EFFECTIVE FISHERIES MANAGEMENT: TO REDUCE ENVIRONMENTAL DAMAGE AND SOCIAL CONFLICTS OF FISHERMEN DUE TO THE USE OF TRAWLING

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Abstract

The use of trawling as a fishing tool has long been known to have a very bad impact on the environment and creates social conflict in fishing communities. Likewise, on the North-East coast of Aceh there are still fishermen who use trawlers as fishing gear. On the other hand, the use of trawling is very damaging to the environment and causes social conflicts for fishermen. The cessation of trawling operations also has an economic and social impact on fishermen who have been using trawling for their livelihood. This study tries to explore how the impact of environmental damage and social impacts or fishing conflicts that occur due to the use of trawling and how the social and economic impacts if trawling operations are stopped on the North-East coast of Aceh. The research method was carried out with an exploratory descriptive qualitative approach. The results showed that there was significant environmental damage in the research area, namely in the waters of Lhokseumawe, North Aceh, East Aceh and Langsa. This is marked by the destruction of coral reefs and the reduced population of various types of fish, some of which are even very rare. The use of trawling also has an impact on social conflicts among fishermen which often occur. Meanwhile, the prohibition of trawling also has an impact on the loss of income for trawler fishermen and those who depend on trawling operations for their livelihoods. This study recommends stopping trawling permanently to preserve the aquatic environment and avoid social conflicts with fishing communities. Furthermore, to save trawler fishermen, the government must try to convert trawler fishing gear to fishing gear that is more economical and environmentally friendly.

Keywords: Trawl, environmental damage, conflict, fishermen, and welfare.

1. RESEARCH BACKGROUND

Building an environmentally friendly fisheries sector is an ongoing issue and it is important to pay attention to it. This makes some fishing gear such as trawling officially banned by the government because it is considered to damage the environment and cause social conflicts in the lives of fishermen. On the other hand, the impact of the prohibition caused serious turmoil in various regions which needed to find adequate solutions and solutions so that alternative solutions to various problems emerged.

On the east coast of Aceh, there are still fishermen who use fishing gear in the form of trawling which is not environmentally friendly and threatens the sustainability of the sea and its resources as well as threatens the sustainability of fishermen's lives in the future. Whereas sustainability is an important goal that must be considered by fisheries stakeholders. The use of trawling fishing gear is not only damaging to the environment but has also caused social conflicts in fisheries. (Nababan, et.al, 2018; Safina, 2018; (FAO, 2009, de Groot 1984, Kaiser et al. 2002, Puig et al. 2012, Satria, Juluw 2001, FAO, 2009, , Kaiser et al. 2002, Puig et al. 2012, Satria, Juluw 2001, Pramono, 2006, Safina, 2018, Morgan & Chuenpagdee 2003, Kelleher 2005, Clucas 1997.). When using trawling is stopped by the
government, enforcement of the Minister of Marine Affairs and Fisheries Regulation No. 2 of 2015, will cause the economic activity of fishermen who use trawler to stop.

This study tries to examine in depth the impact on environmental damage and tries to find the causes of the social conflicts faced by traditional fishermen versus trawler users and how the socio-economic impacts will occur for trawler fishermen if trawling use is stopped. because we must also think about the people who depend on trawling for their livelihoods to support their children and wives.

2. RESEARCH PROBLEM
The problems that can be studied in this study are:
1. What is the impact of environmental damage caused by the use of trawling on the North-East coast of Aceh?
2. What are the social impacts or fishing conflicts that occur due to the use of trawling on the North-East coast of Aceh?
3. What are the social and economic impacts if trawling operations are stopped on the North-East coast of Aceh.

3. LITERATURE REVIEW
3.1 Definition of Trawl Fishing Trawl
Trawl is a kind of bag trawl that is operated by being pulled over a long distance, to catch fish in the area being passed, FAO (2014). There are trawls that are operated on the seabed to catch various types of demersal fish and there are also midwater trawls that can be used to catch pelagic fish. In its journey trawling has experienced rapid development in Indonesia. This trawl has been used since the second world war in Indonesia and is still used today even though the government has officially banned its use.
3.2 Environmental Damage Due to Trawling.

