen, Khanh Hoa, and some companies in Ba Ria Vung Tau and Ho Chi Minh city (see figure 1). Because of the limited time and objectives of study, I chose to focus on Khanh Hoa province. Khanh Hoa was chosen as it offered good conditions for the collection of data in a familiar setting. This is a place where researcher has a clear understanding the fisheries and is in good contact with fisheries managers and fishermen.

Khanh Hoa province has 102 tuna longline vessels, 99 of which are located in Nha Trang city (Khanh Hoa Sub-DCFRP 2011). Therefore, the necessary data, including interviews, were collected in Nha Trang city.

Figure 1: Map of southern part of central Vietnam showing position of research place (source: Government website[3])

[3] http://gis.chinhphu.vn/

2.2 Interviews

The primary data were collected through face-to-face interviews with fishers, masters of tuna longline vessels and fisheries managers in Khanh Hoa. The interviews were carried out using questionnaires. I chose questionnaires because it is easy for interviewees to answer and not spending much time, but still provide reliable information (Appendix 2). Fishers were interviewed either as individuals or in groups in their home or onboard the boats. The interviews asked for information related to IUU fishing, IUU regulation and the enforcement of regulations.

During time that I was in Khanh Hoa, from 16th January to 16th March 2011, I interviewed thirty five fishers and four fisheries managers. The selection of fishers was based on random sampling. Firstly, I received the address of owners at Sub-DCFRP. Then I communicated with them in order to schedule an interview. For the fisheries managers, I contacted directly the chief of Sub-DCFRP, and officers in that Sub-department. In addition to that, I contacted two officers at General DCFRP by calling them in order to obtain the annual fisheries reports. I also met middle men and managers of seafood companies, but the data was not used and analyzed due to their unreliability.

The advantage was that the fieldwork period was during the Tet holiday (New Year holiday in Vietnam), so fishers were at home. Thus, it was a good time to meet them. Moreover, since it was the beginning of 2011, the fishery authorities in Khanh Hoa had finished compiling the fisheries reports of 2010. Therefore, the data collected and used in this study are very current. However, some questions were sensitive, such as corruption, why fishers engaged in IUU fishing and income of fisher. Hence, interviewees tried to dodge these questions. As a result, some parts of the data collection were difficult. Fortunately, thanks to the good relationship with fisheries managers and fishers, I mostly received the data I wanted.

2.3 Secondary data

Secondary data was collected from the archives of the Khanh Hoa Sub-DCFRP, the General DCFRP and the Association of Seafood exporters and producers (VASEP), as well as from published documents, annual fisheries reports, statistical documents, and keynote speeches. Additional information was also collected from literature, journals, articles, and newspapers (either in print or online).

2.4 Analysis of the research issues

The study covers the requirements of the IUU regulation and the situation regarding the Vietnamese regulations. What problems and challenges arise when applying this EC regulation in the Vietnamese context? The processes of analysis are carried out as follows:

First step: review and analyze the requirements of the IUU regulation on resources management and conservation, fishing report and logbook keeping, and catch certificate scheme.

Second step: review and analyze the Vietnamese regulations on resources management and conservation, fishing report and logbook keeping, and catch certificate requirement.

Third step: find matches and mismatches between requirements of the IUU regulation and the Vietnamese regulations.

And finally, gather all data and information from articles, reports, research, public documents and interviews to find out and analyze the problems and challenges that lead to mismatches between the IUU regulation and the Vietnamese regulations.

The processes are illustrated in figure 2.

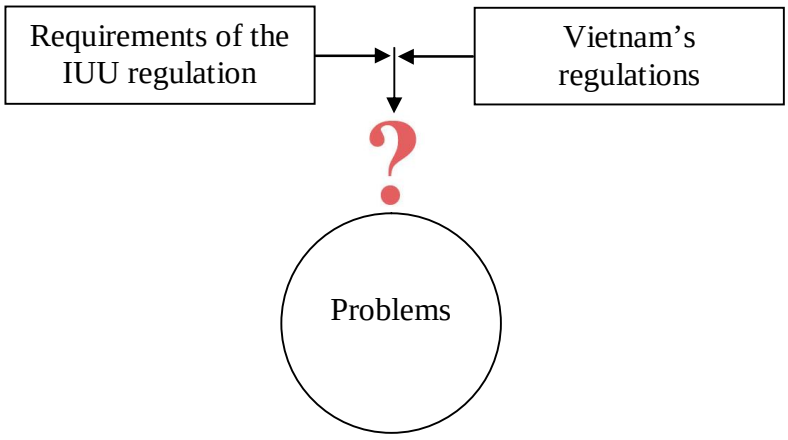

Figure 2: Finding out the research problems

Chapter 3: Theoretical framework

IUU fishing by national vessels was seen by most countries as a major and increasing problem, whereas IUU fishing within a country's EEZs by foreign vessels was generally seen as declining, as the region makes advances in controlling foreign vessels. However, it is still a major issue in specific fisheries and specific areas, particularly in developing countries. IUU fishing activities seriously impact the environment, ecosystems, biodiversity, fish stocks and the socio-economic situation. It is a global problem that affects both EEZs and the high seas through a number of negative environmental, economic and social impacts (MRAG 2005). IUU fishing takes place within both small-scale and industrial fisheries. The need for strengthened fisheries governance at national and regional levels has been increasingly recognized by the international community as one of the main requirements if IUU fishing is going to stop. Therefore, the European Community recognizes that

> *"Illegal, unreported and unregulated fishing constitutes one of the most serious threats to the sustainable exploitation of living aquatic resources and jeopardizes the very foundation of the common fisheries policy and international efforts to promote better ocean governance. IUU fishing also represents a major threat to marine biodiversity which needs to be addressed in accordance with the objectives set out in the Communication from the Commission*[4]*…"*

3.1 Definition of IUU fishing

Illegal, unreported and unregulated (IUU) fishing is defined by the European Community in article 2 of the Regulation No 2005/2008[5]. From this, "IUU fishing" means fishing activities which are illegal, unreported or unregulated.

Illegal fishing is any fishing activities conducted by national or foreign fishing vessels in maritime waters under the jurisdiction of a state, without the permission of that state, or in contravention of its laws and regulations; or conducted by fishing vessels flying the flag of states that are contracting parties to a relevant regional fisheries management organization, but which operate in contravention of the conservation and management measures adopted by that organization and by which those states are bound, or of relevant provisions of the applicable international law; or carried out by fishing vessels in violation of national laws or

[4] The introduction of the IUU regulation
[5] Article 2 of the IUU regulation

international obligations, including those undertaken by cooperating states to a relevant regional fisheries management organization[6].

Unreported fishing means fishing activities that have not been reported, or have been misreported, to the relevant national authority, in contravention of national laws and regulations; or fishing activities that have been undertaken in the area of competence of a relevant regional fisheries management organization and have not been reported, or have been misreported, in contravention of the reporting procedures of that organization[7].

Unregulated fishing is defined as fishing activities conducted in the area of application of a relevant regional fisheries management organization by fishing vessels without nationality, by fishing vessels flying the flag of a state not party to that organization or by any other fishing entity, in a manner that is not consistent with or contravenes the conservation and management measures of that organization; or fishing activities realized in areas or for fish stocks in relation to which there are no applicable conservation or management measures by fishing vessels in a manner that is not consistent with state responsibilities for the conservation of living marine resources under international law[8].

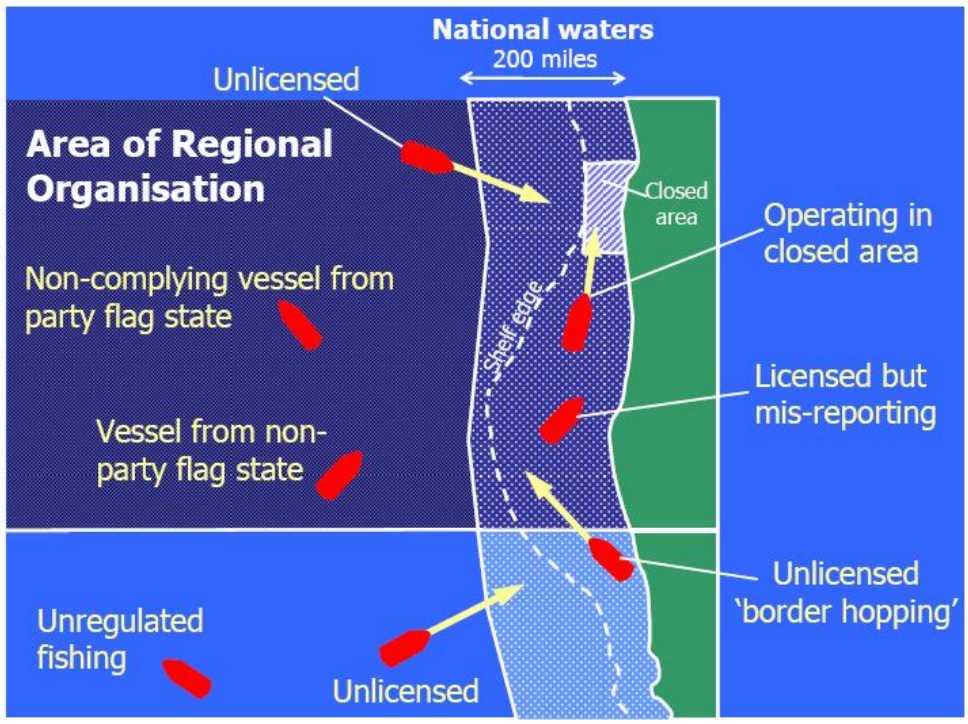

Figure 3: Illustration of types of IUU fishing (source: MRAG 2005)

[6] Article 2 of the IUU regulation
[7] Article 2 of the IUU regulation
[8] Article 2 of the IUU regulation

Figure 3 illustrates how IUU fishing activities take place, both within and outside the EEZ area of a state. Within an EEZ there may be unlicensed fishing/poaching, under- or non-reporting, or unauthorized fishing by area, season, gear, quota or species. Outside EEZs there may be non compliance with a Regional Fisheries Management Organization (RFMO), or there may be unregulated fishing outside the area of an RFMO.

There are three typical types of IUU fishing:

1) Illegal/poaching activities: It is often expressed as fishing without a license in an EEZ. This can apply to national vessels, to vessels licensed to fish in an adjacent area that have crossed the boundary to fish in an area where they are not licensed; and to vessels fishing on the high seas that cross the boundary for the same purpose. Furthermore, illegal fishing which may be undertaken by otherwise legally licensed vessels. Licensed vessels may still fish illegally by contravening the terms and conditions of their license, for example using illegal gear, catching fish over the allocated quota, fishing in closed areas and/or seasons, exceeding the catch limits, non- or partial reporting of data, or submission of erroneous data (MRAG 2005).

2) Misreporting, or failing to report, catch and other data may constitute both illegal and unreported fishing. Unreported fishing may not necessarily be illegal, although it is evident that it should also be considered illegal where reporting obligations form part of national laws and regulations or license conditions (MRAG 2005).

3) Unregulated fishing includes fishing on the high seas by free riders, those who fail to sign up to regional management arrangements and refuse to comply with the conservation and management measures established by those arrangements. It also includes fishing on the high seas where there are no regional management arrangements in place (MRAG 2005).

3.2 The causes of IUU fishing

The lack of effective control of fishing vessels by some flag states is one of the main reasons for IUU fishing (FAO 2011). Some states easily authorize fishing vessels to fly their flags, but they fail to meet their obligations under international law with respect to the supervision and control of these vessels. Besides, states do not implement proper authorizations for their vessels to fish once they assume the state's flag. This lack of control to fish enables such vessels to engage in IUU fishing with impunity. The feature of lack control is the difficulty experienced by regional fisheries bodies in applying responsible fisheries management measures to the vessels of non-parties, particularly those on the fishing vessel registers on

some open register state, and the lack of human resources to carry out monitoring, controlling surveillance (Bray 2001). As a result, IUU fishing is still common in waters, from state's jurisdiction and high sea (MRAG 2005). It may be sure that if flag states carried out the full and effective control measures, IUU fishing would be greatly reduced.

In addition, profit or economic motivation appeared to be the underlying cause of IUU fishing. Most fish species subject to IUU fishing are characterised by very high market value so fishers often mix illegal fish with legal fish to achieve higher profit. As for high valued fish the economic gains from IUU fishing are often significant (Schmidt 2005). It is estimated that IUU practises amounts to approximately between 10 billion to 23.5 billion Euros every year worldwide, representing 19% of the worldwide reported value of catches (FAO 2007). Demand for fish as a healthy, wholesome food is increasing in virtually all parts of the world and this is another cause of IUU fishing (Bray 2001). There are other causes of IUU fishing and this includes the characteristic of seafood trade and global markets. Due to high global demand for seafood products, the price of fish is therefore high. IUU fishing products may be sold everywhere and it is therefore a large number of sources for IUU fishing products globally. Hence, demand of global markets attracts the IUU fishing activities. While the countries and international organizations do not meet the legal requirements to link beneficial owners to their vessels, registry allows such owners to be protected under a corporate veil, and thus more freely conduct and benefit from IUU activities. Another factor is that operations of fisheries production are global in character and the international market makes IUU fishing products laundering advantageous. Specially, IUU vessels easily transship their products to legal vessels in order to regularize these IUU products. In other words, the ease of transshipment as well as the anonymity of the cold-chain for transshipment of fish products supports non-traceability of IUU products. In addition, the anonymity and vitality of global market in vessel flags, crews and vessels underpin the flexibility with which IUU fleets move from production area to production area, whilst in some parts of the world, IUU fishing now overlaps with other forms of maritime crime such as piracy and drug smuggling. Implementation of the IUU regulation will thus be conditioned by many aspects of currently globalised fisheries (Tsamenyi et al. 2009).

Ineffective fisheries monitoring, control and surveillance (MCS) is also the cause of IUU fishing (Davis 2000). This situation becomes more frequent in developing countries where the abilities of monitoring and controlling fishing activities are less. In addition, lack of MCS is exacerbated by insufficient capacity of member states of RFMOs. The international cooperation to promote exchange of information about MCS activities is also ineffective

(Doulman 2001). Furthermore, lack of sufficient level of MCS both domestically and in RFMOs leads to a low probability of being apprehended and reduces the expected cost of IUU fishing (Gallic and Cox 2006). Due to insufficient MCS measures in place, the fishing vessels poach the waters, violate reserved zones and trans-ship at sea without supervision from local licensing authorities. These activities make it difficult to obtain reliable catch data and also to record and sanction the culprits (Bray 2001).

Some factors behind IUU fishing include poverty in the developing countries. IUU activities are conducted by fishers who are living in the developing countries where poor living conditions prevail (Gallic and Cox 2006). Fishing is the only way of livelihood for many fishers. Because of poor economic income, fishers are not able to follow up the full regulations on protection and conservation of resources. In the same vein, poor domestic economic prospects may force crews to accept working on IUU vessels (Schmidt 2004). The costs associated with maintaining appropriate safety and working standards can then be close to zero for those vessel owners that decide to neglect the state of the vessel. The prevalence of a ready and cheap labour pool also reduces in some circumstances the real cost of risk for the vessel owner, as crew members arrested are often abandoned by their employers as they can be replaced at a very low cost (Gallic and Cox 2006). Therefore, it is important to ensure that development policies also address issues related to reducing the overall poverty in fishing communities prone to IUU activities and creating alternative income possibilities in the coastal zones (Schmidt 2005).

3.3 Impact of IUU fishing

IUU fishing becomes a global serious problem which affects all countries and in particular coastal developing countries where certain communities are sometimes solely dependent on the fishing industry[9]. IUU fishing activities have negative impacts not only on the fisheries resources, but also on the environment and socio-economic aspects of coastal communities. IUU fishing reduces fish supply, thereby contributing to the loss of food sources. It also contributes to conflicts between user groups for shared resources (APEC 2008a). There are important linkages between these three categories of economic, social and environmental impacts. For economic impacts, it has concentrated on the macroeconomic impacts. Social impacts are presented separately, but they also relate to microeconomic impacts, particularly community and household impacts. Similarly the environmental and ecological impacts may

[9] Handbook on the practical application of Council Regulation (EC) No. 1005/2008 of 29 September 2008 establishing a Community system to prevent, deter and eliminate illegal, unreported and unregulated fishing

have secondary economic effects, particularly in terms of reduced productivity of fish stocks (MRAG 2005).

In terms of economic impacts of IUU fishing, the coastal countries can lose a huge value of the catches by IUU fishing. Aside from the loss to Gross National Product (GNP), actual revenue can accrue to the coastal state in the form of landing fees, license fees, taxes and other levies which are payable by legal fishing operators. Damage to fish stocks caused by overfishing induced by IUU activity tends to reduce future catching opportunities and therefore leads to a consequent loss of potential economic rent[10]. The tax losses to the domestic economy as a result of undeclared income arising from IUU catches, presumably, tax losses on incomes generated by legitimate fishers, particularly those fishing in other countries, given that the incomes of these fishers have been negatively affected by the IUU catches[11]. Overall figures show that IUU practices amounts to approximately 10 billion Euros worldwide every year, representing 19% of the worldwide reported value of catches[12]. Approximately 100,000-300,000 tons of tunas have been caught by IUU fishing in the whole Western Pacific area with a total value ranging from US$ 134 to 400 million[13]. These dynamic numbers indicate that IUU activities constitute a severe loss of income to the coastal nations and their fishers.

In addition to direct economic impacts, IUU fishing activities have also indirect and induced impacts. Apart from the loss of income from fishery sectors, IUU fishing is subject to income loss in other industries and activities that are related to the fisheries, including seafood processing, fisheries service sectors, fisheries marketing and transport. Therefore, IUU fishing leads to loss of income and employment of the population, affecting their standard of living, and loss of tax revenues for the country. Secondary economic effects also include multiplier effects, such as the potential loss of activity in shipbuilding and re-supply, which may have much wider effects on the country's economy through the loss of technological know-how. In general, any associated reduction in fishing incomes will also have impacts on the demand for consumption goods by fishing families (MRAG 2005).

In terms of impact of IUU fishing on the society, IUU fishing activities lead to a reduction in food security for artisanal fishers. This is particularly important in those communities which are heavily dependent on fish as a source on animal protein, the food supply and to nutrition, notably the coastal communities in coastal countries (APEC 2008b). IUU fishing also

[10] Review of IUU fishing and developing countries, (2005)
[11] Assessment of Impacts of Illegal, Unreported and Unregulated (IUU) Fishing in the Asia-Pacific, (2008)
[12] Oceanic development study, (2007), http://ec.europa.eu/fisheries/publications/studies_reports_en.htm
[13] http://weblog.greenpeace.org/pacific/background/pirate_threat.html [4/4/2011]

contributes to unfair competition between those fishermen and operators abiding by the rules, and those who do not[14]. Fishermen who comply with the regulations always pay higher cost than others. This creates an unhealthy competition between lawful fishers and IUU fishers.

The conflict is often between industrial and artisanal fishermen, especially where fishing grounds are narrow and close to shore. Conflicts may be direct or indirect, the former often leading to accidents, death and injury amongst artisanal and other local inshore fishers which in itself will have economic and social consequences for fishers and their families (MRAG 2005). Furthermore, fishing is a significant source of employment in many developing countries where alternative employment opportunities and the opportunity to acquire new skills or training are also often limited. In many cases individual fishers are drawn into IUU fishing activities through the need to generate an income and the absence of alternative income opportunities. In fact, very high unemployment levels render workers vulnerable to IUU fishing operations (APEC 2008b). In addition, the social impacts of IUU fishing are often linked to its economic impacts. Reduced harvest due to IUU fishing leads to lower income and rate of employment, which in turn exacerbates poverty.

In terms of impacts of IUU fishing on resources and environment, IUU fishing usually contributes to unsustainable impacts on both target species and the ecosystem. This is likely to reduce productivity, biodiversity and ecosystem resilience. IUU fishing affects the accuracy of stock assessment and the setting of catch limits for some species. The impact of IUU fishing on target stocks is amplified in cases where those stocks are already outside safe biological limits (Pitcher et al. 2006). Damage to fish stocks caused by overfishing induced by IUU activities tends to reduce future catching opportunities and therefore leads to a consequent loss of potential sensitive habitats and eco-systems. When nations cannot control excessive unregulated fishing effort, leading to over-exploitation and depletion (MRAG 2005). Ultimately, environmental degradation arising from IUU fishing, and overfishing more generally, is reflected in economic and social impacts arising from reduced fishing opportunities and consequent reductions in the contribution of fisheries to income, employment, nutrition and food supply (APEC 2008b). IUU fishing is thus a major contributor to overfishing. Some forms of IUU activity specifically target juveniles, which would otherwise be protected by rules on minimum sizes, or are carried out during periods or in areas which are normally closed, thus jeopardizing the renewal of the fish stocks concerned. When stocks are already outside safe biological limits, IUU practices can act as the trigger for further, dramatic consequences

[14] Handbook on the practical application of Council Regulation

(MEMO 2007). In addition, IUU activities can cause loss of marine biodiversity. It can also have severe impacts on the wider marine ecosystem. IUU fishing leads to changes in the structure of marine habitats and influence the diversity, composition, biomass and productivity of the associated biota (APEC 2008c).

