

Fishing Quotas Regulation as the Embodiment of Fish Resources Protection

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Abstract—Act No. 45 of 2009 authorizes the Minister to determine the Total Allowable Catches (TACs) in the Fishing Area of the Republic of Indonesia (FARI). The determination of TACs is used as an effort to preserve fish resources in Indonesian marine. TACs is catch limit by all the fishing actor within a certain period that are set for most commercial fish stock in FARI. TAC is different from fishing quotas. TACs did not set fishing quotas, either for individual or corporation which have fishing activities. TACs mechanism is inadequate for over-fishing or over-exploitation to fish resources prevention because there are still some FARI that classified as over-exploited for certain species of fish. The aim of this study was to find a better legal mechanism than TACs which can be used to prevent over-fishing. The research method used is the normative research method with the statute approach. The conclusion is the fishing quotas regulation is required for the protection of fish resources in Indonesia and prevent the inequity in fishing and fish trade in Indonesia.

Keywords—catch limit; total allowable catches; fishing quotas; fish resources

I. INTRODUCTION

Indonesia is an archipelagic state with promising fish resources potential. Fisheries business is an attractive sector in Indonesia. Not only interesting for fishing actors in Indonesia but also many other state. Evidenced by the number of foreign ships that have been sunk because of illegal fishing in Indonesian marine. As of October 2017, 317 ships have been sunk [1].

Fisheries in Indonesia are regulated in Act No. 31 of 2004 concerning Fisheries (hereinafter Act No. 31 of 2004) and Act No. 45 of 2009 concerning Amendments to Act No. 31 of 2004 (hereinafter Act No. 45 of 2009).

Article 7 par. 1 (b) and (c) Act No. 45 of 2009 regulates that in order to support the policy of management of fish resources, the Minister determines the estimated potential of fish resources in the Fishing Area of the Republic of Indonesia (FARI) as well as the Total Allowable Catches (TACs) on FARI. According to Art. 5 par. 1 Act. No. 31 of 2004, FARI for fish management and / or fish cultivation includes Indonesian waters; IEEZ; and rivers, lakes, reservoirs, swamps and other puddles that can be cultivated as well as potential fish cultivation area in Indonesia.

TACs is the limit on the amount of fishing that can be done in FARI. TACs is set to control the amount of catch carried out by fishing actors so that the sustainability of fish resources is maintained.

TACs is different from fishing quotas. Fishing quotas is the amount of catches that can be carried out by each individual or legal entity whereas TACs is the total amount of catches that can be carried out by everyone. As of twice TACs is determined, the data showed that there are still several species of fish that are over-exploited in some FARI [2]. It shows that Indonesia need addition legal mechanism that support TACs mechanism.

Quite a few of experts have been researching about the protection of fish resources in Indonesia. The existing studies examined the technical protection of fish resources through supervision of fisheries activities [3]. Other studies examine the protection of endangered fish resources through conservation, while in this paper the authors examine the protection of marketable fish resources [4].

The aim of this study is to find the better legal mechanism than TACs which not only can maintain the sustainability of fish resources but also prevent inequity in fishing activities and business.

II. METHOD

This study uses the normative research method which that uses an issue approach to examine the concepts and relationships of various provisions that regulate outer space and its environment protection.

This study uses statute approach. The statute approach is conducted by reviewing provisions of law and regulations pertaining to the legal issues being addressed [5]. In the statute approach, researchers not only look to the form of regulation, but also examine the material content; it is necessary researchers to study the ontological basis of the produce of the law, the philosophical basis of the law, and the ratio legis of the provisions of the law [6].

Statute that researchers used in this study is Act No. 31 of 2004, Act No. 45 of 2009, Ministerial Decree of Marine Affairs and Fisheries Minister No. 47 of 2016, and Ministerial

Decree of Marine Affairs and Fisheries Minister No. 50 of 2017.