The use of trawling as a fishing gear has long been known to have a very significant reputation for damaging the environment. (FAO, 2009, de Groot 1984, Kaiser et al. 2002, Puig et al. 2012, Satria, Juluw 2001, FAO, 2009, Kaiser et al. 2002, Puig et al. 2012, Satria, Juluw 2001, Pramono, 2006, Safina, 2018, Morgan & Chuenpagdee 2003, Kelleher 2005, Clucas 1997). Trawl can indeed increase the income of fishermen users in the short term, but in the long term the sustainable use of trawling will actually cause tremendous environmental damage. This environmental damage can be in the form of the extinction of various marine biota as well as damage to coral reefs which will have an impact on decreasing the number of fishermen's catches in general.

Although trawling is a fishing tool that is able to catch fish well, especially demersal fish, the use of this fishing gear can cause severe environmental damage. Damage to fishery resources due to sweeping when trawling nets are pulled, so that the trawling track area will be damaged and kill all the biota in the trajectory. The low selectivity of the catch in the use of trawling results in bycatch which is sometimes larger than the targeted catch, and the bycatch is not of economic value and is often thrown back into the sea dead. The damage from using trawling is explained by (de Groot 1984, Pauly dan Christensen, 1995, Julluw, 2001, FAO, 2009, Kaiser et al. 2002, Puig et al. 2012, Satria, Juluw 2001, Pramono, 2006, Safina, 2018, Morgan & Chuenpagdee 2003, Kelleher 2005, Clucas 1997).

3.3 Social Impact of Trawling

The use of trawling often damages fishermen's FADs, longlines, demersal nets, floating nets, traps, shrimp nets, grouper seed nets, crab fishing rods, and others. This can trigger conflicts between communities who do not use trawling and fishermen who use trawlers, (Charles, 2001, Nababan, et.al Wijaya, et.al, 2009. Soemardjan, 1992. Kusnadi, 2002. Satria et.al, 2002. Emmerson, 1975. Hakim dan Nurhasanah , 2016)

In conflict theory, it is closely related to the pattern of stratification, if the stratification is more diverse, the more complex the conflict will be. Kusnadi (2002) explains that there are three dimensions in viewing fishermen as the subject of conflict:

1. Dimensions of control over the means of production that produce the owner fishermen and labor fishermen.
2. Dimensions of the scale of business capital investment, fishermen are divided between fishermen (with large capital) and fishermen (with small capital); and
3. Dimensions of the level of technology fishermen are divided into modern fishermen and traditional fishermen where they have different orientations in their business.

Charles (2001) who researched the problem of fishermen conflict explained that fishermen conflict problems can be seen from several aspects, namely:

1. Fishery jurisdiction, which relates to who "owns" fishery resources, who controls it and what is the role of each party.
2. Management mechanisms. That is related to short-term issues regarding conflicts between fishermen and the government, especially regarding management policies such as licensing, production, supervision, etc.
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3. Internal allocation, namely conflicts in the fisheries system, where this conflict occurs between groups of fishery actors, between fishermen, and the fisheries industry and fishermen, etc. and

4. External allocation namely conflicts between fishery players and outside actors such as foreign fishermen or other sectors such as fisheries and tourism.

Likewise, Satria et.al (2002) distinguish between fishermen's conflicts into four patterns in which fishermen's conflicts stem from inequality and the dominance of certain parties over other parties. Satria explained that the first conflict was orientation conflict, which is a conflict between industrial, commercial and artisanal fishermen who have different interests. The second is agrarian conflict, this conflict is related to the seizure of fishing areas for various types of fishing gear (fishing ground). Third, namely primordial conflict, namely identity or territorial-based conflicts that occur due to cultural friction and territorial identity of each fisherman.