IUU fishing activities are the cause of damage to fragile marine ecosystems and vulnerable species such as coral reefs, turtles and seabirds. Regulation of legitimate fisheries aims to mitigate such impacts, but IUU fishers seldom comply with such requirements. For example, it is known that longliners can experience high levels of bycatch of threatened and endangered species such as seabirds, sharks and turtles. IUU longliners not complying with the necessary mitigation techniques will pose a greater threat than legitimate operators who do comply (MRAG 2005). In addition, the use of destructive fishing methods such as electric trawling, blasting and poison has been identified as having negative effects on benthic habitats and local fish breeding and feeding grounds in many coastal areas (APEC 2008a). IUU fishing results in bycatch and is especially harmful for threatened and endangered species, which are often slow-growing animals with long life spans. Moreover, IUU fishers may catch juvenile species of commercially important species, which will be discarded dead back into the sea to maximize storage room for more valuable product. The extent of this loss is unknown but is likely to be substantial in terms of fishing mortality (APEC 2008c).

In general, the consequence of IUU fishing has a number of serious negative impacts on the proper conservation and management of fisheries by coastal states. These negative effects become even more of a challenge in the developing countries because they face difficulties in accurately defining the total allowable catch for their fisheries. The problems of many coastal states are further complicated by obtaining a proper balance between the needs of income for poor fishers and the need for sustainable resource management. The interaction between management, economics and environmental factors further complicates the problems and challenges which need to be addressed by governments through the enforcement of effective surveillance and fisheries law implementation strategies (Sodik 2007).

3.4 International measures dealing with IUU fishing

The need to combat IUU fishing and related activities is high on the international fisheries agenda thus the international community has designed legal frameworks to fight against IUU fishing. The United Nations Convention on the Law of the sea (UNCLOS) 1982 is a key to international agreement that exerts significant influence over domestic fisheries policy. It

establishes the legal framework for the governance of oceans and all marine resource therein. International instruments which deal with controlling fishing vessels include the UN Fish Stock Agreement (1995), FAO Code of Conduct for Responsible Fisheries (1995), FAO compliance agreement on the adoption of the International Plan of Action to Prevent, Deter and Eliminate IUU fishing (IPOA-IUU 2001). Finally, the EC's Regulation No 1005/2008 on 29 September 2008 to prevent, deter and eliminate IUU fishing (IUU regulation), which came into force on 1st January 2010 (more details are presented in chapter 6). These are basic legal frameworks for states in order to adopt necessary measures to combat IUU fishing.

The most sensitive approach is to solve the causes of IUU fishing. The key to detecting and preventing IUU fishing is for governments and regional fishery management organisations to work together to identify boats and determine where suspected IUU vessels are fishing, what they are catching, who is benefiting, and how the fish product is moving in the global marketplace. Ultimately, fish needs to be tracked from harvest to consumption. It must also be determined where IUU fish product is co-mingled with legitimate fish product. In addition, there are important measures to curb IUU fishing, including measures to enhance monitoring, control and surveillance and to penalize non-compliance; measures affecting IUU fish markets and profitability; measures to enhance flag state and port states control; and improve governance to combat IUU fishing (Bray 2001).

Flag states and coastal states need to improve their level of MCS activities. An MCS network is a useful system to combat IUU fishing, so there are over 40 nations to participate the MCS network dealing with IUU fishing (Seafish 2009). Although MCS system is particularly significant for coastal developing countries, it is also the most difficult part for them to afford. The key to effective MCS activities is to get the most from existing resources in terms of utility and cost through cooperating with other states and providing effective training to enforcement officers. A strong legal system involving effective methods of prosecution and realistic fines is also required. An efficient licensing system, for both foreign and national vessels, is a precursor for proper control of a fishery. Under-reporting and misreporting of catches from tuna and other highly migratory fisheries, which are not resident in the waters of a coastal state, can be difficult to detect, particularly when fishing vessels have little port contact (MRAG 2009).

Measures can be taken to reduce the possibility of the catches being transferred into revenues. Such measures, as they aim to prevent IUU catches from entering regular markets, can take the form of embargo or other forms of import restriction on fisheries products (Gallic and Cox

2006). Therefore, the international community and states ensure that blacklist vessels and companies not complying with regulation do not receive any public funds or other support and persuade private enterprise companies not to purchase fish or fish products from such blacklisted vessels or companies. Blacklists include IUU vessels. The requirement of the IUU regulation is the creation of an IUU vessel list, which will contain information on vessels identified by the states as having engaged in IUU fishing. Furthermore, one way to reduce fishing vessel over-capacity, particularly in the longline tuna fishery, is the implementation of vessel scrapping programs and the payment of compensation to owners whose vessels are being scrapped, while simultaneously taking steps to prevent any replacement by new capacity or the transfer of decommissioned vessels to other fishers (Bray 2001). An effective economic measure is to reduce the profit from IUU fishing and increase the price of legal catches. Such measures would require the use of labelling or certification based on a catch documents or any other trade tracing documents (MRAG 2009). However, this is difficult for developing countries to implement due to poor management capacity.

Port state measure to combat IUU fishing is recognized as an effective approach. The importance of enhanced port state control has increasingly gained ground throughout the last decennium. This measure helps to exchange information of IUU fishing vessels between states. Also, the growing reliance on port states to combat non-sustainable fishing practices stems to a great extent from the failure of flag states to effectively control fishing operations carried out by vessels flying their flag. Port state measures are requirements established or interventions undertaken by port states which a foreign fishing vessel must comply with or is subjected to as a condition for use of ports within the port state. National port state measures would typically include requirements related to prior notification of port entry, use of designated ports, restrictions on port entry and landing or transhipment of fish, restrictions on supplies and services, documentation requirements and port inspections, as well as related measures, such as IUU vessel listing, trade-related measures and sanctions. Many of these measures have in recent years seen their inclusion and development in international instruments (FAO 2011). However, this measure requires complete national legal frameworks and strict international regulations enforcement. It is really difficult for developing countries to satisfy it because of poor national regulations.

The fishing activities in the high seas need to cooperate with all parties, states and Regional Fisheries Management Organizations (RFMOs) in the whole fisheries management processes to reduce IUU fishing. Fisheries agreements should be transparent and equitable. Reporting requirements should be specific and backed up by port inspections. The ability of coastal states

to effectively enforce compliance through a credible threat of penalties is important in ensuring that foreign fleets do indeed seek to buy a fishing licence. Linkages between states in highly migratory and straddling stock fisheries should be improved in order to share management information and information on perpetrators. This is best done through an RMFO which has the commitment of all stakeholders. Port state control of foreign fishing vessels using national ports to verify that their fishing activities are complying with the requirements of national and international regulations is a key tool in combating IUU and has been implemented by a number of RFMOs. There are a growing number of instances of port states denying use of port facilities to IUU vessels. Strengthening port state controls in a region may deter IUU fishing and allow improvements in enforcement but this must be underpinned by domestic legislation and cooperative mechanisms to coordinate action with other port states, flag states and market states (MRAG 2009).

To achieve the objective of conservation and sustainable exploitation of fisheries resources that provides sustainable economic, environmental and social conditions, the cooperation of international communities, parties and states needs to be strengthened. Because there are significant different efforts between developed and developing countries, developed countries and international community need to help developing countries to improve MCS networks, national regulations and sharing experience of fisheries management. Without help of international community, it is not successful to eliminate IUU fishing due to poor MCS, lack of experience in fisheries management and limited financial capacity of developing countries. The picture that because poverty leads to IUU fishing and because IUU fishing leads to poverty may becomes true.

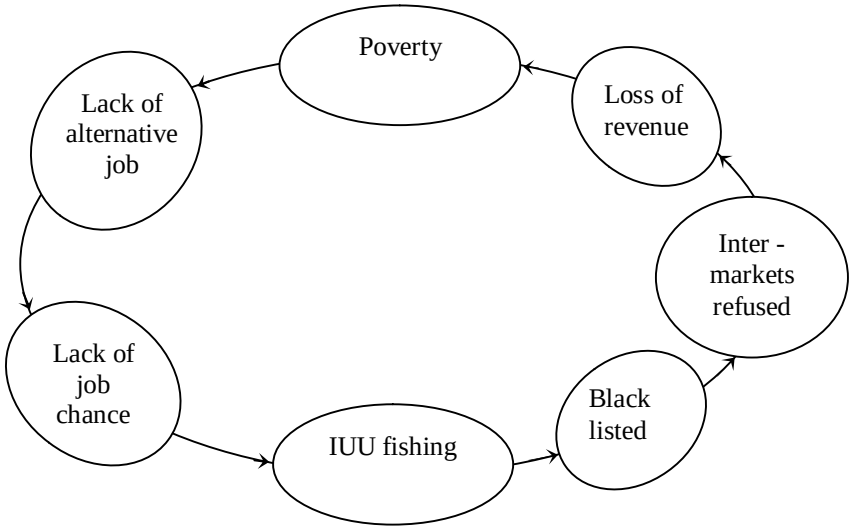

Figure 4: Relationship between poverty and IUU fishing

Chapter 4: Background of Vietnamese fisheries

4.1 Overview of Vietnam

Vietnam is located in South East Asia. Vietnam is bordered by China (in the north), the Gulf of Tonkin and South China (in the east), Gulf of Thailand (in the south-west) and Cambodia and Laos (in the west). Vietnam's sea extends more than 1,650 km from the north to the south, with a coastline of 3,260 km and an EEZ that is more than 1 million km^2, which includes more than 4,000 islands, a large number of rivers, lagoons, bays, and estuaries. Twenty-eight Vietnamese provinces and cities border the sea, which is approximately 17% of Vietnam's land areas. One fifth of Vietnam's population lives in these areas (Tri 2002).

Figure 5: Vietnam in Southeast Asia (source: http://images.google.com)

There are two monsoon systems in Vietnam - the Northeast monsoon (from November to March) and Southwest monsoon (from May to September) (Tang et al. 1993). During the Northeast monsoon, the weather is dry and cold, and during the Southwest monsoon the weather is wet, hot, and being susceptible to storms (Thuoc 2001). The average temperature fluctuates from 21^0C to 27^0C. It also depends on the north or the south because the weather differs from the north and south of Vietnam. Yearly, around ten sea-typhoons affect Vietnam (Tuan et al 2005). Correlatively with two monsoon systems, there are two fishing seasons. These will be discussed in later chapters.

4.2 Marine resources

In 1992, the World Conservation Monitoring Center evaluated Vietnam as one of the sixteen most biological diversity countries in the world. The predominant feature of Vietnam's marine biological resources, as in tropical maritime areas, is its multi-species nature. Ten terrestrial ecosystems, nine coastal/marine biodiversity regions, and thirty natural and nine artificial wetlands were documented in Vietnam (An and Ha 2006).

Vietnam's EEZ is made up of about twenty types of marine ecosystems. There are more than 11,000 species including 2,500 marine fish, comprising of about 130 species of economic value with total available catch of 1.2-1.4 million tons annually. In addition the EEZ harbours about 225 species of shrimps with available catches of 45,000 to 50,000 tons; about 340 species of cephalopods and molluscs with available catches of 30,000 to 40,000 tons annually; over 200 kind of phytoplankton, nearly 700 kind of zooplanktons, 100 kind of mangrove plants, 15 kind of sea grasses and over 6,000 benthic invertebrate species. Approximately 1,122 km^2 of coral reef is distributed from the north to the south and 90% of the hard coral species in the Indo-Pacific has been found in Vietnamese waters (Report on marine biological resources 1991).

According to the MARD, Vietnam's marine fishery resources has been estimated at 4.2 million tons of which the annual allowable catch is 1.7 million tons, including 850,000 tons of demersal fish, 700,000 tons of small pelagics and 120,000 tons of oceanographic pelagic fish (RIMF 1997).

Table 1: Biomass and estimated MSY (source: MARD based on RIMF 1997 estimates)

	Fish stock 000 tons	TAC 000 tons
Tonkin Gulf	681.2	272.5
Central Region	606.4	242.6
South Eastern	2075.9	830.5
South Western	506.7	202.3
Sea mounts	10.0	2.5
Total sea area	300.0	120.0
	4180.2	1670.4
Small pelagic	1730.0	694.1
Demersal <50m	597.6	239.2
Demersal >50m	1542.6	617.1
Deep sea pelagic	300.0	120.0
Total	4180.2	1670.4

MSY = maximum sustainable yield,
TAC = total allowable catch

Due to the fast increase in fishing capacity, the total catch has exceeded total allowable catch (TAC) since 2004 (1.92 million tons). This situation has been going on until recently. Therefore, this is an evidence of heavy overfishing in Vietnam's waters. Still, fishing effort is increasing every year due to the increasing number of fishing vessels. Thus, it is hard to promote sustainable development and management of the fisheries sector.

4.3 The Socio-Economic role of the fisheries in Vietnam

Fisheries play a very important role in the Vietnamese food security, economy and international trade. Vietnam has one of the highest growth rates in the world. The fisheries sector is one of the most dynamic and fastest growing sectors of the Vietnamese economy[15], and has on average grown at a rate of 18% per year from 1986[16]. Since 2006, Vietnam has been ranked among the top ten fisheries exporting countries in the world (Lai et al. 2009) and the fisheries contributed about 3% of the total GDP in 2001 (Flewelling and Hosch 2007). This latter figure increased to approximately 4% in 2003 (MARD and World Bank 2005) and the fisheries generated between 9 and 10% of the total Vietnamese export revenues in 2009 (MARD 2010). The value of Vietnamese fisheries exports went from US$ 1.48 billion in 2000 to US$ 4.51 billion in 2008 and it is predicted to increase to US$ 8 or 9 billion in 2020[17].

A number of small fishing communities use traditional small-scale fishing methods to meet the local demand. It is estimated that fisheries products provide around 40% of the animal protein in

[15] Report of the conference on the national strategy for marine fisheries management and development 2005
[16] http://www.cpv.org.vn/cpv/Modules/News/NewsDetail.aspx?co_id=30066&cn_id=377933#u0KV9t2U51Ev
[17] The Decision No 1690/QĐ-TTg on the planning of strategies of Vietnamese fisheries development up to 2020

the Vietnamese diet (Raakjær et al 2006). Per capita fish consumption was 10.5 kg in 1990, increasing to 30.6 kg/person/year in 2003 (Khemakorn 2006).

Capture fisheries in Vietnam has grown with an average annual rate of 7.4% in the last decade. The total yield of capture fisheries dramatically increased from 0.7 million tons in 1990, to 1.28 million tons in 2000, and then to 2.13 million tons in 2008 (Lai et al. 2009). However, 88% of the marine capture productions come from the coastal fisheries and 82% of the capture production is in areas with less than 30 m depth is (FAO 2004).

Table 2: Statistical fisheries development in Vietnam (source: MARD and Vietnamese General Statistics Office, annual report, 2000-2008 and plan 2020)

Year	Total yield (mil.Tons)	Capture (mil.Tons)	Aquaculture (mil.Tons)	Exported value (bil.USD)	Number of employment in fishery sectors (mil)
1990	1.02	0.71	0.31	0.21	
1991	1.06	0.72	0.34	0.26	
1992	1.10	0.75	0.35	0.31	
1993	1.17	0.79	0.38	0.37	
1994	1.21	0.88	0.33	0.46	
1995	1.34	0.93	0.41	0.55	
1996	1.37	0.96	0.41	0.67	
1997	1.57	1.06	0.48	0.78	
1998	1.69	1.13	0.54	0.86	
1999	1.83	1.21	0.62	0.97	
2000	2.00	1.28	0.72	1.48	
2001	2.23	1.45	0.88	1.78	
2002	2.41	1.43	0.98	2.01	
2003	2.54	1.43	1.11	2.20	
2004	3.07	1.92	1.15	2.40	
2005	3.43	1.99	1.44	2.74	3.5
2006	3.69	2.00	1.69	3.36	3.6
2007	4.15	2.05	2.10	3.76	3.7
2008	4.58	2.13	2.45	4.51	3.7
Plan 2020	6.50-7.00	Rate of 25-30%	Rate of 65-70%	8-9	5.0

With regards to fisheries employment, the Vietnamese General Statistic Office (2008) reported that fisheries created a lot of employment for the local people. They estimated that there are about 730,000 fishermen in Vietnam. Aquaculture, capture fisheries and fish processing have particularly been increasing during the recent years. Each year around 26,000 people enter the capture fisheries sector[18] and annually from 1995 to 2000, between 2 and 3 million people worked in the fisheries sector, directly and indirectly. These figures are probably growing, as the authorities encourage migration to coastal areas and the expansion of the fisheries sector (Raakjær et al. 2007). According to the strategies of Vietnamese fisheries development, the number of labourers in fisheries sector will be 5 million in 2020[19]. Fishing and aquaculture contributes an average of 75% to the fisher household income (MARD and World Bank 2005). However, poverty among fisher folks is widespread (FAO 2004).

4.4 The fishing fleet

During the last three decades, the fishing vessels in Vietnam have increased rapidly in both numbers and capacity. The numbers of fishing vessels were 28,021 units of boats with the total engine power 553,915 HP in 1980. This figure increased to 37,000 fishing vessels, with the total engine power capacity of 700,000 HP in 1989. Until March 2010, the total numbers of fishing vessels were 129,420 units nationwide, with a total engine power capacity of 6.12 millions HP (Long and Dung 2010). However, marine fisheries in Vietnam are considered to be small-scale and were concentrated in coastal near-shore waters (Long 2001, FAO 2004 and Pomeroy et al 2008). In fact, the fleets with more than 90 HP engines are accounting for only 15% of the total fishing fleet (19,629 vessels) while those having less than 90 HP, account for 85% of the total Vietnamese fishing fleet (109,966 vessels,). Moreover, among these, vessels with capacity less than 20 HP account for 50% of total fishing fleet (Son 2006 and MARD 2010).

Due to the multi-species resources, capture fisheries in Vietnam are using multiple kinds of fishing gears, including artisanal and industrial method, such as set-net, pots, traps, gill net, purse sense, trawl and longline. In order to improve the effects of operations, the fishing vessels are often equipped with several kinds of gears. Depending on the fishing seasons and the fishing effect, vessels may use the suitable kind of fishing gears. For example, the vessel uses longline in the northern fishing season (from November to next April), but change to gill net in the southern fishing season (from May to October). Regarding multiple kinds of gears in vessels,

[18] http://www.fao.org/fishery/countrysector/FI-CP_VN/en [31.8.2010]
[19] The Decision No 1690/QĐ-TTg on the planning of strategies of Vietnamese fisheries development up to 2020

fishers may change between gears without declaring to the authorities, in spite of it being illegal. Therefore, it also has negative effects on the fishery resources and fishing vessels management (Dung 2010).

To deal with the over-exhausted inshore fisheries resources, the government and fisheries management authorities of Vietnam have adopted measures and policies to combat this problem. In 1997, the Vietnamese government issued a policy to develop the offshore fisheries and encouraged fishers to build bigger vessels, which was put in effect through the program named "programs on offshore fishing extension and sustainable coastal fishing". It was designed to provide preferential loans for fishermen to upgrade their vessels, with the goal of creating a fleet of around 800 deep-sea fishing vessels which would exploit Vietnam's EEZ (Lewis 2005). The offshore fishing vessels were expected to exploit the high valued species to raise the offshore catch proportion in the total catch. In addition, offshore fishing vessels have also improved the technology and are equipped with new instruments for fishing such as sona, echo-sounder, global positioning system (GPS) and new fishing equipments (Long 2010). Simultaneously, re-allocation and limitation of fishing operations inshore have been exercised to ensure the sustainable exploitation of coastal resources (Dung 2007).

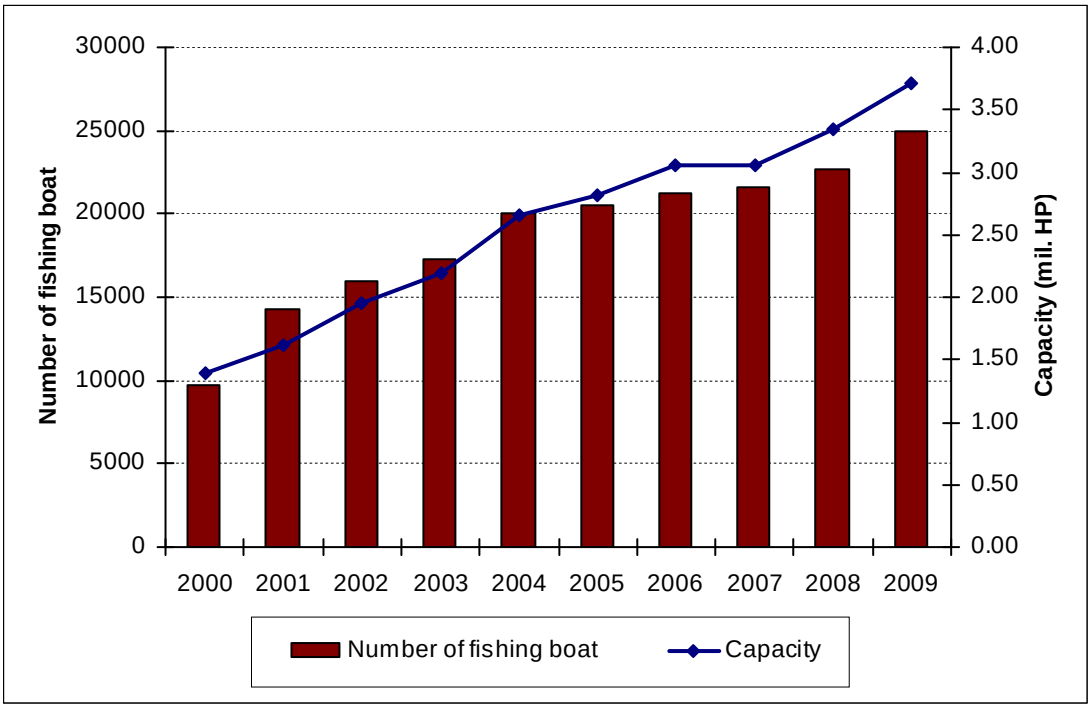

Figure 6: The statistical increase of offshore fishing vessels in Vietnam (source: Vietnamese General Statistics Office, annual report, 2000-2009)

Although the numbers of fishing vessels increase rapidly, in general, Vietnamese fisheries are still small-scale fisheries. Recently, Government and fishing administrations have had policies and measures to limit the number of vessel with small capacity but it is not able to stop small vessels. However, building new fishing vessel is ongoing every year because of social economic development and livelihood (2,300 fishing vessels built annually (MARD 2010)). Hence, it increases fishing inshore and the fisheries resources are become increasingly exhausted. Increasing fishing effort leads to direct negative effects on resources. Moreover, fishermen often use illegal fishing gears to increase catches, such as using mall mesh size at codend of trawl. The bycatch rate ranges from 30-93% depending on type of gear. Specifically, there is 60-80% bycatch in shrimp trawl, 40-80% bycatch in fish trawl, 90% bycatch in demersal trawl and 90-93% bycatch in powered push net (Lung 2009). However, it is difficult to find a good management model because Vietnamese fisheries are multi-species fisheries. In addition, managing a great number of fishing vessels is not easy. Fishermen are poor and with low education; thus, there are some great challenges related to the application of management measures.

