SOCIAL IMPACT OF BLUST FISHING AND CYANIDE FISHING PRACTICE TO FISHERMEN

(Qualitative Study on Barrang Lompo Island)

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Abstract

This study aimed to reveal damage endured by coral reefs as the result of practice of bombing and cyanide fishing in Barrang Lompo Island Makassar. One of fishing activities which have brought severe damages including in ecological and social is Bluster fishing. The social effect of this practice among others is the decline number of fishermen due to the reef conditions is getting worse. The risk of the use of cyanide is also considered as high mainly due to the safety of the diver. However, the practices have lasted for decades and the government's efforts to prevent then have not succeeded yet. This study used a qualitative approach. The results showed the widespread practice of bombing and cyanide. The field analysis indicated the involvement of law enforcement officers in protecting the perpetrators bomber and tranquilizer which in fact damage the reefs. The role of government and law enforcement agencies in controlling bombardment of immature fish turned out to be very significant to suppress the fish bombing activities (Bluster fishing).

Keywords: bluster fishing, cyanide fishing, social impact, fisherman.

Presenting Author's Biography

Author was born in Tanete Bulukumba, dated October 12, 1971. Lecturer at Faculty of Marine and Fisheries University of Hasanuddin, Graduated from Faculty of Marine and Fisheries Hasanuddin University, Master in Marine and Fisheries University Hasanuddin, and PhD at Padjadjaran University Majoring in Marine and Fisheries.

1. Introduction

As a nation, Indonesia is blessed with its abundant natural resources and mega biodiversity including marine wealth. Coral reefs in Indonesia reached 75,000 km2 which represented 51% of coral reefs in Southeast Asia and 18% of the world's coral reefs. According to the Secretariat of the Coral Triangle Initiative (Coral Triangle Initiative/CTI) in 2010, a state that the Coral Triangle area of 75,000 km2 which covers 1.6% of the world's oceans are at the center of the richest marine biodiversity in the world. Among them there are 76% of the known species of coral reefs in the world, 37% of species of reef fish, and by 33% to reefs that grow around the world. Moreover, the triangular area of coral reefs into the most extensive area of mangroves, and become the largest area in the world for breeding of various species of fish, including the world's major commodities, i.e. tuna.

Coral reef ecosystems have the potential of high biodiversity where there are 1,650 species of fish, 461 species of coral, and a variety of other marine biota. A marine life depend on coral reef ecosystems, today more than 70% has been damaged. This damage is mostly caused by human activity, such as coral mining and fishing with destructive ways such as using bombs and cyanide.

Coral is a dynamic coastal aquatic ecosystems, but is are particularly vulnerable to environmental changes, and also has the productivity and biodiversity are high, so that it becomes a source of germplasm for marine life. Besides, coral reef ecosystems is a resource of life for marine life, such as foraging (feeding ground), local care (nursery grounds) and spawning for a variety of marine life. Besides the coral reef ecosystem functions as coastal protection from abrasion, which can prevent beach erosion impact to loss of assets that have been built on the coast, such as the building of tourism, the fishing industry, residential and other strategic places.

Several types of technology used to catch fish in reefs, many of which damage the environment or environmentally unfriendly (unfriendly technology), for example, is potassium cyanide, blast fishing, and others. A phenomenon that attracted much attention of many parties is the potassium cyanide fishing for two reasons. First, the level of damage caused to coral reefs is very significant, and the second is the growing extent of the area and the region of fishing ground as well as the growing number of users cyanide fishing is though on the one hand tends to increase control measures undertaken by the government and NGOs. In Indonesia, the use of cyanide to catch fish known since the 1980s, along with the entry of Filipino fishermen into Indonesian waters to look for fish, which until now has been extended to the use of cyanide fishing practices to live for consumption.

Destructive fishing practices or destructive fishing practices are part of the practice of illegal fishing, which is the utilization of fishery resources by damaging these resources and their ecosystems, using chemicals, explosives, equipment and methods are destructive or potentially disruptive and detrimental to the preservation of fishery resources and environment. Destructive fishing practices have resulted directly and indirectly through the stages when the destruction of the ecosystem of fisheries resources. Impact damage not only the direct occur during this destructive practice is done, but that is no less fatal is due to be aroused in the days after this destructive practice is done. The main damage to the reef ecosystem coral destruction is the extent of the death of coral reefs and colonies that live in symbiosis within the coral reef, infected or affected as a result of cyanide or bombing activities in the destructive fishing activities. It also shortages of even the threat of extinction of many species affected by the fishery resources of the destructive activities.

