The role of fishery supervisors and community participation to ensure the sustainable fisheries in Indonesia’s Exclusive Economic Zone

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Abstract. Indonesia has ratified the United Convention Law of the Sea of 1982 with the Law No. 17 of 1985 concerning the Ratification of United Nations Convention on The Law of the Sea 1982. It means that Indonesia has the right to use, conserve, and manage fish resources in the Indonesia’s Exclusive Economic Zone (IEEZ). To guarantee the optimal and sustainable management of Indonesian fish resources, the role of fishery supervisors and community participation in an efficient and effective manner is needed. Law enforcement in the field of fisheries is very important and strategic to support fishery development in accordance with the principle of fishery management, so that the sustainable development of fisheries can be done continuously. Therefore, the existence of legal certainty is absolutely necessary to support fishery management in Indonesia.

1. Introduction
The Exclusive Economic Zone has been regulated in the United Nations Law of The Sea (UNCLOS) 1982. Under this convention, the Exclusive Economic Zone is defined as an area beyond and adjacent to the territorial sea. It is subject to the specific legal regime in which the rights and jurisdiction of the coastal state and the rights and freedom of other states are governed by the relevant provisions of the convention”. [1] According to Article 2 of the Law No. 5 of 1983 concerning the Indonesia’s Economic Exclusive Zone (IEEZ), IEEZ is the outer strip bordering the Indonesia’s territorial sea as determined by the law applicable to the Indonesia’s waters, covering the seabed, the subsoil thereof and the water above it with an outermost limit of 200 (two hundred) nautical miles, measured from the baseline of the Indonesia’s territorial sea. [2] The article only confirms the geographical definition of the IEEZ as stated in the announcement by the Government of the Republic of Indonesia regarding the IEEZ.

One of the problems that is quite complicated to solve in relation to the EEZ is the determination of the EEZ boundaries with neighbouring countries. Even though neighbouring countries adhere to the same principle of delimitation of the EEZ regime, in this boundary setting issue, it is necessary to formulate the EEZ boundary delimitation, particularly regarding the determination of EEZ boundaries involving the interests of two or more countries which are located side by side or opposite which must be carried out peacefully according to generally accepted international law and in particular not in...
conflict with the provisions of the United Nations Charter. However, for Indonesia, the EEZ limit of 200 nautical miles with the neighbouring countries must still be determined based on the “equidistant principle” taking into account special circumstances [3].

In addition, IEEZ boundary does not need to be identical to the continental shelf boundary, because the standards used and the factors that influence it are different. If IEEZ overlaps with the EEZ of countries whose beaches are opposite or adjacent to the Indonesia’s coast, then the EEZ boundary between Indonesia and those countries shall be determined by agreement between the Republic of Indonesia and the State concerned. As long as the agreement as referred to above does not yet exist and there are no special circumstances that need to be considered, the EEZ boundary between Indonesia and that country is the middle line or equidistant line between the sea baselines of the Indonesia’s territory or the point - the outermost point of the country has reached agreement on temporary regulations relating to the boundaries of the EEZ [5].

Related to the IEEZ, Indonesia has the right to use, conserve, and manage fish resources in the IEEZ. As it is known, Indonesia has potential fish resources in the last 10 years and are significant to be explored and exploited for the sake of fish products. One of the big problems related to IEEZ in other hands is illegal fishing, which has created damage and material loss to Indonesia around 20 million USD. Therefore, to cope with the illegal fishing in IEEZ, the participation of fishery supervisors and community is needed.

2. The Potential and role of fisheries Indonesian

Indonesia with a wide range of internal water (3.11 million km²), territorial water (0.29 million km²), and 3 million km² of Exclusive Economic Zone (EEZ) which characterized as an archipelagic state with sea dominating its area have become the home of abundant and diverse of marine resources including from fisheries sector ranging from shrimps, lobsters, tuna and seaweeds [6] which has a high economic value shall become a huge opportunity to gain the economic prosperity of Indonesian society through exploring such resources.