Although the marine fisheries yield and the numbers of fishing vessels rose during the last years, as mentioned above, about 85% fishing vessels are small-scale with capacity less than 90 HP. The competition pressure between the groups of fisheries in the inshore area is the quite complex and strained (Long 2001). Because of the rapid growth in number of fishing vessels, the catch per unit effort (CPUE) has dramatically declined from 1.11 ton/HP/year in 1985 to 0.35 ton/HP/year in 2005 (MARD 2006). It indicates that there is overcapacity in Vietnam’s fisheries (Lai et al. 2009).

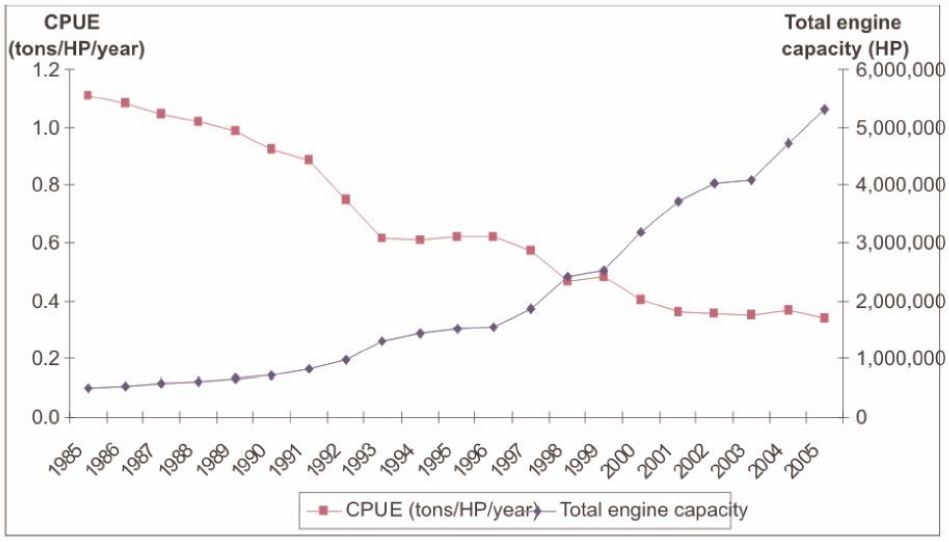

Figure 7: Fisheries total capacity and Catch per Unit Effort of Vietnam from 1985 - 2005 (source MARD 2006)

4.5 Fisheries management

As many other coastal countries in the world, Vietnam has a long history of fisheries development. However, in the past the fisheries were subsistence fisheries, without any export or management[20]. Vietnamese fisheries development has been managed since the 1950s, when fisheries became on of the most important sectors in terms of nutrition and economy. The development and management policies for marine capture fisheries in the last six decades have changed dramatically, shifting the sector from a coastal small-scale industry to an export production-oriented industry which is a major part of the national economy (Pomeroy et al. 2009). Until now, the main management issues is still the open access fisheries, which is leading to continuous increase of fishing capacity and the over-exploitation of fisheries resources, as well as on the existence of IUU fishing in the some areas (Lai et al. 2009, Long and Dung 2010). With these issues continuing to be a problem, it was suggested that there is an urgent need to improve fishing management, fishing technology and practices, implement resources protection, manage the fishing capacity and re-structure the national fisheries statistic system.

In term of fisheries management in Vietnam, there are two levels, including governmental and provincial level. At the central level, the Ministry of Agriculture and Rural Development (MARD) is responsible for fisheries governance. On the other side are the coastal Provincial

[20] http://www.afasco.com.vn/home/modules.php?name=News&file=save&sid=9 [01.9.2010]

Governments, called Provincial People's Committee, which has the responsibilities for implementing fisheries law, regulations and national fisheries policy at the provincial level and fisheries management within its province.

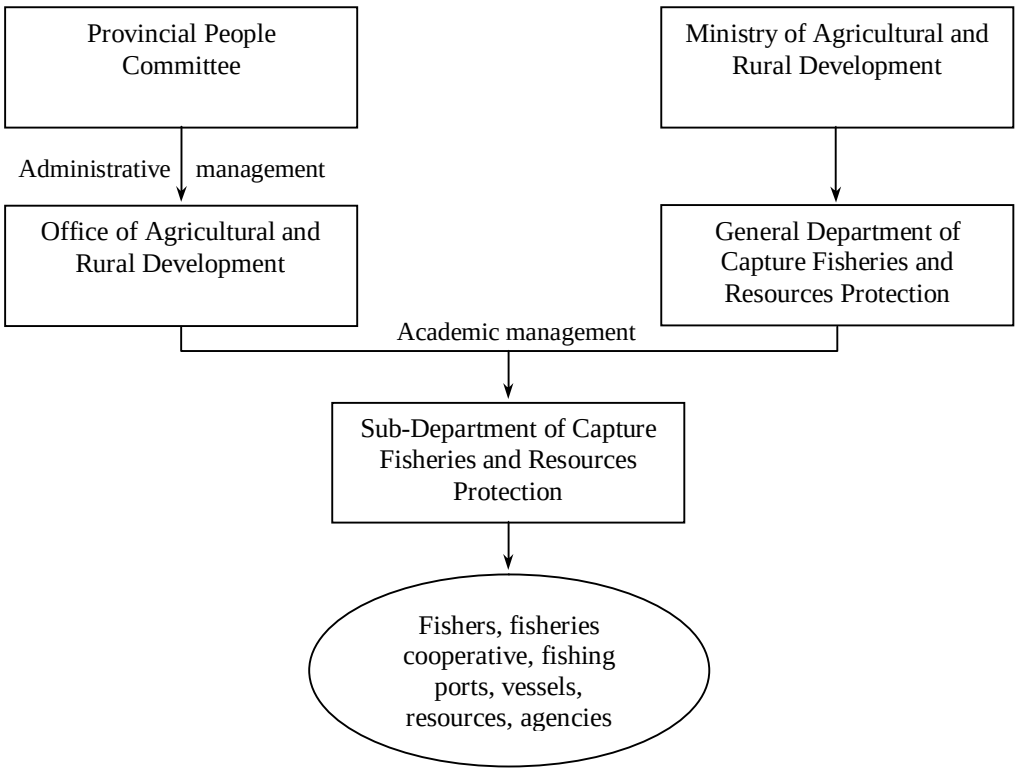

Figure 8: Structure of fisheries management in Vietnam

Ministry of Agriculture and Rural Development (MARD) is responsible for general management on sectors of agriculture and fisheries in national scope. Under MARD, General Department of Capture Fisheries and Resources Protection (DCFRP) is the focal agency responsible for capture fisheries management. In addition, General DCFRP directly supplies concrete guidance in enforcement of fisheries regulations for Sub-DCFRP at provincial levels, including implementation of fisheries regulations, capture fisheries and resources management, vessels management, fishing management (academic management).

At provincial level, the Office of Agriculture and Rural Development is responsible for the same MARD functions at the provincial levels. Office of Agriculture and Rural Development is directly under the Provincial People Committee. However, it is administrative management because Provincial People Committee does not directly supply concrete guidance in enforcement of fisheries regulations for Office of Agriculture and Rural Development and its Sub-DCFRP. The Provincial People Committee is responsible for appointing the positions to

Office of Agriculture and Rural Development, and Sub-DCFRP, such as leaders, deputy leaders and officers.

In general, the governance system has been set-up from the central to the provincial level. However, the decentralization of the top-down system is still limited. It has been noted that presently there have been plenty of conflicts or gaps and poor communication related to the governance structure of capture fisheries. The roles and responsibilities of various organizations are not clear, especially after the Ministry of Fisheries and MARD were merged in 2006.

Apart from national fisheries regulations, Vietnam has been approving international regulations. International instruments influencing the management of fisheries are the United Nations Convention on Law of the Sea (UNCLOS) and the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES). In addition, Vietnam actively performs the UN Fish Stock Agreement (1995)[21] conventions, of which it is a signatory and has approved United Nation Fish Stocks Agreement (UNFSA). Particularly, Vietnam has approved the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU) to combat IUU fishing.

Vietnam is very active in the international fisheries cooperation in general, particularly in tuna fisheries. Vietnam and Southeast Asian Fisheries Development Center (SEAFDEC) are discussing to set up regional fisheries management regime for sustainable fisheries management and seafood safety (MARD 2010). Vietnamese fisheries are also affected by Non-Governmental Organizations such as Conservation International, Greenpeace, The Nature Conservancy, World Conservation Union, and World Wide Fund for Nature (WWF), Marine Stewardship Council and Marine Aquarium Council. Particularly, Vietnam is considering joining in the activities of Western and Central Pacific Fisheries Commission (WCPFC). This commission is helping Vietnam to investigate highly migratory fish stocks.

[21] http://www.un.org/Depts/los/convention_agreements/texts/fish_stocks_agreement/CONF164_37.htm [02.9.2010]

Chapter 5: Tuna fisheries

5.1 A brief overview of tuna fisheries in the world

Tunas are widely but sparsely distributed throughout the oceans of the world and are generally found in tropical and temperate waters, between about 45 ^{0}N and ^{0}S of the equator (ISSF 2009). Tuna fishing has been recorded in many countries since ancient times. Norway has exploited bluefin tuna by purse seines in the Atlantic. Trap fishing of tuna is carried out in the Straits of Gibraltar and along the North African coast. Artisanal fishing for bigeye and skipjack tuna has been taking place near the islands along the coasts of Africa. Yellowfin and skipjack tuna are fished by troll and baitboat on the west coast of United States. In the Indian Ocean, fisheries for skipjack have existed off Sri Lanka, India and the Maldives, and southern bluefin tuna are the target of longline fishing off Australia (FAO 2004).

The industrial tuna fisheries started since 1940s due to the increasing demand for tuna for canning. Because of increasing economic gain from tuna fisheries, the numbers of vessels in the traditional tuna-fishing countries have increased, and additional countries have begun participating in tuna fisheries. Also, new developments in fishing technology have dramatically increased fishing capacity worldwide (FAO 2004). Japan is recognized as a pioneer nation in the tuna industry, including shipbuilding and fishing technologies (FAO 2010). The US also began the industrial tuna fisheries with fleets of baitboats off California and along the coasts of Mexico since later 1950s. Furthermore, industrial tuna fisheries have developed in many other countries such as Spain, France, China and the Republic of Korea. Because of the overcapacity and particularly IUU fishing, tuna fisheries management has been implemented since the 1990s with more and more measures and policies to limit its capacity (FAO 2004).

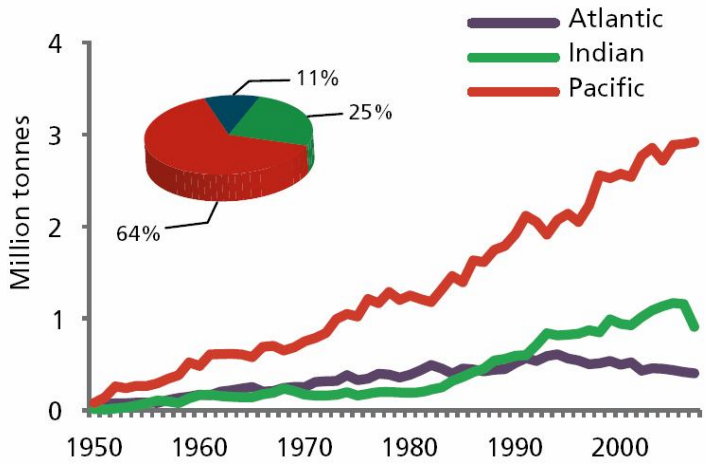

Figure 9: World catch of tuna by oceans, 1950-2007 (source: FAO 2010)

The general trends of the tuna fishery in the world are presented in the figure 9. The global tuna catches have gradually increased since the 1950s. From 1950 to 1999 the total catches of tunas increased by almost ten times, from 400,000 tons to 4 million tons (FAO 2004). However, the rate of increase was not uniform and stable in all areas. The total catches in the Pacific and Indian Oceans rapidly increased throughout the 1980s and 1990s, which is reflected in the global total. Catches in the Atlantic rose until the early 1990s, after which it has continuously declined. In 2007, 64% of the catch came from the Pacific Ocean, 25% from the Indian Ocean, and 11% from the Atlantic Ocean (FAO 2010). The total value of tuna products were approximately US$ 7.41 billion in 2006. Japan, US and EC were three biggest markets of tuna. Japan was the largest consumer of fresh/frozen tuna, accounting for 20-25% of world production of this kind of product, while the US was the biggest consumer of canned tuna, accounting for 25-28% of the world (Vietfish 2008).

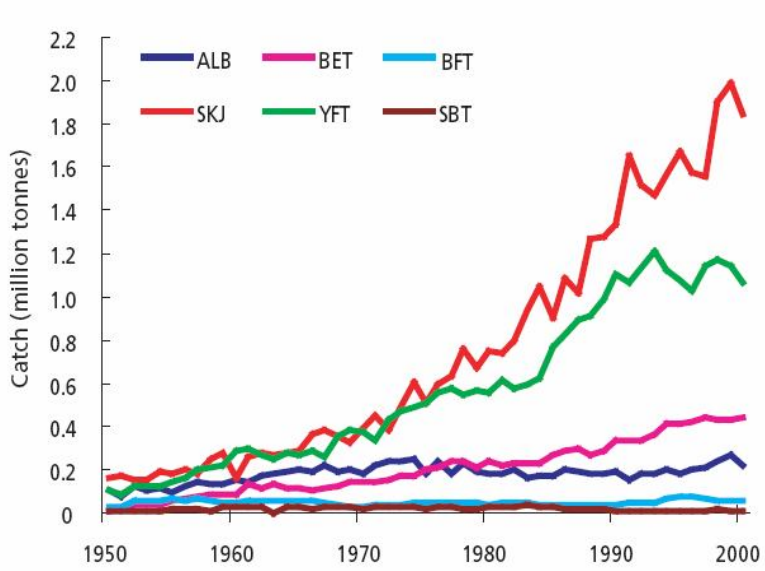

Figure 10: World tuna catch by species, 1950-2000 (source: FAO 2006)

In term of tuna species, catches of yellowfin (YFT) and skipjack (SKJ) have dramatically risen since the early 1970s. Yellowfin catches rose from one to 1.2 million tons in the 1990s to about 1.3 million tons in 2003, almost 25% of the total catch but now is declining (FAO 2010). The catch of skipjack was about 2 million tons in 1999, almost 50% of the global total catch, followed by yellowfin tuna at 31.7% and bigeye (BET) tuna at 10.8% (FAO 2004 and FAO 2010). Figure 10 shows that although bigeye did not contribute as much to the total tuna catches as skipjack and yellowfin, its catch has continually increased since the 1950s. Catches of other species such as albacore (ALB), Atlantic bluefin and Southern bluefin tuna (SBT)

were low and with a low contribution to the total tuna catches and have been relatively constant (FAO 2010).

5.2 Tuna longline fisheries in Vietnam and Khanh Hoa province

Vietnam's coastal area is situated in the region where tuna resources are abundant. Therefore, in recent years, tuna fisheries in Vietnam have developed rapidly (Tri 2002). Longline fishery has been introduced into Vietnam since early 1990s, with Japan International Cooperation Agency (JICA) project carried out from 1992-1994 in central Vietnam waters. In addition to extensive survey work, technology transfer and provision of second hand vessels was involved, this representing the start of the offshore longline fishery (Lewis 2005). Longlining has soon become a main method of fishing in Vietnam (Hai 2007). This fishing has developed in the central provinces of Vietnam, such as Binh Dinh, Phu Yen, Khanh Hoa and Ba Ria Vung Tau. In 2009, there were 1,268 longline vessels in Vietnam. This is a slight decline compared to 2006, when there were 1,800 longline fishing vessels (General DCFRP 2009). Among these, Khanh Hoa province has 102 longline fishing vessels with total capacity 21,892 HP (Sub-DCFRP 2011). Main target species caught in Vietnam are yellowfin and bigeye tuna. The main harvest season is from September to April, with a smaller season from May to October. According to survey results provided by Research Institute of Marine Fisheries (RIMF), the availability of yellowfin and bigeye tuna was between 44,850 and 52,590 tons, with a maximum sustainable yield is of 17,000 tons.

In Khanh Hoa province the number of tuna longline vessels increased until 2005, when the number declined rapidly. Because of the increasing of fuel price, decreasing price of tuna and declining catch of tuna between 2005 and 2006, ship owners changed to other kind of fisheries, such as purse sense and gill net. However, the capacity per vessel has increased year by year, due to programs encouraging offshore fisheries development. The longline fleet in Khanh Hoa is equipped with modern fishing and safety instruments, such as GPS, echo-sounder, radar and new fishing instruments. These developments have also improved fishing efficiencies and increased capacity per vessel. The characteristic of longliners in Khanh Hoa is that the vessels often operate in multiple fisheries. Generally, tuna longliners also engage in squid and/ or gill net fisheries and may therefore be rigged for these types of fisheries as well (Dung 2010).

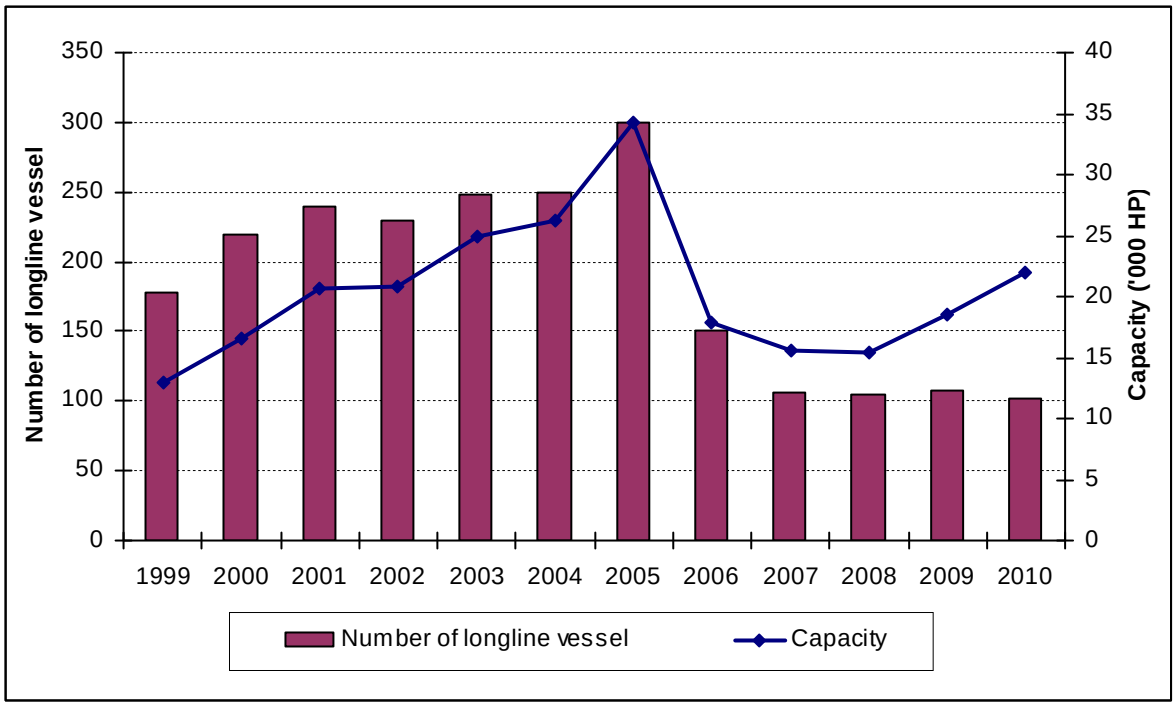

Figure 11: Numbers of longline vessels in Khanh Hoa province (source: Sub-DCFRP, annual report 1999-2010)

Following shrimp and Pangasius, tuna is another opportunity for Vietnam seafood industry. Tuna products are of high value and in high demand on the global market (Vietfish 2008). Since its introduction into Vietnam, the tuna longline fleet created a new fishing industry, which also created thousands of jobs. The Vietnamese export value of tuna products are increasing year by year. For instance, in 2000 the catch of tuna was 6,000 tons with value of US$ 23 million (VASEP 2001). In 2005, the catch of tuna increased 30,500 tons, with export value amounted to US$ 83 million (VASEP 2006). Although ocean tuna export faced many difficulties, in 2010 the total revenue obtained was US$ 300 million (VASEP 2011).