III. RESULTS AND DISCUSSION

The main duty of fisheries management is to ensure that the catch does not exceed the population's ability to survive and does not threaten or damage the sustainability and productivity of the fish population that is being managed [7]. Fisheries that are not managed properly will cause over-fishing which can cause fish extinction. This is due to the assumption that they have open access to these resources [8]. TACs is the legal mechanism that is used to prevent over-fishing.

In 2009 the Minister was given the authority to determine estimated potential as well as TACs, but only in 2016, the Minister of Marine Affairs and Fisheries of the Republic of Indonesia issued Ministerial Decree of the Marine Affairs and Fisheries Minister No. 47 / Kepmen-KP / 2016 concerning Estimated Potential, Total Allowable Catches, and Utilization Level of Fish Resources in the Fishing Area of Republic of Indonesia (hereinafter MAF Ministerial Decree No. 47 of 2016)

TACs is the determination of the total catch of each fish species which according to MAF Ministerial Decree No. 47 of 2016, TACs will be reviewed every year by observing the results of the study of National Commission for the Assessment of Fish Resources. In the MAF Ministerial Decree No. 47 of 2016, the minister has set TACs in each FARI for each certain fish species, namely small pelagic fish, large pelagic fish (non-skipjack tuna), demersal fish, reef fish, penaeid shrimp, lobster, crab, small crab, and squid.

MAF Ministerial Decree No. 47 of 2016 also determine utilization level for each fish species in each FARI. The utilization level showed the status of each fish species in each FARI is moderate, fully-exploited, or over-exploited. The Minister of Marine Affairs and Fisheries of the Republic of Indonesia issued Ministerial Decree of the Marine Affairs and Fisheries Minister No. 50 / Kepmen-KP / 2017 concerning Estimated Potential, Total Allowable Catches, and Utilization Level of Fish Resources in the Fishing Area of Republic of Indonesia (hereinafter MAF Ministerial Decree No. 50 of 2017).

MAF Ministerial Decree No. 50 of 2017 regulate TACs for the same fish species which be regulated in MAF Ministerial Decree No. 47 of 2016. MAF Ministerial Decree No. 50 of 2017 also determine the utilization level for each fish species. There are some differences between the utilization level in 2016 an 2017.

In 2016, for small pelagic fish is over-exploited in three FARI, large pelagic fish is over-exploited in three FARI, demersal fish is over-exploited in three FARI, reef fish is over-exploited in two FARI, penaeid shrimp is over-exploited in eight FARI, lobster is over-exploited di nine FARI, crab is over-exploited in seven FARI, small crab is over-exploited di seven FARI, and squid is over-exploited in six FARI.

In 2017, for small pelagic fish is over-exploited in three FARI, large pelagic fish is over-exploited in three FARI,

demersal fish is not over exfoliated in any FARI, reef fish is over-exploited in six FARI, penaeid shrimp is over-exploited in four FARI, lobster is over-exploited in six FARI, crab is over-exploited in four FARI, small crab is over-exploited in two FARI, and squid is over-exploited in nine FARI.

There are some differences between 2016 and 2017 regarding the number of fish species which over-exploited in some FARI. There are species that when compared to 2016 are over-exploited in more FARI in 2017 are reef fish and squid. On the other hand, fish species that when compared to 2016 are over-exploited in less FARI in 2017 are demersal fish, penaeid shrimp, lobster, crab and small crab.

The difference is not only about utilization level but also total estimated potential. In 2016, total fish estimated potential fish according to MAF Ministerial Decree No. 47 of 2016 is 9.931.920 tons, while in 2017, total fish estimated potential according to MAF Ministerial Decree No. 50 of 2017 is 12.541.438 tons.

The application of the TACs mechanism has made the increase in the amount of fish potential in Indonesia even though there are still a number of fish species which in 2017 with over-exploited status are increased. The disadvantage of the TACs mechanism is that TACs did not provide a fishing quota for each fishing actors. With no fishing quotas determined, it has the potential to create inequity in fishing activities because the ability and capacity of small scale fishermen in fishing activities is certainly different from corporation's ability.

