

Conflict dynamics of fishery resources utilization in Maros District, South Sulawesi Province, Indonesia

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Abstract. This study was aimed to determine the shape and dynamics of fishermen conflict on the utilization of fishery resources between traditional fishermen versus fishermen utilizing fishing gear in Maros District. The study was conducted in Pajukukang Village, Bontoa Sub-District, Maros District, from November 2015 to November 2016. Data was collected through in-depth interviews, observation, focus group discussions (FGD), and document studies. The study found: (1) fishermen conflict in the utilization of capture fishery resources in the form of horizontal and vertical conflicts; (2) the dynamics of fishermen conflict begins with the limitations of capture fishery resources, the differentiation of group roles leads to capture technology modernization, and inconsistent government policies; (3) fishermen conflicts lead to a process of accelerating capture fishery resources degradation, and the occurrence of changes in social interaction patterns.

Key Words: aquatic resources, competition, fishermen, fish catching, fishing technology.

Introduction. Marine and freshwater fisheries in Indonesia have enormous potential to develop. This potential is spread from marine waters to fisheries in fresh water. The existence of resources has potential to sustain the economy of the community, because world food demands are currently focused on healthy food from the sea and fishery products. Some potential products are seaweed (Nursidi et al 2017; Aslamyah et al 2018), and mangrove crab (Tahya et al 2016a; Tahya et al 2016b; Sunarti et al 2016; Karim et al 2016).

The great potential of marine and freshwater fisheries creates conflicts over resource utilization. Conflict over access and control of marine resources is a global issue (Jahan et al 2014; Mosepele et al 2015). Its open access (Daris et al 2017) makes the actors who have interests very vulnerable to conflict. Conflict between fishermen or fishermen and stakeholder groups usually arises because of differences in power, interests, values, ways of exploiting resources (Jahan et al 2014), differences in habits, and goals (Hanna and Smith 1992). The main causes of conflict can be divided into 3 categories: government policies and property rights, population growth and poverty and new industries and technologies (Salayo et al 2006).

As a maritime country, Indonesian people interact a lot and have interests with the sea, interact with natural resources, people and institutions, so it is not surprising that conflicts are very common (Charles 1992). Therefore, stakeholders strive to make policies through regulations and legislation. However, policies can lead to differences in interpretation, for example the enactment of Law No. 22 of 1999 revised by Law No. 32 of 2004 concerning Regional Government, where each region has the authority to manage and utilize fish resources that have been misinterpreted by some regions, such as claims of certain territorial waters (Indonesian Government 2004).

Conflict has two dimensions, namely disagreement related to task problems and emotional and interpersonal that leads to conflict (Spaho 2013). Social conflict of

fishermen in Indonesia is important to note because the cases are widespread and complex, thus make studies in this issue is needed. The study aims to describe, factual and accurate about the facts, the nature and relationship between phenomena to determine the shape and dynamics of conflict in the utilization of fisheries resources between traditional fishermen versus fishermen utilizing Danish seine (cantrang) fishing equipment in Maros District.

Material and Method. Case study was conducted in Pajukukang Village, Bontoa Sub-District, Maros District from November 2015 to November 2016. Data collection was obtained through in-depth interviews with fishermen groups and related stakeholders, observation, focus group discussions, and document studies to obtain systematic descriptions and picturing of factual and accurate facts, traits as well as the relationship between the phenomena being investigated. In addition, researchers also tried to explain the relationship, made predictions as well as obtained the meaning and implications of problem that wants to be solved by triangulation techniques involving elements of researchers, society, and government.

The study had 4 stages, namely: study case; data collection; data processing; and research results. Case studies were conducted to study in-depth the dynamics of fishermen with their background in interaction with the environment of a social unit such as individuals, institutions, communities and society (Yin 1997). Data collection was carried out with the help of participate questionnaires from strong groups of interest and weak groups who often had no choice, except only for the fulfillment of their basic needs (Knight 1992).

