

Indonesian Fishing Policy Trap

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Abstract—Indonesia faces challenges in its sustainable fisheries management. Various policies have been issued as the effort to solve this problem. One of which is the prohibition on the use of fishing gear called *Cantrang*. However, the policy received rejection from various parties. This study aims to identify stakeholders who reject the policies as well as their reasons for rejecting the policies. Using a qualitative descriptive method, it is revealed that policy refusal arises from various stakeholders, including Indonesian Fishermen's Alliance, Members of the House of Representatives of Indonesia, Ministry of Industry and fish processing industry. The reason for the rejection is due to the fact that the policy for prohibiting the use of *Cantrang* is unfair and not pro-fishermen. In contrast, the stakeholders who are pro towards the policy are from Association of Indonesian Fishermen and WWF by considering the reason that the use of *Cantrang* as a fishing gear will damage the habitat in the sea. The strong opposition on the policy of fishing gear (*Cantrang*) prohibition results in policy trap since there are many trade-offs in this policy. This study suggests that this policy requires intense communication among the stakeholders.

Keywords—Policy, Fishing Gear, Policy Trap

I. INTRODUCTION

Fisheries industry is one of the strategic economic development sectors in Indonesia since Indonesia is an archipelago possessing a large area of fisheries in the sea covering approximately 5.8 million km². This area consists of 3.1 million km² archipelago and territorial waters and 2.7 million km² Indonesian Exclusive Economic Zone (EEZ) waters.

Based on the latest fish stock assessment, total sustainable potential (Maximum Sustainable Yield = MSY) of Indonesia's marine fisheries resources is 6.5 million tons per year which spread over Indonesian waters and Indonesian Exclusive Economic Zone (ZEEI) waters [1] (Dahuri, 2015). Maximum sustainable yield (MSY) for given fish stock means the highest possible annual capture which can be sustained over time by keeping the stock at maximum growth production level.

Fisheries resources management is very significant for long-term and sustainable utilization purpose. FAO has implemented Code of Conduct for Responsible Fisheries (CCRF) as a reference for policies and framework (action) formulation as well as the instruments of law and other institutional affairs to ensure sustainable capture and production of water resources living in harmony with the environment.

The thought that sea is a common property causes problems known as *tragedy of the common* which happens in the sea resources. Tragedy of the Common, according to [2]Hardin (1968), is a metaphor illustrating that free access leads to disaster due to over-exploitation. This is related to the management of fisheries in the sea, an excessive and irresponsibility exploitation of sea resources which ultimately damage the sea resources. According to [3]Pontecorvo and Schrank (2006), overfishing caused by irresponsible regulation, subsidies, politics, and greedy anglers. As conveyed by Dahuri (2015), one of the solutions to overcome this tragedy is by government interference, coercion in the form of written laws, sanction enforcement, and non-formal regulation which are made and agreed by the community and the stakeholders. Thus, it is necessary to formulate a right policy to manage the sea resource to maintain its sustainability.

There are some policies issued by the government of Indonesia in maintaining and preserving marine ecosystems. One of which is the regulation of fishing gear to maintain the preservation and sustainability of fisheries inasmuch as the operation of several fishing gears can damage fisheries ecosystem. The latest policy which leads to pros and cons is Regulation of the Minister of Marine Affairs and Fisheries Number 71 Year 2016 on Fishing Lines and Fishing Equipment Placement in the Republic of Indonesia Fisheries Management Area (WPPNRI). It is stated in the Ministerial Regulation that Fishing Gears (FG/API in Indonesian) which are prohibited includes Seine Nets consisting of *Dogol* (Danish Seines), Scottish Seines, Pair Seines, *Cantrang* and *Lampara Dasar*; *Pukat hela* (Trawls) API consisting of bottom trawls, midwater trawls, and ottertrawl trawls; jumping fish trap and Muro ami.

Cantrang is one of the prohibited fishing gears. [4] Suprapti *et al.* (2017) explains that *Cantrang* prohibited because it damages coral reef ecosystems. As explained by [5] Kismartini and Muh Yusuf (2015), capture fisheries production in Rembang district in recent years has decreased due to the impact of damage to coral reefs can resulting in a difficult fish to breed.

