

PAPER NAME

**Types and Forms of Fishermen Conflicts
in the Utilization of Coastal Resources in
Maros Regency, Sou**

AUTHOR

Lukman Daris

WORD COUNT

8505 Words

CHARACTER COUNT

46995 Characters

PAGE COUNT

16 Pages

FILE SIZE

841.2KB

SUBMISSION DATE

Jan 23, 2024 11:30 AM GMT+8

REPORT DATE

Jan 23, 2024 11:31 AM GMT+8

● 14% Overall Similarity

The combined total of all matches, including overlapping sources, for each database.

- 12% Internet database
- 11% Publications database
- Crossref database
- Crossref Posted Content database

● Excluded from Similarity Report

- Manually excluded sources

PAPER • OPEN ACCESS

Types and Forms of Fishermen Conflicts in the Utilization of Coastal Resources in Maros Regency, South Sulawesi Province

To cite this article: L Daris ⁴⁸ *et al* 2023 *IOP Conf. Ser.: Earth Environ. Sci.* **1147** 012019

³⁸ [View the article online](#) for updates and enhancements.

You may also like

⁴² [Study of soil management in rice fields in Bantimurung District Maros Regency](#)
D E Safitri, A Ahmad and M Nathan

- [Strategy for the development of large scale rice milling industry in Maros Regency](#)
Salmah Desi, A.H Latief R. and Jamil Hatta

- [Identification of drought level using normalized difference latent heat index on Maros Watershed](#)
S P P Pahar, S A Paembonan and A S Soma



ECS The Electrochemical Society
Advancing solid state & electrochemical science & technology

243rd Meeting with SOFC-XVIII

Boston, MA • May 28 – June 2, 2023

Accelerate scientific discovery!

[Learn More & Register](#)

The advertisement features a dark blue background on the left with white and orange text. On the right, there is a photograph of a woman with blonde hair, wearing a black top and a lanyard, standing at a podium with a laptop, smiling. The overall design is professional and modern.

Types and Forms of Fishermen Conflicts in the Utilization of Coastal Resources in Maros Regency, South Sulawesi Province

L Daris¹, A N A Massiseng^{1*}, M E Fachry², S Zaenab³, J Jaya³, M Mustaking⁴

¹ Study Program of Fisheries Agrobusiness, Faculty of Fisheries, Cokroaminoto Makassar University, 90245, Perintis Kemerdekaan Street KM. 11 Tamalanrea, Makassar City, Indonesia

² Study Program of Fisheries Agrobusiness, Faculty of Marine Science and Fisheries, Hasanuddin University, 90245, Perintis Kemerdekaan Street KM. 10 Tamalanrea, Makassar City, Indonesia

³ Study Program of Aquaculture, Faculty of Fisheries, Cokroaminoto Makassar University, 90245, Perintis Kemerdekaan Street KM. 11 Tamalanrea, Makassar City, Indonesia

⁴ Study Program of Public Administration, Faculty of Administrative Sciences, Puangrimaggalutung University, 90918, Sultan Hasanuddin Street. Maddukelleng Tempe, Wajo, South Sulawesi Province, Indonesia

*Corresponding author: andinurapung1619@gmail.com

Abstract. Maros Regency is an area that has potential coastal resources. The social interaction of fishing communities in the coastal regions of Maros Regency is relatively high in the effort to utilize fishery resources. This is marked by the various fishing gear used by fishers, so the phenomenon of fisherman conflict becomes a social process that also colours the social interactions of these fishing groups. Differences in resource utilization and management methods can trigger social conflicts between fishers involving other stakeholder components. This study aims to analyze the types and forms of conflicts in the use of coastal resources that occur in the coastal areas of Maros Regency, South Sulawesi Province. The methods used are observation, interviews and Focus Group Discussion (FGD) with qualitative data analysis to describe the types and forms of conflicts in the use of coastal resources, and quantitatively with spatial analysis methods using Geographic Information System (GIS) applications to analyze conflict locations. The results showed that the types of fishing conflicts in the Maros Regency's coastal areas were agrarian conflicts, class conflicts, technological conflicts, and conflicts of perception. The forms of conflict in the use of natural resources (including fishery resources) are horizontal conflicts (traditional fishers and klitik net fishermen) with semi-modern fishermen (cantrang fishermen) and vertical conflicts (semi-modern fishermen and cantrang fishers) with the government (Maros District Fisheries Service, Camat and Village Heads, both open (manifest) and closed (latent).

1. Introduction

In some areas of fisheries management in Indonesia, the level of utilization of fish resources is experiencing overfishing. This is indicated by a decrease in the production of fish resources [1] and changes in composition, such as a decrease in the average length of fish caught and increasing dominance of fish generally categorized as by-catch fish. Fishing exceeding the capacity of these resources results in decreased production capacity at the Maximum Sustainable Yield (MSY) level. Traditional fishers generally find it increasingly difficult to get fish in their previous catch areas [2]. The fishing area is further away from the coast towards open waters and lacks fishing gear and production facilities. This causes production costs such as fuel oil needed to be much higher while the number of catches decreases.

The enactment of Law no. 32 of 2004, revised by Law no. 23 of 2014 concerning Regional Government, states that each region has the authority to manage and utilize fish resources in certain waters. This can trigger social conflicts between fishers [3] in the various areas in Indonesia in the form of vertical and horizontal conflicts. The interpretation of the provisions for the management of fishery resources has been misinterpreted by some regions, which then claim certain areas as their

areas of authority so that these regions may only own the waters in question. The greater the policy constraints of a part, the lower the risk of conflict that occurs [4]. Agrarian conflicts between fishing groups are the implications of the interpretation of the division of management areas by each autonomous region. Many fishers are forced to use fish resources in prohibited fishing areas, such as marine conservation areas, fishery reserves, marine protected areas, and rehabilitating mangroves and coral reefs.

Fisher's conflict in Indonesia is a long-standing phenomenon. The history of fisheries conflicts in Indonesia began in the 1970s, with conflicts between traditional fishers and fishermen using trawls in Sumatra and Java [5]. Similar to other coastal areas in Indonesia, cases of fishing conflicts in South Sulawesi also show the same or almost the same patterns and indications as cases of fishing conflicts in general. One area with potential coastal resources is Maros Regency, which is located in South Sulawesi Province and, at the same time, has the potential to cause conflict over utilization. Based on research [5] that the conflict over the use of capture fisheries resources in the coastal area of Maros Regency began in 1985 and is still ongoing today. Coastal areas are very vulnerable to conflict, vertical conflicts with the government and horizontal conflicts between the actors (functional) of these coastal and marine resources [6]. Furthermore, [7] states that the synergy of stakeholders is very influential in the sustainable management of coastal resources.

The social interaction of fishing communities in the coastal areas of Maros Regency is relatively high to utilize their fishery resources, and this is indicated by the various types of fishing gear used by fishers, such as; bagan tancap, cantrang or pa'renreng, pa'sodo, pa, bubu or pa'rakkang, fishing line, pa'jaring, pa'bagang, and so on so that the phenomenon of fishery conflict becomes a social process that also colours the social interactions of groups. The fisherman in its dynamics. Based on the statement [8,9] that the diversity of fishing gear types triggers conflict, it is necessary to identify its owner with a fishing gear marking system and the division of fishing zones. In addition, [6] his research shows that fisher conflicts can occur because of the distribution of fishing areas, a typology of fisheries jurisdiction, where fishers still adhere to the pattern of dividing traditional fishing zones. This study aims to analyze the types and forms of conflicts in the use of coastal resources that occur in the coastal areas of Maros Regency, South Sulawesi Province.

40

2. Research Methods

2.1. Research Time and Location

This research was conducted from February 2022 to June 2022. The research location is the coastal area of Maros Regency, South Sulawesi Province, Indonesia. The following is a map of the research location (figure 1).

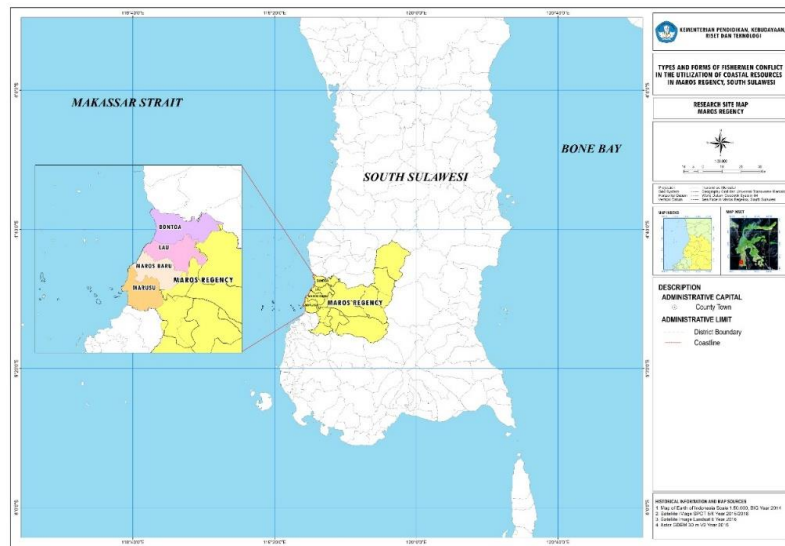


Figure 1. Research Location Map

2.2. Data Types and Sources

28

The data collected in this study include primary data and secondary data, which consist of:

2.2.1 Primary Data

Primary data are obtained directly from the community through observation, Focus Group Discussion (FGD), and in-depth interviews. In this study, the preliminary data collected came from comments on the fishing areas of fishers and the fishing gear used, in addition to interviews with several informants. Informants are people (actors) who know a lot about the form of social interaction of fishing communities, types and forms of fishers conflicts, and parties involved in disputes over the use of coastal resources in Maros Regency.