Results and Discussion

Conflict dynamics in capture fishery resources utilization. This study found the conflicts of semi-modern fishermen with traditional fishermen who were formed through capitalist roles, namely companies (capital owners) and local investors (punggawa cella/pa'palele) who had been involved in latent conflict from the beginning. At the level of traditional fishermen group which belongs to another conflict group, the class structure includes local financiers and traditional fishermen classes (trammel nets/klitik nets and bubu). Unlike the case with the elite group of semi-modern fishermen, these traditional local fishermen financiers control the production factors directly. They act as suppliers of capital and facilities for traditional fishermen (trammel nets/klitik nets and bubu) who are members. These local investors have an extensive social network to ensure business security and guarantee fishery products marketing.

Through the roles played by capital owners they are actually involved in a latent conflict with the class of local investors in mobilizing traditional fishermen to restrict access to semi-modern fishermen which in turn gives birth to open conflict. Actors and relationships between actors involved in the conflict can be seen in Figure 1.

One of the characteristics of managing marine resources in Indonesia is open access. Fishermen groups must compete freely. In the free competition, there is an imbalance between traditional fishermen and "cantrang" fishermen who have used more modern technology to trigger horizontal conflicts. Horizontal conflict occurs between groups that have the same level of hierarchy, conflicts occur because of many reasons such as differences in willingness or ideas related to resource distribution (Spaho 2013).

Conflict is a dynamic process that does not occur suddenly, but requires time to develop and pass through several stages to become a conflict (Spaho 2013). Horizontal conflict of klitik nets fishermen against cantrang fishermen, first occurred in 1986. The trigger was the access to enter the ship, where cantrang fishing boats from outside the village of Pajukukang hit the net owned by fishermen Pajukukang Village which was installed without a marker, resulting in the seizure of ship and the catch of cantrang fishermen. In 1998, the conflict reoccurred because of split problem in the fishing area where the fishermen operated too close to the coast which became the area of fishing for klitik net fishermen, which sparked anger and throwing Molotov cocktails by the klitik net fishermen. Fishermen's conflict happened again in 1994, cantrang fishermen operate too

close to the coastal areas, thus damaging the fishing equipment of the fishermen from the Panaikang, Pajukukkangvillage. This made Pajukukkang villagers angry and burned the cantrang owned by the pa'renreng fishermen. The conflict continued until 1999 with the same case, namely territorial struggle and access. Therefore, in 2007 there was issued a circular which regulates the operating area of this fishing equipment.