Pertaining the role of Indonesia’s fisheries sector, Indonesia is listed as the biggest aquaculture (fish, crustaceans and molluscs) producers after China which ascertains Indonesia’s role in the world fisheries as one of the biggest contributor of global capture production.[7] Furthermore, its strategic cross-road location and funnel geographical condition has positioned Indonesia as a pivotal maritime nexus in terms of the global supply chain system which leads into the initiative on proliferating Indo-Pacific concepts that corroborates Indonesia’s relationship with various countries to strengthen the safeness of sea lane and cooperation in marine and fisheries among Indo-Pacific countries.[8] The fisheries sector has become the primary manifested resources which accounts for 37% of world fisheries species, that Indonesian fisheries resources has potentially estimated as 12.54 million tonnes each year spread into the internal waters and the EEZ but with limitation on the amount of allowed capture into almost 10,03 million tonnes per year.[6] The current amount of allowed capture have increased through year by comparing to 2015 with only 5.8 million tonnes per year,[9] indicating the increasing demand on the capture in fisheries sector.

Simultaneous with the demand of capture in fisheries sector, the potential of Indonesian fisheries production is always rising through years, although the disparity is not much significant. In 2017, the amount of sea-capture fisheries is up to 6,60 million tonnes estimated to worth for 184,62 Trillion Rupiah.[10] This amount of capture increase by 0.98 million tonnes in 2019 which is only 69% from the aforementioned total of allowed capture that notions how plentiful Indonesian fisheries sector is. However, such richness has to be managed adequately to ensure the sustainability in the marine fisheries sector which become the background of formulating the Ministry of Marine and Fisheries Regulation No. 18/PERMEN-KP/2014 on the Management of Fisheries in Republic of Indonesia that diversifies the marine fisheries management zone to 11 area ranging from Malacca strait and Andaman sea, Indian Ocean west of Sumatra and Sunda Strait, Indian Ocean south of Java to the south of Nusa Tenggara, Savu Sea and West Timor Sea, Karimata Strait, Natuna Sea, and South China Sea, Java Sea, Makassar Strait, Bone Bay, Flores Sea and Bali Sea, Tolo Bay and Banda Sea, Tomini Bay, Maluku
Sea, Halmahera Sea, Seram Sea and Berau Bay, Sulawesi Sea and North Halmahera Island, Cenderwasih Bay and Pacific Ocean and Aru Bay, Arafuru Sea and East Timor Sea. Although the national government shall ensure effective management and surveillance in the aforementioned area, the synergy established with local community is quintessential in corroborating a Community Based Fisheries Management (CBFM) which focuses in the empowerment of local community in terms of management and surveillance of its marine fisheries resource [11].

3. Challenges to sustainable fisheries in Indonesia's exclusive economic zone

Optimization of the availability of fishery resources in Indonesia, which is very large, will certainly present a challenge for Indonesia to maintain the availability and sustainability of fish resources in the territory of Indonesia. One of the challenges is the violation of Indonesia's sovereign rights in the IEEZ by foreign fishing vessels which is an obstacle in realizing sustainable fisheries governance in Indonesia.

The violations in question are mainly related to the practice of illegal fishing, which is the biggest issue in fisheries management in the IEEZ to date. In relation to the existing challenges, regulations and fisheries policies in the IEEZ, illegal fishing in the IEEZ is vulnerable to occur because there are legal loopholes related to the use of IEEZ fish resources by foreign parties. [12] This provision seems to open the way for foreign fishermen or legal entities to enter the IEEZ to then explore and exploit the biological wealth in the IEEZ area [13].