Vietnam exports tuna to sixty countries in the world (Vietbao 2006). However, the main markets are the EC, USA and Japan. The export to these markets accounts for nearly 80% of the total tuna export value (VASEP 2010).

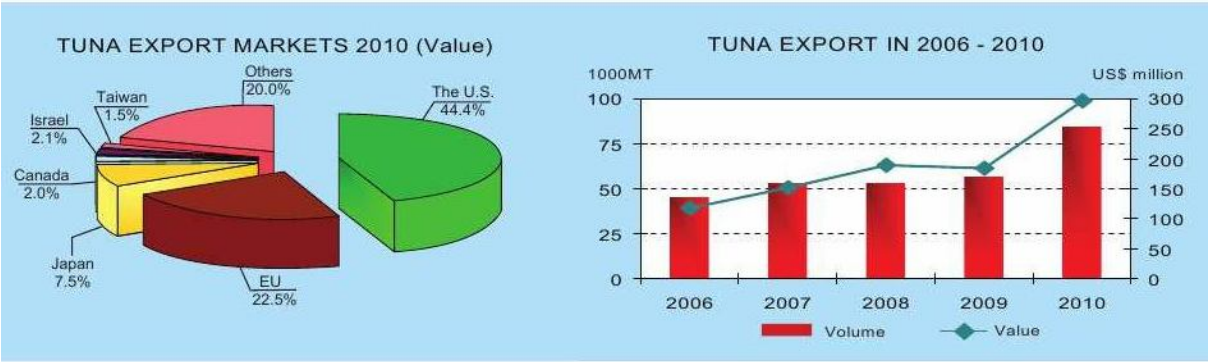

Figure 12: Tuna export in volume, value and markets from 2006 to 2010 (source: VASEP 2011)

Vietnam has two monsoon seasons. One from May to October called the South-Western monsoon season. The other monsoon season is from November to April and is called the North-Eastern monsoon season. The South-Western monsoon season affects major fishing grounds, stretching from Quang Ngai to Khanh Hoa province and the West of Truong Sa Islands (Spratly Islands) (figure 13a). The North-Eastern monsoon season affects fishing grounds from Phu Yen to Khanh Hoa province, the east of Phu Quy Island and the west of Truong Sa Islands (figure 13b) (Son and Nghia 2006)

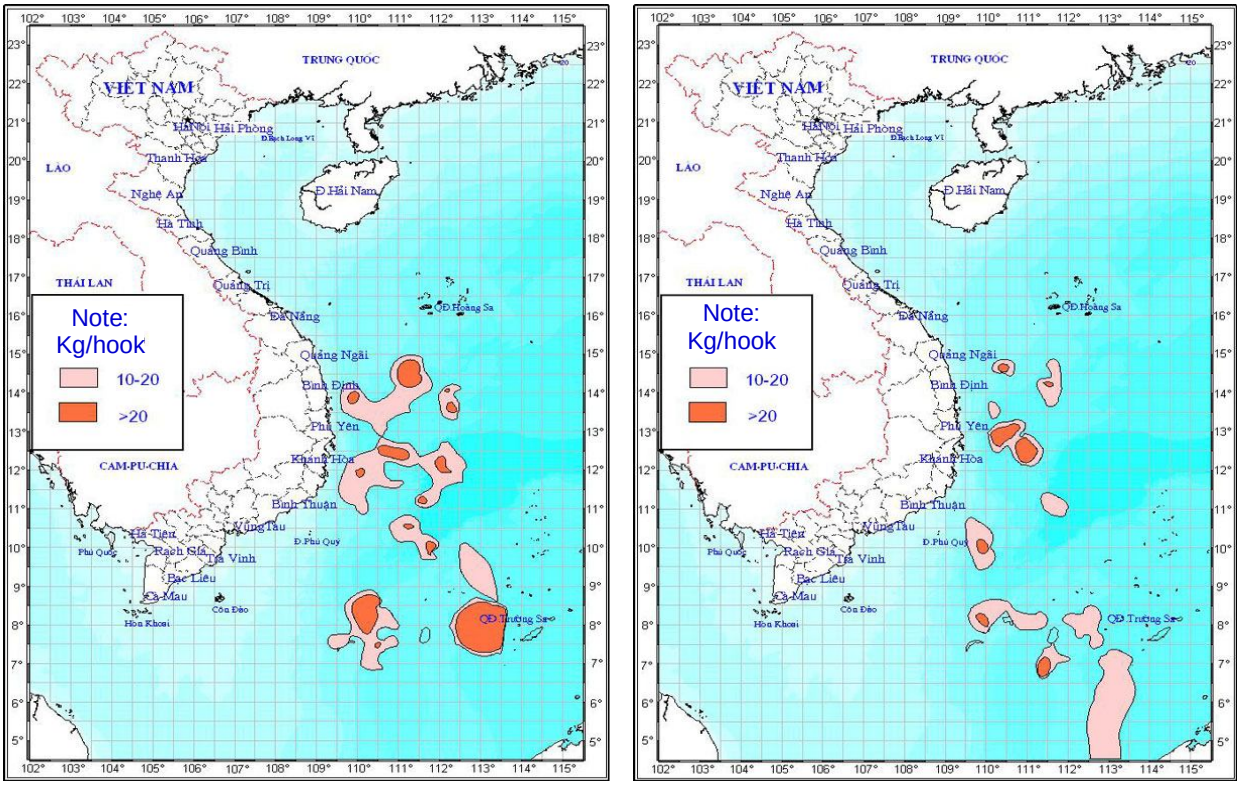

Figure 13: Vietnamese fishing seasons: a) southern fishing season to the left and b) northern fishing season to the right (Source: Son and Nghia 2006)

According to Tri (2002), Lewis (2005), Son (2006) and Hai (2007), longline is main fishing method used in tuna fisheries in Vietnam. Longline fishing is a commercial fishing technique. It uses a long line, called the main line, with baited hooks attached at intervals by means of branch lines called "snoods". Snoods are short lines, attached to the main line using a clip or swivel, with hooks at the other end (Larsen 2009). Normally, the total length of a longline in Khanh Hoa is from 40 to 60 km, while branch lines may be up to 25 m long. The catch principle of longline is that the bait shall attract fish from a larger area around the gear. Longlines use large quantities of bait for each kilogram of fish caught. Longline vessels in Khanh Hoa use raw squid and flying fish as bait (Dap 2008). The catch will depend on the effectiveness of each vessel, but on average the catch per vessel range between 0.8 to 1.3 ton/vessel/trip (each fishing trip is about twenty days). There are however very efficient vessels that catch between 2.5 and 3 tons/trip. In the tuna long line fisheries yellowfin tuna accounts for 15% of total catch and bigeye tuna accounts for 10.5% of total catch and the remaining is other kinds of fish (Long and Dung 2010).

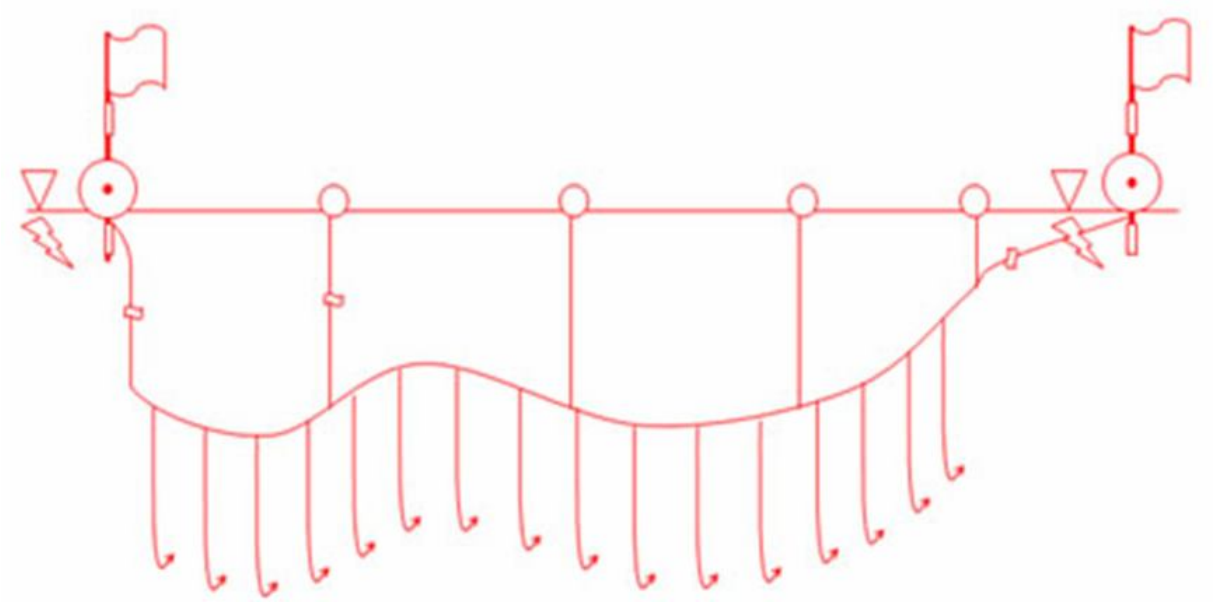

Figure 14: Overall view plan of longline (source: Dap 2008)

Target species for the longline gear are mainly bigeye and yellowfin tuna (Long and Dung 2010), which are mainly distributed in the central region of Vietnam (Tri 2002 and Long 2010).

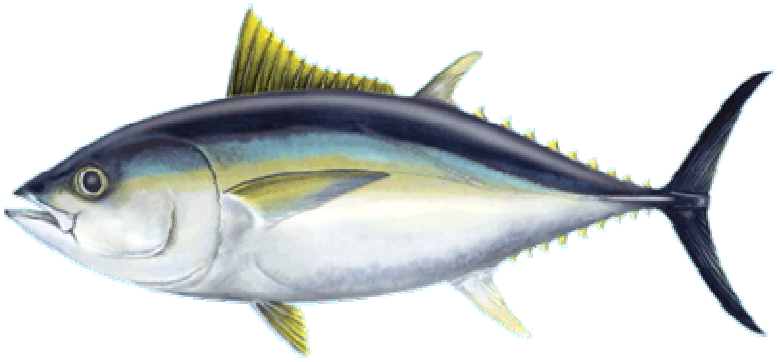

Figure 15: Bigeye tuna (source: http://images.google.com)

The bigeye tuna (*Thunnus obesus*) is a large pelagic fish widely distributed in tropical and subtropical areas (45^0N to 43^0S) where water temperature range between 13 and 29^0C (Hampton et al. 2002). This is a highly migratory species[22] and is therefore a stock that is shared by several coastal states and managed by Regional Fisheries Management Organizations (RFMO)[23]. The central and western Pacific provides about 54% of the world's bigeye tuna, amounting to about 1.3 million tons annually (Williams 2003). Bigeye tuna products are processed into sashimi, canned and frozen. Due to high commercial value of the bigeye, its resources appear to be decreasing in some waters because of overfishing and IUU fishing is increasing in recent years (Chiang et al. 2006).

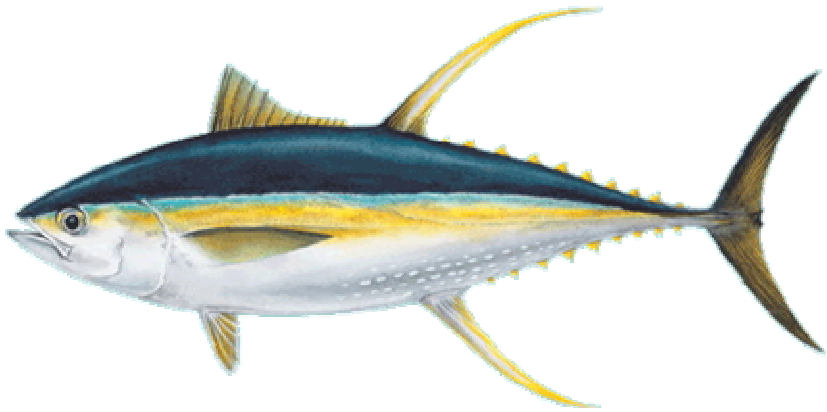

Figure 16: Yellowfin tuna (source: http://images.google.com)

The yellowfin tuna (*Thunnus albacares*) is large pelagic fish with a worldwide distribution throughout the tropical and sub-tropical waters, but absent from the Mediterranean (Maguire 2006). The best temperature for yellowfin is from 18 to 31^0C. The yellowfin tuna is epipelagic and inhabit the mixed surface layer of the ocean above the thermocline

[22] Annex I of United Nations Convention on the Law of the Sea, 1982
[23] http://www.wcpfc.int/

(Hampton et al. 2003). Yellowfin tuna is a commercially important species and attention has recently been paid to the necessity of managing this species (Nishida et al. 1998). The yellowfin stock is presently not being overfished., but are close to or are being fully exploited in all oceans (Maguire 2006). Most of the commercial catch is canned, but there is also a significant demand from the sashimi market for high-quality fish. This market is primarily supplied by industrial tuna longline and purse seine vessels (Langley 2005).

Chapter 6: IUU regulation framework

6.1 Background of the IUU regulation

To prevent, deter and eliminate illegal, unreported and unregulated (IUU) fishing globally, the EC introduced in 2001 an International Plan of Action (IPOA-IUU) to deal with the problem of IUU fishing. The IPOA-IUU is founded upon the convention of Highly Migratory Fish Stocks (FAO 1995), the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (FAO 1993); and the United Nations Convention of the Law of the Seas (UNCLOS 1982). The IPOA-IUU is a voluntary instrument to combat IUU fishing and was developed within the framework of the Code of Conduct of Responsible Fisheries (FAO 1995). The IPOA-IUU document offers tools for countries to combat IUU fishing, individually and in collaboration. It includes ways to get familiar with the problem of IUU fishing and the tools available to combat it, it offers suggestions regarding which tools to use in particular circumstances and guidance on how to use the tools effectively (FAO 2002). Workshops discussing IUU fishing where held and included the Ministerial Task Force on IUU fishing in December 2003 and the Organisation for Economic Co-operation and Development (OECD) workshop on IUU fishing in April 2004. However, these conferences did not attempt a quantification of the scale of worldwide IUU fishing. In 2008, the EC established a system to prevent, deter and eliminate IUU fishing through the Council Regulation No 1005/2008 *(the IUU regulation)* and was put in effect as of 1st of January 2010.

The IUU regulation is a transparent and non-discriminatory instrument applying to all vessels engaged in the commercial exploitation of fishery resources in the high seas or in the waters under the jurisdiction of a third state. IUU fishing within maritime waters of overseas countries and territories of EC member states is identified as taking place within maritime waters of third countries[24]. IUU fishing is not only the fishing vessel doing the actual IUU fishing, but also includes support ships, fish processing vessels, transhipment vessels and carrier vessels equipped for the transportation of fishery products, except container vessels[25]. IUU regulation also seeks to prevent, deter and eliminate IUU fishing practices through their linkage to the EC, either through trade to and from the EC or the involvement of EC nationals in IUU fishing activities conducted under any flag. It also provides a comprehensive legal basis for operational cooperation between third countries and the EC to combat IUU fishing

[24] Article 1 of IUU regulation
[25] Article 3 of IUU regulation

more efficiently. Thus, the IUU regulation combats IUU fishing by providing stringent trade measures on fishing vessels and foreign states that support IUU fishing. The control, sanctioning and conditionality elements at the heart of the Regulation includes port control over third country fishing vessels; catch certification requirements; establishment of a EC IUU vessel list and establishment of a list of non-cooperating third countries (Tsamenyi et al. 2010). However, as Vietnamese export to the EC is important and as the implementation of the IUU regulation will pose challenges to this export, this study will concentrate on issues relevant to the catch certificate.

6.2 Requirements of the EC's IUU regulation on sustainable resource management and conservation

IUU fishing activities damage the marine environment as well as threaten the sustainability of fish stocks and the social economic situation of fishermen. The objectives of the IUU regulation are to ensure sustainable marine resources exploitation to support sustainable economic development and to protect living aquatic resources[26]. The fishing operation is to maintain the structure, productivity, function and diversity of the ecosystem. IUU regulation also insists on the sustainability of fisheries resources that is the main drivers for the global policing approach by the EC to combat IUU fishing (Tsamenyi et al. 2010). Furthermore, fishing activities shall be conducted in compliance with resource conservation and management measures of the nation or relevant RFMOs[27]. Because IUU fishing takes place in the water areas, including the nation's jurisdiction and high sea, the IUU regulation has an international scope with respect to all activities related to fish trade with the EC. Only fishery products that have been harvested in compliance with international conservation and management measures are legally imported or exported from the EC[28]. All countries have to adhere to the most effective resource management measures, which have to be applied to local, national and international laws and common standards, and have to be incorporated into institutional and operational frameworks[29].

There are currently eight regional fisheries management organizations (RFMO) in the world, which manage the migratory and straddling fish stocks. One of these is the Western and Central Pacific Fisheries Commission (WCPFC). Although not being an official member,

[26] Introduction of IUU regulation (2)
[27] Article 3 of IUU regulation.
[28] Introduction of IUU regulation (15) & (21)
[29] IUU regulation

Vietnam is located in the WCPFC's[30] management area, and is cooperating with WCPFC. In the sixth workshop of WCPFC in Tahiti, all members of the organization approved the membership application of Vietnam. However, Vietnam has not satisfied the requirements of the organization on fisheries management, vessel monitoring system, resources management and stock assessment. Therefore, WCPFC agreed that Vietnam would be a cooperating non-member. Now Vietnam is cooperating with WCPFC on the conservation of highly migratory fish stocks, the elimination of non target species and fishing vessels management (Vinh 2010). Furthermore, being a cooperating non-member the Vietnamese government has to strictly enforce all regulations and requirements of the WCPFC. That is a compulsory condition for Vietnamese fishing vessels to be recognized as non-IUU fishing vessels. The convention on the conservation and management of highly migratory fish stocks in the western and central Pacific Ocean stipulates the principles and measures for conservation and management of resources in the area. From this, the resource conservation measurements have to be based on scientific evidences and apply internationally agreed standards such as maximum sustainable yield (MSY) and total allowable catch (TAC). In addition, the convention also requests the states to implement measures to protect marine biodiversity and use monitoring, control and surveillance measures to ensure resource conservation and sustainable management[31].

Although the IUU regulation does not specify measures to eliminate bycatch and juveniles, the definition of illegal fishing in the regulation does define illegal fishing to be those fishing activities not in line with resource conservation, regional management measures organizations or international regulations[32]. Because Vietnam cooperates with the WCPFC, Vietnam shall therefore apply the measurements of this commission to minimize bycatch, and promote the development and use of selective, environmentally safe and cost-effective fishing gear and techniques[33].

6.3 Requirements of the EC's IUU regulation on fishing report and logbook keeping

As with the sustainable resource management requirement from IUU regulation, unreported fishing is defined as unreported or misreported fishing activities in contravention of reporting

[30] Convention on the conservation and management of highly migratory fish stocks in the western and central pacific ocean (2004)
[31] Article 5 of convention on the conservation and management of highly migratory fish stocks in the western and central pacific ocean (2004)
[32] Article 2 (2b) of IUU regulation
[33] Article 5 (e) of convention on the conservation and management of highly migratory fish stocks in the western and central pacific ocean (2004)

procedures of the national laws and regulations, or of regional fisheries management organization[34]. In other words, a fishing vessel is IUU fishing when it has not completed its obligations to record and report catch or catch-related data. Fishing report may carry out by satellite vessel monitoring system or other mode of transmissions.

Reporting on catches and fishing activities of fishing vessels to the fishery authorities is one requirement of the IUU regulation. The fishing report is a general description of the achievement of fishing vessel in the period. It is supposed to offer reliable statistical data on catch and fishing effort, crucial to evaluate the current state of the fishery resources and to allow sound conservation and management decisions. The fishing report is prepared by masters or owners of fishing vessels, who must provide information on the amount of fish retained on board and the fishing areas. Furthermore, fishing report ensures that catches do not exceed individual quota (FAO 2005).

The fishing logbook records fishing activities during a fishing trip. It is also the essential information for catch certification. The fishing logbook is more detailed than the fishing report and contains information on fishing positions, catches and activities, as well as species caught. The level of detail varies between fisheries, but generally the information contained in individual logbooks is regarded as confidential (FAO 2002). In general, the main purpose of logbook is to quantify the fish caught, size, species, place of catch and gear used to catch them (FAO 2005). Keeping a logbook on fishing activities is a legal obligation and a requirement that the master of all fishing vessels keep logbooks. The regulation also requires logbook-type information to be done by masters of the fishing vessels before each transhipment or landing, which is verified by flag state authorities. If the catches are confirmed to have been made in compliance with management measures, certificates are validated with unique numbers and attached to the sold and processed fish. The fishing logbook is one measure that enable authorities to inspect the fishing vessels activities (FAO 2005).

Consequently, fishing report provides overall information of fishing trip or in the fishing period, while fishing logbook records more specific information of fishing activities. Also, the fishing report may be used as evidence to indicate that a fishing vessel complied with national and international regulations, as well as showing that a fishing vessel did not catch over its quota and capacity. By contrast, fishing logbook is a document, which ensures that a fishing vessel does fish in the closed season, closed area and on prohibited species.

[34] Article 2 (3) of IUU regulation

6.4 Requirement of the EC's IUU regulation on catch certificate

In order to deter IUU fishing, IUU regulation stipulates four basis components relevant to the Regulation's impacts on resources through fisheries trade. These are 1) port-state measures against third-country vessels, 2) listing of non-cooperative states, 3) IUU vessel black listing and 4) catch certificate requirement. Port control of third-country fishing vessels is not relevant for Vietnam, as Vietnamese fishing vessels may not land in the ports of the EC's members. Non-cooperating states shall be listed as non-cooperating and those nations' fishing vessels are entered in the black list. The catch certificate requirement shall ensure that fishing boats are in compliance with international laws, as well as conservation and management measures regarding fisheries resources protection and development. The catch certificate requirement directly impacts Vietnamese fisheries through the export of fishing products. Therefore, this study focuses on the problems that may occur when Vietnam enforces the IUU regulation related to the catch certificate requirement.