The policy concerning *cantrang prohibition* actually reaps pros and cons in Central Java province. Moreover, *cantrang* is widely used in Central Java fishing areas which covers fishing areas in Java Sea (WPP 712). The following is the data from Department of Marine Affairs and Fisheries of Central Java Province regarding the number of *cantrang* vessels size 10-30 GT in Central Java until December 2015 which spread in several Regencies / Cities in Central Java:

TABLE I. THE NUMBER OF CANTRANG VESSELS SIZE 10 – 30GT UNTIL DECEMBER 2015 IN CENTRAL JAVA PROVINCE (BASED ON REGENCIES / CITIES)

Regency / City	Number
Pati	238
Rembang	163
Tegal	464
Pekalongan	24
Batang	159
Brebes	146
Demak	21
Pemalang	4
Kendal	2
Semarang	2
Total	1223

Source: Marine affairs and Fisheries Office of Central Java Province

Based on Table 1, it can be explained that the total number of *cantrang* vessels size 10-30GT until 31st December 2015 period is 1,223 units. Thus, it is not surprising if the policy of *cantrang* use prohibition attains rejection from fishermen in Central Java. The rejection of this policy eventually results in policy implementation delay. However, not all stakeholders reject this policy. Instead, the others give support to this policy since it has a good goal.

Policy Trap is a condition in which the policy gets trapped by a pro and con attitude from the stakeholders. Policy Trap causes Policy Failure. In other words, it can not be implemented. According to Hoogwood and Gunn (1986), policy failure is differentiated into two categories, non-implementation and unsuccessful implementation[10]. Moreover, Policy Trap is included in Non-Implementation category.

In fact, the policy of fishing gear (*cantrang*) use prohibition has existed since 1980, i.e. through Presidential Decree No. 39 Year 1980 concerning the Elimination of Trawl Nets. Then in 2010, Minister of Marine Affairs and Fisheries No. 6 of 2010 issued a Decree concerning Fishing Gears in WPPNRI. Besides, there is also a Decree of Minister of Marine Affairs and Fisheries No. 2 / PERMEN-KP / 2015 about Prohibition of Trawls and Seine Nets Use in Republic of Indonesia Fisheries Management area (WPPNRI), which was then followed up through the Regulation of Minister of Marine Affairs and Fisheries Number 71 year 2016 on Fishing Lines and Placement of Fishing Gears in WPPNRI which are now still reaping pros and contras. These government policies are against the fishermen’s hope to capture as much fish as possible for their maximum economic benefit.

The objectives of this study are to identify stakeholders involved in the policy of the prohibition of several fishing gears use and to investigate the stakeholders’ responses toward the policy.

II. METHODS AND TOOLS

A phenomenological approach to qualitative research is conducted in mapping the stakeholders’ responses toward the policy of *cantrang* fishing gear use prohibition. Data

collection in this study is conducted through observation, literature study and in-depth interviews with informants consisting of the Head of Marine Affairs and Fisheries office, Academics, as well as the fishermen in northern coastal areas of Central Java. Furthermore, the data are obtained using Triangulation techniques. Central Java is chosen as the location of this study since Central Java is the area where the fishermen widely use the prohibited fishing gears such as *Arad*, *Dogol* and especially *Cantrang*. Moreover, the data are then analysed using selecting, focusing and categorizing the data. Then, the pattern is investigated to get a clearer description. In addition, the data are presented in narrative and table description.

This article is still written as a Preliminary Research level whose the ultimate goal is to provide policy recommendations to the decision maker for the policies relating to the regulation of Fishing Gears (FG/API) in Central Java Province.

Stakeholders mapping is done by mapping categories of stakeholders according to [6] Ackermann and Eden (2011). Stakeholders’ categories are determined by the level of interest and power of each stakeholder. Based on the level of interest and strength, stakeholders can be classified in 4 (four) categories, i.e. *Subjects*, *Players*, *Crowd* and *Context Setter* (Figure 1).

Stakeholders who are categorized into *Subjects* and *Players* are those whose the most interests in an organization. *Players* are stakeholders whose an interest which also has a high level of power to support (or sabotage) a strategy. In addition, stakeholders who are included into *Players* category are key stakeholders while *Subjects* are stakeholders whose a high interest but possess low influence and strength on the strategy. Therefore, to build strengths, they can be encouraged to form coalition to increase the strength and convert themselves into *Players* category.