Makassar City Government through the Department of Marine and Food Security (see number1), reveals that fishing activities are not environmentally friendly/destructive fishing using bombs and potassium cyanide as the tool / material for fishing, is an issue that is very complex and has become a serious threat, both in terms of ecological, economic and socio-cultural terms. The complexity of this problem is characterized by the involvement of various parties with diverse interests that form a chain that is long and complex. From fishermen, Ponggawa on land and on the islands, investors, market participants at home and abroad, suppliers and distributors of materials, to the apparatus "security" and "protector" of society, as actors active which makes activities destructive fishing continues ongoing. Though this practice seems obvious cause harm ecological, economic and social enormous.

Facts on the ground that shows that the amount of coral reefs damage in various regions in Indonesia to provide information about the presence of people or groups of people who intentionally damage the underwater environment. The destruction is done through Dive Fishing using cyanide poisoning is a destroyer of coral reef ecosystems ultimate, deadly coral reefs and cause whitening (bleaching) were outstanding. Fish bombs (blast fishing) have destroyed the coral reef area that is very powerful.

Degradation of coral reef ecosystems today are very severe, which is estimated at around 6% of coral reefs are still very good condition. The economic value of coral reefs are destroyed so great, as well as socio-cultural conflict and horizontal conflict is also large.

From the social and economic aspects, more than 120 million people live in coastal areas which are of dependence on natural resources triangular area of coral reefs. Where the economic value can be achieve per year until 2.3 billion US dollars, or equivalent to 21 trillion IDR. So that when the destruction of the coral reef region this being conducted and allowed by the activities of destructive fishing bombings and cyanide, then consequently the sustainability of life and welfare development of coastal communities and small islands in Indonesia as a country that has a regional coral reef, will be increasingly threatened or increasingly bleak, As revealed by Kusnadi (2006), that one of the factors of conflict fishermen and also the destruction of coastal ecosystems are the pressures of poverty and the needs of everyday life.

Fishing activities by using bombs and cyanide with potassium cyanide until now increasingly commonplace by coastal fishing communities and islands that exist in almost all parts of Indonesia, including also the islands existing in the city of Makassar, particularly the island Barrang Lompo that where research was conducted.

One reason for the use of bombs and cyanide is the ease of obtaining greater results on the one hand and the sale value of the catch is higher, regardless impact of the negative result come from the destructive fishing activities. The negative impact in question is the ecological impact, political impact, economic impact and social and cultural impacts.

Illegal fishing activities that fishing cyanide and blast fishing that destroy coral reef area has lasted long enough. The fishermen consist of fishermen search of sea cucumbers, fish finders and fishermen a variety of tools are used.

2. Method

The method used in this case study is a qualitative method with phenomenological approach. Data were collected based on observations and interviews of relevant individuals, among others, perpetrators of destructive fishing fishermen, community preservation, security forces, and communities around the island where the fishermen live. Observations and interviews are then analyzed to get an idea of the extent of destruction behavior and efforts conservation in the marine ecosystem has been done by the relevant community.

3. Result and Discussion

General Description of Research Area

Makassar is one of city administration region in South Sulawesi. It is located in 119°24’ 17’38” E and 5°8’6’19”S. Makassar is wedged by two big rivers, Tallo River and Jene'berang River (BPS Makassar, 2010).

Makassar city consists of 14 districts, where there are 8 districts are directly adjacent to the sea, namely; Ujung Tanah, Tamalate, Tallo, Wajo, Ujung Pandang, Mariso Biringkanaya and Tamalate. It consists of 143 villages, one of which is the village Barrang Lompo, which is an island village of the District Ujung Tanah. Ujung Tanah own sub-district consists of 12 villages, with three villages of the island, namely Kodigareng, Barrang Caddi and Barrang Lompo. Makassar City alone has 11 islands, 2 Gusung and 26 Taka, whose total area is 108.8 ha or 1.1 % of the land area of Makassar (BPS Makassar, 2010).