The catch certification scheme shall ensure that all maritime fisheries products traded with the EC are obtained in compliance with existing international conservation and management measures. These fisheries products cannot be imported into the EC without a valid catch certificate[35]. The certification scheme applies to all catches of marine fishery products, with the exception of aquacultured fry or larvae, ornamental fish, mussels, snails and other products of minor importance[36]. The catch certificate shall be validated by the flag state of the fishing vessel. The objectives of the certification scheme are three folds: 1) to ensure product traceability at all stages of production, from catch to marketing; 2) to be a tool for compliance with conservation and management rules and 3) to support cooperation between flag states and countries of processing and countries of marketing (Tsamenyi et al 2010).

The contents of catch certificate includes three groups of information: 1) basic vessel information such as the name, home port, registration number, call sign, licence number, inmarsat number and International Maritime Organization number (if issued); 2) product information such as species caught, catch areas and dates, estimated live weight, verified landed weight, any transhipment at sea, as well as the applicable conservation and management measures (closed season, closed area, prohibited species and fishing gear); and 3) export information of the fishery product, including the vessel name and flag, flight number and airway bill number, truck nationality, registration number and container number.

[35] Article 12 (1) of IUU regulation
[36] See more in *Annex I of the Regulation*

According to the handbook on the practical application of IUU regulation, there are three steps directly related to the use of catch certificates in the export of fish products to the EC. First, the master of a fishing vessel (or his representative) must fill in vessel information, description of the products and sign the catch certificate form that will follow the product. Secondly, after adding export information (name and address of exporter) to the catch certificate form, the exporter may apply for the validation of the catch certificate form from the flag state authority. Finally, if the application is in accordance with the requirements (including those related to management and conservation measures), the authorities will finalize the catch certificate form with information related to the product, approve it with a stamp and then return it to the exporter. The catch certificate will then accompany the fish product to the market in the EC. If the catch certificate is not in accordance with the set requirements, the flag state authority will not have the necessary information to ensure the reliability of the certificate and its compliance with relevant management and conservation measures. The authorities should therefore carry out any checks or verifications on products, compliance with regulations of owner of ship, fishing licence and logbook to be able to confirm the certificate[37].

Exporters have to submit validated catch certificates to the relevant authorities of the EC member states to which the product is exported at least three working days before the estimated time of arrival, depending on type of product. However, importers can advise the EC's member states to ask exporters to submit catch certificate at a large stage when the fisheries products have entered the territory of the EC member states[38].

[37] Handbook on the practical application of IUU Regulation, section 5.13, procedure of certificate
[38] Article 16 of the IUU regulation

Chapter 7: The Vietnamese legal framework regarding IUU fisheries

An important key of the IUU regulation to combat IUU fishing and promote sustainable resources management and development is the *catch certificate*. In order to get a catch certificate, the fishing activities have to comply with the national and international regulations on sustainable fisheries resources management. When engaging in international fisheries trade, Vietnamese exporters have to satisfy the requirements of importing states, international communities and regional fisheries management organizations. However, each community and/or state has a specific requirement. For instance, the precondition to export tuna and sailfish to the US is that Vietnam participate in Western and Central Pacific Fisheries Commission – WCPFC (Nam-Son 2010). For the EC all fisheries products imported into the community have to be accompanied by a catch certificate. To satisfy the EC requirements Vietnam and Khanh Hoa province have developed a legal framework and specific regulations. This chapter focuses on the relevant issues regarding the process of obtaining a catch certificate in Vietnam.

7.1 The status on IUU fishing in Vietnam

7.1.1 Vietnamese IUU fishing vessels operating in neighbouring countries' waters

Because the fishing vessel density in Vietnam's EEZ is high, while catching productivity and production performance is low, marine resources in Vietnamese waters are steadily decreasing. Furthermore, the cost of fishing is increasing, so fishing vessels are risking a production loss when they exploit the old fishing places. Thus, vessel owners and master want new fishing grounds with more abundant resources, even in other countries' EEZs. Vessels involved in IUU fishing often achieve catches between 30 and 50% higher than other vessels, which explains why they are involved in IUU fishing activities (MARD and SCAFI 2007).

Table 3: Numbers of Vietnamese fishing vessels arrested in the neighbour countries between 2002 and 2006 (source: MARD 2007)

Year / Arrest countries	2002	2003	2004	2005	2006
China	24	8	34	25	27
Malaysia	140	7	15	29	24
Indonesia	42	1	0	7	32
Campudia	103	158	143	116	133
Philippine	16	2	5	3	2
Thailand	4	5	16	13	42
Total	329	181	213	193	260

In order to deal with IUU regulation, the Vietnamese government has come up with measures to stop Vietnamese vessels from participating in IUU fishing operations in other countries. The measures include training courses about the sea border agreements with other countries. The Vietnamese government is also negotiated with neighbour countries in order to clarify the conflict and overlapping areas. Thanks to these measures the number of Vietnamese vessels involved in IUU fishing in other countries have declined from 329 in 2002 to 260 in 2006 (see table 3) (MARD and SCAFI 2007).

7.1.2 Foreign fishing vessels involved in IUU fishing in Vietnamese waters

Before 2000 when the offshore fishing vessel fleet of Vietnam had not developed and marine resources were abundant, violations by foreign vessels in Vietnam' EEZ were common. However, Vietnamese offshore fishing has developed rapidly in recent years and has now better capacity and more modern equipments. Moreover, fisheries resources have became exhausted, particularly in main fishing grounds such as the South China Sea and the Gulf of Thailand. IUU fishing by foreign vessels has decreased, but it is still a problem, especially in the Gulf of Tonkin and north of the South China Sea (see table 4) (MARD and SCAFI 2007).

Table 4: Numbers of foreign fishing vessels arrested in Vietnamese waters between 2002 and 2006 (source: MARD 2007)

Year / Countries arrested	2002	2003	2004	2005	2006
China	118	72	23	37	49
Thailand	19	26	26	14	2
Campudia	0	1	4	2	0
Others	18	14	12	3	2
Total	155	113	65	56	53

According to the Ministry of Agriculture and Rural Development (MARD), although a number of foreign fishing vessels are arrested, the number of foreign fishing vessel involved in IUU fishing is much higher than the number of arrests would indicate (MARD and SCAFI 2007). Thus, IUU fishing is being undertaken by both Vietnamese vessels and foreign vessels.

7.2 Legal frameworks to be used in the enforcement of the IUU regulation

In order to implement the EC's regulation, MARD adopted the regulation on fisheries certification of export to European markets[39]. This regulation prescribes the processes, procedures and contents of checking, as well as responsibilities and powers of fishery authorities and individuals to certify capture fisheries production. From this, the Sub-department of Capture Fisheries and Resources Protection (Sub-DCFRP) at provincial levels has a responsibility to issue catch certificates for fish exporters. And the regulation stipulates that each seafood consignment need only a single catch certificate, in spite of the fact that the raw material has been purchased from different fishing vessels. Thus, all fishery products exported to the EC shall have a catch certificate based on this regulation.

To manage foreign vessels fishing in Vietnamese waters, the Vietnamese government has also adopted a regulation to manage the fishing activities of foreign ships in Vietnam[40]. According to that regulation, foreign vessels are only allowed to fish in Vietnamese areas when they have a license for fishing operations authorized by the General DCFRP. Fishing activities of foreign vessels in Vietnamese waters areas shall be based on international cooperation, ensuring equality, mutual benefits and respect for each party's independence, sovereignty and

[39] Decision No 3477/QĐ-BNN and Circular No 09/2011/TT- BNNPTNT
[40] Decree No. 32/2010/NĐ-CP on Fisheries Management of Foreign Fishing Boat Operating in Vietnam's Seawaters

law, as well as international law. In addition, fishing activities should comply with Vietnam's laws on sustainable resources protection and management and to ensure safety for fishermen and fishing vessels operating in these sea areas.

In addition, the Vietnamese government has also adopted the regulation No 33/2010/NĐ-CP to manage fishing activities in sea areas by Vietnamese organizations and individuals[41]. The regulation provides for the management of fishing activities within and outside sea areas of Vietnam to ensure effective exploitation, aquatic resource protection and development, safety for fishermen and fishing vessels and lawful fishing activities. This regulation divides the sea areas of Vietnam into three fishing areas: 1) the coastal area, 2) the inshore area and 3) the offshore area. Organizations and individuals engaged in fishing activities in these areas shall comply with provisions set out in the Vietnamese regulations, including: regulations of MARD on aquatic species banned from fishing, fishing methods, minimum sizes measures and provisions regarding the use of certain fishing vessels. Furthermore, the regulation provides conditions for fishing outside the sea areas of Vietnam, as well as procedures for obtaining permits and certificates to operate outside Vietnamese waters. The regulation further provides for responsibilities of organizations and individuals engaged in fishing activities and for responsibilities of state management agencies.

The Vietnamese government has also approved the National Action Plan to combat IUU fishing up to 2015, which underlines the need for regional information sharing on IUU fishing[42]. The objectives of the National Action Plan to combat IUU fishing are to guarantee Vietnam's sustainable fisheries development, resources protection, improve fishing techniques and effectively combat IUU fishing. In order to achieve these objectives, the Vietnamese government will enforce the following workplan (National Action Plan 2007, page 13):

1. Policies and legislation

Vietnam shall modify and supplement the legislative system to stop IUU fishing. The legal framework must cover all fields of fisheries, including vessel monitoring system (VMS), fishing reports, fishing logbook keeping, port control, traceability and the issuing of fishing licenses. In addition, the National Action Plan will improve the monitoring, control and surveillance (MCS) system, including infrastructure improvement of MCS, developing MCS

[41] Decree No. 33/2010/NĐ-CP on the management of fishing activities in sea areas by Vietnamese organizations and individuals
[42] National Action Plan to combat IUU fishing up to 2015, adopted 2007

systems at national and regional level, as well as equipping the offshore fleet with VMS. Improving human resource capacity is a central part of the National Action Plan and the government will budget for the sub-department of capture fisheries and resource protection in the regions to combat IUU fishing and train for this task to be ale to implement IUU regulation and manage the VMS system.

2. Sustainable resources and environmental protection

Vietnam will strengthen the cooperation with neighboring countries on stock assessment and resources conservation. Up until 2015, Vietnam will establish eleven marine protected areas. Promote fishing inspection services and protect endangered species and nursery areas.

3. Fisheries management

Vietnam will have a strategy is to decrease the numbers of fishing vessels to only 50,000 by 2015. To reduce overcapacity and promote sustainable resource management, the government will ensure that marine catches do not exceed the maximum sustainable yield (MSY). Government will make long term projects to allocate a sensible number of fishing vessels for each kind of fishery and each region. Vietnam will fully enforce the agreement of Code of Conduct for Responsible Fisheries, and adopt strong measures to eliminate IUU fishing.

4. Collecting and exchanging data and resource information

Vietnam will improve the fisheries statistic system and build a fisheries database based on scientific methods. Vietnam will also update information on the number of fishing vessels, the numbers of fishing licenses, the list of IUU fishing vessels, and information on fishing effort and yield. Furthermore, Vietnam will cooperate and exchange information on fisheries with neighboring countries to combat IUU fishing.

7.3 Vietnamese regulations dealing with resource management

In 2003 the National Assembly approved the Fisheries Law that provides for a stronger and more comprehensive legal base for the management of fisheries. The present Law deals with all issues related to aquaculture and mari-culture, ecosystem preservation, protection of fish and the environment, and regulation for fishing vessel navigation, docking and transportation. Moreover, it manages the conduct of fishermen, the gear and methods allowed, seasons and size of catch, and the functions and responsibilities of the relevant authorities. Overall, the law aims to improve the fishing activities while avoiding potential environmental damages, while

preserving the natural fishing resources. The Fisheries Law is the most important legislation. All regulations, decrees, decisions and circulars must be based on the Fisheries Law and to be in accordance with this Law.

Through ecosystem approaches and integrated management, the Fisheries Law aims at a more sustainable and responsible fisheries management. Some specific articles in the Law stipulate measures for fisheries conservation, as it presents prohibited fisheries activities (article six). From this, fishing activities that damage the marine environment, exploit unsustainable fisheries resources, damage the habitat and exploit fisheries using prohibited fishing gear would be banned[43]. The law also stipulates the protection of aquatic habitat and resources, which the authorities and individuals shall be responsible for (article seven)[44]. This article shall ensure that fishing operations do not lead to the depletion of fisheries resources and operation shall be conducted in compliance with regulations regarding fishing seasons, time and grounds[45]. Furthermore, the law regulates conservation, protection, rehabilitation and development of fisheries resources (article eight). This latter article also require the state to issue policies regarding conservation and protection of fisheries resources, while the authorities and individuals shall be responsible for conservation, protection, rehabilitation and development of fisheries resources as set out by this Fisheries Law and other relevant regulations[46]. Moreover, the fisheries law provides that the government shall issue policies based on scientific information from surveys, research and assessment of fisheries resources and stipulates that the state shall invest in fisheries research, stock assessment and make the maps on fisheries resources[47].

Apart from the fisheries law on the resources management, Vietnam and Khanh Hoa province also implement fishery development strategies to draw up the principles for sustainable and long term management of the fisheries resources, the ecosystems and the coastal communities that depend on them. In general, Vietnam has the necessary legislation to enforce the IUU regulation relevant for resources management.

7.4 Technical registration requirement

In order to meet the requirement of the EC, fish export from Vietnam to the EC requires to be accompanied by a verified catch certificate, as described above (Chapter 6.4). The

[43] Article six of Vietnam fisheries law, 2003
[44] Article seven of Vietnam fisheries law, 2003
[45] Article eleven of Vietnam fisheries law, 2003
[46] Article eight of Vietnam fisheries law, 2003
[47] Article fourteen of Vietnam fisheries law, 2003

Vietnamese process of achieving the catch certificate goes through four stages: summarized as the following.

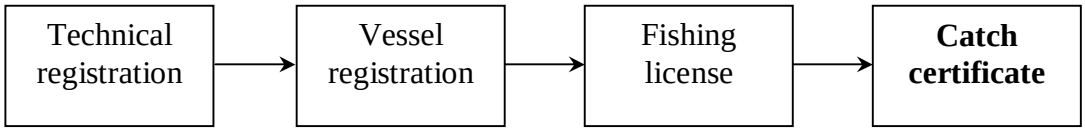

Figure 17: The Vietnamese catch certificate application process

The first step towards achieving the catch certificate is the technical registration[48] and is the technical management of fishing vessels. Technical inspection is carried out at all stages of design, building and using of a vessel. Technical registration tasks include checking the body, the engines, the marine equipments (radar, global positioning system, compass), the fishing machines (capstan) and marine safety instruments like life buoys. Technical registration ensures that the vessel will be safe at sea[49]. Thus, in order to go fishing, all vessels with at least 20 HP engines or, if without engine with a waterline over 15 meters, are required to have technical registration[50]. The administration of the technical registration is carried out at two levels: at national level and at provincial level. The General Departments of Capture Fisheries and Resources Protection (DCFRP) carries out the technical registration for fishing vessels belonging to Vietnamese ministries, foreign vessels operating in Vietnamese waters, inspection and research vessels, and Vietnamese vessels operating outsize Vietnam's EEZ. Sub-DCFRP carries out the technical registration at provincial level[51].

The technical registration process consists of six steps: 1) signing of technical supervision contracts, 2) submission of approved design, 3) inspection during building, repair and transformation, 4) technical examination upon completion, 5) equipment registration, and finally 6) issuance of the technical safety certificate (Figure 18).

[48] Decision No 96/2007/QĐ-BNN on fishing vessel registration
[49] Decision No 96/2007/QĐ-BNN
[50] Decision No 96/2007/QĐ-BNN
[51] Article 8 & 9 of Decision No 96/2007/QĐ-BNN

Figure 18: Fishing vessel technical safety certificate process (SEAFDEC 2010)

First of all, the owner of the vessel signs a technical supervision contract of technical inspection with the department of fishing vessel registration, which sorts under the Sub-DCFRP. Then the owners shall submit the approved technical drawing to Sub-DCFRP, before the Fishing vessel registration department inspects the vessel building, repair or/and rebuilding processes. When the work is completed the registration authorities inspect the instruments and equipments, such as the main engine, maritime safety equipments and fishing machines. If all the processes satisfy the requirements of technical regulations, the registration authorities issue a fishing vessel safety certificate for the vessel. The safety certificate include information regarding basis vessel information (name, signal letter, year and place built, tonnage, dimensions and power of main engine), owner information (name and address) and information of confirmation (vessel safety shore and expire date) (see Appendix 3 for details)[52]. In term of the technical registration fees, it is approximately ten percent of total value of vessel[53]. Technical registration fees include the approval of the vessel design[54], technical inspection of vessel and instrument in the vessel, and testing the vessel.

7.5 Vessel registration requirement

The second step in the procedure towards obtaining a catch certificate is the registration of the nationality of fishing vessels fishing in Vietnamese waters. This is a compulsory requirement of the Vietnamese regulations and IUU regulation[55]. Fishing vessels are only allowed to fish after completing the fishing vessel registration. Similar to the technical registration, the principle of the vessel registration is also based on horse power and overall length. Unlike the

[52] Decision No 96/2007/QĐ-BNN and Circular No 48 /2010/TT-BNNPTNT
[53] Decision No 31 /2007/QĐ-BTC
[54] As fishing vessels in Vietnam are not designed by engineers, but built following traditional practices, the fishery authorities need to recheck the vessel design.
[55] Article 2 and 3 of the IUU regulation

technical registration, the requirement of vessel registration also applies to small-scale and traditional vessels. The fishing vessel registration is carried out by three levels of government, instead of two levels as in the technical registration. The General DCFRP carries out the fishing vessel registration for the fishing vessels belonging to Vietnamese ministries, foreign vessels operating in Vietnam's EEZ, inspection and research vessels and Vietnamese vessels operating out size Vietnam's EEZ. The Sub-DCFRP registers the fishing vessels with capacity over or equal 20 HP at provincial levels, and the fishery department at district level manages the fishing vessel registration for the fishing vessels that have less than 20 HP, which are small-scale and traditional vessels[56].

In this second step, the owner of the vessel submits the fishing vessel registration application form, along with the fishing vessel registration certificate application fee of forty thousand VND[57], to department of capture fishing, which belongs to Sub-DCFRP. If the submitted documentations satisfy regulations for fishing vessel registration, the authority issues a certificate, called *registration certificate of fishing vessel*[58]. In addition to the technical safety certificate, a vessel registration certificate also depends on it being in accordance with the fisheries development plans of the regions and that the owner guarantees not to use the fishing vessel for illegal purposes[59]. In terms of the fisheries development plans, each province makes plans to develop the fisheries for a given period, normally five or ten years. For instance, it designates how many longline, purse seiners, gill net and trawl vessels are allowed to fish in the provincial water areas in a given period. Vietnam's regulation prohibits the building of new fishing vessels with total capacity less than 30 HP, trawling vessels with total capacity less than 90 HP and powered push netting vessels[60].

Contents of the vessel registration certificate include basic vessel information (name, signal letter, number and place of registry, dimension and material of vessel, code and power of main engine) and owner information (name and address) – information similar to the fishing vessel safety certificate. However, there are some different information between registration certificate of fishing vessel and fishing vessel safety certificate. For instance, the information of place of registry in the registration certificate of the fishing vessel, meaning this vessel belongs to Vietnam. By contrast, the information of safe operation area in the vessel safety certificate, meaning the certificate guarantees that the fishing vessel will be safe when

[56] Decision No 10/2006/QĐ-BTS on regulation of crews and fishing vessel registration
[57] Decision No 31 /2007/QĐ-BTC
[58] Decision No 10/2006/QĐ-BTS and Circular No 48 /2010/TT-BNNPTNT
[59] Decision No 10/2006/QĐ-BTS on regulation of crews and fishing vessel registration
[60] Circular No 02/2006/TT-BTS

operating at sea. Moreover, the fishing vessel safety certificate is valid only for one year, while the validity of the registration certificate of a fishing vessel is forever. These regulations states that to receive a registration certificate, it must satisfy specific requirements; however, when a fishing vessel has completed the technical registration, it is nearly automatically receive the fishing vessel registration certificate.

7.6 Fishing license requirement

After receiving the vessel registration certificate, the third step towards obtaining a catch certificate is obtaining a fishing license. The fishing license is a compulsory requirement for all fishing vessels going to fish in Vietnamese waters, including small-scale and traditional fishing vessels[61]. The purpose of the fishing license is to define legal fishing. If a fishing vessel does not have a fishing license, it is considered an IUU vessel[62]. Two levels manage and issue fishing licenses. The General DCFRP issues the fishing license for the fishing vessels belonging to Vietnamese ministries, foreign vessels operating in Vietnamese waters and Vietnamese vessels operating outside Vietnam's EEZ. All other vessels receive fishing licenses from the Sub-DCFRP at provincial levels.

