



THE IMPACT OF MARINE POLLUTION THROUGH MARINE SHRIMP FARMING

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ABSTRACT

The purpose of this study was to determine the impact caused by the shrimp farming business on the lives of traditional fishermen on the Konang coast. Data collection was carried out through in-depth interviews and observations. Meanwhile, the sample was taken using the purposive sampling method and then analyzed using descriptive qualitative. The results of the study show that the shrimp farming activities in Konang beach have an impact on the marine life of traditional fishermen, where harmful algae blooms are overgrowths in water, and shrimp fertilizing drugs were the primary cause for the mass mortality of the fish, so that smell of dead fish is unavoidable. In conclusion, fish that have died have been contaminated by shrimp pond waste, which is also unsuitable for consumption because it can cause allergies. The savoury and delicious taste of fish has also decreased, which causes significant economic loss for the traditional fishermen of the Konang coast.

Keywords: *Impact, Marine Pollution, Marine Shrimp Farming*

1. INTRODUCTION

Water is an essential component for the life of all living things on earth. Indonesia is a maritime country; in the Maritime KBBI, it means dealing with the sea or sea trade. Maritime countries have extensive marine territories and an abundant supply of water, and this makes people who live in coastal areas make fishing their primary profession and have high dependence. A fisherman has a significant impact on fishery products in the sea.

Fishery products are a complex problem because groups have different interests in utilizing the fishery sector; many parties pollute the sea by using explosives and fishing equipment that is not environmentally friendly to take significant fishing actions. This activity undoubtedly harms traditional fishers, who often suffer from poverty. Empowerment of coastal communities shows that there has not been a significant increase in the welfare of fishers due to many obstacles, such as damage to the aquatic environment, lack of accommodation, limited marketing, and problems between groups with different opinions regarding the use of marine products [3].

Traditional fishers are a group that is prone to conflict. Conflicts in society often occur because of a battle related to victory and defeat, either individually or in groups with different views or interests. Conflicts

related to fishers occur because groups of fishermen fight each other for fishery resources have limited number [14]. People tend to compete for resources that will affect their actions and life [11]. Missing and scarce resources will cause sparks of confrontation in people's lives. Fishers' conflicts are generally triggered by light and irrational problems such as the envy of traditional fishers who do not have sophisticated technology to find fish; as a result, their income is limited and often confronted by other groups looking for fish with advanced technology [10]. The cause of conflict in fishing communities is usually triggered by the freedom of anyone to exploit fishing resources that are open access, which means that anyone is free to take and use the resources in the sea [5]. The conflict in the lives of fishing communities, especially if there is an imbalance between fishers.

The industrialization of shrimp farming in Konang Beach, Nglebeng Village, has created new problems among traditional fishers. Traditional fishers from Konang beach claim that the conflict occurred because it was triggered by waste from aquaculture activities being dumped directly into the sea without going through an optimal filtering process; as a result, waste from shrimp feed and shrimp fertilizer drugs immediately dissolved into the sea, this caused concern for fishers, especially the traditional fishers of Konang Beach, considering that shrimp pond feed and medicine are instant food types that can cause algae to

bloom so that many fish experience mass deaths on Konang Beach. Shrimp feed contains dead plankton and organic material in suspended solids that can be dissolved and transported in and out of water in aquaculture land [7]. Something that can cause pollution, namely eutrophication in marine waters. Eutrophication itself is a pollutant effect of nitrate and phosphate. If these excessive nutrients continue to be disposed of, sea oak will cause algae blooms or a population explosion of algae. Blooming algae can deplete oxygen in the water; depleting oxygen levels will cause fish to die on a large scale [13]. In addition, when the rainy season arrives and the volume of water rises, the waste can be scattered and absorbed into the ground to enter the residents' wells and can cause health problems in the long run. As a result, residents and fishers from Konang Beach are harmed by the existence of the industrialization of shrimp ponds.