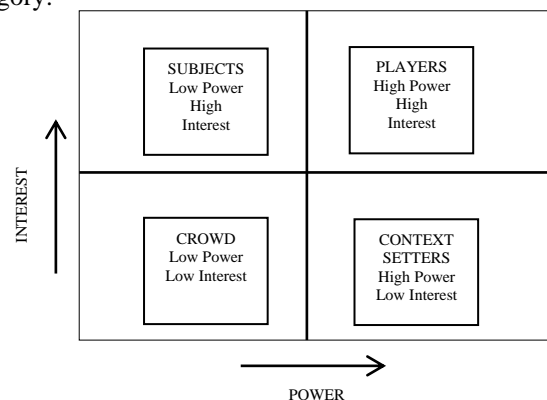


Fig. 1. Outline of stakeholders’ power-interest grid [6] (Ackermann dan Eden, 2011:183)

Stakeholders who are categorized in *Crowd* quadrant can be seen as potential stakeholders. Besides, stakeholders in *Crowd* category are those who (currently) do not show interest or power to influence the outcome of the strategy. While stakeholders who are included into *Context Setter* category are those whose a high level of power over the future of the organization but do not possess too much interest. If *Context Setter* increases its awareness and develops interest and also encourages them to support organizational goals, it can be converted into *Players* category .

Stakeholders mapping in an appropriate category is significantly necessary to manage potential conflicts arising from their interests [6] (Frooman, 1999 in Ackermann and Eden, 2011) [14].

III. FINDINGS

The implementation of fishing gears operating policies refers to the Regulation of Minister of Marine Affairs and Fisheries Number 71 Year 2016 concerning Fishing Lines and Placement of Fishing Gears in the Republic of Indonesia Fisheries Management Area (WPPNRI). The purpose of this policy is to realize the use of responsible, optimal and sustainable fish resources.

The policy of operating Fishing Gears (FG/API) has existed since 1980 through Presidential Decree No. 39 Year 1980 on the Elimination of Trawl Nets. The abolition of the use of trawl nets in this regulation was carried out in some stages starting on July 1, 1980 to July 1, 1981 resulting in the use of trawl nets was reduced to 1000 pieces[11]. Accordingly, this rule did not cause too much upheaval. The prohibition on the use of trawl nets led to the fact that fishermen then modify the trawl net. One of trawl modification is *Cantrang*.

In 2015, the Ministry of Marine Affairs and Fisheries issued a policy prohibiting the use of Trawls and Seine Nets fishing gears. The fishermen's rejection on this policy caused the Ministry of Marine Affairs and Fisheries provide a time limit until December 2016. Then, it extends again until mid-2017 and is extended again by the end of 2017.

In the beginning of 2018, the Ministry of Marine Affairs and Fisheries again gave an extension of the transfer period of fishing gears to the Central Java Provincial Government until July 2018 through Letter of the Minister of Marine Affairs and Fisheries Number 18/MEN-KP/I/2018 stating that the extension of the use of fishing gears (FG/API) which is prohibited in Central Java Province area for 6 months, starting from January 1, 2018.

The policy on extending the time of transfer of fishing gears which has been carried out many times by the government eventually did not provide certainty about when the fishing gear (API) regulation policy is to be implemented. Thus, the policy is like stuck in a place and unclear when it will be implemented.

In fact, the extension of the transfer time of fishing gears which has been done many times is strongly related to the interests' conflict of the stakeholders. The interests mentioned in this research results consist of economic, ecological, social and political interests.

Based on the research, the stakeholders involved in the implementation of the policy were identified as those from the State, Society and Private sectors, including the Ministry of Marine Affairs and Fisheries of the Republic of Indonesia, Marine Affairs and Fisheries office of Central Java Province, the Central Java Provincial Government, Fishermen's Group, Ship owners and Crew, and Processing Industry.

The attitude of Ministry of Marine Affairs and Fisheries (KKP) of the Republic of Indonesia certainly strongly supports the policy of prohibiting the use of fishing gears (FG/API) which is not environmentally friendly. Moreover, the Ministry of Marine Affairs and Fisheries has a legal authority to formulate and determine policies relating to marine affairs and fisheries, implement these rules and conduct supervision. In addition, the Ministry of Marine Affairs and Fisheries issued the policy in order to protect Indonesian fisheries ecosystem.

The Office of Marine Affairs and Fisheries of Central Java Province also supports the existence of a policy prohibiting the use of fishing gears (FG/API) which is not environmentally friendly. Marine Affairs and Fisheries Office of Central Java Province is the implementing agency in regional (provincial) scope and plays a role in socializing the policy to fishermen, providing education, and being a facilitator between fishermen with the Ministry of Marine Affairs and Fisheries. The support for the policy prohibiting the use of fishing gears (FG/API) which is not environmentally friendly is also shown by the Central Java provincial government which seeks to implement the policy, the Central Java Provincial Government considers that currently there had been many modifications to *Cantrang* fishing gear so that it could damage the marine ecosystem. But on the other hand, the Central Java provincial government plays a role in filing applications for an extension of the transition period of non-environmentally friendly fishing gear to be environmentally friendly because it is related to fishermen's readiness in implementing the policy, so that the Central Java provincial government hopes this policy needs to be reviewed and carried out well.