2.2.2 Secondary Data

Secondary data is data that supports this research obtained from the results of literature studies, scientific research journals, reports and papers that exist in various agencies such as the Brackish Water Cultivation Fisheries Research Institute and Fisheries Extension (BRPBAPPP) Maros Regency, the Indonesian Agency for Statistics Center (BPS) Maros Regency, Maros Regent's Office, Maros Regency Fisheries Service, Lau Sector Police, District Office, and other agencies relevant to the topic of this research.

2.3 Data Collection Technique

44

In this study, data collection techniques were carried out by :

2.3.1 Observations

Observation is intended to obtain information or a clearer picture of community activities or social life that is difficult to obtain by other methods. Observations were made on the object under study using the observation method in which the observer took part (participant observation). The type of researcher's participation is moderate participation, namely participation that maintains the continuity of positions as outsiders and insiders, and as observers as well as participants. The approach is carried out starting from the government level (village head, hamlet head, fishery instructor), the community (fishers, community leaders, ponggawa, elements of the Supervisory Community Group/Pokmaswas), and collector traders.

2.3.2 Interview

An interview (interview) is a form of verbal communication to obtain information from informants. The type of interview used is an in-depth interview conducted to obtain data on the form

of social interaction of the fishing community, the types and forms of conflict between fishers, and the parties involved in the conflict over the use of coastal resources in Maros Regency.

2.3.3 Focus Group Discussion

Focus Group Discussion aims to verify all social events or phenomena in the research location. Provisional conclusions obtained at the research site were discussed with relevant parties (informants) in the form of FGDs.

2.3.4 Literature Study

A literature study or document study is conducted to examine several written sources to obtain primary and secondary data related to the purpose of this research.

2.4 Data Analysis

The analytical method used is qualitative and quantitative data analysis. Qualitative data analysis was used to describe the types and forms of conflict in fishery resources, while quantitative data analysis used spatial analysis methods using Geographic Information System (GIS) applications to analyze conflict locations.

Qualitative research data from interviews and observations are written in a field note to be analyzed qualitatively.

3. Results and Discussion

This study found that the type and form of conflict in the use of fisheries resources that occurred in the coastal area of Maros Regency was a long-standing conflict that had occurred since 1985 until now. The conflict involved traditional fishers with semi-modern fishers operating in the waters of Maros Regency. For more details, see the map of conflict locations that have been generated (figure 2).

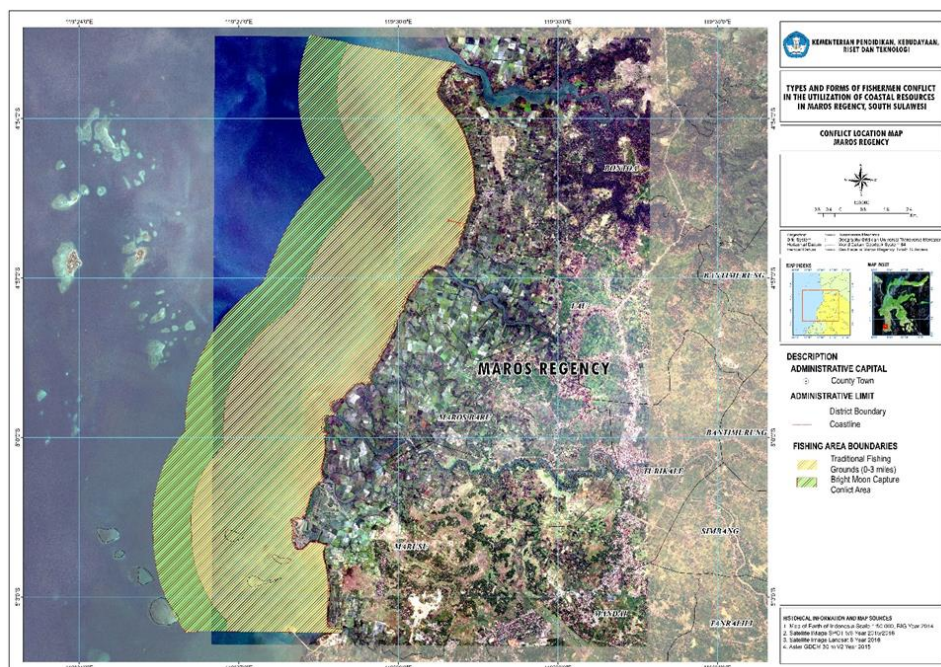


Figure 2. Conflict Location Map

3.1 Types of Fishermen Conflicts in the Utilization of Capture Fishery Resources

Perceptions about the fishing procedures carried out by each group of fishermen in utilizing capture fisheries resources at the research location have formed interest groups, for example, traditional fishing groups consisting of fishers using klitik nets and trap fishermen (rakkang) and semi-traditional fishing groups. -modern consists of fishers who use cantrang and sodo boats. The fishing gear used by fishers depends on the type of target species caught [10]. These groups are interested in utilizing captured fisheries resources so that each group claims the legality of fishing gear and fishing areas. The emergence of interest groups that make claims about the utilization of captured fisheries resources has the potential to cause conflicts for fishers in the coastal regions of the Maros Regency. Fishing groups must manage joint [11] by utilizing captured fisheries resources [12] to avoid conflicts. Based on the results of the study, the types of fishers conflicts that occur in the coastal areas of Maros Regency in the utilization of capture fisheries resources include:

3.1.1 Agrarian Conflict

One of the sources of conflict in the Maros Regency's coastal area is a struggle over the fishing ground between traditional fishermen (klitik net fishermen and traps) and semi-modern fishermen (fishers using cantrang and sodo boats). Conflicts over fishing areas are better known as agrarian conflicts. Agrarian conflicts occur due to the lack of management and management systems [13] from stakeholders, so there is a need for conflict resolution policies [14] to use sustainable fisheries resources. Fishers using cantrang fishing gear (pa'renreng) and fishers using sodo boats (pa'sodo) often carry out fishing activities in coastal waters (0-3 miles from the coast), which are fishing areas for traditional fishers (according to the Decree of the Minister of Agriculture Number 392 of 1999), including fishers using klitik net fishing gear (pa'jaring) and trap fishers (pa'rakkang). As a result, traditional fishermen (nets klitik and Bubu) are often angry and evict fishers who use cantrang, as well as fishermen who use sodo boats (pa'sodo) because of the traditional fishing gear (nets klitik and bubu) they install in the area. The coast is often lost or damaged, and they assume that their fishing gear is lost or damaged due to pa'sodo or pa'renreng fishers who enter the coastal area, which is a traditional fishing area. The problem of competition in fishery resources [13] is based on the struggle for fishing areas.

The fishers who use cantrang think that in carrying out fishing activities in coastal areas, there is no intentional element to damage the fishing gear of traditional fishers, but because the estuary of the Kaddorobobbo river is rich in crab and shrimp resources, fishers who use sodo boats and cantrang also often enter the operation. The fishing area even though area is a fishing area for traditional fishers. Fishers who use cantrang think that cantrang fishers also have the right to carry out fishing activities in the coastal areas of Maros Regency (including the mouth of the Kaddorobobbo river) because there are no clear regulations regarding the fishing areas for cantrang fishers. Cantrang also does not necessarily include the types of fishing gear prohibited by the government. Fishers who use sodo boats.

Such conditions are categorized [15] as agrarian conflicts, where conflicts occur due to fighting over fishing grounds. This conflict can occur in fishers between the same social class and fishers in different social classes (inter-class). This conflict can also arise between fishers and non-fishermen, such as between pond farmers who conserve mangroves and sodo fishers in the coastal areas of Maros Regency and Wajo Regency, where sodo fishermen are carrying out fishing activities must deal with pond farmers. Pond farmers objected because the shoots of mangrove forests planted were damaged by fishers using sodo when catching fish in coastal areas; as in other places, there were seaweed farmers whose cultivation results were destroyed at sea by irresponsible fishermen [16;17; 39]. This fishing area conflict can cause horizontal and vertical conflicts, both latent and manifest.