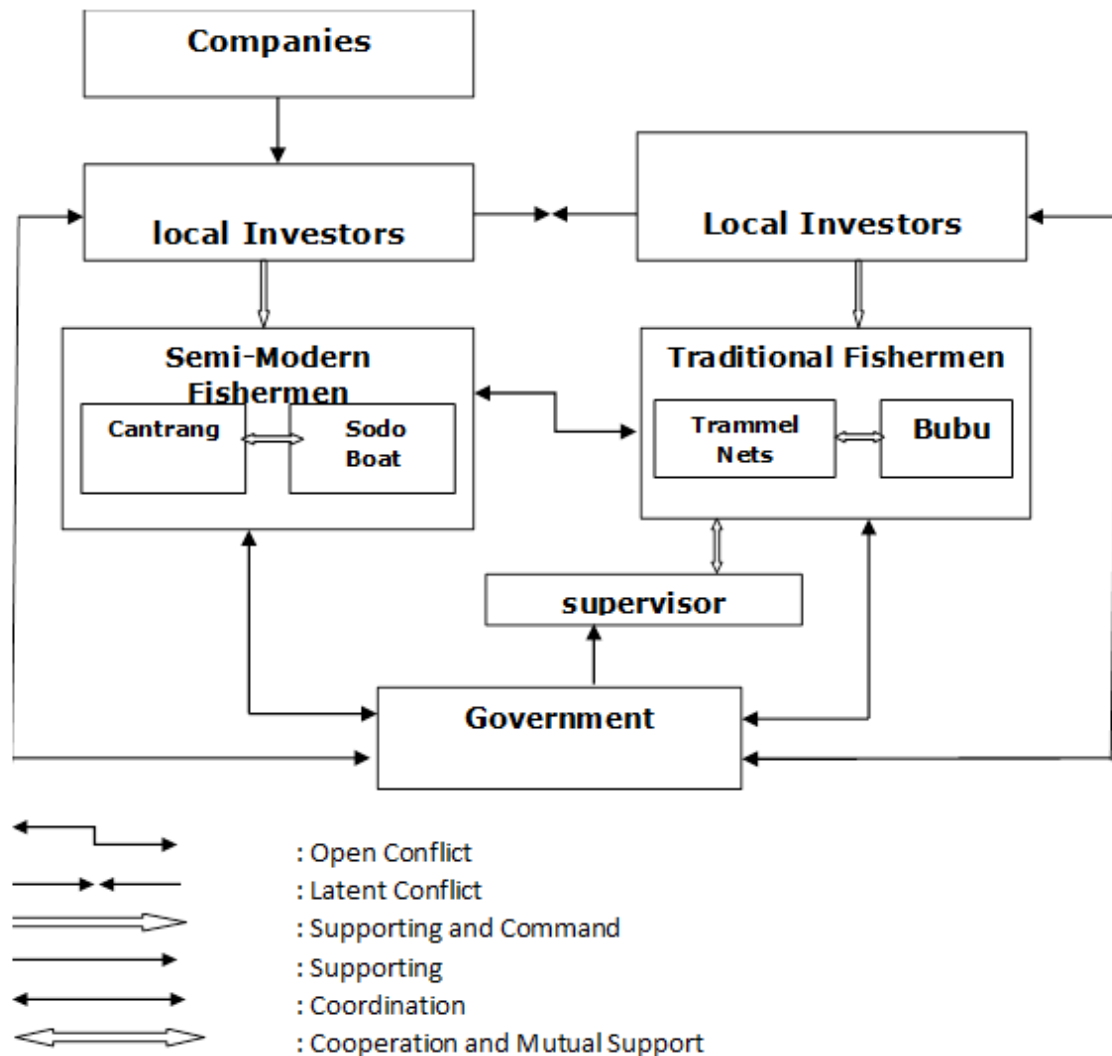


Figure 1. Actors and relations between actors involved in conflicts.

Conflict effects of capture fishery resources utilization. The impact of conflict on social structures varies according to the character of each structure. In an open and plural society, conflict can lead to stabilization. If there is a channel to express conflicting claims, conflict in an open society allows the beginning of a stable form in the interaction between the actor components, and can even generate new adjustments. On the other hand, in a rigid society structure, conflicts tend to be suppressed, allowing destructive traits when conflicts occur (Daris 2017)

1. Degradation of capture fishery resources

The act of exploiting coastal resources has increased after the conflict. The fishing system is carried out by all parties in the same time to anticipate interference from opposing parties which triggers the process of accelerating fishery resources degradation.

Fishermen's conflict in the utilization of capture fishery resources in Pajukukang Village results in pattern changes in coastal resource utilization which has implications in degradation process of fishery resources at the level of the fishing community institutions and government institutions. There are perceptions and interpretations of interest groups

(particularly semi-modern fishermen) on coastal resources which are open access zones. This situation plays a role in forming a pattern of resource utilization actions that take place without control so that they contribute significantly to the acceleration of fishery resources degradation.

At the level of government institutions, coastal resource utilization policies focus on efforts to maintain the sustainability of resources that are considered to have social, economic and ecological values important for the resources sustainability. Changes in resource utilization policies have taken place before the fishermen conflict, only the orientation is different after the conflict occurred. The policy of capture fishery resources utilization at the level of fishermen prior to the conflict is more oriented towards technological changes (fishing gear engineering) that are focused on efforts to fulfill life needs such as changes in fishing patterns. While at the level of government institutions, changes in resource utilization policy are more oriented towards structuring and distributing the results of fishery resources utilization. These changes also create competition because the target remains focused on the same fishery resources. Changes in fishery resources utilization policy at post-conflict are more oriented to the aspect of controlling fishing areas for fishing communities. Thus, the change in capture fishery resources utilization policy has a dialectical relationship with fisherman conflict. That is, changes in capture fishery resources utilization policies can encourage fishermen conflicts which in turn also lead to changes in capture fishery resource utilization policies as shown in Figure 2.