The policy of opening access to fish resources in the IEEZ as stipulated in laws and regulations and other implementing regulations with the scheme of granting fishing permits to foreign fishing vessels turns out to have problems in its implementation. The permissions granted are often misused. This situation is further exacerbated by weak supervision and the sophistication of foreign fishing vessels in terms of speed and fishing equipment, thus creating opportunities for illegal fishing to occur.

Then, related to the challenges of local fishermen's capacity, it should be noted that illegal fishing that is rife in Indonesia's waters is generally carried out by neighboring countries with supporting fishing capacities and facilities, including large vessels and sophisticated fishing gear. Meanwhile, most of the local fishermen can only catch fish around the coast because they use small boats and simple fishing gear. The inability of local fishermen to attend and carry out fishing activities in the IEEZ causes natural wealth in the form of fish to be enjoyed by many neighboring countries, including through illegal fishing activities [14].

The biggest challenge is most closely related to the issue of illegal fishing in IEEZ at this time is supervision. Weak supervision and enforcement of fisheries law by relevant authorities is a major factor in the continued occurrence of illegal fishing [15].

The limitations of human resources, facilities and infrastructure such as the inadequate number of fishing supervisory vessels as described above have a significant impact on the non-optimal implementation of fishing supervision. Apart from the number of fishing supervisory vessels that are not yet ideal, another thing that is no less important to pay attention to is the specifications or capabilities of the existing fisheries supervisory vessels. It is unfortunate when the facilities and infrastructure for controlling fish resources, such as fishing supervisory vessels, have less capability than vessels for illegal fishing actors with more sophisticated capabilities and technology, this makes it difficult to pursue vessels and take action against illegal fishing actors. For this reason, it is necessary to repair and improve facilities and infrastructure, as well as the quantity of human resources as supervisory ship crews in order to optimize the supervision of fisheries resources in the IEEZ so that illegal fishing activities can be suppressed and eradicated [16].

4. Law enforcement and community participation to ensure the sustainable fisheries

Law enforcement is very important to ensure that the law can guarantee the sustainable use of fishery resources. In order to achieve this, it is necessary to clarify the structure of law enforcement and the limits of its authority so that law enforcement procedures can run optimally with clear authority and
responsibilities from the law enforcement structure or related institutions in the context of monitoring fisheries resources.

One of the good policies in law enforcement against illegal fishing is the ship sinking policy carried out by the government. It is because Indonesia has lost 20 billion US dollars or equivalent to Rp 240 trillion per year due to illegal fishing committing by foreign ships. [17] In international law context, the Article 73 UNCLOS 1982 gives the coastal state the right to take action and legal proceedings against ships that violate the laws of the coastal state. Article 111 furthermore regulates the right of immediate pursuit (111) of foreign ships suspected of having violated the laws of the coastal state. [18] In national law, this policy is regulated in Article 69 Paragraph (4) of Law No. 45 of 2009 concerning Fisheries which gives investigators the authority to be able to sink ships without having to go through a court decision. This policy is considered contrary to the principle of Due Process of Law in law enforcement. The norms in this article are considered to be contrary to the Due Process Model mechanism in our criminal code of procedure which provides an opportunity for the perpetrators to defend themselves before the court until finally there is a court decision that declares guilt so that the ship can be sunk. So that the law enforcement process can be carried out fairly and not arbitrarily. It is necessary to revise these norms so that they can better ensure a fair law enforcement process against illegal fishing actors [19].

Various law enforcement innovations in the field of fisheries basically are not new. Previously, there were several progressive policies that could strengthen law enforcement in the fisheries sector. One of them is an effort to coordinate between state institutions tasked with controlling Indonesia’s sea areas. As it is known that there are five state institutions that have the authority related to maintaining maritime security, namely, the Navy, the Marine Security Agency (Bakamla), the Water and Air Police, the Indonesia’s Sea and Coastal Guard Unit under the coordination of the Ministry of Transportation, and the Marine and Fisheries Resources Supervisor under the coordination of the Ministry of Transportation. Ministry of Maritime Affairs and Fisheries (KKP). The position of authority of this state institution which is considered overlapping can reduce optimal law enforcement and responsibility for maintaining Indonesia’s marine security, both from illegal fishing and various other marine crimes [20].