3.1.2 Class Conflict

Differences in fishing gear or fishing technology [18] used by fishing communities in their fishing activities are one of the potential conflicts between fishers in coastal and marine areas. This conflict in using

different fishing technologies is known as class conflict. Semi-modern fishing gear (cantrang and sodo boat) are types of active fishing gear. Both fishing gear is operated at the water's bottom, so they often damage fishing gear. In addition, traditional fishers also assume that cantrang and sodo boat fishers significantly contribute to the destruction of fish resources (coral reefs and seagrass beds), resulting in a decrease in fish catches for traditional fishers. The condition can potentially cause technological conflicts, where conflicts occur because of the use of fishing technology that is not environmentally friendly [18].

The different views of the fishing community towards the use of active fishing technology are almost standard in all regions in Indonesia, including South Sulawesi. The fishing technology used generally causes damage and destruction of fishery resources [20], for example, mini trawler, cantrang, and bagan rambo fishing gear which is still widely operating in the coastal areas of Barru, Pangkep and Maros Regencies [21].

3.1.3 Technological Conflict

The perception of coastal communities towards fishery resources or marine resources that are open access. Open access means that the sea and all its potential are seen as a "free battle area" for anyone who wants to take advantage of it [22]. Fishers or groups of fishermen with their fishing technology (modern, semi-modern, traditional) must compete freely and competitively among themselves to obtain fishery resources. In this unequal free competition between traditional fishermen (net klitik and bubu) and semi-modern fishermen (cantrang and sodo boat), the iron law of "who is strong, he wins" is one of the triggers for the opening of conflicts over fishing areas (fishing ground) in the form of horizontal and vertical between them, so this conflict is better known as a technological conflict.

In general, fishers who use semi-modern fishing gear (cantrang fishers and sodo boats) still perceive that coastal and marine areas are open access, in the sense that every fisher, including fishers who use cantrang, sodo boat fishermen, trap fishers, Clitic net fishers, and other fishermen, may use or access these coastal and oceanic areas, this is because coastal and marine areas are also common property areas. Meanwhile, the government maintains that fishers who use cantrang are prohibited from operating their fishing gear at 0-3 miles of shore, designated for traditional fishermen (fishers who use passive fishing gear) as stipulated in the Decree of the Minister of Agriculture Number 392 of 1999.

3.1.4 Conflict of Perception

Fishers perceive the types of fishing gear as prohibited (illegal fishing). For example, the perception of traditional fishing communities (jaring klitik and bubu) about the procedures for utilizing capture fisheries resources using cantrang (pa'renreng) and sodo boats (pa'sodo) operating in the coastal areas of Maros Regency. Traditional fishers assume that pa'renreng and pa'sodo are prohibited fishing gear because they can damage capture fisheries resources (seagrass and coral reef ecosystems) and do not comply with government regulations. Their assumption is essential because the Maros Regency Government has established Regional Regulation no. 12 of 2005 regarding managing coastal and marine resources. In Chapter VII, Article 19 (1) it is stated that "every person or legal entity that utilizes coastal and marine resources must prevent pollution and destruction of coastal and marine resources", and Article 19 (2) reads ", every person or legal entity in carrying out its activities must use production facilities that do not pollute or damage coastal and marine resources". Because Regional Regulation No. 12 of 2005 does not clearly explain the types of fishing gear prohibited, the Regent of Maros issued Circular No. 552.5/02/Perikanan, dated February 5 2007, concerning the conservation of coastal, marine and public water resources. The circular letter is a follow-up to Regional Regulation No. 12 of 2005, one of the contents of which is the prohibition of catching fish using trawler, lampara base, pukat gadang, pattarik, parrenreng, cantrang, arad or otok (a fishing gear used to catch fish at the bottom of the waters using ballast in the form of a stone) or iron).

Meanwhile, fishers who use sodo boat (pa'sodo) assume that the government does not prohibit the fishing gear they use because it is not a type of trawling, cantrang, pa'renreng, or pa'tarik, and no rule says sodo boats is the same as cantrang (pa'renreng) because in its operation it is not pulled by a motorboat but is pushed by a speedboat. Meanwhile, fishers who use cantrang (pa'renreng) believe that the local government should prohibit the operation of cantrang because it is not a type of trawling. This view is quite reasonable because the Decree of the Director General of Fisheries No. 340 of 1997 concerning technical specifications

and how to operate bagged fishing gear that has been modified/modified states that bag-shaped fishing gear that has been changed/modified so that the shape, components, and size of the equipment resembles a trawl net but does not include the classification of trawling nets, such as cantrang, arad, otok, scratching coral and the like. This condition is one of the causes of the occurrence between traditional fishers and semi-modern fishermen (class conflict) and technological conflicts in horizontal and vertical forms. Differences in perceptions of this type of fishing gear can potentially lead to horizontal conflicts between fellow fishers that are manifest and latent but can also lead to conflicts between the government and groups of fishermen (semi-modern fishermen), so this type of conflict is better known as perceived conflict.

3.2. *Fishermen Conflict Analysis in Utilization of Capture Fishery Resources*

The conflict in the fishing ground (fishing ground) between traditional fishers (klitik net fishers and bubu) and semi-modern fishermen (cantrang and sodo boat fishermen) in the coastal area of Maros Regency is caused by differences in fishing technology [23] used in fishing activities. Fish in the same area. The operation of cantrang and sodo boat fishing gears that are active and operated on the bottom of the waters by semi-modern fishermen often damage the fishing gear of klitik nets and traps passively installed by traditional fishermen in the coastal area of Maros Regency. In addition, traditional fishers also assume that cantrang and sodo boat fishers significantly contribute to the destruction of fish resources, resulting in a decrease in fish catches for conventional fishers. This assumption is in line with the view [24], which states that the parties most disadvantaged by the operation of trawling and mini-trawl (payang, cantrang, eret, arad, otok) are traditional fishers. The disadvantages of traditional fishers include decreased income, damage to nets, and the destruction of marine ecosystems. Trawl and minitrawl operations are still commonly found in several coastal areas in Indonesia, such as Lamongan, Pasuruan, Probolinggo, Nunukan, Tarakan [24] Barru, Pangkep, and Maros [21].

If this can be related to what was revealed [16] by taking the case of trawling in the past, the use of motorization in fishing around 1978 by using trawling turned out to have caused quite a conflict between traditional fishers and modern fishermen—several regions in Indonesia. On the one hand, this improvement in fishing technology provides significant results, but at the expense of traditional fishers who do not have income due to fish resources damaged by trawling. The abolition of trawling in 1980 and replacement by fishing technology that pays more attention to resource sustainability does not mean that the problem of applying technology has been resolved at the level of the fishing community.

Several comparisons and tests conducted by researchers regarding the application of fishing technology [25] yielded the same or almost the same conclusions that with mastery of access to technology [26], a large enough catch by a group in the fishing community in the form of ownership, capital as well as businesses in this field, causing the level of mobilization of the use of technology they have, having many choices regarding fishing ground areas [27] including areas that actually can only be used by traditional fishermen due to the limited technology they have they can enter as competitors to compete for resources—capture fisheries.

The conflict that occurs as a form of accumulation of disappointment is experienced as a trigger by the fact that the reality of traditional fishing communities is a society that always loses. The first defeat is the inability to overcome nature which is sometimes not always friendly, and the second defeat is that in social reality, they are marginalized because of technological backwardness, and they do not have sufficient capital to replace their fishing gear. This can lead to conflicts in the form of horizontal and vertical.

3.3 *Forms of Conflict of Fishermen in Utilization of Capture Fishery Resources*

Conflict is a social reality resulting from inharmonious relationships between parties or groups with incompatible goals and disagree [28]. The differences that exist then give rise to feelings of anger, hatred and revenge, which are eventually actualized into aggressive behaviour. One party will threaten, force and even injure the other party. To understand how the dynamics of fishers' conflicts in the utilization of captured fisheries resources [29], the analytical approach uses the study

method required by [30] using a system based on the sequence of events (conflict chronology) which is a tool used to show the history of a conflict based on The time and scale of the events are displayed sequentially.

The form of social conflict in the use of natural resources (including fishery resources) can be in the form of horizontal conflict or vertical conflict, both open (manifest) and latent [31]. Conflicts between fishers first occurred in Maros Regency at the end of 1985, when fishers from outside Maros Regency, especially from Pangkep, Takalar and Makassar City, performed fishing activities in the coastal area of Maros Regency using new technology fishing gear. In the form of cantrang (pa'renreng), which in its operation or working system resembles a trawler fishing gear that has been prohibited from operating since Presidential Decree No. 39 in 1980.

The operation of cantrang fishing gear is quite effective for catching basic types of fish, shrimp and crabs to bring satisfactory results. Seeing this reality, some fishermen in Pajukukang Village and fishers in surrounding villages such as Nisombalia, Tuppabiring and Ampekale villages have also switched to using cantrang (pa'renreng). This condition can occur because it is well facilitated by the cella retainer, who acts as an intermediary or middleman by offering and providing credit loans in procuring production facilities to several caddi retainers to become business owners with production agreements that must be marketed to them.