Shrimp pond cultivation cannot be carried out based on recklessness. However, in the process, certain conditions need to be met, such as location feasibility, land feasibility, ecological feasibility, and its impact on environmental sustainability, which industrialization entrepreneurs need to consider. If in the process, the shrimp farming business does not follow excellent and correct business guidelines, this business may threaten people's lives. Conflicts between shrimp ponds and traditional fishers in Nglebeng village occur because of differences in interests in managing marine resources. Traditional fishers feel that maintaining the cleanliness of the sea is very important for the sustainability of the life of marine creatures. Meanwhile, shrimp ponds feel that the sea can be used for the final disposal of shrimp pond waste so that the capital spent is not too much, and they feel that shrimp pond waste does not pollute the ocean.

It is urgent to manage conflicts that occur, so they do not drag on and get bigger and cause casualties. That is why it is essential to understand conflicts related to interests in society. So research on conflicts of interest between traditional fishing groups and the shrimp farming industry is fundamental.

This study aims to identify and describe the positive and negative impacts caused by the industrialization of shrimp farming on the lives of traditional fishers and the environment of marine creatures at Konang Beach, Nglebeng Village.

2. LITERATURE REVIEW

2.1. Conflict

In Indonesia, we often encounter conflicts; different races, religions, cultures, and languages often cause conflict within the community. The conflict comes from the Latin "configure," which means hitting each other. Sociologically, conflict is a social process between individuals, groups, and individuals and can also be grouped with the group. Conflict is inherent,

meaning it can happen anywhere and anytime and is always present in every human life [1].

Conflict tendencies are inherent in society [12]. Where a group that gets power will try to defend its interests while the group that is controlled will fight for its interests, the interests of these two groups are usually conflicting.

Based on the experts' opinions above, it can be concluded that conflict is a process with conflicting parties due to different goals. Conflict is something that cannot be avoided in people's lives. There are two types of conflict, namely latent and manifest. Latent conflict is a closed conflict, which is usually hidden and does not spread to the surface. The community, viewed from the outside, looks harmonious, and there are no signs of hostility at all. However, even though it looks safe and peaceful behind it, the community is hostile to each other. It does not show that they are hostile, and only the people in the area know there is a contradiction. While manifest conflict is an open conflict, it is seen that this conflict has roots. It is natural, so it is necessary to overcome the causes of the conflict so that it does not occur. Cause casualties and the conflicts that occur do not become more widespread [9].

2.2. Ralf Dahrendorf's Conflict Theory

Dahrendorf has never clearly defined conflict theory, but Dahrendorf considers that conflict must happen in people's lives. Each community has different interests. These different community interests ultimately lead to conflict, so it can be concluded that society and conflict are two things that cannot be separated from one another [4].

Dahrendorf states that society has two faces, namely conflict and consensus. Society is held together by enforced non-freedom. There is a particular position that delegates power and authority over other positions. Dahrendorf argues that a societal position has authority and power at different levels. Authority is not in an individual but in a position and is not static. So it can be said that an individual power in one area does not mean he has the same power in another area. Individuals in a subordinate group may have a superordinate position in another group [2].

Power and authority have two elements, commonly referred to as superiors and subordinates. Conflict groups in Dahrendorf's theory are divided into three, namely: pseudo groups, interest groups, and conflict groups. Pseudo-groups are positioned as holders of the same interests, but these groups do not have permanent members or rules and are commonly called unorganized groups. The pseudo-group is not aware of its existence. The interest groups this type of group has been organized because it has permanent members and has the same goals among its members. The two groups, pseudo groups and interest groups, have the same interests, and it is from this same interest that the two groups unite and give birth to conflict groups. In

the conflict, two groups have different positions, the ruling group (superiors) and the controlled group (subordinates). The same interests unite each group. Groups that have power usually want to maintain power, while groups that are controlled or under them want a change to occur.

In brief, it can be concluded that Dahrendorf's theory discusses the social class struggles in industrial society. Dahrendorf's theory of class struggle focuses more on the ownership of power and authority rather than on the ownership of capital and assets to control and suppress others under them.

3. METHODS

The type of research used in this study is qualitative with a case study approach. The researcher wishes to collect in-depth information about the causes, triggers, and impacts of the cases that occurred by exploring the case through selected informants relevant to the conflict between traditional fishers and the shrimp farming industry in Konang Beach Nglebeng Village, Panggul District, Trenggalek. The sources used in this study are primary and secondary, where the primary data sources are parties directly involved with the conflict. In contrast, the secondary resources are literature and journals that discuss fishers' conflicts; the sampling technique used is purposive sampling, with criteria as follows: The critical informant is the head of the fishing group, and the primary informants are traditional fishermen who have worked for about ten years and the owners of shrimp ponds industry, and the supporting informants are the people who live around the shrimp ponds. The data collection process was carried out through observation and interviews at the research site.