Fishing quotas are an increasingly popular tool used for fishery magement [9]. Fishing quotas are frequently discussed as an effective policy instrument to increase the profitability of the fishing industry, reduce industry overcapacity, and promote sustainable fisheries management [10]. Around the world, fishing quotas regulation in the fisheries has approved to be a successful fisheries management tool [11].

It should be distinguished that the fishing quotas referred to in this sudy is different from Individual Transferable Quotas (ITQs). ITQs is catch limit within a certain period given to each fishing actor that is transferable and tradeable. Fishing quotas referred to this study is can not be transfer and purchased.

In around of the world, when ITQs are determined, ITQs will be purchased by corporates that have sophisticated fishing tools. In the end, the number of fishing vessels was decreased and unemployment was increased. This is because the fishing quota held by small fishermen is purchased by corporates [12].

In terms of fisheries management policies, Indonesia is classified as slow compared to developed countries. New Zealand has a fishing quotas regulation since 1986 [13]. When compared with Indonesia, in 1986 Indonesia did not even have TACs regulation.

Fishing quotas regulation is needed as a form of protection of fish resources in Indonesia and prevention of inequity in fishing activities. Fishing quotas regulation regulates total allowable catches for each fishing actor within a certain period.

The fishing quota is determined by taking into account the determined TACs. The fishing quotas can be renewed annually as according to the third dictum of the MAF Ministerial Decree No. 47 of 2016 and MAF Ministerial Decree No. 50 of 2017 TACs will also be reviewed annually.

Fishing quotas regulation is possible to determined because Article 2 of Act No. 45 of 2009 mandated that fisheries management be carried out based on the principles of benefit, justice, togetherness, partnership, independence, equity, integration, openness, efficiency, sustainability and sustainable development.

Determination of fishing quotas regulation is in accordance with the aim of the implementation of fisheries management namely improving the standard of living of small scale fishermen; encourage employment expansion and opportunities; increase the availability and consumption of fish protein resources; increase the productivity, quality, added value and competitiveness; increase the availability of raw materials for the fish processing industry; optimizing the management of fish resources and ensuring the sustainability of fish resources [14].

Fishing quotas regulation is important to determine because it will make fishing activities more controlled, can prevent overfishing so that fish resources will be more maintained, reduce the potential of inequity between small scale fishermen with the corporate in fishing activities, and will give benefit to small fishermen

Fishing quotas regulation will create equity in fishing activities. Corporations no longer compete with each other to exploit fish resources because each corporation will get a fishing quota. When their fishing quota is met, on the other hand they still need fish for their business, corporations can get fish from small fishermen. With the regulation of fishing quota, there will be a business partnership between small scale fishermen and corporations.

The development of partnerships and empowerment of fishing communities is one of the strategic policies that can be taken to ensure business continuity in the fisheries sector [15]. Fishing quotas regulation will make the partnership between small scale fishermen and corporations be created. That is why the fishing quotas regulation can prosper small fishermen while making business sustainability in the fisheries sector guaranteed.

The intended results from the application of TACs and fishing fishing quotas will not be fulfilled if fishing actors still catch fish even though TACs and fishing quotas are met [16]. There is required the seriousness from the Indonesian government in control the implementation of TACs and fishing quotas. Fishing activities by each fishing actor must be stopped if they meet their fishing quotas.

Control of the fishing quotas mechanism implementation does not only concern about the catch limits for each fishing actor but also the prevention of the transfer or purchased of

fishing quotas. It is required to be done so that the aim of fishing quotas regulation is to create equity in fishing activities that can be fulfilled and also improving the standard of living of small scale fishermen.

IV. CONCLUSION

The conclusion of this paper is it takes to determine fishing quotas regulation as a form of protection of fish resources. The fishing quotas will be a legal mechanism supporting the TACs so that the aim to protect fish resources can be achieved properly. Fishing quotas regulation can also be an effort to prevent inequity in fishing activities and business.

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