In approximately five years, the number of fishers who use cantrang is increasing, both as a retainer of the owner and as mustard. When operating at sea, these fishers group in groups and catch fish around the coastal area of Maros Regency, a water-rich fishery resource, especially crabs and shrimps, which are their main catch targets. Because shrimp and crabs have a high selling value, especially for export purposes to Asian countries such as Taiwan, China, Singapore, Thailand, and Hong Kong, cantrang fishers make fishing activities more intensive in the coastal areas of Maros Regency. Fishing activities using cantrang fishing gear in the coastal area of Maros Regency have been ongoing since 1985 until the issuance of the Maros Regent's Circular No. 552.5/02/Perikanan, dated February 5 2007, which one of its contents is the prohibition of the use of fishing gear cantrang, pa'renreng or pattarik, as well as tools that operate on the bottom of the waters by using weights in the form of stone or iron. The prohibition on the operation of cantrang fishing gear does not eliminate the potential conflict between fishers in the coastal area of Pajukukang Village because former fishers using cantrang replace their fishing gear with sodo boats. They operate their sodo on traditional fishing routes (0-3 miles from the coast), which are intended explicitly for fishers who use passive fishing gear, such as fixed gill nets, klitik nets, and traps (rakkang), lift nets, and kere (belle).

The operation of sodo boats is, in principle, the same as the operation of cantrang fishing gear. Sodo boats are operated by being pushed by a motorboat, while the cantrang fishing gear is used by being pulled by a speedboat. Both types of fishing gear are performed at the bottom of the water so that they can damage capture fisheries resources (seagrass ecosystems and coral reefs). Such conditions can potentially lead to conflicts between fishers, both horizontally and vertically. The main actors in this conflict are semi-modern fishing groups (cantrang fishers and sodo boat fishermen), traditional fishing groups (klitik net fishers and trap fishers) and the government (DPKP Maros, Camat, and Village Heads). Several other actors also play essential roles, either directly or indirectly, such as the Maros DPRD and Polsek. The involvement of these actors is in line with the development of the conflict.

3.3.1 Horizontal Conflict between Traditional Fishers versus Semi-Modern Fishermen

The horizontal conflict between traditional fishers (klitik net fishers) and semi-modern fishermen (cantrang fishermen) first occurred in 1986, when a cantrang fishing boat (pa'renreng) from outside Pajukukang village hit (damaged) the net belonging to the village fisherman. Pajukukang was installed without any signs, so the cantrang fishers did not have time to see it. The incident caused boats belonging to cantrang fishers to be brought (herded) by traditional fishermen to the shore, and the cantrang catches were confiscated by fishers using nets (pa'jaring).

Furthermore, in 1988 the fishing conflict occurred again, where klitik net fishers threw Molotov cocktails on cantrang fishers (pa'renreng) operating too close to the coast. Cantrang fishers try to chase net fishers with machetes. The klitik net fisherman was caught, but there was no fight because the klitik net fisherman carried gasoline and threatened to burn the cantrang user's boat if he was disturbed. Later, the cantrang fisherman reported this to the Lau Sector Police. At that time, both parties agreed not to interfere with each other's capture path (area).

The fishing conflict occurred again in 1994 when fishers using cantrang fishing activities were too far into the coastal area (traditional fishing zones), so they damaged the fishing gear (rakkang) belonging to fishers from Panaikang, Pajukukkang Village. This made the people of Pajukukkang Village furious and carried out the act of burning the cantrang net belonging to the pa'renreng fisherman. The commotion was resolved after the police arrived at the conflict site. To avoid conflicts with fishers on a broader scale, the Maros District Fisheries Service employees (Fisheries Extension), Bontoa Sub-district Head and the Village Head held marine patrols around the coast. This patrol activity managed to find three cantrang ships operating. They were warned that cantrang fishers are prohibited from catching fish along the shore because many fishing gears are installed with klitik and racking nets. If they are found again, the government confiscates their fishing gear.

In 2002, the government mediated a meeting between the cantrang fishers' retainers and the traditional fishers' retainers to agree on fishing in the coastal areas of the Maros Regency. This meeting was mediated by the Maros DPRD, the Camat, the Police, the Village Head and the Head of the Maros District Fisheries Sub-Department. The essence of the results of the agreement are; (1) boat marking that can distinguish between cantrang fishers and klitik net fishers, cantrang fishermen (the hull of the boat is painted red) while the klitik net fishers (the boat's hull is painted white); (2) fishers who use klitik nets are recommended not to leave their fishing gear and put a sign/buoy on their fishing gear to operate at sea; and (3) the limit of the fishing lane on the cantrang lane is above 3 (three) miles from the coast, while the 0-3 mile lane is for traditional fishers. The agreement is written, signed by both parties, and witnessed by elements of the local government.

Based on the description above, the main actors in this fishing conflict are groups of semi-modern fishermen (fishers who use cantrang and fishers of sodo boats) and traditional fishermen (fishers who use klitik nets and trap fishers). Several other actors also play an important role, either directly or indirectly. This study finds that the conflicts between semi-modern fishermen and traditional fishers are formed through capitalist functions, namely companies (capital owners) and local investors (punggawa cella/pa'palele) who have been involved in latent conflicts from the start. Although in this conflict, there is a class structure in the groups involved in the conflict, the conflict is entirely independent of the dimensions of class conflict.

The class structure of the fishing groups at the research site, both traditional fishing groups and semi-modern fishing groups, which are one of the conflict groups, include the elite class (group leaders/cella retainer) and the non-elite class (group members/sawi). Even though this select group is not in the context of controlling the factors of production as described by Karl Marx, they are a component of authority holders and gain legitimacy from group members who, according to Ralf Dahrendorf, constitute a social class [5]. By the company (capital owner), this elite group (punggawa cella/middleman) is then functioned to protect all its activities against other competing groups, namely traditional fishers driven by local investors (pa'palele/punggawa cella).

At the level of the traditional fishing group, which is another conflict group, the class structure includes the local investor class (punggawa cella/pa'palele) and the working fisherman class (klitik net fisherman and bubu). Unlike the case with the semi-modern elite group of fishermen, these traditional local fishermen have direct control over the factors of production. They act as suppliers of capital and facilities for traditional fishermen (klitik net fishermen and traps) who are members. These local investors (punggawa cella/pappalele) have an extensive social network to ensure business security and guarantee the marketing of fishery products.

Through the roles played by capital owners (punggawa cella/middleman) who are involved in latent conflicts with the local class of investors (punggawa cella/pa'palele) in mobilizing traditional fishers to restrict access to semi-modern fishers, in the end, a manifest (open) conflict was born between conventional fishermen and semi-traditional fishers. The actors and the relationship between the actors involved in the competition can be seen in Figure 2.

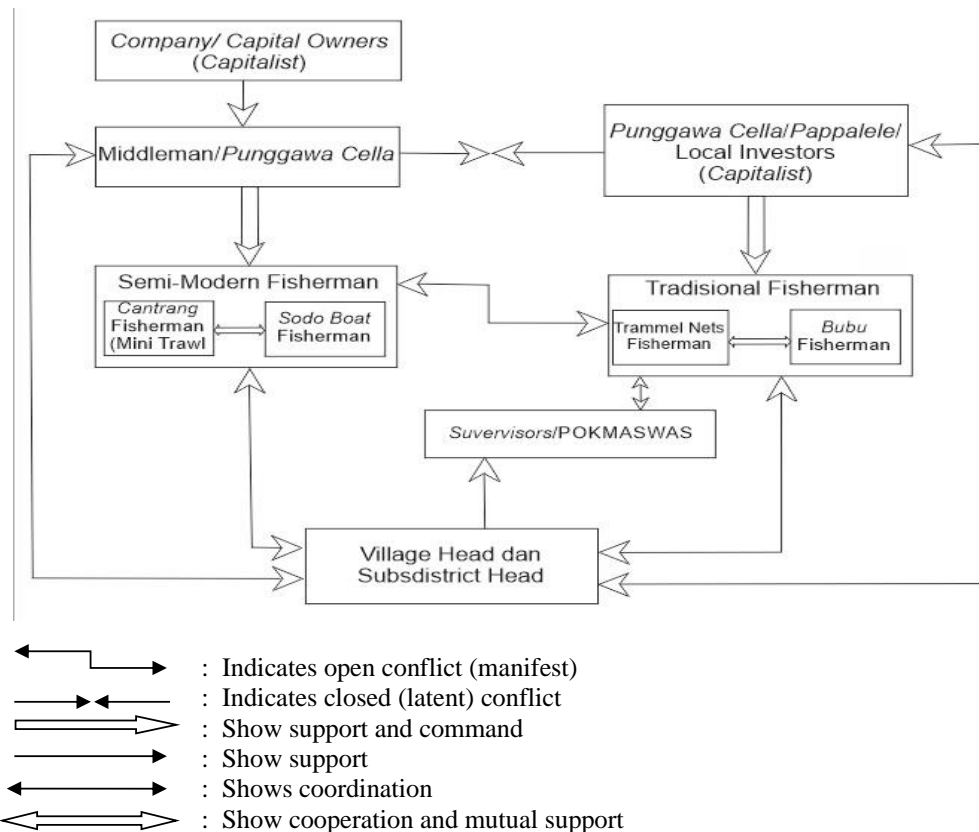


Figure 3. Actors and the relationship between actors involved in the conflict between traditional fishers and semi-modern fishers in the coastal area of Maros Regency

3.3.2. Vertical Conflict between Semi-Modern Fishermen versus the Government (Maros District Fisheries Service, Camat and Village Head)

The vertical conflict between semi-modern fishermen (cantrang fishermen) and the government (Maros District Fisheries Service, Camat and Village Heads) occurred in 1995. Stakeholders are people who have a role in influencing and making decisions [32]. The conflict began when employees of the Maros Regency Fisheries Service (Fisheries Extension), the Bontoa sub-district and the village head held a marine patrol around the coast of Maros Regency. This patrol activity succeeded in finding three units of cantrang ships operating. Cantrang fishers are prohibited from catching fish along the shore because many fishing gears are installed with klitik and rakkang nets. If they are found again, the government confiscates their fishing gear.