The government’s initiative on forming Task Force for the eradication of illegal fishing through Presidential Decree No. 115 of 2015 (Satgas 115) should be appreciated since it can effectively encourage synergy between institutions in one KKP command to eradicate illegal fishing, so there is a discourse to form a task force team, in the area. However, it is still necessary to note that institutionally the relationship between these institutions must still be in line with the provisions of the legislation, because there are indications of the legality of the authority of the commander in task force 115 given to the KKP contrary to Law No. 34 of 2004 concerning the TNI, which regulates that control of military equipment can only be carried out by the TNI Commander who is responsible to the President. [21] Moreover, to form a more solid and long-term institutional synergy, of course, revision of the relevant laws and regulations, especially in national maritime defense and security, is more solid by harmonizing the authorities of these related institutions. [22] This is important to ensure the synergy of law enforcement officers and related institutions to protect Indonesian fishery resources in general and specifically in the EEZ. One of the best practices how the Indonesian legal enforcers working in dealing with illegal fishing in Indonesian EEZ can be seen in the case of Indonesian government vs a Chinese-flagged fishing boat, called Kway Fey 10078. [17] The boat was arrested by the Indonesian legal enforcers due to suspecting of illegal fishing in Indonesian EEZ.

Another matter of ensuring the Sustainable Fisheries is the mechanism of community involvement. In the context of community involvement in environmental protection and management, it is still considered less than optimal. This happens because the community is still often considered only as a conduit of information and/or as a means of justification that extension and socialization activities have been carried out so that an activity related to natural resource management can run without obstacles [22].
Currently, the existence of the Community Monitoring Group (Pokwasmas) has contributed to the supervision of criminal activities in the fisheries sector. One of the activities forms of “Pokwasmas” could be seen in Banjar Baru, South Kalimantan Province. [23] It united 13 “Pokwasmas” and 10 assistants coming from those District offices in South Kalimantan Province to evaluate fishery and marine resources in South Kalimantan Province. The results of its evaluation were to demand for supporting facilities and infrastructure to increase surveillance activities such as speedboats, fiber ships, control posts and communication tools.

Referring to “Pokwasmas” example, it is necessary. Therefore, to strengthen the position of Pokwasmas which is equipped with various supporting facilities and infrastructure in order to be more active in supervising the utilization of fishery resources in the vicinity. [24] Special legal instruments are needed to strengthen community participation in supervising the utilization of surrounding fishery resources. This can increase the emergence of community initiatives to participate in conducting surveillance. Indeed, the supervisory responsibilities given to community groups must be accompanied by various policies that can support the daily work of the community as fishermen with various capacity building assistance and business capital assistance so that it can improve the welfare of the community. Instead of carrying out a reactionary policy by sending north coast fishermen to the Natuna area, [25] the government is better off carrying out a long-term policy by providing assistance to fishermen around Natuna so that they can better utilize their fishery resources while at the same time assisting the authorities in monitoring illegal activities fishing that occurred in the Natuna Sea.

5. Conclusion
It can be concluded that to ensure sustainability fisheries in IEEZ, the role supervisory of the Navy, the Marine Security Agency (Bakamla), the Water and Air Police (Polairut), the Indonesia’s Sea and Coastal Guard Unit under the coordination of the Ministry of Transportation, the Marine and Fisheries Resources Supervisor under the coordination of the Ministry of Transportation. Ministry of Maritime Affairs and Fisheries (KKP), and community involvement is needed. Those stakeholders should be harmonized particular in terms of law enforcement in IEEZ. In addition, the involvement of Community Monitoring Groups in supervising fisheries and marine data sources is very much needed as a form of community involvement as stipulated in the Indonesian Law.

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