The necessary documentation when applying for a fishing license includes the fishing license application form, the fishing vessel safety certificate, the vessel registration certificate, documentation of the decrees of master and crews (practical certificate of master or crew) and payment of the registration fee of forty thousand VND[63]. According to the regulations, a fishing license is issued when the owner of a vessel has submitted the documentation indicated above and the fishing vessel is in accordance with the legal fishery types. A fishing license is valid for one year. Therefore, the owner of a vessel has to renew the fishing license every year. The contents of fishing license include the information about the owner of the vessel (name, address), vessel information (name of ship, registration no, power of main engine) fishing operation information (fishing gear, expire date of fishing license) and renewable information (appendix 4). The authority may refuse to issue a fishing license if the vessel uses prohibited fishing gear, such as electric trawl (using an electric line on the ground rope of the trawl), uses too small mesh size in the bunt or codend of the net, or catches protected species or fishing during closed seasons or in closed areas. When the owner of the fishing vessel receives the fishing license, he is able to move to the final stage, the application for a catch certificate.

[61] Decree No 59/2005/NĐ-CP on the condition for fisheries business
[62] Circular No 48 /2010/TT-BNNPTNT
[63] Decree No. 59/2005/NĐ-CP and Circular No 48 /2010/TT-BNNPTNT

7.7 Catch certificate requirement

The final stage in order be able to export fish to the EC is the issuing of a catch certificate – something that is not compulsory for exports to other markets such as China, Japan and the US. In terms of information in a catch certificate, Vietnam's regulation is similar with the requirement of the EC's IUU regulation (see appendix 6). The process to achieve a catch certificate has following steps: the exporter submits a completed catch certificate form signed by the master of the fishing vessel to the Sub-DCFRP in the province where the vessel lands its catches. Then, the fishery authorities inspect the catch certificate's documentation, especially the fishing license, the fishing logbook and report, and the fishing gear. In addition, 5% of the total catches are to be inspected at random by the fishery authorities. If the documentation and the inspections are in accordance with the set regulations, and there are not reasons to believe the landed fish to be a result of IUU fishing, the fishery authorities issues a catch certificate. By contrast, if the authority detects anything within the fishing or the submission processes that are not consistent with the regulations, the fishing administration may refuse to issue a catch certificate[64]. If vessels are found, upon inspection, to be engaged in IUU fishing these vessels will not receive a catch certificate for sixty days, and the vessels are entered on the list of IUU vessels. Moreover, in theory at least, the exporter will not be able to export the fish from these IUU vessels to the EC. However, that regulation is not clear on who has responsibility to fill in the information in the catch certificate. Therefore, fishers and exporters may be careless and take advantage of the situation. This problem will be analysed more in detail in the next parts.

7.8 Report and fishing logbook requirement

Fishing report and logbook keeping are compulsory requirements of the IUU regulation. If a fishing vessel has not accomplished the fishing report or logbook keeping, this vessel will be defined as an IUU fishing vessel[65]. In order to satisfy the IUU regulation, the Vietnamese fisheries law also requires fishing report and logbook keeping and states that all parties and individuals who hold fishing licenses shall make fishing reports to fisheries management agencies located in the place where the fishing vessels are registered. The monthly fishing report is the responsibility of the vessel owner or master and is submitted to the Sub-DCFRP[66] and includes the basic information regarding the vessel and the owners (name, address, registration number), fishing activity information (type of fishery, number of fishing day and main fishing ground), and information about species and yield (see appendix 7). In general,

[64] Decision No 3477/QĐ-BNN-KTBVNL and Circular No 09/2011/TT- BNNPTNT
[65] Article 2 of IUU regulation
[66] Circular No 48 /2010/TT-BNNPTNT

the fishing report is an overall summary of fishing activities within a month. In terms of fishing logbook, fisheries law also require that the master of the fishing vessel shall be responsible for writing a fishing logbook during the fishing trips[67]. In addition, according to the fisheries law, fishery authorities are responsible to manage the fishing reports and logbooks. The logbook includes basic information on the vessel, the owners and the fishing operation, such as date, position, species and yield. Whereas the report supplies general information, the fishing logbook shows gives more specific information of each fishing trip. The logbook is important evidence to ensure that fishing vessels do not violate the regulations on, for instance, closed season, closed areas and prohibited species, and is an important document to receive a catch certificate. In conclusion, Vietnam and Khanh Hoa province have the regulations on fishing reports and logbook keeping, but the implementation of these regulations is problematic and challenging, as will be seen in the next section.

[67] Article 19, fisheries law 2003

Chapter 8: Problems and challenges when applying the IUU regulation in the tuna longline fisheries in Khanh Hoa province, Vietnam

Vietnam and Khanh Hoa developed policies and measures to meet the requirements of IUU regulation on catch certificate, sustainable resource development and management. Applying the IUU regulation in Vietnam faces many problems and challenges, partly because of Vietnamese coastal features and the weak management system. These issues are addressed by both fishery authorities and fishers. The below sections will describe and analyse the challenges related to the application of IUU regulation in Vietnam and Khanh Hoa in particular.

8.1 Problems and challenges related to the implementation of IUU regulation from the fishery authorities perspective

8.1.1 Mismatch between the IUU regulation and the Vietnamese regulations

Comparing the requirements of the EC's IUU regulation and the Vietnamese regulations, it is clear that there are overlapping sections, but the regulations also have mismatches, as illustrated in the figure below (figure 19). The EC's IUU regulation call for sustainable resource management measures, reporting and logbook keeping of fishing trips and a valid catch certificate to accompany the import into the EC. The procedure to get a catch certificate in Vietnam are quite different and involves a number of steps before a catch certificate is obtained, including vessel safety certificate, registration certificate and fishing licence. In addition, there is a requirement to report and logbook keeping.

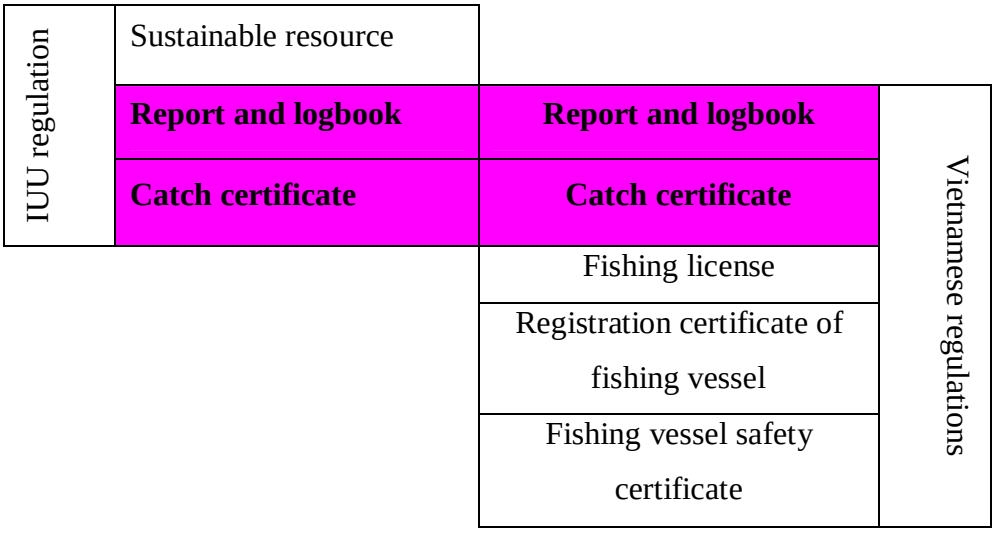

Figure 19: Matches and mismatches between Vietnamese regulations and the IUU regulation

In terms of matches between the EC's IUU regulation and the Vietnamese regulations there seems to be a match between the catch certificate requirement and the fishing report and logbook keeping. As mentioned, EC's IUU regulation requires that a valid catch certificate has to be enclosed with fishing products imported into the EC. That certificate ensures that fishery products were caught in compliance with the regulations on sustainable resource utilization. The report and the fishing logbook are the necessary instruments to make sure fishing vessels comply with the regulations. In order to export fishery products to the EC, Vietnam has to satisfy the catch certificate requirement of the EC's IUU regulation. Therefore, there are some degree of homogeneousness between the Vietnamese regulations and the IUU regulation on the catch certificate.

However, there are still differences between them in the steps to achieve the certificate. Specifically, the EC's IUU regulation insists on objectives of sustainable resource management and conservation, whereas the Vietnamese regulations related to resource management and conservation are not as clear and powerful. This weakness may be from weakness of regulation systems, the lack of resource databases, immediate fishing capacity increase and specific feature of Vietnamese fisheries (people fisheries, small-scale fisheries and open access). In addition, the issuing fishing licenses and catch certificates from the Vietnamese authority's perspective is not based on sustainable resource management. Rather they focus on marine safety that is the precondition to enter fishing operations. It is therefore a mismatch between the Vietnamese management perspective and IUU regulation requirement.

Apart from the mismatch between the EC's IUU regulation and Vietnam's regulations, there are problems and challenges related to the implementation of the EU regulations in Khanh Hoa province. Those include the process of issuing a fishing license and a catch certificate; the problems in resources management and conservation; lack of an updated resource database, corruption, keeping logbook and reporting, low education of fishers and the features of tuna products trade in Khanh Hoa (tuna products are always traded through middle men). All these problems and challenges are analysed below.

8.1.2 Problems and challenges related to the process of issuing certificates and fishing licenses from fishery authority's point of view

Conflicts within Vietnam's regulations make fishers ignore the processes of technical registration and vessel registration. The situation is that the total fees of technical registration and vessel registration are about 10% of total value of the vessel, approximately 40 million

VND. Apart from these fees, ship owner often pay the training cost of master and crew. However, if a vessel is caught without safety certificate and vessel registration certificate, it will be fined between 6 hundred thousand and 6 million VND, depending on the capacity of each fishing vessel[68]. It is clear that the fine is lower than the fees. Therefore, as the fine is a small proportion of the total costs of the owners, they accept to be fined if they are caught. For instance, 1.400 fishing vessels did not have the safety certificates and vessel registration certificates in Khanh Hoa in June 2008 (Sub-DCFRP 2010).

The government started subsidizing fisheries from 2008 in response to the rising fuel prices. This has prompted many fishers to register their fishing vessels, to be eligible for the subsidies. Almost all offshore fishing vessels are currently registered and have received the safety and vessel registration certificates. In 2010 subsidies ended and the question now remains whether the vessel owners will continue applying for certificates and fishing licenses for new vessels in the absence of economic incentives.

According to Vietnamese regulations, to achieve a fishing license the vessel needs to be equipped with the appropriate maritime safety instruments. In other words, when the vessel has the technical safety certificate, it nearly automatically gets the fishing license. The process of issuing a fishing license does not focus on the resource situation, whereas in the IUU regulation resource conservation is an important aspect. Thus, there may be a conflict between the requirements of the IUU regulation and the Vietnamese process of issuing the fishing license. The status of fisheries management in Khanh Hoa, and Vietnam in general, is that fishery authorities want to create employments for local people, and furthermore they do not have a good scientific database to estimate how many fishing vessels are suitable in their province. Therefore, fishing vessels with capacity over 90 HP can fish freely (specific requirement of building new fishing vessel is presented in section 7.5). As a result, the catch per unit effort has decreased during the last years (showed in figure 7). Consequently, the issuing the fishing license based solely on technical safety registration, instead of sustainable resource management, leads to overcapacity. This leads to economic loss, lower employment and reduction in household incomes, which exacerbate poverty, particularly among coastal and artisanal fishers.

Another problem of applying the IUU regulation is the filling out of the catch certificate form. According to the handbook on the practical application of IUU regulation, the master of the fishing vessel has the responsibility to fill in the information dealing with type of species that

[68] Decree No 31/2010/NĐ-CP on administrative fine of fisheries sector.

are caught and yields (section two to five in the certificate form). The form is then sent to the exporters who complete the remaining information dealing with name and address of exporter and transport details. The certificate form is then submitted to the fishery authority. Nevertheless, the reality in Vietnam is that masters do not fill out the form due to their practice and low education, the exporter fill in all the information in the certificate and submit it to the authority. Even some masters interviewed claimed that they did not see the catch certificate and they did not know why having this certificate is necessary[69]. In addition, the fishery authorities in Vietnam and Khanh Hoa do not have any regulation and guidance to who (fishers/exporter) has responsibility to fill the catch certificate. Thus, the practical application of the IUU regulation through catch certificates in Vietnam is not in line with the EC's IUU regulation.

Furthermore, the pattern of trade in Khanh Hoa causes all fish products to be traded through middle men, especially tuna products (Dung 2008 and Tram Anh 2009). There is a problem related to this pattern that the authorities do not consider middle men like transhipment process at sea. The essence of middle men is a bridge between fishers and exporters. Similarly, transhipment is a bridge between fishers and exporters as well. The two patterns of transactions are:

Pattern A. Fishing vessels → transhipment → exporters

Pattern B. Fishing vessels → middle men → exporters

According to the Vietnam's regulations, transhipment at sea (pattern A) must declare the information of transhipment, i.e. position of transhipment; estimated weigh of catch; and name of transport vessel. Transhipment information for fishery products that moves through middle men (pattern B) is not declared in the catch certificate. In the pattern A, authorities can trace from which fishing vessel the fish comes, because information of transhipment is declared in the catch certificate. By contrast, in the pattern B, authorities are not able to trace from which fishing vessel the products are, because information of transhipment is not declared in the catch certificate. This situation may lead to IUU fishing. Middle men can buy fish from fishers who comply with the regulations, as well as fishers who do not, and then mix IUU fish with non-IUU fish. As a result, IUU products are sold as non-IUU products. The trade between middle men and fishers is not recorded in the catch certificate, making it difficult if not possible for authorities to trace fish products that are contrary to IUU

[69] Interview with fishers, date 26.01.2011

regulation. In addition, when transhipment transactions are carried out at sea, information regarding the fishing operation and the product must be reported. However, according to Khanh Hoa Sub-DCFRP, vessel owners and exporters intentionally ignore this as they find it too demanding. Moreover, Vietnam and Khanh Hoa do not have any regulations to ask middle men to record which fishing vessels and yield that they bought. In reality, middle men buy fish from many fishing vessels, even they buy fish again from buying-vessels at sea. The middle men in turn sell fish to more than one exporter, in different places. Thus makes the process of tracing the fish products more complicated. Middle men also do not ask fishers logbook keeping. This is a reason to answer why fishers do not write logbook. It leads to the problems in issuing the catch certificate because fishing logbook is a necessary document for achieve a catch certificate.

In addition, because of the patterns of trade of fisheries products, inspection by the authority is not effective. IUU regulation[70] and Decision No 3477 /QĐ-BNN-KTBVNL[71] both stipulate that authorities shall carry out random inspections of at least 5% of the total average landings and transshipment transaction at the ports each year. With regards to tuna, the authorities are not able to inspect at ports because the fishing boats have landed already. By the time fishery authorities receive the catch certificate application from the exporter, the fish is already in the processing factories. Furthermore, fishers in Khanh Hoa are not familiar with landing in the fishing ports, contrastingly they often unload fishing products in landing places such as deep water areas, roadsteads and even in front of their house[72]. Therefore, the inspection of the fishery authority in Khanh Hoa is limited to check the validation of fishing license, the fishing gear and the marine safety of the vessel – they are not able to inspect the fish. Consequently, in the first period of the application of the IUU regulation in Khanh Hoa, and in particularly in relation to issuing catch certificate, fishery authorities have been significantly challenged in the implementation of the IUU regulation.

Another weakness in the management system related to catch certificate issuing is the fishing vessel monitoring system. Until now Vietnam has not had fishing vessel monitoring system. The IUU regulation does not require that such a system is in place, but if the fishing vessel monitoring system is in place it will support the validation of catch certificates. Fishery authorities can control fishing vessels operation at sea, and they can manage the real information in the catch certificate. Now Khanh Hoa has some inspection vessels, but due to

[70] Article 9 of IUU regulation
[71] Article 7 of Decision No 3477 /QĐ-BNN-KTBVNL
[72] Interview with fishers, date 26.01.2011

the small size of the fisheries inspection vessels, inspections of fishing operations are only carried out in coastal areas. Tuna longline vessels operate in offshore areas, which make it difficult for fishery authorities to inspect these vessels and validate the information in the catch certificates. Management of longline tuna vessels is conducted by administration in the offices, instead of the actual work in the field. Fisheries administration are also not able to identify which fishing vessels are illegal at sea because they have no instruments to help them to inspect fishing vessels operating at sea. According to Vietnamese regulations, fishing vessels with the capacity over 90HP are not allowed to operate in the inshore and coastal areas. These vessels are only permitted to fish offshore[73]. In fact, as the fishing administrations cannot manage these fishing vessels, the only management tool they have is the fishing logbook. Moreover, they are not able to control the traceability of fishing products, and the authorities are also faced with challenges related to differentiating between fishing products from IUU fishing or those from non-IUU fishing (MARD 2007).

8.1.3 Problems related to sustainable resource management

It can be said that one of the greatest weaknesses of Vietnamese fisheries management in general, and in tuna fisheries in particular, is the lack of updated resource databases (Sub-DCFRP). Similarly, fishery scientists have concluded that there are large management problems with traditional capture fisheries as there are neither reliable catch statistics nor assessments of the major stocks (Hersoug 2002). The tuna fisheries have no reliable stock assessment that could show the comprehensive picture of the resource situation. However, patchy evidence presented show that the tuna offshore resources are not as high as anticipated. Particularly, some disputed areas, such as around the Paracel Islands and the Spratly Islands, have not had any research in stock assessment (Lewis 2005). Survey programs on tuna resources have been conducted since 1973, till present date, but no publication detailing the results of this work has been located (SEAFDEC 2002). The reason is because the tuna stock assessments carried out is small in scope and sparse. Moreover, as mentioned in the overview of Vietnamese fisheries, some stock assessments in the Vietnamese sea have been carried out, but with diverging results. Therefore, the research results and the resource statistic are not reliable to be used for management, planning or fishery development policies.

In addition, Vietnam has no special regulations on principles of marine resource management and conservation. They also have no assessments about the impacts of fishing. Human activities on the environment on the fishery resources (target and non target species) and on

[73] Decree No 33/2010/NĐ-CP

the ecosystem, at al. Fishers fish freely, in spite of the negative impacts these fishing operation may have on the habitat. Free fishing leads to decline and loss of marine ecological balance. Vietnam has not participated in collecting and sharing accurate data concerning fishing activities and information from the national and international research programmes due to lack of stock assessment and fisheries statistic (Long 2010).

Moreover, Vietnam in general and Khanh Hoa province in particular do not have gear regulations, i.e. length of mainline; number and type of hooks in the longline fisheries, to protect and conserve fishery resources and eliminate bycatch. Vietnamese regulations stipulate mesh size and the minimum legal size of some kinds of fish, but there are no regulations on tuna fisheries. Therefore, longline fishers use arbitrary types of hooks and scales of longline. This situation may be harmful to fisheries resources, because of high proportion of juveniles and bycatch in total catches. In the long term this may exhaust the resources. This is the conflict between the principle of the IUU regulation and the regional fishery management organization. However, Khanh Hoa is facing the situation that one side is to create the employment for local people and develop fishery economic, the other side is to protect marine resources. Balancing two objectives is not easy and solving the problem in the near future is nowhere in sight.

Until now, Vietnam has not had a good fishery statistic system. The annual fisheries data, such as total yield, number of fishing vessels and fishing capacity are quite general. Vietnam lacks specific fisheries data, such as separate yield of each gear per year, yield of each species and fishing grounds; hence, making fisheries policies planning and developing difficult, particularly to prevent and eliminate IUU fishing (MARD 2007). Although fishery scientists indicated that the yellowfin and bigeye tuna resources were somewhere between 44,850 and 52,590 tons and the maximum sustainable yield was of 17,000 tons, these data are not well researched and are not reliable figures to make the fisheries strategies. Also, data and information on annual tuna catches and exports have been statistics from the seafood companies and the General Statistical Office through exporting, and not collected by the fishing vessels. Thus, a vast amount of tuna traded and consumed in the domestic market has not been reported. The shortcomings of the resource databases, authorities lack reliable scientific information needed to allocate tuna quotas, limit the number of longline fishing vessels, as well as make long run projection of the development of the tuna fisheries. Vietnam and Khanh Hoa province have not set MSY, TAC, quota or other fishery management standards for the tuna fisheries. The situation conflicts with the IUU regulation and particularly in relation to the Convention on the conservation and management of highly

migratory fish stocks in the western and central Pacific Ocean of Western and Central Pacific Fisheries Commission that Vietnam is cooperating with. From this, the countries shall apply the sustainable resource management and conservation measures, which are internationally agreed upon standards, such as TAC, MSY and quotas.

Another problem related to resource management is the open access regime. Although Vietnamese fisheries law stipulates to issue a fishing license depending on the regional fisheries development plans, Khanh Hoa province does not limit the numbers of fishing vessels with total capacity of more than 90 HP. Because it is easy to get a fishing license, everyone may fish and there is no effective mechanism to control entry. Offshore fishing vessels with engine over 90 HP, are encouraged to expand and the banks offer species interest rates to assist fishers. As tuna longline vessels often have a capacity over 90 HP and it is easy to get a fishing license, the tuna longline fishery is practically an open access fishery. As a result, too many people and not enough fish lead to light competition and destruction of fisheries resources and habitats, and contribute significantly to IUU fishing. The open access regime is a key problem leading to overcapacity, overfishing and IUU fishing (Lai et al. 2009).

Lately, there has been a growing concern over the difficulties to manage the fisheries and the problems related to control of and/or reduction in the number of fishing vessels. Unmanaged fisheries tend to result in harvesting overcapacities, declining Catch per Unit Effort (CPUE), changes in catch composition, and proliferation of illegal and destructive fishing (SEAFDEC 2010). This situation conflicts with the objectives of sustainable fishery resources development which is a central part of the IUU regulation.