Fishers who use cantrang think that the policy of banning the use of cantrang submitted by the Fisheries Service of Maros Regency should be rejected. Cantrang fishermen (pa'renreng) believe that the local government should not prohibit the operation of cantrang because it is not a type of

trawling. This view is quite reasonable because of the Decree of the Director General of Fisheries No. 340 of 1997 concerning technical specifications and how to operate modified/modified bagged fishing gear, which states that bagged fishing gear has been changed/modified so that the shape, components, and size of the equipment resemble trawling nets but do not include the classification of trawling nets. Like; cantrang, arad, otok, scratching coral and the like. Based on the government decree, the cantrang net does not include fishing gear prohibited by the government (legal fishing). Thus, cantrang is a fishing gear permitted to operate in Indonesian waters [33; 38].

The ban on the use of cantrang by the government does not reduce the activities of cantrang fishers to carry out fishing activities in coastal areas. However, in carrying out their actions, they feel insecure because they are always supervised by the government and assisted by traditional fishermen, thus encouraging (cantrang fisherman retainers) to protest to the Maros District Fisheries Service and Maros DPRD. Cantrang fishermen ask for firmness and clarity from the Maros Regency Fisheries Service regarding the types of fishing gear the government prohibits based on applicable regulations. At that time (1996), the Head of the Maros Regency Fisheries Service explained that in principle, the cantrang fishing gear was not prohibited, but the fishing lanes should not enter the traditional fishing lanes (0-3 miles from the coast), which are intended for fishers who use the fishing gear. Passive ones (e.g., fixed gill nets, klitik nets, rakkang, kere (belle), traps, tancap charts, fishing rods).

The explanation above did not produce the results expected by both parties to the conflict. Cantrang fishers continue to carry out fishing activities in the coastal area of Maros Regency. The Fisheries Service of Maros Regency continues to hold the view that fishers who use cantrang are prohibited from operating their fishing gear on the 0-3 mile coastal route, which is intended for traditional fishermen (fishers who use passive fishing gear) as stipulated in the Minister of Agriculture Decree No. 607 of 1976 which was subsequently revised to become Minister of Agriculture Decree No. 392 of 1999.

In 2002, the semi-traditional and traditional fishing courts met to agree on fishing in the coastal area of the Bontoa District on January 11, 2002. This meeting was mediated by the Regional People's Representative Council (DPRD) of Maros Regency. The Camat, the Sector Police (Polsek), the Village Head and the Head of the Maros Regency Fisheries Sub-Department. The essence of the results of the agreement are; (1) boat marking that can distinguish between cantrang fishers and klitik net fishermen, cantrang fishers (the hull of the boat is painted red) while the klitik net fishers (the boat's hull is painted white); (2) fishers who use klitik nets are recommended not to leave their fishing gear and put a sign/buoy on their fishing gear to operate at sea, and (3) the limit of the cantrang fishing lane is above 3 (three) miles from the coast, while the 0-3 mile lane is designated for traditional fishers. The agreement is made in writing, signed by both parties, and witnessed by elements of the government. The agreed contract does not regulate fishing routes for fishers who use sodo boats, assuming that sodo boats are the same as cantrang fishing gear.

The signing of the agreement also encourages government officials (Camat and Village Heads) and the Sector Police to routinely patrol the coastal areas of the Boston District. The implementation of routine patrols is going well because it is supported by the village community, who are members of the coastal POKMASWAS (Community Supervisory Group), which has been formed based on the initiative of community leaders, the Pajukukang Village Head, and the Maros District Fisheries Service (Fisheries Extension) in 2006. In 2006, the Head of Bontoa Sub-district and the Head of Pajukukang Village, assisted by the Lau Police and POKMASWAS, managed to capture seven cantrang boats operating in the coastal area of Pajukukang Village. The boat and its fishing gear (cantrang) were secured by the Bontoa sub-district head, while the boat owner and his mustard were taken to the Lau Police for legal processing.

The disappointment of fishers using cantrang with the Fisheries Service of Maros Regency reached its peak in 2007 when there was an incident of stealth taking cantrang fishing gear by an unknown person wearing a mask. From this incident, the cantrang fisherman hoped that the Maros District Fisheries Service would play a role in finding the best and fair solution (not taking sides with traditional fishers). Instead, he contributed to the issuance of the Maros Regent Circular No.

552.5/02/Perikanan on February 5 2007, in which one of the contents is the prohibition of the use of fishing gear cantrang, pa'renreng or pattrik, as well as tools that operate on the bottom of the waters using weights in the form of stone or iron. Because the sodo boat fishing gear works on the bottom of the water using an iron ballast, traditional fishers are perceived as the same as cantrang fishing gear.

Based on the above phenomenon, the main actors in this vertical conflict are semi-modern fishing groups (cantrang fishers and sodo boat fishermen) and the government (Maros District Fisheries Service, Bontoa Sub-district Head, and Pajukukang Village Head). Several other actors also play important roles, directly or indirectly, such as the Maros DPRD and the Lau Sector Police.

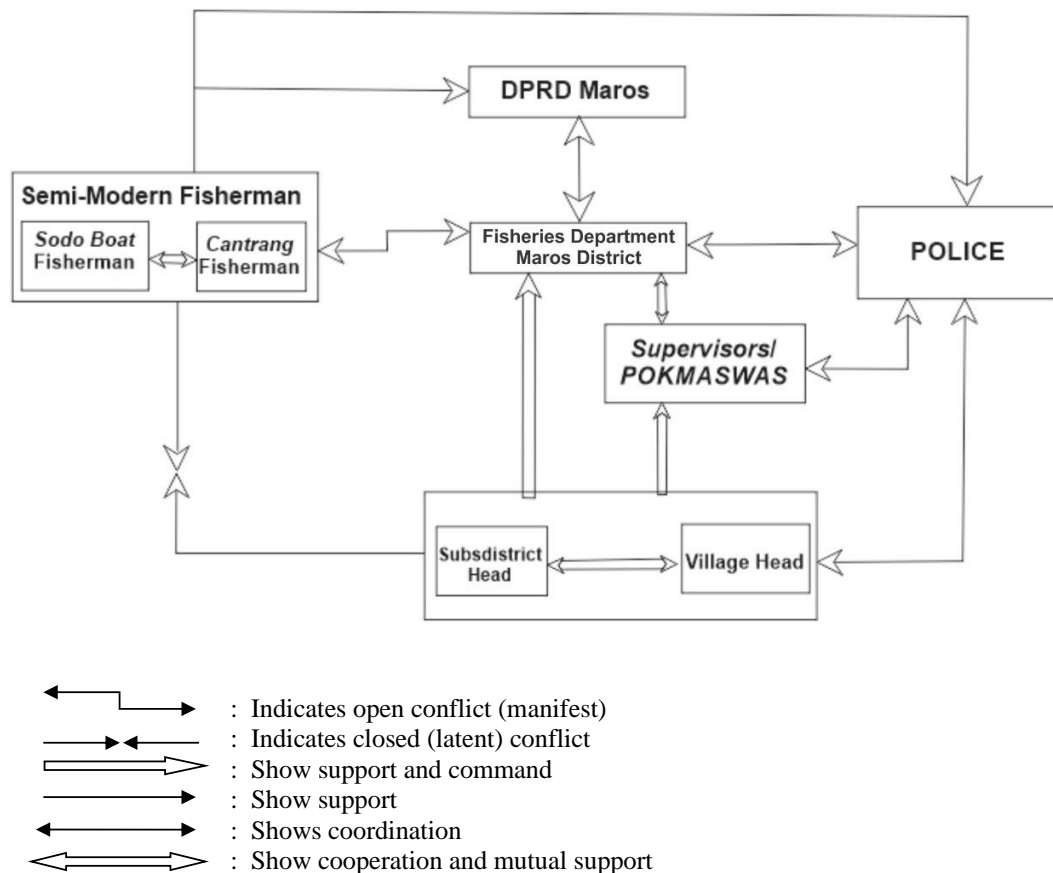


Figure 4. Actors and the relationship between actors involved in the conflict between semi-modern fishers and the government in the coastal area of Maros Regency.