The islands of Makassar are a cluster of coral islands, which is the part of Spermonde island. These islands are Lompo Barrang, Barrang Caddi, Lanjukang, Langkai, Lumulumu, Bonetambung, Kodingareng Lompo, Kodingareng Keke, Samalona, Kayangan and Laelae. Lanjukang and Langkai an outer island within 40 km from Makassar, while the nearby islands is Laelae and Kayangan with a distance of less than 1 km. Lompo Barrang is 7 km from Makassar (Department of Marine and Food Security Makassar, 2008).

Lompo Barrang Island is one of 11 (eleven) islands Spermonde owned Makassar City, as well as one of the 143 villages were included in the administrative area of Makassar who is also a village -based island. Lompo Barrang island has land area itself is approximately 0.5 km2, or approximately 50 hectares, with a population of 4,208 people (BPS Makassar, 2010).

Lompo Barrang island mainland located at an altitude of 0.5 to 1.5 m above sea level. However, this island has never experienced a tidal flood like most other coastal areas equal elevation. The top layer of sandy soil structure, but underneath is a layer of fertile soil. It is characterized by banana, breadfruit trees, Kalumpang and other crops. Numbers of old trees have been cut down for the land clearing, the wood is used as building material by the inhabitants. As a result that now the water is starting to feel the salty soil, especially in the dry season, because of the population believes that trees that make the island's ground water is not salty (BPS Makassar, 2010 and see no.).

Climate and Oceanography

The waters tide of the coast and the islands is diurnal type in Makassar. This means that in a single day occurred one high tide and one fall of the tide. Maximum high tide is 170 cm and 30 cm high neap tide. The city of Makassar waters waves generated by the wind in the direction of the southeast or east during the rainy season and to the north or northeast during the dry season (KL, 1999).

Current flows in Makassar Strait to the south throughout the year transferred to the east along the southwest coast of Sulawesi during the rainy season and the dry season flow is switched to the west. In the shallow exposure Spermonde Islands, current flows relatively hard towards the south during the rainy season and severe weakening towards the power in the dry season (Moll, 1983 and Strom, 1989 in YKL, 1999).

At high tide, the water masses moving from south to north. At the low tide, the water masses moving from north to south. The mass of water at low tide from the Java Sea and the Banda Sea Banda drawn back into the sea causing water masses moving heavy in Makassar strait (YKL, 1999).

In climatology, climate is wet tropical Makassar (Am), characterized by the amount of rain in the wet months can compensate for the lack of rain in the dry months. The average rainfall in the rain can compensate for the lack of rain in the dry months. Rainfall monthly average from 1990 to 2000 ranged between 13-677 mm with the highest rainfall in January and the lowest in July. The amount of rain each month average between 2-22 days. Periods with high precipitation levels began to occur from November to April , which is 100mm , rainfall often occurs in May , ie between 60-100 mm , while the period with a low level of rainfall from June to October (< 100 mm) , Air humidity ranging from 81-91 % with temperatures between 26.7 ° C - 28.6 ° C (YKL Indonesia , 2005).

As is often the areas in Indonesia, Makassar is known for two main seasons are rainy season and drought. Among the two seasons there are phases of transition or a transition that is closely associated with the movement patterns agin or monsoon , known as the monsoon agin southeast (south -east monsoon - SEM) and the northwest monsoon winds (the northwest monsoon - NWM). SEM work in November and March bring water vapor that much of the southeast cause the rainy season, while the northwest monsoon (NWM) blowing May to September did not bring up the water as it is estimated agin (trade wind) is through the mass of vast land (continent Asia), so there is a drought or dry season. Rainy season (SEM) in Spormonde fishing community known as west season, this season is expected to last from October to March, while the dry season is known as East season which lasts around June to September (DFW Indonesia, 2003).