3.4 The Trawl Ban Dilemma.

There has been a dilemma related to the use of trawling fishing gear. The use of trawling in fishing is very efficient and benefits boat owners and trawler fishermen, but on the other hand it can damage the environment and cause conflicts between fishermen, (FAO, 2009, de Groot 1984, Kaiser et al. 2002, Puig et al. 2012, Satria, Juluw 2001, FAO, 2009, , Kaiser et al. 2002, Puig et al. 2012, Satria, Juluw 2001, Pramon, 2006, Safina, 2018, Morgan & Chuenpagdee 2003, Kelleher 2005, Clucas 1997).

According to Yusuf (2015), if a policy is made that makes the use of trawling fishing gear prohibited in fishing activities, then this prohibition policy is tantamount to turning off the livelihoods of trawler fishermen. Not to mention other parties who are also affected, namely: 1) the baskets because they will no longer get fish from cantrang fishermen, 2) entrepreneurs providing materials and tools because there is no longer demand for materials/tools needed for trawling operations due to trawling not operating again, and 3) fish meal or fish feed entrepreneurs because there is no longer a supply of raw materials. 4) fish traders who have been selling and buying fish from trawling. The same thing was also expressed by Nababan, et.al (2018), he explained that there was a big loss for trawler fishermen and people associated with trawling operations. if the operation is stopped, the trawler fishermen and the people involved in the trawling operation will lose their jobs and reduce their income.

4. METHODOLOGY
4.1 Research Approach

This study uses a desk study approach and a field study in several locations of the picking test. Furthermore, Environmental analysis, Social Analysis and Economics analysis were carried out. It is hoped that this analysis will produce a fishery strategy that is sustainable, environmentally friendly, fair and free of conflict with the implementation of regulations prohibiting trawl fishing gear. This research was conducted on the East Coast of
Aceh, namely in Lhokseumawe City, North Aceh, East Aceh and Langsa City, the determination of the survey area was guided by fisheries centers that still use trawls as fishing gear even though some of the trawls are mini. The main data used is primary data directly obtained in the field and compiled from related reports and research reports that have been carried out. This data is obtained directly from related parties or through online sites, books and scientific journals. Primary data were obtained by means of direct and indirect interviews (questionnaires).

This study uses a qualitative approach, with an exploratory descriptive model in which the researcher tries to reveal the symptoms thoroughly in a holistic-contextual way through collecting data from a natural setting by using the researcher himself as a key instrument. The methods used are interviews, observations, documentation studies and data analysis. This study was conducted with a multi-case design in groups of fishermen using trawler-type fishing gear and also other fishermen who were affected as a result of using trawling on the East Coast of Aceh.

The approach used in this activity can be seen diagrammatically in Figure 1.

Source: Nababan et. a, 2018 and Developed for this research

4.2 Data Analysis Method

The data obtained in the study in the form of primary data obtained through questionnaires and interviews will be analyzed using methods, descriptive analysis and exploratory descriptive analysis, and stakeholder analysis. Stakeholder analysis is defined as a procedure to gain an understanding of a system through identifying key actors or stakeholders in the system and identifying their desires for the system (Grimble and KwunChan, 1995). This research also used Multiplier Effect analysis. This analysis is specifically to look at the economic impact felt by fishery business actors, ranging from fishermen, fish traders, fish processors to businesses related to the multiplier effect of money flows that occur due to the cessation of trawling operations. To find out alternative solutions for fishing gear that are environmentally friendly and have economic value, the LFA approach is used. This approach begins by analyzing the existing situation and developing some goals to identify the real need.
5. RESEARCH RESULTS

5.1 General Condition of the North-East Coast of Aceh.

The social conditions of fishing communities in the waters of North and East Aceh, especially in Lhokseumawe and North Aceh, are very varied. There are fishery entrepreneurs who use vessels above 30 GT to 60 GT and some even have 80 GT and use purse seines as fishing gear. However, the number of ships is not too many, namely around 400 units and fishing in the high seas between 20 to 120 nautical miles on the North-East coast of Aceh. In fact, they have also used FADs as an auxiliary medium for collecting fish which are then netted with ring seines. In addition, there are also small fishermen who rely on handlines, long line fishing, tug lines, longline fishing rods, traps, land trawls, floating nets, seabed nets, shrimp nets, shellfish seekers and crabs and others. And also there are still fishermen who use trawling and modifications to catch fish in the waters of North-East Aceh.