Stakeholders should facilitate the relationship between fishers and management authorities [34]. Management must involve local fishers and contribute to control and supervision [35]. The involvement of these actors is in line with the development of the conflict. The result of the conflict also influenced the patterns of relations between the actors involved in the conflict, as shown in Figure 3. It is essential to apply fishers in policy-making and decision-making [35] so that fishers and other stakeholders are also responsible for utilizing and managing coastal resources [36;37].

4. Conclusion

Fisherman conflict in Indonesia is a long-standing phenomenon. One area that has the potential for conflict for fishers is Maros Regency because it has the potential of coastal resources that can trigger utilization conflicts. This conflict has been going on since 1985 until now. This happens because fishers are interested in utilizing captured fisheries resources, thus claiming the legality of fishing gear and fishing areas. The types of fishers conflicts that occur in the coastal areas of Maros Regency are agrarian, class conflicts, technological conflicts, and conflicts of perception. The forms of conflict in the use of natural resources (including fishery resources) are horizontal conflicts (traditional fishers and klitik net fishers) with semi-modern fishermen (cantrang fishermen) and vertical conflicts (semi-modern fishermen and cantrang fishers) with the government (Department of the Republic of Indonesia). Fisheries in Maros Regency, Camat and Village Heads, both open (manifest) and closed (latent).

References

- [1] Jaya I, Satria F, Wudianto, Nugroho D, Sadiyah L, A. Buchary E, T. White A, C. Franklin E, A. Courtney C, Gina Green, and Stuart J. Green 2022 Are the working principles of fisheries management at work in Indonesia? *Marine Policy* **140**
- [2] Saria I, Ichsan M, White A, Raup S A, Wisudo S H 2022 Monitoring small-scale fisheries catches in Indonesia through a fishing logbook system: Challenges and strategies *Marine Policy* **134**
- [3] Yang Q H, Zhu S Q, Ma D Q, Zhang L Y, and Yang S Z 2019 How effective is a marine spatial plan: an evaluation case study in China. *Ecological Indicators*. **98**, 508–514.
- [4] Ye, G., Fei, J., Wang, Z., Jiang, Q., Gaines, S. D., & Ming, C. L 2021 A novel marine spatial management tool for multiple conflicts recognition and optimization of marine functional zoning in the East China sea. *Journal of Environmental Management* **298**
- [5] Daris L, Aslinda A, and Rapi N L. 2017. Form and Strategies of Conflict Resolution in Fishing Resources Utilization in The Coastal Area of Maros District, South Sulawesi Province. *AACL Bioflux* **10**(6):1540-1545.
- [6] Rusmilyansari, Mahreda, Emmy Sri 2019 Resolusi Konflik Nelayan di Perairan teritorial Kabupaten Barru *Jurnal Kebijakan Perikanan Indonesia* Vol. **11** No. 2 Hal. 89-99.
- [7] Fachry M E, Massiseng A N A, Bahar A, and Tuwo A. 2021. Stakeholder Roles in the Baluno Mangrove Learning Center Ecotourism. *AACL Bioflux* **14**(4) : 2525-2536.
- [8] He P and Suuronen P 2018 Technologies for marking fishing gear to identify gear components entangled on marine animals and to reduce abandoned lost or otherwise discarded fishing gear. *Marine Pollution Bulletin*. **129**, 253–261
- [9] Chumchuen W and Krueajun K 2021 Fishing activities and viewpoints on fishing gear marking of gillnet fishers in the small-scale and industrial fishery in the Gulf of Thailand *Marine Pollution Bulletin*, **172**, 1128–1137
- [10] Strike T and Songjitsawat A 2019 Small Scale Fishing Gears in the Eastern Gulf of Thailand *Department of Fisheries* Bangkok, p. 45.
- [11] Romero P and Melo O 2021 Can a Territorial Use Right for Fisheries management make a difference for fishing communities? *Marine Policy*, **124**, 104359
- [12] G Auriemma K, Byler K. Peterson, A. Yurkani K. Byler, and K. Peterson 2014 Discover TURFs: A Global Assessment of Territorial Use Rights in Fisheries to Determine Variability in Success and Design, *Bren School of Environmental Science Management, University of California, Santa Barbara*
- [13] Dimelu M U, Salifu E D and Igbokwe E M 2016 Resource use conflict in agrarian communities, management and challenges: A case of farmer-herdsmen conflict in Kogi State, Nigeria *Journal of Rural Studies* **46**, 147–154

- [14] Adisa R S and Adekunle A 2010 Farmer herders conflicts: a factor analysis of socioeconomic conflict variables among arable crop farmers in North Central Nigeria *Journal of Human Ecology* **30** (1), 1e9
- [15] Kusnadi 2002 Konflik Sosial Nelayan, Kemiskinan dan Perebutan Sumberdaya Perikanan. *LKiS Yogyakarta* Yogyakarta
- [16] Achmad S 2003 Masalah dan Konflik yang Terjadi Antara Nelayan Tangkap Trawl Mini dengan Nelayan Tradisional di Kabupaten Maros. *FKPPS Propinsi Sulawesi Selatan. Dinas Pertanian Kabupaten Maros* Maros
- [17] Daris L. 2004 Konflik Nelayan Dalam Pemanfaatan Ruang Wilayah Penangkapan (Kasus Nelayan Pengguna Alat Tangkap Trawl Mini dan Nelayan Pengguna Alat Tangkap Jaring Klitik di Kecamatan Bontoa Kabupaten Maros) *Tesis PPs-UNHAS* Makassar
- [18] Tikadar K K, Kunda M, and Mazumder S K 2021 Diversity of fishery resources and catch efficiency of fishing gears in Gorai River, Bangladesh *Heliyon* **7**, 12
- [19] Ali M B, Hossain, M. Al-Masud, M.A. Alam 2015 Fish species availability and fishing gears used in the Ramnabad River, Southern Bangladesh, *Asian Journal of Agricultural Research* **9** (1), pp. 12-22
- [20] Hurley, B.F. Wringe, C.E. den Heyer, N.L. Shackell, H.K. Lotze 2019 Spatiotemporal by-catch analysis of the Atlantic halibut (*Hippoglossus hippoglossus*) longline fishery survey indicates hotspots for species of conservation concern *Conservation Science and Practice* Article e3, 10.1111/csp.2.3
- [21] Satria A, Umbari A, Fauzi A, Purbayanto A, Sutarto E, Muchsin I, Muflikhati I, Karim M, Saad S, Oktariza W and Imran, Z 2002 Menuju Desentralisasi Kelautan. Pusat Kajian Agraria IPB, Partnership for Governance Reform in Indonesia *PT Pustaka Cidesindo* Jakarta
- [22] Saad S 2003 Sejarah Hukum Sumberdaya Pesisir dan Laut. *Diseminasi dan Lokakarya Praktek-Praktek Terbaik Kegiatan Pembangunan Sub-Sektor Perikanan se-Sulawesi, Kerjasama Dinas Perikanan dan Kelautan-JICA, Makassar* 17-19 Februari
- [23] E Gilman 2015 Status of international monitoring and management of abandoned, lost and discarded fishing gear and ghost fishing *Marine Policy* **60** pp. 225-239
- [24] Kusnadi 2009 Keberdayaan Nelayan dan Dinamika Ekonomi Pesir *Ar-Ruzz Media* Yogyakarta
- [25] X.F. Song, X.Z. Chen, H.L. Huang, F.H. Tang, D.H. Wang, T.C. Qu 2015 Selectivity of *Parimichthys polyactis* of bottom trawl in the East China sea *Journal of Shanghai Ocean University*, **7** (3) pp. 449-456
- [26] S.M. Bayse, B. Herrmann, H. Lenoir, J. Depestele, H. Polet, E. Vanderperren, B. Verschuere 2016 Could a T90 mesh codend improve selectivity in the Belgian beam trawl fishery? *Fisheries Research*, **174** pp. 201-209
- [27] Wang Z, Tang H, Xu L and Zhang J 2022 A review on fishing gear in China: Selectivity and application *Aquaculture and Fisheries* Volume **7**, Issue 4, Pages 345-358
- [28] Kamlan Surbakti 1992, Memahami Ilmu Politik, Jakarta: *PT. Gramedia Widia Sarana Indonesia* h. 149
- [29] Ciera Villegas, Nicolás X. Gómez-Andújar, Michael Harte, Sarah M. Glaser, James R. Watson 2021 Cooperation and conflict in the small-scale fisheries of Puerto Rico *Marine Policy* Volume **134**, 104809
- [30] Fisher, S., D. K. Abdi, J. Ludin, R. Smith, dan S. Williams 2001 Mengelola Konflik, Keterampilan dan Strategi Untuk Bertindak *The British Council Indonesia* Jakarta.
- [31] Sardi I 2010 Konflik Sosial dalam Pemanfaatan Sumberdaya Hutan. *Tesis. Sekolah Pascasarjana IPB*. Bogor.
- [32] B. Mikkelsen, *Methods for Development Work and Research: A New Guide for Practitioners*, Sage, New Delhi, 2005 (2.;2nd;2; ed.)
- [33] Wahyono, A., Adhuri, Dedi S., Adhuri, dan R. Idrawasih. 2005. Fishing in, Fishing out; Memahami Konflik-Konflik Kenelayanan di Kalimantan Timur dan Nusa Tenggara Timur. *LIPi*, Jakarta.