Movement patterns of wind blowing over the Makassar city, varies with wind speeds ranging from an average of 4.2 knots. In October , the wind that blows over the city of Makassar is the transition from monsoon southeast to monsoon West Wind moves from the top continental Australia heading towards the northwest, then turn on the sea of Java and Flores Sea heading towards the northeast moving over the city of Makassar. In February, the wind patterns that blow is the pattern of the monsoon wind west where the

winds blowing over the Philippine Sea and the South China Sea will be heading to the southwest, and while on the Makassar Strait will turn to the East cause wind patterns that blow over the city of Makassar (Burhanuddin *et al*., 2004, in DKP Makassar, 2007).

Profile distribution of the physical condition of the coastal waters, tend to be lower than the waters around the islands are small and heavily influenced by the supply of the main inland watersheds that drain the water and sediment of this water. Barombong some locations such as beaches, the beach and the Port of Makassar Losari water temperature ranges from 26-28 ° C, salinity ranging from 27-31 ppm and brightness waters 3-7 m. The waters around small islands have a range of conditions of temperature, salinity and brightness tends to be higher. It were influenced the supply of water masses seas which have a range of temperatures and high salinity, water temperature and brightness between 11-22 m (YKL Indonesia, 2005).

Especially for the condition of the waters around the island Barrang Lompo, now not like before anymore. The island was formerly known as the crystal clear waters of this island with beautiful coral reefs and a variety of ornamental fish, sea cucumbers, and many other marine animals, direct steep beaches, even invisible bottom waters. But now it happened silting. In the southern part of the island had it about 5 to 6 meters, now live about 2 meters and even then is around the dock , the others even less than 1 meter away. According to the story the population that formerly sea cucumbers was sometimes so toys for children, because so many and has not become a commodity like a prima donna now, various fish and squid too. In the past, if we fished with longline , do not go far away from the beach, in a short time, we had a full boat to get a lot of fish (Zaelani 2007).

4. Bombing and Cyanide Fish Practice

Bomber Diver;

The divers are part of the crew Pa'es, whose job is to find and collect the fish that had been bombed, by diving into the sea, using the air compressor (hookah) and the hoses along a respirator mask. In the process of the dive, the divers use rubber shoes as gaiters, because they work by walking on the sea floor covered by fragments of coral reefs. Unlike the sea cucumber divers were using frog legs to constantly move to dive on the seabed. Likewise, the target commodity, if *pa'taripang*, looking for sea cucumbers as its main commodity, even be said that the sea cucumber as the only targets, although sometimes also get another commodity which must not be wasted. While *pa'es* or bomber, commodities are becoming the target is almost all pelagic and demersal fish species, either clustered or dispersed but still within a radius that could be exposed to the effects of a bomb blast. Surely they consider worth selling quite well, though not infrequently also turn off the fish are still very small, including destroying their habitats, especially coral reefs in a radius of several meters to tens of meters, depending on the power of the bomb.

Working Mechanism bomber (Pa'es)

Preparation is done at the beginning was leaving operates; first they check the repair boats and equipment will be brought sailing, having ascertained all been checked and repaired, then Ponggawa ordering palm fertilizers (main bomb ingredient) and a detonator fuse (for combustion bomb) and ju'ju (coconut fiber as a tool combustion). While waiting for the order, they began loading fuel, foodstuffs, drinking water, fresh water, and all materials and equipment required during the operation. After completion of the loading and ordered ice as much as 450 to 500 blocks (the average capacity of a crate of ice on the vessel pa'es = 400-500 rods ice blocks), at a price of 15-20 thousand rupiah / beam. After loading the supplies, they then to Makassar load of ice that have been ordered, as well as buy jerry cans of 5 liters as many as 10 pieces, jerry cans of 2 liters of 50 fruit and cans of 1 liter of 70 pieces (jerry cans as the container of improvised explosive devices) and buy 2 sacks of gravel which will be used as a ballast bombs and iron beams weighing 5 ounces as many as 100 pieces. After all needs considered complete, they then return to the

island Barrang Lompo in preparation for leaving for fishing ground. But before leaving for fishing ground beforehand they perform rituals.