The results showed that in the waters of North and East Aceh, especially in Lhokseumawe and North Aceh, there were still trawl trawl operations. Although in general the trawling operating in this area is small. The towing vessels are also relatively small, namely between 7 to 10 GT although there are also sizes above 10 GT in limited quantities.

5.2 Issue of Environmental Damage due to the Use of Trawlers.

Environmental damage is a serious problem for fishing communities and sustainability is a threat if environmental damage continues. Environmental damage in water areas is generally caused by the use of illegal fishing gear which directly affects the damage to marine biota. An example of such illegal fishing gear is the use of trawls, both large and small in size.

The environmental tragedy that is happening today is the effect of the long-standing use of trawling in the North-Eastern waters of Aceh. In general, the use of large trawls only benefits fisheries entrepreneurs and has no significant effect on increasing fishermen's income, this can be seen from the proportion of income between ship owners and crew of trawling boats, Nababan et al (2018). The condition of fishermen's poverty is still at an alarming level and has not been resolved while the availability of fishery resources in almost all catch areas has been running low. This shows that the abundance of fishery resources has not yet flowed to fishermen, especially small fishermen who only control the coast and still have to fight over territory with trawler users. Finally, some of the fishermen adapted the technology to use mini trawlers as a form of rationalization for fishermen to increase their income because they were considered more productive (large catches) while in terms of cost, they were very efficient because they could only be operated by 1 or 2 people, maintenance costs were not large, durable (not easily damaged), and the most important thing is that it can be used throughout the season, Nababan et al, (2018).

In the North-East coast of Aceh, the use of trawls and mini trawls is often found around the waters of Lhokseumawe, North Aceh and also East Aceh, Langsa to Tamiang. In the reference it has been explained that the use of trawling is very damaging to the environment and accelerates the extinction of various types of marine life. Safina (2016),
researcher and environmentalist for Greenpeace explains that Norwegian and Russian fishing companies have restricted trawling operations. Trawl sweeps all marine life, taking everything that is worthy of being called an ocean bulldozer.

The condition of environmental damage which is marked by a decrease in fish populations is exactly what happened in the waters of Lhokseumawe and North Aceh. The results of the study based on interviews with traditional fishermen around the waters of Lhokseumawe, North Aceh, East Aceh and Langsa show how difficult it is to find fish on the beach in the last decade, even though in the 1990s these waters became the main source of livelihood for the people who live there. They can rely on simple nets and simple fishing rods to support their families.

In the study, it was found that the catch of traditional fishermen has decreased drastically, be it trap fishermen, longline fishermen, floating net fishermen, demersal net fishermen, shrimp net fishermen, shellfish fishermen, crab fishermen, small crabs, fishing line fishermen in shallow FADs, longline fishermen stingrays, mackerel fishing, grouper seed-seeking fishermen, anchovy trawl fishermen and land trawlers whose income is so threatened that it can even be said that they can no longer be used as their main source of livelihood. Whereas in the era of the 1990s this area was a very economical area for traditional fishermen, even for those who use sailboats and paddle boats though. This means that catching fish that are not selective (Bycatch), using trawling has an impact on significantly decreasing the fish population in the study area.

Destabilization of the seabed also occurred in the study area, the trawl being dragged has resulted in stirring and disturbing the marine ecosystem, even in the waters of Lhokseumawe and North Aceh. The sea water along the Syamtalira Bayu sub-district to Tanah Jambo Ayee, East Aceh and Langsa is always cloudy and trawling activities contribute to this situation.

Damage to coral reefs also occurs due to trawling activities, many coral reefs in coral clusters that stretch along Aceh Utara and Aceh Timur have been damaged and growth is slow. Like the coral clusters around Tanah Pasir and Lapang sub-districts, these coral clusters have died and the community has named them as kareung broek (meaning rotten coral), of course in this case it is believed that trawl has also contributed to the damage to coral reefs. Whereas corals can continue to grow for centuries. The operation of trawling will cause the coral reefs to be damaged and die even though coral reefs are perfect habitats as breeding grounds for various types of fish to support the fish chain in the marine biota system. Referring to (Allsopp et al, 2009, In Florida and New Zealand, coral reefs have been destroyed up to 97-99 percent by trawling, this condition is certainly very sad, many types of soft coral are destroyed due to trawling, even though that is where fish live and breed.