The location of this is Konang Beach, Nglebeng Panggul Village, Trenggalek. The selection of this location is because the industrialization of shrimp aquaculture that is being built in this area is still new, in the range of two to three years, and the waste management is still not up to standard. In addition, many fishers in this village are included traditional fishermen whose fishing system uses traditional nets drawn by fishers from the sea to the shore.

4. RESULTS AND DISCUSSIONS

4.1 Causes of Conflict Between Shrimp Farms and Traditional Fishermen

Konang Beach is located in Nglebeng Village, Panggul District, Trenggalek, and is one of two beaches in the Panggul District. The life of the Nglebeng Village community is very dependent on marine resources, such as finding and catching fish for consumption and as a source of economic income. Besides that, there are

other functions, namely as a tourism sector and a means of traditional rituals.

Most of the Nglebeng Village community has worked as a fisherman for a long time. The fishing system carried out by the Nglebeng village community is still relatively traditional, where the community will sew their nets used to catch fish.

The nets used are pull nets, so the manufacturing process requires patience and must be sewn repeatedly so that the nets are vital to attracting fish from the sea to the sea.

For fishers in Nglebeng Village, a dragnet is a fishing tool passed down from generation to generation, where the male fishers will cast their nets in the sea and then wait until the male fishers give the signal or return to the mainland. The cue from male fisherman then pulled the net from the sea to the shore. The process of pulling this net took hours to reach the mainland. Besides, the net that had been pulled for hours contained fish, not infrequently in the sea. The net drawn is empty and does not contain a single fish.

The emergence of the industrialization of shrimp farming on Konang Beach, Nglebeng Village, has had a tremendous impact on the lives of traditional fishers. The waste dumped carelessly by shrimp ponds into the sea causes seawater pollution in the Konang Beach lip area and trade competition between ponds. Shrimp and traditional fishers also contributed to the increasingly heated conflict.

Shrimp pond waste which is directly dumped into the sea and the big river of Konang Beach, causes fish to experience mass death due to poisoning from shrimp feed and drugs. Fishers are inflamed because their income has dropped drastically. Moreover, the pollution that occurs makes fish exposed to and ingest waste from shrimp ponds; as a result, the taste and texture of the fish are different, so consumers are gradually abandoning the fish caught by the fishers of Konang Beach. Then the consumers of Konang beach fishers also began to switch by buying shrimp from shrimp ponds, so there was heated trade competition between shrimp ponds and fishers.

In addition to fishers and industrializing shrimp ponds, they also have problems with residents who live near shrimp ponds. When sea water rises to people's homes, people's wells absorb and are contaminated with waste from shrimp ponds so that it smells fishy and terrible. Medicine is unavoidable. As a result, many residents are concerned about the water consumed and used daily.

Every entrepreneur wants a small capital expenditure with hefty profits; as a result,

industrialization tends to ignore the environment. The emergence of the industrialization of shrimp farming in Nglebeng village is a form of industrial progress in fisheries. Therefore, this industry is considered to have full support from the government. Who gets a significant additional income from the shrimp farming business tax, even though its existence is considered troubling to residents and the community because applicable health provisions do not accompany the shrimp.

Conflict is something that cannot be avoided, especially in the social life of society. Conflict occurs because each community is not in line with its goals. Various solutions are made to resolve conflicts, so they do not escalate and produce a harmonious societal situation. For Dahrendorf, the cause of conflict is that parties have power (authority) in various societies. Conflict arises from the social system relationships, and individuals and groups with no relationship or linkage in the social system are not likely to be involved in a conflict.