- [34] ¹⁰ L. Ordoñez-Gauger, L. Richmond, S. Hackett, C. Chen 2018 It's a trust thing: assessing fishers' perceptions of the California North Coast marine protected area network, *Ocean Coast Manag.* **158** 144–153.
- [35] ²³ Eriksson B, Johansson F and Blicharska M 2019 Socioeconomic impacts of marine conservation efforts in three Indonesian fishing communities *Marine Policy*, **103**, 59–67
- [36] ⁹ R.J. Jones, 2014 *Governing Marine Protected Areas: Resilience through Diversity*, Routledge
- [37] ⁶ Massiseng A N A, Tuwo A, Fachry M E, and Bahar A. 2020. A Dynamic Simulation of Mangrove Ecotourism Management at the Lantebung of Makassar City. *IOP Conference Series: Earth and Environmental Science*. **584**(2020) 012039:1-10.
- [38] Daris L and Jaya J. 2021. Metode Penangkapan Ikan, Makassar: *PT. Tol Media*. 151.
- [39] ²¹ Zaenab S, Malina A C, Tassakka A R, Sulfahri and Kasmia. 2020. Utilization of Double Fungal Treatment by *Trichoderma harzianum* and *Saccharomycopsis fibuligera* to Produce Biosugar From Red Seaweed *Kappaphycus alvarezii*. *IOP Conference Series: Earth and Environmental Science*. **575**(2020) 012015:1-6.

● **14% Overall Similarity**

Top sources found in the following databases:

- 12% Internet database
- 11% Publications database
- Crossref database
- Crossref Posted Content database

TOP SOURCES

The sources with the highest number of matches within the submission. Overlapping sources will not be displayed.

1	mrforum.com Internet	<1%
2	m.scirp.org Internet	<1%
3	Guanqiong Ye, Jiahuan Fei, Zhishuai Wang, Qutu Jiang, Steven D. Gain... Crossref	<1%
4	bmis-bycatch.org Internet	<1%
5	Jessie McIntyre, Katie Duncan, Leah Fulton, Ariel Smith, Alexa J. Good... Crossref	<1%
6	so04.tci-thaijo.org Internet	<1%
7	sy.bilpubgroup.com Internet	<1%
8	Maharani Yulisti, Agus Syarip Hidayat, Carunia Mulya Firdausy, Ummi ... Crossref	<1%
9	gambusia.zo.ncsu.edu Internet	<1%

10	mafiadoc.com Internet	<1%
11	idosi.org Internet	<1%
12	Sri Patmiarsih, Rista Devi Juniar, Diding Sudira Efendi. "Monitoring Sm... Crossref	<1%
13	coastaleco.wordpress.com Internet	<1%
14	ojs.uniska-bjm.ac.id Internet	<1%
15	ro.uow.edu.au Internet	<1%
16	suaire.suanet.ac.tz Internet	<1%
17	journalofoceantechnology.com Internet	<1%
18	arccarticles.s3.amazonaws.com Internet	<1%
19	Apriansyah, Agus S. Atmadipoera, Dwiyoga Nugroho, Indra Jaya, Mohd... Crossref	<1%
20	gaineslabucsb.com Internet	<1%
21	sciencegate.app Internet	<1%

22	3ieimpact.org	Internet	<1%
23	Serena Lucrezi, Filippo Bargnesi, Francois Burman. ""I Would Die to See...	Crossref	<1%
24	mro.massey.ac.nz	Internet	<1%
25	netlib.org	Internet	<1%
26	publish.csiro.au	Internet	<1%
27	scribd.com	Internet	<1%
28	ijair.id	Internet	<1%
29	ijpsat.org	Internet	<1%
30	mdpi.com	Internet	<1%
31	vdoc.pub	Internet	<1%
32	ejournal.upi.edu	Internet	<1%
33	sajjacob.blogspot.com	Internet	<1%

- 34 Suadi . "The Anatomy of Conflict in Indonesian Marine Fisheries", Jour... <1%
Publication
-
- 35 journals.plos.org <1%
Internet
-
- 36 atsea-program.org <1%
Internet
-
- 37 Rilus A. Kinseng. "Class and Conflict in the Fishers' Community in Indo... <1%
Crossref
-
- 38 G C Curtis. "The correction of an error in the determination of high resi... <1%
Crossref
-
- 39 Watcharapong Chumchuen, Kraison Krueajun. "Fishing activities and vi... <1%
Crossref
-
- 40 scitepress.org <1%
Internet
-
- 41 id.scribd.com <1%
Internet
-
- 42 ilmutanah.unhas.ac.id <1%
Internet
-
- 43 nefitriana.blogspot.com <1%
Internet
-
- 44 ojs.journalsdg.org <1%
Internet
-
- 45 Erika Lukman. "Evaluasi aspek sosial kegiatan penangkapan ikan tuna ... <1%
Crossref

46	afribary.com	Internet	<1%
47	Bambang I. Gunawan, Leontine E. Visser. "Permeable Boundaries: Outs...	Crossref	<1%
48	sustainability.uobaghdad.edu.iq	Internet	<1%
49	dev.journal.ugm.ac.id	Internet	<1%
50	journal.unair.ac.id	Internet	<1%
51	ojs.unimal.ac.id	Internet	<1%
52	Kishor Kumar Tikadar, Mrityunjoy Kunda, Sabuj Kanti Mazumder. "Dive...	Crossref	<1%
53	Muhammad Obie, Lahaji. "Coastal and Marine Resource Policies and t...	Crossref	<1%
54	escholarship.org	Internet	<1%
55	ouci.dntb.gov.ua	Internet	<1%
56	repository.seafdec.org	Internet	<1%
57	atlantis-press.com	Internet	<1%

-
- 58 **gesamp.org** <1%
Internet
-
- 59 **undp.org** <1%
Internet
-
- 60 **Arif Satria. "Pre-existing Fisheries Management Systems in Indonesia, ...** <1%
Crossref
-
- 61 **Indra Jaya, Fayakun Satria, Wudianto, Duto Nugroho et al. ""Are the wo...** <1%
Crossref

● Excluded from Similarity Report

- Manually excluded sources

EXCLUDED SOURCES

L Daris, A N A Massiseng, M E Fachry, S Zaenab, J Jaya, M Mustaking. "Types...	100%
Crossref	
iopscience.iop.org	21%
Internet	
smujo.id	15%
Internet	
researchgate.net	8%
Internet	
BS Nugroho, N Zuhry, K Kusnandar, SW Simanjuntak, HK Alamsyah, PT Kariss...	6%
Crossref	
Sutaman, Karina Farkha Dina, Nurjanah, Sri Mulatsih. "Study of Compatibility ...	6%
Crossref	
Bayu Widiyanto, M. Aji Fathurakhman, Munadi. "Calculation of Waste Gener...	6%
Crossref	
bioflux.com.ro	6%
Internet	
Sutaman, Noor Zohry, Rokhmin Dahuri, Tatsuro Matsuoka, Arif Zainudin. " Pr...	6%
Crossref	
Hafiz Rahman, Nizalmie Azani, Hidayu Suhaimi, Siti Rohana Yatim, Amirah Yu...	6%
Crossref	

Arif Zainudin, Akhmad Habibullah, Yuni Arfiani, Sesya Dias Mumpuni. "Digital ...	6%
Crossref	
"Peer Review Statement", IOP Conference Series: Earth and Environmental Sci...	6%
Crossref	
repository.umi.ac.id	6%
Internet	
A N A Massiseng, A Tuwo, M E Fachry, A Bahar. "A dynamic simulation of ma...	5%
Crossref	
M Kobayashi. "Promoting sustainable fisheries and aquaculture - Enabling pol...	5%
Crossref	
lib.iitta.gov.ua	5%
Internet	
repository.lppm.unila.ac.id	5%
Internet	
D Apdillah, Wahyudin, T S Razai, C Chalet, A Suryanti, Y Zulkarnaen, D Azizah....	4%
Crossref	
repository.unibos.ac.id	4%
Internet	
repository.unair.ac.id	4%
Internet	
repository.unja.ac.id	4%
Internet	
Nurbaya, Ince Ayu K. Kadriah, Muharijadi Atmomarsono, Muliani, Hilal Anshar...	4%
Crossref	