In the era of the 1990s, researchers when they were young often searched for various types of crab crabs on the coast of Lhokseumawe, even within a few hours, they could easily get tens of kilos of large crabs. However, the research findings show that the current conditions are very different and the crab has become a rare item and if any, the size is relatively very small.
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The survey that the author conducted by riding fishing boats to catch fish using ring seines to catch puffer fish for one week in a row using KM Lintas 45 GT found that a single pomfret species were not caught for one week. This shows the scarcity of pomfret fish in the waters of Lhokseumawe and North Aceh, as well as flying fish. Meanwhile, mackerel and squid fish catch relatively small numbers. Likewise with various other types of fish belonging to relatively small pelagic fish. Meanwhile, according to the testimony of the tekong or skipper and also fishermen around the research area in the waters of Lhokseumawe and North Aceh, East Aceh and Langsa.

5.3 Fishery Social Conflict

Social conflicts between trawler users and traditional fishing communities have been around for a long time around Lhokseumawe and North Aceh. The conflict is still overshadowing the lives of fishermen who are equally dependent on the waters for their lives. The low income of traditional fishermen as one of the sub-systems of coastal rural communities, because marine fishing technology is generally still low or still using traditional equipment (Soemardjan, 1992).

Charles (2001) explained the typology of water and maritime conflicts specifically. As the following picture:

Figure 5.1. Triangle of Paradigm of fishery

Source: Charles, 2001

According to Charles (2001), the complexity of conflict in fisheries or fisheries can be described as an arena of competition between three paradigms with different interests. The competition or conflict can be described as a paradigm triangle as described above. The three paradigms will continue to be in conflict or tension in order to maintain their respective interests, policies that are too sided with one interest or two paradigms of interest will
certainly clash with other paradigms. The struggle between the three interests or paradigms above is determined by the objectives of a policy and the background of the policy.

Table 5.1. Comparison of Conservation, Rationalization, and Social

| Konservasi          | Rasionalisasi             | Sosial             |
|---------------------|---------------------------|--------------------|
| Kata kunci          | stok ikan                 | kebutuhan manusia |
| Makna “keberlanjutan”| ketersediaan stok ikan    | seluruh masyarakat pesisir |
| Musuh utama         | rasionalisasi pasar       | inefisiensi, idle resources |
| “Nelayan” di mata pendukung | nelayan cenderung mengejar | nelayan adalah bagian dari kultur dan struktur masyarakat pesisir |
| Tindakan dan respon | kontrol dan pembatasan    | manajemen pemanfaatan secara spasial |

Sumber: Diringkas dari Charles, 2001

In some fishing areas, there are symptoms of overexploitation of important commodities such as large pelagic, small pelagic, shrimp, and demersal fish. As a result of overexploitation, small fishermen are the ones who are greatly disadvantaged and feel the impact of the threat of scarcity of various types of fish. They have to pay more for fishing operations, especially for fuel and consumption costs because the fishing locations are getting farther away, and it takes longer in one fishing trip. Environmental damage also causes the scarcity of various types of fish, which can be seen from the smaller size of the various types of fish that have been caught, as well as a significant decrease in the number of catches, and some species that were once the main catches are now even disappearing altogether (Matriadi, 2020).