***Pa'Es* Rituals**

After arriving at the island Barrang Lompo, where the process of preparation and loading all the equipment , and equipment needs for *pa'es* operation process is completed , they then prepare for the needs of their usual ritual. This ritual is not done by fishermen *pa'bius or pa'boya allo-allo* (seeker days). They make cakes and pastries *umba2, srikaya Balanda* and make *pa'rappo* four bunches of banana given betel leaf, betel nuts, eggs and red candles. After all ritual is completed then in the evening they were ready to depart from the island Barrang Lompo to the nearby island with a fishing ground, for example *Pammantauang* and *Taka Songi - Songi Kalmas* which takes about 30 hours or 1 day 2 night (they were leaving for the night so as not caught by the officer).

In the course of their trip, they while to assemble and prepare a bomb. After arriving at the destination (fishing ground), then the boat engine is turned off and the anchor is lowered, then they also lowered *pa'rappo* at sea, in the hope that *patanna Lemba* (sea dwellers) will be happy and not angry. After lowering *pa'rappo* into the water, then they began to push the auxiliary boat to the sea (generally *pa'es* carrying two auxiliary boats) were boarded by 2 or 3 people and bring the assembled device around ten pieces of different sizes, along *tomba* (buoys as a location marker that has been bombed) on each boat to help. Once all the preparations are complete, they are located on the auxiliary boat began searching for schools of fish by way of Tula (take the survey dives), where the auxiliary boat deployed divers to locate schools of fish below the seabed. After finding schools of fish, or the target that allows for targeted, then the bomb was detonated. After the bomb detonated, the anchor is pulled, the ship directed towards the places that have been bombed and subsequently deployed divers to scavenge fish that have been exposed to hit a bomb. Once the fish is taken, then put into a coffin and sprinkled ice fish nicely and evenly.

According to one informant who asked not to be name or initials, that " if at any time schools of fish are exposed to bomb large volume (cerigen 5 liters for example) very much , it is not uncommon fish scattered dead because the bomb did not contained another ship, the fish are left behind scattered and stacked together with fragments of coral destroyed. Not infrequently that the fish were dead bombed, abandoned by divers because of difficulties pick it up in the crevices of the reef, where the coral reefs are often hurt the diver. In these conditions, usually fishermen around the island scene and another fisherman who know about it will come scavenged remains of fish abandoned by bomber actors.

The bombing lasted until the practice many times a day and they do every day for 10 to 15 days. They continued to do blasting around the area of fishing ground until the skipper / boat Ponggawa consider fairly the results for them to take home. If they get a lot of results in a relatively fast, even less than a week, they usually decide to go home. However, if the results they get are still a little bit, then they will continue to seek targets blasting and bombing, until the explosive and their fuel runs out and their ice begins to melt, which in 10 days the ice begins to melt, and within 15 days will be discharged melt. After returning from the island *Pammantauang* and *Taka-Songi Songi* (island so the sample), and to the island *Barrang Lompo* and fish in their crate unloading and subsequently sold it to *pa'balolang*. Afterwards they clean and maintain ships while awaiting the results of the sale of fish from pa'balolang the duration of about 2-3 days (*pa'balolang* pay after selling the fish to the auction or trader in Makassar Paotere).

Divers tranquilizer (Pa'sunu); is part of the crew of the ship / boat *Pa'boya allo - allo* (the term for a group of fishermen who operate daily / search day), which is tasked to perform cyanide and capture the target of the cyanide by diving into the sea. The diver also using a compressor (hookah) the number of crew *pa'sunu* in the boat as much as 3 to 5 people, where there are 2-4 divers, with 1 as the controller who was on a boat.

At first name is actually pa'sunu specific designation specifically for fishermen who catch fish coral trout/grouper (Epinephelus spp) , which later became known as the guise of fishermen tranquilizer. Over

time, where everyone knows and it is common knowledge that pa'sunu also means tranquilizer. Therefore it is the main target commodities coral trout fish /grouper, hence the name *pa'sunutetap* attached to and used by the island community Barrang Lompo particular and for society in coastal and small islands in the Arabian Peninsula in general Sulawesi. However, in practice, the tranquilizer fishermen also makes lobster, octopus, napoleon and a variety of fish that are expensive, as are the other targets.