Figure 1. Konang Beach's shrimp pond

4.2 Conflict Analysis of Shrimp Farms and Traditional Fishermen

The conflict between shrimp ponds and traditional fishers in Nglebeng village is associated with the theory of authority from Dahrendorf. It can be said that shrimp ponds are the party with authority, while fishers are those who do not have authority. Traditional fishers enter a position of forced freedom, and Shrimp ponds have capital and power in fisheries. Shrimp ponds have the power to dominate the fishery market and the Nglebeng village area because shrimp ponds generate much higher income than fishers.

Based on the conflicts in the field, shrimp ponds began to seize fishing consumers by switching from buying marine fish to shrimp from ponds. Besides that, shrimp ponds were standing on private land and not land belonging to the State or rented land choosing

fishers. The sea is common property, so it is good that Fishermen and shrimp ponds both have the right to use the sea for the common good, shrimp ponds built on private property automatically show the power of shrimp ponds that fishers cannot touch. Shrimp farms that pay large amounts of business tax to the village government are considered to have contributed to the welfare of the village government. Traditional fishers feel that the government favours shrimping farms that orderly pay business taxes, resulting in new conflicts between fishers and the government. Fishers feel that the government is no longer neutral and pro to fishers, resulting in fishers gradually starting to feel left out by the power possessed by shrimp ponds. As a result of the government's weakness in dealing with conflicts, the fishers' trust in the government decreases [8].

The emergence of conflict will grow and strengthen the solidarity and integration of group members (in-group) due to disputes or conflicts with outside groups (out-groups) [6]. The strengthening of integration and solidarity in fishing groups occurs because of losses due to the existence of shrimp ponds. Traditional fishing groups strengthen their in-group members to fight against shrimp ponds. Dahrendorf divides groups involved in conflict into two types: quasi-groups, which have power and the same interests and are then formed because of the emerging interest groups.

The authority emphasized by Dahrendorf is the power and ability to control people's lives. Those who have authority in people's lives can give orders and sanctions to those who do not have the slightest power, so conflicts of interest are an astonishing fact that occurs between those in power and those in power. Based on the case regarding the conflict between shrimp ponds and fishers, it is clear that shrimp ponds that feel they have the power and authority to control the sea and control the lives of fishers stay under it. Fishers feel that the sea should not be polluted and controlled by one party to put up a fight against the owner of the shrimp pond. Shrimp is considered to get support from the government. Conflicts arise when power holders try to survive with the power they have.

4.3 Impact of Conflict

Based on the research results, there are impacts of conflict; namely, the first impact is on the environment, and the second is on social life. It continues without stopping and can lead to even greater pollution without any handling at all. As a result, mass fish deaths will continue, and the famous beach will lose tourists because of its polluted beaches.

Then the impact of the conflict on social life is the division of community members because there are people who are pro and contra shrimp farming.

Furthermore, the reduced level of public trust in the village government is due to conflicts that have not yet been resolved and the absence of assistance or socialization to save fishers' careers. If the problem worsens, then the conflict can lead to a change in the values and culture of the life of the Nglebeng village community.

In addition, there is also the impact of conflict on the community's economy. The economy of fishers has decreased dramatically, especially when the conflict is going on and is heating up as it is today. They focus on fighting shrimp farming so that the energy used to go sailing is drained by conflict with shrimp ponds. The activities of fishers looking for fish are hampered and disturbed by pollution, so consumers are decreasing.

Then the village government and the currently serving marine service are considered less responsive and pro to fishers. As a result, the public's trust in the government begins to decline, along with the conflicts that are getting hotter and more unresolved. Fishers have tried to send complaints to the government, but no response until now causes fishers to be reluctant to ask the government for help. As a result, there is no resolution to the conflict, and it escalates to the point where it is feared that violence will occur if the conflict does not get the government's attention.

5. CONCLUSION

The industrialization of shrimp aquaculture has an essential role in developing the fishing industry on Konang Beach, Nglebeng Village. However, when the waste discharged into rivers and seas does not go through a good filtering process, it triggers environmental pollution problems. Between shrimp ponds and traditional fishers who feel that their fishing area is disturbed by shrimp pond waste, the consumers of traditional fishers in the village of Nglebeng began to decrease. The emergence of conflict has fostered solidarity and integration of members of traditional fishing groups against the authority owners, namely shrimp pond owners. The shrimp farming industry does generate huge profits. However, environmental health also needs to be maintained for the welfare and sustainability of lives.

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