Conflicts that occur to fishermen, especially in the waters of Lhokseumawe, North Aceh are not only caused by the rejection of traditional fishermen against trawling fishing gear, (as has happened to fishermen in Muncar Banyuwangi researched by Don Emmerson (1975). Research conducted by Emmerson is there also related to what is done by researchers, namely the existence of a "shared sense of ownership" in fishing groups in utilizing fishery resources. Conflicts that occur between traditional fishermen and fishermen in the waters of the North-East Coast of North Aceh are also triggered by the seizure of fishery resources, where fishing lane violations occur, fish by one group of fishermen, namely mini trawler users and in direct contact with other traditional fishermen and disturb the fishing areas of these traditional fishermen. In their operations, these trawler users often damage traps, nets and fishing rods as well as fish FADs belonging to other fishermen. This is the same as what has been studied by Kusnadi (2002) on fishermen along the North Coast of East Java, where he revealed that conflicts often occur between fishermen because of the seizure of fishery resources. Many migrant fishermen are fishing outside their territory, which infuriates local fishermen.
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This is exactly what happened in the waters of North-East Aceh (Lhokseumawe, North Aceh, East Aceh and Langsa). In Lhokseumawe and North Aceh, conflicts between trawler-using fishermen generally live in Pusong Village, Lhokseumawe and catch fish using mini trawlers to the Blang Mangat District around Meuraksa and the waters of Syamtalira Bayu District to Jambo Ayee District in North Aceh District. The mini trawler used requires the trawler to operate at a low depth of about 5 to 10 meters. Trawl operations in these waters disrupt the catchment areas of other traditional fishermen who use simple equipment, such as shrimp finders, longline anglers, longline fishers, shellfish seekers, grouper fingerlings as well as fishing nets and demersal nets and FADs for other fishermen who were also damaged due to the operation. trawling.

This conflict has often occurred since the era of the 1980s, 1990s and until now still has the potential for physical clashes to occur. The results of the study revealed that the mini trawling operation in the North-East coast of Aceh greatly disrupted the livelihoods of traditional fishermen. Physical clashes often occur between non-trawling traditional fishermen and trawler-using fishermen. It was revealed that in the 1990s era, hundreds of non-trawling traditional fishermen around the waters of North Aceh chased those who carried sharp weapons, and eventually conflicts and physical clashes occurred with fishermen using trawlers. This is what happened in the 1980s and 1990s. In general, the traditional fishing communities around Syamtalira Bayu Subdistrict to Jambo Ayee Subdistrict reject the trawling operation. These physical collisions occurred repeatedly, some of which had an impact on fatalities in the past.

Conflicts also occurred in North Aceh, dozens of fishermen from the Samudera sub-district visited the Marine Fisheries Service Office and the North Aceh Regent's Office on (11/24/2020). The traditional fishermen protested against the increasing number of trawling trawlers operating in their area. The protest was carried out by fishermen because they were very disturbed by the presence of trawling trawlers which had a direct impact on their business and fish catches. The same thing also happened in other areas studied, namely East Aceh and Langsa, the use of trawling is very vulnerable and has the potential for social conflict for fishermen because the use of trawling is very disturbing to the area and the number of catches of traditional non-trawling fishermen. The same thing happened in Aceh Timur and Langsa.

The results of the study also found that once a large trawler hit a fishing boat in the waters of East Aceh, fortunately when the incident happened, the fishermen managed to save themselves. However, it was revealed that the fishermen suffered losses in the form of damaged fishing gear, and until now there has been no resolution. All of these are examples of conflicts that occur between trawlers and traditional communities who cross each other in the waters to earn a living.

5.4 Socio-Economic Impact of the Prohibition of Trawling Operations.

The implementation of regulation minister of fishing Republik Indonesia Number: 2/PERMEN-KP/2015, concerning the prohibition of the use of trawl trawl fishing gear in
the fisheries management area of the Republic of Indonesia has become a very broad and serious concern. Some communities strongly support the implementation of these regulations in order to ensure environmental sustainability and avoid social conflicts among fishermen. Fisheries communities who use water as a source of livelihood feel various implications with the issuance of this Ministerial Regulation. Referring to the research on the use of cantrang (mini trawl) and the community around the port or fish base in Juwana District, Pati Regency conducted by Ermawati and Zuliyati (2018), the results of the study show that the implementation of PERMEN KP No. 2 has a social and economic impact, namely: 1) the increase in the unemployment rate increased significantly because the fishermen who used trawling immediately lost their livelihoods, 2) the welfare level of the fishing community decreased due to the loss of their livelihoods, 3) the emergence of a higher crime rate allegedly carried out in part by people who had lost their livelihoods to fulfill their daily needs, (4) there was a decrease in the catch which also resulted in a reduced supply of fisheries, (5) a decrease in the catch of fishery and also contributed to the sluggish economy.