On the other hand, the House of Representatives of the Republic of Indonesia showed an attitude of rejection for the policy of the prohibition of the use of FG/API which is not environmentally friendly since the policy is considered to cause misery for fishermen.

Rejection on the policy is also shown by fishermen and ship owners. Based on the research results, the fishermen refused it since it requires high cost and capital to replace fishing gears which is not environmentally friendly to be environmentally friendly. This rejection attitude on the policy was also shown by the Fisherman Alliance. They assume that *Cantrang* is not categorized as a fishing gear which is not environmentally friendly. In addition, they consider this policy as a form of oppression against fishermen and creates a lot of unemployment.

Meanwhile the Association of Indonesian Fishermen (HNSI) showed different attitudes in several regions (regencies/cities) of Central Java. HNSI attitude which supports the policy of prohibiting the use of Fishing Gears (FG/API) which is not environmentally friendly is due to the fact that they consider the policy can protect fishermen -

small fishermen as well as catches in their area are good enough even without using *Cantrang*. In contrast, other HNSI's rejection attitude is also found. One of them is from HNSI of Pati Regency. In as much as they assume that to replace fishing gear requires a high cost. Accordingly, the implementation of this policy will actually make fishermen accumulate more loans in banks.

In addition, supporting attitude is shown by academics. Through research and assessments, catches results from FG (API) which are not environmentally friendly are not very selective. So, if they continuously operate, they will damage fisheries ecosystem.

Moreover, rejection against the policy is also carried out by fish and *Surimi* processing industries. Fish and *Surimi* processing industries are one of the parties affected by the policy of prohibiting the use of fishing gear, especially *Cantrang* since they use the raw material caught by using *Cantrang*.

No	Stakeholders	Attitude	Reason
State			
			big capital
9	Academics	Supporting	Researches results showed that the catch result of <i>Cantrang</i> are not selective
Private			
10	Fish And <i>Surimi</i> Processing Industries	Rejecting	There is no raw material since the raw material is obtained from <i>Cantrang's</i> catch

Table 2 shows that there are differences in stakeholders' attitudes. In one side, there are stakeholders who support the policy on prohibiting the use of fishing gears (FG/API) which are not environmentally friendly. However, on the other hand, there are stakeholders who refuse it. These differences in attitudes and reasons make this policy still unable to implement.

TABLE 2. IDENTIFICATION OF STAKEHOLDERS' ATTITUDE AND REASON REGARDING THE POLICY

No	Stakeholders	Attitude	Reason
State			
1	Ministry of Marine Affairs and Fisheries	Supporting	Realizing the use of responsible, optimal and sustainable fish resources
2	Marine Affairs and Fisheries Office of Central Java Province	Supporting	Carry out their duties and responsibilities to implement policies made by the Ministry of Marine Affairs and Fisheries
3	The Government of Central Java Province	Supporting / Rejecting	The use of <i>Cantrang</i> now can damage marine ecosystem. But, the Central Java provincial government hopes this policy needs to be reviewed and carried out well
4	House of Representatives of the Republic of Indonesia	Rejecting	The policy of prohibiting the use of FGs which are not environmentally friendly can afflict fishermen
Society			
5	Fishermen Alliance	Rejecting	The policy is considered as a form of oppression against fishermen and will cause a lot of unemployment
6	HNSI (Association of Indonesian Fishermen) of Tegal and Kendal regencies/cities	Supporting	The fishermen's catch result is quite good even though they do not use <i>Cantrang</i> and the policy can protect small level fishermen
7	HNSI (Association of Indonesian Fishermen) of Pati regency	Rejecting	Changing fishing gears requires a high cost
8	Ship owners	Rejecting	Changing fishing gears requires a high cost and

IV. CONCLUSION

Stakeholders who are involved in the implementation of the policy on prohibiting the use of non-environmentally friendly fishing gears include Ministry of Marine Affairs and Fisheries of the Republic of Indonesia, Marine Affairs and Fisheries Office of Central Java Province, the Central Java Provincial Government, Ships Owners and Ships' crews, Fishermen Alliance, Indonesian Fishermen Association (HNSI), Academics and Fish Processing Industry. Furthermore, each stakeholder has a reason to support or reject the policy.

Differences in responses arising among various stakeholders regarding the prohibition on the use of fishing gears which are not environmentally friendly in Central Java Province must be well managed. Thus, the solutions can be provided to overcome the problems and conflicts occurring due to the differences in attitudes and reasons of each party. As a consequence, the policy is able to be properly implemented and there will be no more extension of the transition period.

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