The mechanisms and procedures of this pa'sunu are as follows: Preparation; At the beginning of the operation would leave / sea, they must first check the availability and completeness as well as the condition of the boat and some equipment, namely; glasses, frog legs, hose, Dakor and air compressor. Earlier they had also booked as much as 1 kg of potash (drug of potassium cyanide material consisting of 80 s / d 90 seeds / kg) in pedangan collectors who later would become a receiver of coral trout fish (Epinephelus spp) their catches. Potash is then reconstituted by soaking in water with a ratio of 10 liters of water for 7 seeds potash. The concentration they formulated based on practical experience over the years, whereas if the concentration is too high, then the target fish will die quickly even outright death. Meanwhile, when the concentration of potassium cyanide is too low, then the target fish are less effective, so that the target fish is sometimes quickly regained consciousness and escaped before being caught.

In addition to preparing the anesthetic equipment and materials, they also prepare / buy fuel (fuel oil), an average of 30 liters / one operation. Then after all the supplies and fuel ready, then they will start to leave around 05.30 am from the fishing base *Barrang Lompo* Island towards fishing ground. Fishing ground usually been a bit away from PBL (island Barrang Lompo), with long travel time usually averages 2.5 hours (two and a half hours). Favorite fishing ground that they are headed is Taka *Gossea*, *Battang* Bone, Bone impertinent, *Kapopposang*, and others. They arrived at Taka Gossea at around 08.00 am. After determining the point where they would dive, they then sell the anchor, and then began to dive, of course, using the compressor as breathing apparatus connected by hoses and Dakor / mask smoked on the diver's mouth. In this dive, they bring a plastic bottle containing a solution of potassium cyanide, which functions as a bottle of fluid atomizer into the crevices of the reef. In the past, plastic bottles they use are of a former mineral water. Along with their experience, that the plastic bottles voiced when pressed and made the target fish run away first, then eventually they replace it with a used bottle of vinegar or a used bottle cleaning porcelain, which at the ends of the bottles has a muzzle slightly tapered or they add a piece small to facilitate spraying hose into the hole or rock crevices. They dive down to depths of 20 to 30 fathoms (30 to 40 meters or fathoms 1 ≈ 1.5 m).

When the first dive they managed to get the fish coral trout (Epinephelus spp) as the main target , more than 10 animals for size above 5 ounces / tails , then they will decide to go home. The reason they decided to go home is that with the results they have been able to cover operating costs and ample pocketing profits. The price range of their catches at the level of collectors is ; sunu per tail (size > 1kg / head) = Rp 300.000 , - / fish , coral trout super (size 5 ounces - 1 kg / head) = Rp 250.000 , - / fish , coral trout baby (size < 5 ounces / tail) = USD 50.000 , - / kg and lobster Rp 200.000 , - / kg .

With costs (operating costs), which is only about Rp 300 thousand 's, then by getting one coral trout fish tail alone is able to cover their operating costs . The rest is the result of that would be their share.

However, when the first dive was not enough to get results, then most of them will continue to seek their quarry targets even up to several times deployed divers to time and fuel preparation they thinned and only left for the trip home. But there are also some who choose and decide to go home with certain considerations, such as weather and unfavorable currents. The reality of their work, sometimes look very lucky, just lucky, unlucky and even the loss altogether.

When the operation had gone home and arrived on the island Barrang Lompo , for those who get result, will soon sell the fish catch in the collectors are already waiting and ready with cash payments (in contrast with the sea cucumber buyers paid about 3 days after the submission of the results) . After sorting, measuring and transact, then crew dropped anchor boat / *jolloro* on the beach, then the whole krue together cleaning the boat / *jolloro* of residual cyanide and used. When they finished clearing boat /

jolloro and all the equipment and supplies used operations, then later *Ponggawa* share of wages or part of the results given to all members of the team based task and portions of each. The phenomena and mechanisms of their work which takes place every day and almost all year, except on Friday, where on Friday they prepare for Friday prayers in Lompo Barrang Island.

Social impacts of bombing and cyanide fishing

For divers tranquilizer , in a single dive , the length of time for the divers were under water to find the target , spraying targets and chase and capture the target , an average of between 1 hour to 3 hours . Hence too the length of the target fish lurk, some divers sometimes had fallen asleep while at depth. Too long in the cold water into it is the most potential to cause paralysis and death.