8.1.4 Problems related to reporting and keeping logbook from the authority's view point

Vietnamese regulations stipulate that fishing report and logbook keeping are compulsory for fishers and masters of fishing vessels. The fishery authorities have to manage and inspect the fishers, the reality is that if these procedures are to be followed, it would require a lot of efforts, as each province has thousands of fishing vessels. The fisheries in Vietnam and Khanh Hoa are mostly small-scale and multi-gear, which makes it complicated to follow the management procedures. For instance, there are 10,524 fishing vessels (102 tuna longline fishing vessels) in Khanh Hoa (Sup-DCFRP 2010), every six months fishers submit 10,524 fishing logbooks. This is huge pressures and stressful for officers to check. The logbooks because it is carried out manually in Khanh Hoa do not have an electronic logbook system. Thus, the process of implementing the fishing report and logbook is faced with difficulties

from the very first step. Moreover, current laws and regulations do not set criteria of the reality of logbook to validate reported data or specific requirements of fishing logbook keeping or reporting procedures. Although Decree No 31/2010/NĐ-CP[74] provides that if the fishing boat does not keep a logbook or complete the reports, that boat will be fined between 300,000 and 500,000 VND for each mistake. However, until now, no fishing boats have been fined. Fishermen write the logbook and report to the fishery authorities, but due to misinformation, these logbooks and report have no meaning. In other words, the regulations require fishers to write the fishing logbook and report the catches to fishery authorities, but do not stipulate how to ensure reliability of the information. Therefore, fishers can report wrong information of catches and write whatever in the logbook without being fined. This is a real gap in laws. In addition, fishing report and logbook keeping are only helpful to fisheries management, but it is not profitable or helpful for fishers, even it makes the complication and complex for fishers, so they do not want to implement the fishing report and logbook keeping[75].

Another shortcoming of the regulations is that there are no requirement for fishing report and logbook keeping for Vietnamese fishing vessels operating in the waters beyond Vietnam's jurisdiction[76]. Therefore, fishery authorities cannot manage fishing vessels outside the Vietnamese EEZ using fishing report and logbook (Long and Dung 2010).

An additional challenge related to the fishing reports and the logbooks of fishers also come from the characteristic of domestic fisheries market. There are often no difference in prices between IUU fishing products and non-IUU fishing products. Fishers who do not report and write the logbooks still participate in fisheries trade. Their catches are bought by middle men for the same prices as actual non-IUU fish. From this, fishers are not keen on enforcement of fishing report and logbook keeping. If the fish prices of fishers who comply with the regulations were higher than the price of those not complying, it would be more likely that there would be an increased awareness of the regulations. Therefore, it is able to say that invisible hand of the markets can also make fishers well enforce the regulations, especially enforcement of fishing report and logbook keeping.

In general, the purpose of IUU regulation is to eliminate IUU fishing activities, but there are a few gaps in the Vietnamese regulations regarding to the fishing report. Fishers may take advantage of this situation to engage in IUU fishing.

[74] Decree No 31/2010/NĐ-CP
[75] Interview with fishers, date 18.01.2011
[76] Decree 33/2010/NĐ-CP

8.2 Problems and challenges related to the implementation of IUU regulation from the fishermen's perspective

8.2.1 Problems for the fishermen related to obtaining licenses and certificates

Due to the weakness in regulation enforcement and the resistance of fishers to be managed by the authorities through the licensing and certificate schemes, fishers always feel that they are constrained and controlled. Moreover, fishers try to delay to pay the fees as long as possible. Therefore, in the past years, fishing vessels operating without licenses are quite common. In order to get a catch certificate the vessels need to have a technical safety certificate, a registration certificate of the fishing vessel, a fishing license, and finally the catch certificate, which includes the use of fishing reports and logbooks. Thus, when fishers have not been able to get a vessel safety certificate, receive a registration certificate of fishing vessel and a fishing license, they cannot obtain the catch certificate from the authority. Although the fishers' awareness with regards to licenses and certificates is increasing, some others do not follow the requirement of regulation on taking technical safety certificate, a registration certificate of fishing vessel and fishing license. Moreover, some fishers do not know where and what the processes are to apply for the certificates and licenses. Sometimes, fishers want to apply it, but they do not know how to do. As a result, fishers do not care about the vessel safety certificates, registration certificates of fishing vessel and fishing licenses.

Apart from the low weakness of fishers regarding to applying license and certificates, they also do not have the sufficient master and crew degrees that is necessary to apply for a fishing license[77]. Due to the low level of education amongst fishermen, receiving the correct education or training is difficult which is made worse by the fact that fishers are always engaged. Therefore, getting license faces challenges and problems.

The lack of linkage between fishers, exporters and authorities, leads to poor cooperation in catch certificate enforcement. Fishermen tend to think that it is not their responsibility. In addition, tuna products must be sold through middle men, but middle men are not affected by the IUU regulation as they are neither exporter nor exploiters (Dung 2008 and Tram Anh 2009). Due to the strong competition between middle men, when market prices increase, middle men have to buy products at a higher price from fishermen, while simultaneously selling these products at a higher price to the exporters. Similarly, if market prices decrease, middle men will sell fish to exporters at a lower price, but at the same time they will buy this

[77] Interview with Mr Ban, date 24..01.2011

fish at a lower price from the fishers. In either case, the profits of middle men are always constant (figure 20). Consequently, as their profits are not affected, the middle men are not eager to cooperate with the fisheries administration to make fishers comply with IUU regulation. Moreover, motivated by profit, middle men also support IUU fishing activities by buying IUU fish and mix it with non-IUU fish. As a result, they can quickly transfer IUU fish into non-IUU fish. It is therefore difficult to trace the fish products, a situation that contradicts the goal of the IUU regulation, which is to prevent, deter and eliminate illegal, unreported and unregulated fishing.

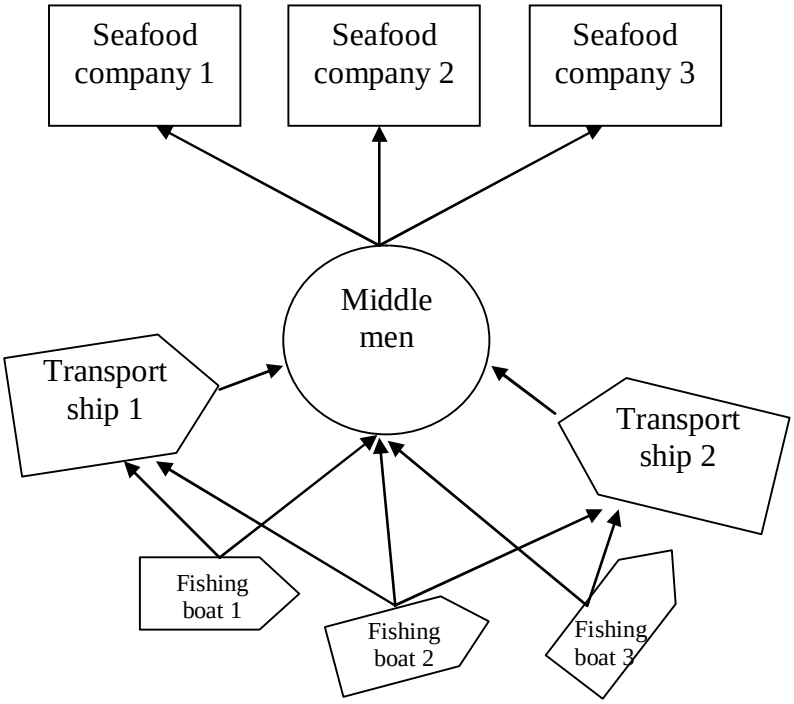

Figure 20: The logistic of the tuna product trade in Khanh Hoa (Dung 2008)

In order to receive a valid catch certificate from the authorities, exporter needs to have the copies of the logbooks, the fishing license and a complete catch certificate form. However, the problem is that a catch certificate is completed by exporters after buying fish from middle men. Therefore, the information in the catch certificate form is not correct as the exporters may fill in whatever species and weight caught by a particular fishing boat, instead of the master providing the information of vessel, species and yield in the catch certificate.

8.2.2 Problems for the fishermen related to resource management

One of main problems related to resource protection is that most fishing communities and fishers are not aware of resource protection[78]. Fishers often do not think of future consequences of their actions and think that fishery resource management is solely a responsibility of the authorities. Hence, fishers often fish without care for resources management, just to satisfy their immediate benefits and needs.

In tuna longline fishing, fishers are free to use any kind of gear. Therefore, there is negative effect on the resources as a result of these fishing gears that are mostly not selective. It is therefore harmful to resources. This situation is obviously contrary to IUU regulation and WCPCF's requirement. Tuna species such as yellowfin and bigeye account for 30-50% if the total catches for the tuna longline fleet, whereas the bycatch may be between 30-50%. The bycatch includes a number of prohibited species, i.e. shark, turtle and porpoise. Moreover, a significant portion of the tuna catch (30-50%) are small tunas (Long and Dung 2010), which are possible to trade in the Vietnamese market, as people consume all sizes of fish, even juveniles. Thus, bycatch may be a significant source of revenue. Therefore, it is not easy to ask fishers to eliminate the bycatch. Although these illegally caught species are not allowed to be exported to the EC[79], the tuna of that the IUU vessels is still being exported to the EC. Although the benefit of this illegal activity in the short run is income to the individual fisher, in the long term it may have negative effects on the resources.

8.2.3 Problems for the fishers related to reporting and keeping logbooks

Due to the traditional fishing methods of fishers, fishermen are not welcoming the fishing reports and the logbooks. Conflict of interest may make them conceal trip information and misstate information regarding fishing areas and routes, especially banned species or fishing grounds of high productivity that may attract other competing vessels. In fact, the information in the fishing report and logbook is not currently perceived as relevant for the fishermen and tend to think that it is secret and private information. Thus, fishers are either not eager to report or will report wrong information. A number of fishers even wonder why they have to report the yield and write the logbook. They feel it is unfair, inconvenient and irrational. In reality, fishers argue that implementation of fishing report and logbook keeping, brings an inconvenience to them. In addition, many fishers live far from the fishery authorities' destination. If fishers enforce fishing report, every month they may spend one day for going

[78] Interview with Mr Ban, date 24.01.2011
[79] Article 3 of IUU regulation

and coming back. Fishing report and writing logbook do not bring any profit or gain to fishers when they well implement. Sometimes fishers have good harvest, but they dare not report to fishery authorities. They worry that government will ask high tax, and they have to pay more money for their social duty, such as subscribing to charity, building house of gratitude and constructing alleys. While if fishers think that if it is lost harvest, maybe they will receive the subsidization, like the fuel subsidies in 2008. These are the reasons to answer why fishers always complain that they are lost in harvest.

Furthermore, according to vessel owners and masters interviewed (List of interview in appendix 1), fishing logbook keeping is quite difficult because of the poor comfort onboard the vessels. The longline vessels are usually artisanal small sized boats, while the weather at sea is often severe with heavy wind and big waves. Also, tuna fishing boats in Khanh Hoa do not have any instruments to measure the exact weigh of fish; thus fishers only estimate the volume of fish after some time fishing. As a result, they cannot separate the species caught, to measure the exact volume of the different species. Besides, almost all fishers have little education, recognizing the words and reading is quite hard, let alone writing the logbook. Many fishers claimed that the specific writing in the fishing logbook is very complex and complicated to them. Owners of fishing vessels answered that the daily work of master is really hard and stress. "Writing is not an interesting task for the master, they prefer fishing to taking a pen", one owner said[80]. Others told that "employing a good master is quite difficult, so owners dare not ask master to write fishing logbook. If owners are fastidious about writing logbook, masters may deny their work and move to other vessels[81]". Moreover, a simple reason that masters do not implement the requirement of logbook keeping is "slothful". Because fishers usually sell fish to middle men or buying vessels at sea which do not need fishing logbook, so masters are not motivate to write. Due to weakness of writing logbook, a report from Khanh Hoa Sub-DCFRP (2010) showed that from eighty tuna longline logbooks 100% were considered erroneous, especially information about the fishing positions and yield. In general, it seems that the fishing report and logbook keeping is the first step to progress fisheries with management. Therefore, enforcement is not really strict. Any way, fishers accept to make fishing report and write logbook that is a positive change in the regulations implementation. Fishing report and logbook keeping are started only one year, so it is not able to request fishers to strictly and clearly enforce. Fishers were familiar with traditional fishing methods. It cannot ask them to change their habit within overnight [82].

[80] Interview with fishers, date 11.02.2011
[81] Interview with fisher, date 18.01.2011
[82] Interview with Mr Ban, date 24.01.2011

8.2.4 Problems and challenges related to low education and poverty among the fishers

The educational level in fishing communities is generally low 68% of residents in the coastal fishing communities have not finished primary school; only 20% have finished primary school and only 10% have finished secondary school. Less than 1% of fishers have a certificate or diploma from a vocational school or university (Vietnamese General Statistic Office 2006). Similarly, according to recent surveys, among 1,115 fishers interviewed in the fishing villages in Khanh Hoa province, there were 767 people (68.8%) that were illiterate and/or finished primary school, 231 people (20.7%) graduated junior high school, and only 116 (10.4%) were finished senior high school or further (Phu et al. 2010). As the education level in fishing communities is low, their awareness of regulation enforcement is quite limited[83]. The only way that they can approach regulations and laws is through training courses by the fisheries administration. But the sad situation is that almost all participants are vessel owners, while crews and master who directly experience the regulations and laws do not attend as they are at sea almost all year round. Particularly for tuna longline fisheries, the number of fishing days are from eighteen to twenty days at sea each month (Dap 2008), and when landing, they must prepare gear, bait and fuel for the next trip. For these reasons, the efficiency of training courses is also limited.

Furthermore, the fishers do not comply with regulations because of the traditional fishing methods they practice. Vietnamese and Khanh Hoa fisheries are mostly small-scale fisheries and collective people fisheries (Pomeroy et al. 2009). Fishers try to catch as much fish as possible. They do not care about the future consequences. Moreover, they tend to think that the market price is objective factor that fishers cannot control. They are not aware of where their fish will be exported. In addition, fishers are not aware that proper enforcement of regulation will improve the price and profit. This is particularly relevant for fish exported to the EC, as the EC is an important market for Vietnam. Some interviewed fishermen said that "rather than selling fish to the EU, we could sell it to Japan, US, China and other countries[84]". Because of this misunderstanding many fishers are inclined to IUU fishing.

Low education and weak awareness of fishers make writing logbook and fishing report beyond the capacity of many fishers. Filling in information in the catch certificate may be a challenge. For instance, bad handwriting may be difficult for the authorities to decipher. Some cases, exporters forged a signature of the master in the catch certificate. IUU regulation stipulates that

[83] Report of fisheries in 2010 of Khanh Hoa Sub-department of Capture Fisheries and Resources Protection
[84] Interview with fishers, date 11.02.2011

vessels have honestly reported according to national laws or regulations of the regional fishery management organizations (WCPFC). This is really difficult to effectively enforce in the Vietnamese fisheries at the moment. Fishers have not been aware of fishery regulation implementation in general and regulation on resource management in particular. They have not recognized regulation enforcement that will bring the profit to them in the future.

Poor economic factor is the key cause of IUU fishing in Khanh Hoa (Ban 2011). Some IUU vessels recruit their crew from people who are a lack of alternative employment opportunities and who may be unaware of the vessels' illegal operations. Fishers must look for a means of subsistence, so they have not cared to participate the fishery regulation training courses. Therefore, some cases fishers conduct in IUU fishing, but they do not know that is incompliance with the regulation. Furthermore, fishermen are usually poor. Sometimes, fishers know that their activities are illegal, but because of the high costs of fishing, they must risk to engage in IUU fishing unless they are lost their capital. Normally, the cost of the annual operation of tuna longline fish vessel is up to 571.6 million VND per year (Kim Long 2008 and Hong Gam 2010). This is a significant investment for the fishers/owner, which leads to IUU fishing. Consequently, when IUU fisher's are poor, conventional deterrence IUU fishing are not capable of explaining and providing solutions to the IUU problem.

8.3 Problems related to corruption

Corruption within the fisheries is also a serious problem. There are plentiful opportunities for corruption and corruption occurs within whole process of fisheries activities. Corruption is also conducted at the national and regional levels of fisheries management. The consequences of corruption may be scientific failure, management failure and implementation failure (Sumaila and Jacquet 2008). According to Sumaila, scientific failure means that corruption causes the results of researches to deviate. The advices of scientists are not based on the public interests, but in the interest of individuals or a group of selected individuals. Corruption in fisheries may result in management and implementation failures. Management failure means that when fisheries managers will easily approve the certificates and licenses of fishers, and managers will facilely allow increasing the fishing vessels, contrary to that recommended by scientists. Implementation failure is that it makes it attractive for monitors of fish catch to deliberately allow fishers to catch being not complied with the regulations. In addition to corruption can lead to failures in the achievement of fisheries management goals and further problem is that may collapse fisheries development strategies.

Corruption in fisheries management in Khanh Hoa takes place in two forms: "direct corruption" and "indirect corruption". Corruption is not only about money, but also about relationship between managers and fishers, including the manager's sympathies for fishers. Direct corruption is that when fishers or exporters pay black money to officers to receive the priorities such as documentation validation and not being entered the IUU list, while indirect corruption is that when authority accepts to validate the documentations of submitters without money. In some cases, fishers were refused to issue the fishing license from fishery authorities because they did not complete their social duties.

Corruption in fisheries management in Khanh Hoa province may occur in the whole management processes, from technical registration to the catch certificate. Although issuing the fishing license process depends on a set standard for maritime safety of the vessels, many fishing vessels do not have the appropriate marine safety equipment. For surveyed in 2008, around 30% of longline vessels did not satisfy the minimum standards related to marine instruments (Huyen 2009). However, all vessels were issued the fishing vessel safety certificate, the registration certificate of fishing vessel and fishing license by the Sub-DCFRP. Similarly, Khanh Hoa fishery authorities validated almost all catch certificates submitted by exporters in 2010. Irregular catch certificates are sometimes adjusted to become lawful. Although the confirmation of catch certificate is based on the validation of fishing license and reliable information on the logbook, eighty logbooks that reported by fishers in 2010 were not full information of catches, fishing position and fishing time. Yet authorities base on this reliable date to issue catch certificates for exporters. So is not corruption here? In fact, fishers did not completely agree that they involved in corruption, but they admitted that sometimes fisheries officers ignored the mistakes of fishing report and logbook keeping[85].

Corruption in fisheries management may indirectly lead to weak enforcement of fisheries laws and regulations and thereby weaken the fisheries management. In the short term, the effects may not be felt by society at large, but in the long term, corruption may lead to resource failure. Thus, corruption may lead to scientific failure, management failure and enforcement failure. The objective of the IUU regulation is to foster healthy resources and good management in order to provide sustainable economic, environmental and social conditions. Therefore, corruption in the fisheries may destroy the good objectives of IUU regulation.

[85] Interview with fishers, date 18.01.2011

Chapter 9: Conclusion

The study briefly summarized the requirements IUU regulation on resource management and conservation, fishing report and logbook keeping, and catch certificate scheme. The IUU regulation insists on the conservation and sustainable exploitation of fisheries resources is to ensure exploitation of living aquatic resources that provides sustainable economic, environmental and social conditions. The EC IUU regulation applies to IUU fishing and associated activities carried out within the jurisdiction of EC member states. In addition to activities carried out by Community and non-Community vessels on the high seas or in the waters under the jurisdiction of a third state. IUU fishing within maritime waters of overseas countries and territories of the EC member states is treated as taking place within maritime waters of third countries.

Tuna fisheries in Vietnam and Khanh Hoa in particular are challenged with overfishing, excessive fishing efforts and depleting resources. The role of fisheries management is, therefore, very important to achieve sustainable development of fisheries sector. Vietnam also seeks to better conserve and manage fisheries resources not only in its EEZ but also beyond, in order to comply with relevant international norms and rules. In the past, Vietnam has issued many legislative documents on management and conservation of aquatic resources. However, the state has not issued any legal documents related to tuna resource management. There are only common legal normative documents related to the exploitation and protection of fisheries resources in general, which include tuna species. Furthermore, there are not comprehensive tuna stock assessment and biological research. The information of catches is not reliable. As a result, Vietnam and Khanh Hoa have no tuna database to make long term plans for tuna fisheries management and development, as well as vessel management.

Vietnamese fisheries are changing from small-scale and people fisheries in open access to fisheries with good management, so it will face the difficulties in the first steps in relation to incompletion of regulations, weakness of management and regulation implementation. Especially when Vietnam applied IUU regulation from January 1st, 2010, fisheries regulation system, fishing infrastructure, management system and enforcement of fishers are showing the problems and challenges. These problems and challenges also come from fishery authority's perspectives and fisher's implementation as well. However, this is a good chance to improve fisheries management in Vietnam.

Due to lack of scientific database of resources, the issuing of fishing license in Vietnam is, therefore, based on technical safety certificate instead of based on resources conservation. Furthermore, fishers do not strictly enforce fishing report and logbook keeping because Vietnam's regulations on this are not complete. In general, the process to achieve the catch certificate is not satisfied with requirement of IUU regulation.

Small-scale and traditional fisheries are the features of Vietnam's fisheries. Fishers are familiar with free fishing. They do not care resources protection. Moreover, fisher's education is low, aware of regulation implementation is weak and their economic capacity is poor. That leads to IUU fishing amongst fishers in Khanh Hoa. Fishers are not used to fishing report and writing logbook. Hence, achieving catch certificate faces the difficulties.

In addition, corruption in fisheries is a serious situation. It may lead to scientific failure, management failure and implementation failure.