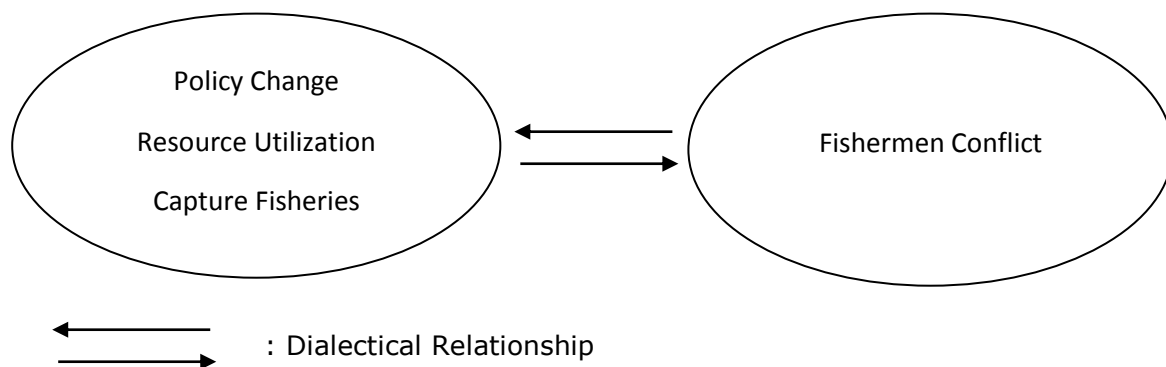


Figure 2. The dialectical relationship of policy changes of capture fisheries resource use with fishermen conflicts.

2. Changes in the social structure of fishermen communities

Referring to the definition of Outhawaite (2008), the discussion of social structure focuses on the relationships between people and the order of these relationships. Specifically, fishermen conflicts in the utilization of capture fishery resources in Pajukukang Village do not give an impact on the internal social structure of traditional fishermen (fishermen using klitik nets and bubu) and semi-modern fishermen (cantrang and sodo boat fishermen). The consequences of the conflict only brought change in the social structure on a large scale with regard to the patterned social structure of the traditional fisherman relationship with semi-modern fishermen.

Previously, fishermen using semi-modern fishing gear had a relationship with fishermen using traditional fishing gear. Semi-modern fishermen play a role as *punggawa cella* or *pa'palele* which functions as a patron for traditional fishermen in order to fulfill life's necessities and achieve other social goals, for example lending, handling internal problems, protection of access to capture fishery resources. These functions are disrupted by no longer being bound by cultural patterns and social interaction of the Pajukukang Village community known as *attimporongi* (visiting each other), *siturungan* (mutual assistance), and *akkiok* (helping each other). Components of *punggawa cella/pa'palele* who change their function to become middleman no longer occupy a very strong position in the social structure of fishermen using semi-modern fishing gear

(cantrang and sodo boat users), because every time the position can change, depending on the degree of importance.

In addition to giving a negative influence, conflict also has a positive influence (Baron 1991; Cosier & Dalton 1990) on strengthening the existing social structures, such as internal strengthening of fishing groups using the same fishing gear (Poloma 2007). In communities threatened with disintegration, conflict with other communities can be a force to unite. Therefore, in some cases the existence of conflict does not need to be seen as a troubling event, but precisely with the emergence of conflict can produce a change in society so that it is more dynamic in interacting (Daris 2017).

Conclusions. Fishermen's conflict in capture fishery resources utilization can be in the form of horizontal and vertical conflicts. The dynamics of fishermen conflict begins with the limitations of fishery resources and the role differentiation of interest groups which led to fishing technology modernization and the government's non-consistent policies, resulting in an escalation of conflicts among fishermen groups, and between fishermen groups and other interest groups. Fishermen's conflict results in a process of accelerating capture fishery resources degradation, and changes in social interaction patterns.

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