Similarly, at the time of spraying, they must pay attention to the direction of flow, so that the effects of cyanide are not on the diver. However , the risk of the effects of cyanide are often also occur because the diver did not consider safety, both for divers hasty fear of losing the target or because the diver is still too inexperienced, or the current changes suddenly are difficult to avoid. In this condition, usually diver is experiencing fainting in the water. It is also one of the causes paralysis if it lasts long enough before helped, not even the divers rarely fatal if not promptly rescued by their friends.

In addition to the above , the cause of the risk of paralysis and death was also caused by the condition of the compressor which is supplied dirty air , which contains molecules of oil , carbon monoxide is high, or that contain a lot of dust rust and solid particles or particles other liquid which eventually breathed into the lungs divers. Accumulation of these conditions are prolonged, many months, even years, is also a cause of disability and death for the diver. This is in line with the results of research conducted by Slimy (2005) conducted on fishermen divers in the Thousand Islands, where Slimy show that the air compressor is used as a fisherman divers breathing apparatus , may be adversely affected if used in the long term.

5. Role of Government and Law Enforcement

Education and Counseling

Education and counseling, is the primary and most important aspect in the development of human resources. Specifically for the fishing community, about how to manage fishery resources and their ecosystems, they need to get counseling and technical guidance specifically. However, education programs in fishing communities that have long been identified destructive fishing practices do not more intense, even more rarely, and even then only if there is "arbitrary" and did not reach the target. According to the informant *Harijo*, religious leaders and community leaders on the island Barrang Lompo, that how is it possible extension would be successful if the extension is only performed on people who are not fishermen, because most fishermen when it was invited to join the formal education they certainly do not want to attend. Therefore, according to *Harijo*, that extension should be done with a personal approach, which makes a visit from house to house, and must be sustainable. But the reality is not so, it is precisely the implementation of outreach by the government appears only ceremonial, and not innovating on how to deal with fishing communities with specific cultural characteristics, so that a specific approach should be taken anyway.

From the research and search in the field shows that for fishermen divers who become informants in this study, only 1 (one) out of 27 fishermen informant who never received counseling about aspects fishing practice, while others never get counseling at all. This may happen when the current extension coincides with their departure to sea, but there recognition of *Harijo* that the divers kinds of fishermen generally do not like the formal activities are invited and gathered in a room (usually using the hall Marine Station UNHAS). Therefore, should the model be changed with the implementation of non-formal approach and a personalized approach as proposed *Harijo*.

Law Enforcement

Destructive fishing activities as illegal activities that violate the law has been duly prevented and eradicated by the security forces and law enforcement agencies and officials as authorized by the State. Thus if a violation of law in this case illegal fishing carried out by fishing, either overtly, covertly or secretly, then should the officer should proactively prevent, search and browse, chasing and prosecuting them. But the reality on the ground is not so ideal, but rather the security forces were supposed to be the protector and the prevention and eradication of the illegal fishing activities, even became a backing that protects and indirectly maintain and "legalize" the illegal fishing activities. Of course the position of persons in placing themselves as backing earlier, is not a freely without reward. According to some sources in a Focus Group Discussion (FGD) in the form of small groups of four people (Bhr, Hmd, Anc, and IRH), or the recognition of one informant (Ssd) in an interview, all said that unscrupulous officers always getting regular deposits of actors bomber and cyanide, both in periods weekly, or every res / trip

According to those that deposit a skipper or boat owner *Ponggawa pa'es* / bomber, depositing each res between 200 Thousand to 500 thousand rupiah (operating life of between 7 days to 15 days). While his men on average put up 20 thousand rupiah per person per res. As for *Ponggawa* or skipper bomber who use jolloro, they deposit of 100 thousand to 250 thousand rupiah each *jolloro* res which operates every day (*pa'boya allo-allo*), and his men put up an average of 20 thousand rupiah per person. Thus their illegal operations will be allowed, and even given protection (protection false). Researchers call it just a cosmetic protection, because fishermen do not fully get protection, will only be notified if there is a unit of information other officers who will patrol. However, not infrequently of a fellow officer "flirted" to catch fishermen when they were all operating illegally. The ransom amount or deposit to be incurred by *Ponggawa* when caught, are enormous, which ranged between 50 million Rupiah hingga100 million Rupiah.