Apart from the conclusion above, the study also has some recommendation as follows:

In order to implement IUU regulation well, it is necessary to cooperate between the fishery authorities and fishers. Fishers need quick adjustment in changing traditional from fishing methods to writing logbook. Fishery authorities need completed regulations and immediately solve inadequacies related to IUU fishing.

Vietnam and Khanh Hoa lack inspection system of fishing vessels at sea. To prevent, deter and eliminate IUU fishing is facing the challenges and problems. In addition, tunas are highly migratory species. Their habitat extends to many state's jurisdictions. Fishing tuna in a state will affect other countries. Therefore, Vietnam needs an international cooperation to solve that challenges and problems.

The EC's regulation requests to stop IUU fishing activities immediately. In order to satisfy the requirements of IUU regulation, Vietnamese fisheries need to change and improve the national regulations, fishing management system and mode of production of fishers. This is really hard task because Vietnam has not had an inspection system of fishing activities so that it can meet the requirement of EC.

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Appendix 1: List of interviewees

No	Name	Address
1.	Nguyen Tan Ban	Chief of Sub-DCFRP; 85. 2/4 street , Van Thang precinct, Nha Trang
2.	Nguyen Van En	Leader of DCF; 85. 2/4 street , Van Thang precinct, Nha Trang
3.	Nguyen Van Dau	Vice Chief of Sub-DCFRP; 85. 2/4 street , Van Thang precinct, Nha Trang
4.	Lu Thanh Phong	Officer of Sub-DCFRP; 85. 2/4 street , Van Thang precinct, Nha Trang
5.	Nguyen Tien Thang	Officer of General DCFRP; 10 Nguyen Cong Hoan, Ba Dinh, Ha Noi
6.	Nguyen Van Hung	Officer of General DCFRP; 10 Nguyen Cong Hoan, Ba Dinh, Ha Noi
7.	Tran Van Sang	08 Tan Lap dune, Duy Thanh, Xuong Huan, Nha Trang (NT)
8.	Le Dinh Phung	Son Thuy Str, Vinh Phuoc, NT
9.	Pham Gium	424 Ha Ra Str, Vinh Phuoc, NT
10.	Le Thi Nhi	Binh Tan Str, Vinh Truong, NT
11.	Tran Van Ty	Hon Ro, Vinh Truong, NT
12.	Huynh Phi Hung	O 28, Polt 1414 Hon Ro Str, Phuoc Dong, NT
13.	Huynh Phi Minh	152 Duy Hai, Xuong Huan, NT
14.	Huynh Loc	15/2 Con Village, Xuong Huan, NT
15.	Pham Tan Thanh	Duy Hoa, Xuong Huan, NT
16.	Vo Quoc Bao	44/4 Tan Lap dune, Duy Thanh, Xuong Huan, NT
17.	Ho Van An	Ha Ra, Vinh Phuoc, NT
18.	Tran Van Cu	50/6 Tan Lap dune, Duy Thanh, Xuong Huan, NT
19.	Tran Van May	O 16, Plot 802, Hon Ro, Phuoc Dong, NT
20.	Tran Be	26 Tan Lap dune, Duy Thanh, Xuong Huan, NT
21.	Le Van Phi	Truong Son, Vinh Truong, NT
22.	Cao Van Tho	O 15, Plot 753, Hon Ro, Phuoc Dong, NT
23.	Huynh Thanh Lich	16/4 Tan Lap dune, Xuong Huan, NT
24.	Dang Tan Phong	Duy Thanh, Xuong Huan, NT
25.	Le Van Hy	Hon Ro, Phuoc Dong, NT
26.	Le Quoc Hung	27 B, Tan Lap dune, Xuong Huan, NT
27.	Tran Van Dat	O 28, Plot 1424, Hon Ro, Phuoc Dong, NT
28.	Vo Van Dep	O 19, Plot 950, Hon Ro, Phuoc Dong, NT
29.	Huynh Van Lap	Duy Thanh, Xuong Huan, NT
30.	Huynh Phi Tam	Duy Hai, Xuong Huan, NT
31.	Tran Be	26 Tan Lap dune, Duy Thanh, Xuong Huan, NT
32.	Le Ba	43 Tan Lap dune, Duy Thanh, Xuong Huan, NT
33.	Mai Van Cu	40 C/2 Con Giua, Duy Hoa, Xuong Huan, NT
34.	Vo Gia Lam	Vinh Dien Trung, Vinh Hiep, Nha Trang
35.	Ngo Van Nhi	Tan Lap dune, Duy Thanh, Xuong Huan, NT
36.	Hang Tan Hung	6 Ha Ra Str, Vinh Phuoc, NT
37.	Tran Van Em	Duy Thanh, Xuong Huan, NT
38.	Tran Huynh Giao	Truong Sa, Phuoc Long, NT
39.	Dao Thanh Tuan	Tay Nam Str, Vinh Hai, NT
40.	Huynh Lang	Duy Hai, Xuong Huan, NT
41.	Le Van Toan	Ha Ra Str, Vinh Phuoc, NT
42.	Nguyen Xuan Giang	20 B Ha Ra Str, Vinh Phuoc, NT

Appendix 2: Interview form

Interview form for fishermen

Date:…….

Interviewer: ……..

Interviewee……..Address…….

Position (ship owner/ captain)……...

Name of ship…….Registration No……capacity (HP)…….

1. Do you understand/know about IUU fishing and IUU regulation? Are you familiar with this?
2. What do you have to do to avoid IUU fishing?
3. Which training classes did you study about IUU regulation?
4. In order to implement the IUU regulation, what do you have to do?
5. Are there any sufficient communication channels available for you to clarify your understanding of IUU regulation?
6. In your opinion, does the IUU regulation affect on your fishing activities? (explain why and how?)

a) very negative effect on production

b) negative effect on produce

c) no effect

d) positive effect

e) very positive effect on production

7. What are the most difficulties in IUU regulation enforcement?
8. In order to implement the IUU regulation, do you have to pay any cost, what kind of costs and how much (if any)
9. How about the price of tuna after applying IUU regulation?
10. How about the profit after applying the IUU regulation?
11. Where do you sell the production? (middle men, processors?)
12. Have you ever been in IUU fishing? (if yes, why? And what cases?)
13. Where does your vessel often land? (fishing ports, wherever?)
14. Do you write the fishing logbook? Is it easy for you to do?
15. Is it difficult for you to receive the fishing license? Are there any fees for receiving the fishing license? (if yes how much?)
16. Is it easy for you to get the catch certificate? If the responsibility asking catch certificate is transferred to seafood companies, have you filled any information in its catch certificate?

Thank you very much for your cooperation!

Questions for Sub-Department of capture fisheries and resources protection

1. Processing of IUU regulation performance, in what way to get CC, who award it? And what kind of other documentations are attached CC?
2. Which authorities award catch certificate
3. What are processes of issuing the fishing license? Are there any special requirements? Are there any fees for issuing the fishing license? (if yes how much?)
4. How do you think about the implementation of IUU regulation?
5. Are there any plans to help fishermen to deal with IUU regulation?
6. What are the difficulties when enforcement IUU regulation?
7. How the aware of fishermen regarding to implementation of IUU regulation?
8. What measurements inspect implementation of IUU regulation?
9. What is the step by step process for conducting inspection and monitoring in port?
10. Are there any fishing boats in Khanh Hoa listed in black lists?
11. Do the ports/authorities have any standard from or methods for port inspection of the vessels?
12. Are there any closed seasons or closed areas for tuna fisheries?
13. are there the regulations on minimum size of tuna allowed to catch?
14. Are there any special stipulations for tuna longline? (numbers of hooks, length of main line…)
15. What measurements and solutions adopted to deal with IUU regulation?
16. Which training courses of IUU regulation for fishermen?

Request Sub-department of capture fisheries and resources protection

- Data about longline fishing vessel in Khanh Hoa (number of fishing boat, horse power, effort) for every year.
- Yield, export value, main market for every year
- Reports and plans are relevant IUU fishing and IUU regulation
- Any data relevant IUU fishing and IUU regulation

Thank you very much for your cooperation!

Appendix 3: Fishing vessel safety certificate

TỔNG CỤC THỦY SẢN
DIRECTORATE OF FISHERIES
CỤC KHAI THÁC VÀ BẢO VỆ NGUỒN LỢI THỦY SẢN
DEPARTMENT OF CAPTURE FISHERIES AND FISHERIES RESOURCES PROTECTION
Số/Number: ……

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
SOCIALIST REPUBLIC OF VIETNAM

GIẤY CHỨNG NHẬN AN TOÀN KỸ THUẬT TÀU CÁ

Căn cứ vào Nghị định số 66/2005/NĐ-CP ngày 19/5/2005 của Chính phủ nước Cộng hoà Xã hội Chủ nghĩa Việt Nam về đảm bảo cho người và tàu cá hoạt động thủy sản;

Pursuant to Decree No 66/2005/NĐ-CP dated on May 19th 2005 by the Government of the Socialist Republic of Vietnam on ensuring the operation for fishing vessels and people.

Căn cứ vào biên bản kiểm tra kỹ thuật số: ....., ngày .... tháng .... năm .....của .....

Pursuant to technical check paper no: ....., date ..... month ..... year by.....

CỤC KHAI THÁC VÀ BẢO VỆ NGUỒN LỢI THỦY SẢN CHỨNG NHẬN

DEPARTMENT OF CAPTURE FISHERIES AND FISHERIES RESOURCES PROTECTION CERTIFIES THAT

Tên tàu:…….. Name of vessel:……	Hô hiệu tàu:…….. Signal letter:……..
Số đăng ký:…….. Number of registry:……..	Công dụng:…….. Intended Use (of vessel):……..
Năm đóng:…….. Year of build:……	Nơi đóng:…….. Place of build:……..
Cảng đăng ký:…….. Port of registry……..	Vật liệu tàu:…….. Material of vessel:……..
Tổng trọng tải:…….. Gross Tonnage……..	Tải trọng tịnh:…….. Net Tonnage:……..
Chiều dài/rộng/cao(mét) Length/Breadth/ Draught (metter): ……. ……	Công suất máy chính(CV)/Power of Main Engine: …… Số máy/ Number of engine:……
Chủ tàu (Owner of vessel):…….. Địa chỉ (Address):……..	

Đảm bảo an toàn kỹ thuật hoạt động tại vùng biển: .....

Ensuring for fishing vessel safety at:.....

Giấy chứng nhận có giá trị đến hết ngày .... tháng .... năm .....

Expire date .... / ..... / .....

***.....** ngày …… tháng…… năm……*

Date ……

CỤC TRƯỞNG CỤC KHAI THÁC VÀ BẢO VỆ NGUỒN LỢI THỦY SẢN

LEADER OF DEPARTMENT OF CAPTURE FISHERIES AND FISHERIES RESOURCES PROTECTION

Ký tên, đóng dấu (Signature and seal)

Appendix 4: Registration certificate of fishing vessel

TỔNG CỤC THỦY SẢN
DIRECTORATE OF FISHERIES
CỤC KHAI THÁC VÀ BẢO VỆ NGUỒN LỢI THỦY SẢN
DEPARTMENT OF CAPTURE FISHERIES AND FISHERIES RESOURCES PROTECTION

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
SOCIALIST REPUBLIC OF VIETNAM

Số/Number: ……...

GIẤY ĐĂNG KÝ TÀU CÁ

REGISTRATION CERTIFICATE OF FISHING VESSEL

Căn cứ vào Nghị định số 33/2010/NĐ-CP ngày 31/3/2010 của Chính phủ nước Cộng hoà Xã hội Chủ nghĩa Việt Nam về quản lý hoạt động khai thác thuỷ sản của tổ chức, cá nhân Việt Nam trên các vùng biển,

Pursuant to Decree No. 33/2010/NĐ-CP dated on March 31st 2010 by the Government of the Socialist Republic of Vietnam on the management of capture fisheries activities for Vietnamese organizations and individuals at sea,

TỔNG CỤC THỦY SẢN CHỨNG NHẬN

DIRECTORATE OF FISHERIES CERTIFIES

Tên tàu:…….. Name of vessel:……..	Hô hiệu tàu:……. Signal letter:…….....
Số đăng ký……..... Number of registry:……..... Nơi đăng ký (Place of registry)…….	Công dụng:……..... Intended Use (of vessel):…….....
Chiều dài/rộng/cao(mét) Length/Breadth/ Draught (metter): ……. ……. …….	Vật liệu tàu:……..... Material of vessel:…….....
Số máy/ Number of engine:	Công suất máy chính(CV)/Power of Main Engine:
Chủ tàu (Owner of vessel):……..…….. Địa chỉ (Address):……	

....., ngày …… tháng…… năm……

Date .....

TỔNG CỤC TRƯỞNG TỔNG CỤC THỦY SẢN

DIRECTOR GENERAL, DIRECTORATE OF FISHERIES

(Ký tên, đóng dấu)

(Signature and seal)

Appendix 5: Fishing licence

CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập - Tự do - Hạnh phúc

SOCIALIST REPUBLIC OF VIETNAM

Independence - Freedom - Happiness

GIẤY PHÉP KHAI THÁC THUỶ SẢN

FISHING LICENCE

Mặt trước (first page)

Tên tàu (name of vessel):.....

Số đăng ký của tàu (registration No):.....

Số Giấy phép (license No):.....

BỘ THỦY SẢN

CỤC KHAI THÁC VÀ BẢO VỆ NGUỒN LỢI THỦY SẢN

MINISTRY OF FISHERIES

DEPARTMENT OF CAPTURE FISHERIES AND RESOURCES PROTECTION

Mặt sau (second page)

Họ tên chủ tàu (name of owners):.....Điện thoại (tel):.....

Nơi thường trú của chủ tàu (address):.....

Tên tàu (name of vessel):.....

Số đăng ký của tàu (registration No).....

Cảng, bến đăng ký cập tàu (registration port):.....

Vật liệu vỏ tàu (material of vessel body):.....

Tổng công suất máy chính (total capacity – HP):.....

Tần số liên lạc (radio frequency):.....

Được phép khai thác thuỷ sản trong các điều kiện sau (allowed fishing with conditions):

Nghề khai thác (kind of gear)	Vùng, tuyến hoạt động (fishing ground)	Thời gian hoạt động (fishing time)
Nghề chính (main gear)		
Nghề phụ1 (other gear 1)		
Nghề phụ 2 (other gear 2)		

Giấy phép này có giá trị đến ngày..... tháng..... năm.....

From date: ..... month ..... year ..... to date: ..... month ..... year .....

....., ngày.....tháng.....năm.....

Date. ……..

NGƯỜI CẤP PHÉP (AUTHORITY)

Ký tên, đóng dấu (signature)

Appendix 6: Catch certificate

VIET NAM MINISTRY OF AGRICULTURAL AND RURAL DEVELOPMENT
BỘ NÔNG NGHIỆP VÀ PHÁT TRIỂN NÔNG THÔN VIỆT NAM
DEPARTMENT OF CAPTURE FISHERIES AND RESOURCES PROTECTION
CỤC KHAI THÁC VÀ BẢO VỆ NGUỒN LỢI THỦY SẢN

CATCH CERTIFICATE

(For fishing vessel with total capacity more than 90 cv)
CHỨNG NHẬN THỦY SẢN KHAI THÁC
(Áp dụng đối với tàu cá có công suất từ 90cv trở lên)

1. Validating authority (Cơ quan có thẩm quyền)

Name (Tên)	Document number (Số chứng nhận)
.....	.....

Address (Địa chỉ) .....
Tel..... Fax ..... Email .....

2. Information of fishing vessel (Thông tin về tàu cá)

Name (If available)/Registration No (Tên tàu (nếu có)/Số đăng ký)	Fishing licence No (Số Giấy phép khai thác)	Valid until (Giá trị đến)
.....	.....	.....

3. Description of product (Mô tả sản phẩm)
Processed product type (Loại sản phẩm đã chế biến): .....

Name of Species (Tên loài)	Product code (Mã sản phẩm)	Estimated weight to be landed (Trọng lượng ước tính chuyển lên đất liền) (Kg)	Verified weight landed (Trọng lượng trên đất liền được chứng nhận (Kg)
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
Tổng (Total)		.....Kg	..... Kg

4. References of applicable conservation and management measures (Tham chiếu các qui định liên quan đến biện pháp quản lý và bảo vệ nguồn lợi)

Closed season (Mùa vụ cấm khai thác) ☐ Closed areas (Vùng cấm khai thác) ☐
Prohibited species (Loài cấm khai thác) ☐ Fishing gear (Ngư cụ khai thác) ☐

5. Name, signature of master/owner of fishing vessel (Tên, chữ ký của thuyền trưởng/chủ tàu cá)

Name (Tên)…..
Address (Địa chỉ).....
Tel ..... Fax .....

Date (Ngày)
Signature (Chữ ký)
.....

6. Declaration of transhipment at sea (if applicable) (Khai báo chuyển tải trên biển (nếu có)

Name/Registeration No of receiving vessel (Tên/Số đăng ký của tàu nhận chuyển tải) ..... Name of master (Tên thuyền trưởng)	Date (Ngày) ..... Signature (Chữ ký)	Transhipment area/position (Khu vực/vị trí chuyển tải)	Estimated weight (Trọng lượng ước tính) Kg .....

7. Transhipment authorization within a Port area *(If issued)* (Chuyển hàng tại cảng *(nếu có)*)

Name of port (Tên cảng) ..... Address (Địa chỉ)	Date (Ngày) ..... Signature (Chữ ký) ..... Full name (Họ và tên)	Seal (Đóng dấu)
8. Declaration of Exporter (Khai báo của chủ hàng xuất khẩu)		
Name (Tên chủ hàng xuất khẩu) ..... Address (Địa chỉ) .... Tel .....…Fax	Date (Ngày) ..... Signature (Ký tên) ..... Full name (Họ và tên)	Seal (Đóng dấu)
9. Flag state authority validation (Chứng nhận của cơ quan có thẩm quyền)		
Full name (Họ và tên) ..... Title (Chức vụ)	Date (Ngày) ..... Signature (Chữ ký)	Seal (Đóng dấu)

10. Transport details (Thông tin vận tải)		
Country of Exportation (Quốc gia xuất khẩu)	Port/ Airport/other place of the departure (Cảng/sân bay/địa điểm xuất hàng khác)	
Vessel name and Flag (Tên và quốc tịch tàu): ..... Flight numer/airway bill number (Số chuyến bay/Số vận đơn hàng không): ..... Other transport documents (Các tài liệu vận tải khác):	Container number (Số công-ten-nơ): ..... List attached if necessary (Danh sách đính kèm nếu cần):	Name (Tên): ..... Address (Địa chỉ): .... Signature (Chữ ký):
11. Importer delaration (Khai báo của đơn vị nhập khẩu)		
Name (Tên) ..... Address (Địa chỉ)	Date (Ngày) ..... Signature (Chữ ký) ..... Full name (Họ và tên)	Product CN code (Mã CN sản phẩm) ....
Documents under articles 14 (1), 2 of regulation (EC) No 1005/2008 (Các tài liệu theo điều 14 (1), (2) của QĐ1005/2008):	Reference (Tài liệu Tham chiếu):	Seal (đóng dấu)
12. Import control - authority (Kiểm soát nhập khẩu- cơ quan thẩm quyền)		
Place (Địa điểm)	Importation authorized (Nhập khẩu được cấp phép): ☐ Importation suspended (Nhập khẩu bị treo): ☐	Verification requested – date (Thẩm tra được yêu cầu – ngày) .....

Customs declaration *(if issued)* (Khai báo hải quan (Nếu có))	Number (Số)	Date (Ngày)	Place (Địa điểm) .....

Appendix 7: Fishing report

BÁO CÁO KHAI THÁC THỦY SẢN

THÁNG..... NĂM ....

FISHING REPORT

DATE:

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập - Tự do - Hạnh phúc

SOCIALIST REPUBLIC OF VIETNAM

Independence - Freedom - Happiness

Kính gửi: Ủy ban nhân dân xã, phường (respectfully addressed to): …….

Tên chủ tàu (name of owners): …… ……..

Địa chỉ (address):…….....

Số đăng ký (registration No): …….

Tổng công suất máy chính của tàu (Capacity – HP).....

Nghề khai thác (kind of fishery): …….....

Tổng số lao động (number of employee)…….....

Số ngày thực tế khai thác (number of fishing day): …….. ……..……

Ngư trường khai thác chính (main fishing ground):

Vịnh Bắc Bộ ; Trung Bộ ; Đông Nam Bộ ; Tây Nam Bộ ; Giữa biển đông

Gulf of Tonkin: ; Centre: ; Eastern part of South: Western part of South:

Central China Sea:

Tổng sản lượng (total yield): …….....…kg;

BẢNG CÁC NHÓM SẢN PHẨM CHÍNH (MAIN SPECIES)

STT (No)	Nhóm sản phẩm (Species)	Sản lượng (yield -kg)
Tổng (total)		

CHỦ TÀU HOẶC NGƯỜI ĐẠI DIỆN (OWNERS)

ký, ghi rõ họ tên (Signature)

Appendix 8: Fishing logbook

DEPARTMENT OF CAPTURE FISHERIES RESOURCES PROTECTION

FISHING LOGBOOK

(LONGLINER)

Name of ship:.....

Registration No: ....., Capacity (HP): .....

Number of hooks: .....total longline long: .....

Second page

Fishing trip No: ; date of port levieving: ; Date of landing: ; transhipment (if any):

Place of levieving: ; place of lading: ; weight of transhipment: Fishing ground:

No	Time of casting	Position		Time of pulling	Position		Total yield (kg)	Species (*kg*)			
		Latitude	Longitude		Latitude	Longitude					

Signature of master