Likewise, the population of trawler fishermen in Lhokseumawe is approximately 43 mini trawling boats and several medium sized trawlers with each mission trawling boat manned by two fishermen and for medium trawling usually manned by 6 fishermen, in general around Lhokseumawe there are approximately 110 fishermen. who depend on trawling for their livelihood, plus dozens of others who also depend on the results of trawling because they are directly related to trawling operations in Lhokseumawe. While the number of trawler users in Aceh Utara, Aceh Timur and Langsa cannot be known with certainty because it is not supported by valid data, the authors suspect that there are at least 500 trawlers of various sizes operating in these areas.

The social and economic impact felt as a result of the ban on the use of trawling is related to the sources of income for fishermen who have been using trawling which suddenly stopped, as in 2020, they did not go to sea for almost a month and immediately lost their livelihood. This condition must be considered so that in solving a problem it does not cause a new problem. In December 2020, there was a ban on mini trawling operations, which usually dock at the Pusong Lhokseumawe port. A total of 43 boats using mini trawlers belonging to fishermen in Pusong Village, Banda Sakti District, Lhokseumawe City, are prohibited from operating. From the ban on 43 boats using mini trawlers to operate, 86 people lost their income from their usual fishing activities. This means that there are almost 80 families who lose their income in an instant and also means that there are almost 400 people who are threatened with loss of livelihood assuming one family has 4 to 5 family members.

The results of the study revealed that they had been banned from operating for three weeks and during those three weeks they did not have a steady income. As a result of the cessation of trawling operations, it was revealed that some of the trawling fishermen had difficulty paying for their living and some even had to decide on their children's education in pesantren for a while. The crush of the covid pandemic plus a ban on fishing has destroyed their economic life. This is a form of dilemma in banning the use of trawling suddenly
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without preparing alternatives and solutions for the trawler fishermen. The same thing was also expressed by several other families who depend on their income from trawling in the waters of Lhokseumawe and North Aceh.

The social and economic impacts resulting from the enforcement of the Minister of Fisheries and Maritime Affairs Regulation No: 2 PERMEN-KP/2015 in the Lhokseumawe, North Aceh, East Aceh and Langsa areas are as follows:

1. There is an additional unemployment. The enforcement of this Ministerial Regulation causes ships using trawling fishing gear to not operate, this will cause unemployment for the crew. Each mini trawler consists of 2 crew members and for a trawler measuring 20 GT has approximately 6 to 15 crew members. For trawling boats in Lhokseumawe there are about 43 mini-sized and some large ones, but for the districts of North Aceh, East Aceh and Langsa the number is not known for sure due to the unavailability of valid data. However, researchers suspect that there are more than 500 trawler with nearly 1500 crew members who depend on the trawling operations. If the trawling operation is prohibited from going to sea, it means that there are approximately 1500 people who have lost their jobs and become suddenly unemployed.

2. Fishermen’s welfare decreases. If the ban on cantrang boats goes to sea, it will cause the livelihood of the crew, including the boat owners, to be lost and their source of income to be lost and this means that there will be a decrease in welfare for fishermen who use trawling as fishing gear.

3. Increase in the number of Crimes. There are many opinions that say that if the number of unemployed increases it will contribute to an increase in the number of criminals and crimes. This is driven by the fulfillment of the necessities of life, it is feared that if there is a surge in unemployment, there will also be an increase in the number of criminals in the area studied.

4. Psychology of entrepreneurs and crew members who experience stress. Loss of income and livelihood coupled with the burden and need for costs to support the family can have an impact on pressure or stress and this has the potential to become a psychological disorder for them.

5. Requires expensive funds to change the type of fishing gear. If the use of trawling is stopped, the fishermen must replace their fishing gear with other environmentally friendly fishing gear and this requires a large amount of money, even though their welfare is still low.