St. Zaenab, Asmi Citra Malina A.R. Tassakka, Sulfahri, Kasmiati. "Utilization ... Crossref	4%
St. Zaenab, Asmi Citra Malina A.R. Tassakka, Sulfahri, Kasmiati. " Utilization ... Crossref	4%
Hajriyanti Yatmar, Panguriseng, Eka Buqra, Ricky Rinaldi. "Demand Estimatio... Crossref	4%
R A Barkey, M Nursaputra. "The Detection of Forest Health Level as an Effort t... Crossref	4%
essuir.sumdu.edu.ua Internet	4%
M Ulfa, M M Harahap. "The development potential level of Bagan Serdang ma... Crossref	4%
eprints.utm.my Internet	4%
OM Usoltseva, PA Tsoi, V. N. Semenov. "Laboratory modeling of deformation ... Crossref	4%
S Husni, M Nursan. "Income of labor fishermen households and the adaptatio... Crossref	4%
Nur Rismawati, Syamsuddin Millang, Syamsu Rijal, Budi Arty. "Analysis of dro... Crossref	4%
S A Lias, Irmayani, S Laban. "The potential of water availability in Maros Wate... Crossref	4%
R Barkey, M Nursaputra, MF Mappiase. "Assessing drought vulnerability using... Crossref	4%

H Budiarto, P Suharso, S Kantun. "Creative behavior of fisherman wives in the ...	4%
Crossref	
M Mardiharini, V W Hanifah, Y A Dewi. "Advisory innovation model on Indones...	4%
Crossref	
pure-oai.bham.ac.uk	4%
Internet	
Munajat Nursaputra, Septian Perdana Putra Pahar, Chairil A. "Identification of ...	4%
Crossref	
Salmah Desi, A.H Latief R., Jamil Hatta. "Strategy for the development of larg...	4%
Crossref	
Achmad Zamroni, Rizki Aprilian Wijaya, Hakim Miftahul Huda, Riesti Triyanti e...	4%
Crossref	
D E Safitri, A Ahmad, M Nathan. "Study of soil management in rice fields in Ba...	4%
Crossref	
centaur.reading.ac.uk	4%
Internet	
oa.las.ac.cn	4%
Internet	
repository.uki.ac.id	4%
Internet	
eprints.unram.ac.id	4%
Internet	
9pdf.net	4%
Internet	

repository.uhamka.ac.id	4%
Internet	
ojs3.unpatti.ac.id	3%
Internet	
research-collection.ethz.ch	3%
Internet	
frontiersin.org	3%
Internet	
emjms.academicjournal.io	3%
Internet	
ejournal-balitbang.kkp.go.id	3%
Internet	
ejournal.stipwunaraha.ac.id	3%
Internet	
commons.wmu.se	3%
Internet	
journals.sangia.org	3%
Internet	
sportdocbox.com	3%
Internet	
stipwunaraha.ac.id	2%
Internet	
mail.smujo.id	2%
Internet	

smujo.id	2%
Internet	
journals.sangia.org	2%
Internet	
journal.unhas.ac.id	2%
Internet	
eprints.unm.ac.id	2%
Internet	
ucm-si.ac.id	2%
Internet	
proceedings.com	2%
Internet	
scholar.unair.ac.id	2%
Internet	
ioppublishing.org	2%
Internet	
repository.ung.ac.id	2%
Internet	
es.scribd.com	1%
Internet	
m.moam.info	1%
Internet	
S P P Pahar, S A Paembonan, A S Soma. "Identification of drought level using ...	1%
Crossref	

netlib.org	1%
Internet	
stipwunaraha.ac.id	1%
Internet	
ejournal.stipwunaraha.ac.id	1%
Internet	
repository.up.ac.za	1%
Internet	
N A Nissa, A Pramono, B Trilaksono, M Cahyadi, S D Volkandari. "Primer desig...	1%
Crossref	
Jianqiang Zhu, Fang Tian. "Kinematics Analysis and Workspace Calculation of...	1%
Crossref	
"Peer Review Statement", IOP Conference Series: Earth and Environmental Sci...	1%
Crossref	
pertambangan.fst.uinjkt.ac.id	1%
Internet	
scholar.google.co.id	1%
Internet	
netlib.sandia.gov	1%
Internet	
scialert.net	1%
Internet	
repository.umy.ac.id	<1%
Internet	

digilib.uin-suka.ac.id	<1%
Internet	
autodocbox.com	<1%
Internet	
Zhongqiu Wang, Hao Tang, Liuxiong Xu, Jian Zhang. "A review on fishing gear ...	<1%
Crossref	
eri.u-tokyo.ac.jp	<1%
Internet	
eprints.akprind.ac.id	<1%
Internet	
coursehero.com	<1%
Internet	
repository.unhas.ac.id	<1%
Internet	
ojs.bilpublishing.com	<1%
Internet	
journals.bilpubgroup.com	<1%
Internet	
repo.uni-hannover.de	<1%
Internet	
repository.futminna.edu.ng:8080	<1%
Internet	
repository.dkut.ac.ke:8080	<1%
Internet	

eprints.umm.ac.id	<1%
Internet	
docplayer.net	<1%
Internet	
Che Din Mohd Safuan, Wan Izatul Asma Wan Talaat, Nazli Aziz, Hafeez Jeofry...	<1%
Crossref	
Yingxian Long, Wen Zhou, Man Hong, Di Zhao, Ding Wen, Yuhuan Zhang, Xi De...	<1%
Crossref	
Suzhen Yang, Qinhua Fang, Harrison Odion Ikhumhen, Lusita Meilana, Shouqi...	<1%
Crossref	
tandfonline.com	<1%
Internet	
research-management.mq.edu.au	<1%
Internet	
repository.uin-suska.ac.id	<1%
Internet	
Yi Zhang, Junhan Peng, Wu Hong, Lin Zheng. "Research on the Current Situati...	<1%
Crossref	
Yi Liu, Fei Gao. "Spatiotemporal Changes of Evapotranspiration in Cities along...	<1%
Crossref	
Rongsheng Yu, Xueqin Wang, Guilin Tao, Wenyi Cheng, Aiju Li. "Study on prep...	<1%
Crossref	
Lihui Dai, Yu Shan, Jiayun Liu, Fengjiang An, Cheng Wu. "Stress-Strain Behavi...	<1%
Crossref	

pdffox.com	<1%
Internet	
lib.unnes.ac.id	<1%
Internet	
Siti Nurbaya Supardan, Nor Syazwana Sa'ari, Suraya Ahmad Kamil, Hartini Ah...	<1%
Crossref	
Nurul Syaheera Razali, Siti Nurbaya Supardan, Rozan Mohamad Yunus, Suray...	<1%
Crossref	
M Sellitto, F Zamponi. "Packing hard spheres with short-range attraction in inf...	<1%
Crossref	
Jiajia Zhu, Zhili Zhang, Lihui Gu, Nailong He, Hua Song, Sen Zhang. "Fabricatio...	<1%
Crossref	
research.rug.nl	<1%
Internet	
pure.rug.nl	<1%
Internet	
hdl.handle.net	<1%
Internet	
Pedro Romero, Oscar Melo. "Can a Territorial Use Right for Fisheries manage...	<1%
Crossref	
journal.trunojoyo.ac.id	<1%
Internet	
Hartoyo Hartoyo, Haryanto Sindung, Fahmi Teuku, Sunarto Sunarto. "The role ...	<1%
Crossref	

emerald.com	<1%
Internet	
dx.doi.org	<1%
Internet	
backend.orbit.dtu.dk	<1%
Internet	
er-c.org	<1%
Internet	
deepdyve.com	<1%
Internet	
research.aalto.fi	<1%
Internet	
sam.ensam.eu	<1%
Internet	
m.iopscience.iop.org	<1%
Internet	
gfzpublic.gfz-potsdam.de	<1%
Internet	
ijsrp.org	<1%
Internet	
researchnow.flinders.edu.au	<1%
Internet	
pinpdf.com	<1%
Internet	

citeseerx.ist.psu.edu	<1%
Internet	
e-prints.unm.ac.id	<1%
Internet	
aaou2017.ut.ac.id	<1%
Internet	
ejournal.skpm.ipb.ac.id	<1%
Internet	
openaccessrepository.it	<1%
Internet	
Sanjoy Roy, Md Sakhawat Hossain, Mahatub Khan Badhon, Sayam U. Chowdh...	<1%
Crossref	
mlftirc.zju.edu.cn	<1%
Internet	
kpm.ipb.ac.id	<1%
Internet	
Satria, A.. "Decentralization of fisheries management in Indonesia", Marine Po...	<1%
Crossref	
baures.bau.edu.bd	<1%
Internet	
arccjournals.com	<1%
Internet	