The mechanism of this deposit by convention they recognize and execute, whereas if fishermen do not come to deposit to the post, then the staff person who would come to the house Ponggawa or skipper is concerned that they termed it "*silaturrahmi*", to collect or questioned why in question does not come to deposit to post. Another case if the income of fishermen is little or even lose money, they will convey what the clerk, or ask for a deposit rudimentary relief only. It thus sometimes be tolerated by the administration officers. But there are among the perpetrators of destructive fishing fishermen who at times unscrupulous lie to the officer that the results they get little or losers, but officials also sometimes do not blindly accept the recognition fishermen. One strategy officer is set weekly deposit required in order to remain fishermen fulfill "obligations" to the officer. As for trying stubborn not to deposit, then they will be threatened to be arrested when conducting destructive fishing. So with these conditions, inevitably fishermen must continue to fulfill "obligations", so that destructive fishing activities is kept going even more intense done from year to year. As with proposed by Zaelani (see no.4), about the interaction between the exploitation of the fishing-*Ponggawa* invitation police officers as labor relations pseudo (pseudo working relationship). In spite of these fishermen have done routine payments to officers stationed on the island Barrang Lompo, does not mean they're completely safe to conduct their illegal activities. Outside there still exist many officers who constantly stalking them not to be prevented and prohibited conduct their illegal activities, but staked out as "prey" for questioning deposit money (they enact destructive fishing fisherman actors such as ATM floating). In fact, according to the recognition Bhr, that once upon a time he and his group were spotted by a patrol of a whole, but because Bhr and his group at the time was not yet committing or about to commit Destructive Fishing activities, so that the officers can not get money as a result. But the officer feverish the fuel of owned by Bhr and friends, as caught bringing materials to conduct destructive fishing activities were found in the boat. More ironic recognition in a discussion with some of the young people at a dinner at the cafe pier Barrang lompo who said that;

" If the officer did not get the money , whatever he could grab from our boats , it could be fish , rice , diesel , even cigarettes did he take if he can we bring detonator for a bomb or Golla - Golla (Cyanida

solid which is a raw material dope) or a bottle of poison on the boat . There are also some who had been arrested and brought to land, but usually Ponggawa we 'll take care to free the boat and his men. In fact there were Ponggawa pay between 20 million to 100 million in order to be released Ponggawa and groups like this that they constantly monitor for they make the cash cow".

Basically the perpetrators of destructive fishing fishermen already know that there is already a kind of data held by officers of anyone among them actors bomber and cyanide, so they feel has become a cash cow that seemed forced to find money for the staff person. Moreover, when the days before the feast, they officials scrambling to figure as " ATM floating " money is for them drain .

If pa'es and pa'bius (fishermen bomber and tranquilizer) has an obligation to be paid to the staff person, then another case with fishermen pa'taripang. Pa'taripang fishing groups that are not categorized as perpetrators of destructive fishing, free from illegal levies from the administration officers. Although there are occasional voluntary basis Ponggawa pa'taripang that gave the clerk simply as a form of friendship and appreciation. However, that was largely pa'taripang really only looking for sea cucumbers. However, from a search in the field, presented by informants who are not willing to mention the name and initials, indicating that some of the group pa'taripang also carry material anesthetic (cyanide), which is used clandestinely by divers, or knowledge or even permission and a joint initiative between the retainer boats and divers. This practice usually occurs when a vessel is not at the same Ponggawa owners and financiers of ships were used, considering that the attendant risks in the face of relatively safe, because search hide behind the guise of sea cucumbers as their principal activity.

6. Conclusions and Recommendations

The prohibition of fishing activities by means of cyanide and bombs that destroy coral reefs and their habitat was presumed to be ineffective. It is supported by the absence of law enforcement in which the perpetrators were protected by unscrupulous law enforcement officers.
It is significant to organize practical and immediate endeavors to stop the destructive activities. These attempts must be conducted systematically, comprehensively, and earnestly by stakeholders, particularly the government, universities, NGO, and students of environmental and social issues, primarily to eliminate the impact and the increasing number of the damage.

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