6. Sectors related to trawling business are also disrupted. The cessation of trawling operations also uses other sectors such as declining purchasing power of coastal communities, financial institutions will be threatened because most of the fishermen are related to loans from various financial institutions, other businesses related to trawling operations have also become sluggish such as the Balok Ice company, aquaculture which using raw materials and fish feed from trawler fishing gear,
entrepreneurs who sell trawl caught fish, food traders for the needs of trawling boats including SPBN will experience a decrease in income.

6. CONCLUSION

From the discussion that has been carried out above, it can be concluded from this research that:

1. The use of trawling as a fishing gear has long been used in the waters of North-East Aceh. The use of trawling fishing gear has significantly contributed to the damage to the aquatic environment around the research area. This is marked by the reduced population of various types of fish that were once very abundant in these waters. Examples of populations that have decreased significantly are pomfret, puffer fish, scad fish, tamban fish, belt fish, regak fish, selar fish. Blangkas, which are protected marine biota, are already very rare, as are various other types of fish.

2. In addition to damaging the environment, the use of trawling in the research area has also caused social conflicts between fellow fishing communities. The conflict is caused using trawling that interferes with fishing activities with other tools such as traps, bottom nets, floating nets, shrimp pans, shellfish seekers, crab seekers and grouper fingerlings, fishermen who use longlines and also damage fishing FADs.

3. The policy on the implementation of regulation No: 2 PERMEN-KP/2015 in the Lhokseumawe, North Aceh, East Aceh and Langsa areas, is very positive, but on the other hand the prohibition is a dilemma because it has an impact on the loss of livelihoods of fishermen who have been using trawling, welfare fishermen who use trawler are decreasing, the number of crime is increasing, the pressure of life and stress for fishermen who use trawling is increasing, requiring high costs for fishing gear conversion.

4. The North-East Coast of Aceh is in an overfishing condition and requires good management policies. Banning the use of trawling in this area is a good solution. However, the facts on the ground reveal that policies that are not accompanied by a bottom-up approach only led to vertical conflicts between the government as policy maker and fishing communities as policy takers. The top-down policy problems have caused socio-economic problems, including dissatisfaction with the trawling fishing community. This is because the government's policy is not accompanied by a solution of steps in improving the socio-economic conditions of the people who have been using trawling and mini trawling.

5. Sector related to trawling business is also disrupted. The cessation of trawling operations also uses other sectors such as declining purchasing power of coastal communities, financial institutions will be threatened because most of the fishermen are related to loans from various financial institutions, other businesses related to trawling operations have also become sluggish such as the Balok Ice company, aquaculture that uses raw materials and feed from fish originating from trawler fishing gear, entrepreneurs selling fish caught by trawlers, food traders for the needs of trawling boats including SPBN will experience a decrease in income.
7. RESEARCH SUGGESTIONS

Specifically, the suggestions from the results of this study as a solution to the trawling problem in the North-East Coast of Aceh (Lhokseumawe, North Aceh, East Aceh and Langsa) are as follows:

1. The need for a firmness in the implementation of regulations that prohibit the use of trawling to avoid damage to the aquatic environment and to ensure the sustainability of the waters and ensure the sustainability of fishermen's businesses. The cessation of this trawling operation must be followed by monitoring through the Monitoring, Controlling and Surveillance (MCS) system and strict law enforcement.

2. To reduce the risk of IUU (Illegal, Unreported, and Unregulated) fishing activities, this activity must involve stakeholders including elements of the fishing community through the Community Supervision System. This Community Surveillance System must be integrated and coordinated with the legal apparatus where every report from the community that finds trawling operations in the waters must be immediately followed up by law enforcement officials seriously to avoid collisions and conflicts.

3. It is necessary to transform or convert trawl fishing gear to more economical and environmentally friendly fishing gear. Here it is necessary to take an inventory or data collection properly and carefully about how many actually the total number of trawls in the research area. The data collection aims to facilitate policy making in solving trawling problems, for example converting trawling fishing gear with other fishing gear that has economic value and is environmentally friendly as well as training and mentoring so that the conversion process to environmentally friendly fishing gear can run well.

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