

Social Embeddedness of Pro-Environment Fisherman Community in The Use of Eco-Friendly Fishing Gear Technology at Drini Beach Gunung Kidul Yogyakarta

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ABSTRACT

This study aims to determine to what extent the knowledge of the fishing communities of Gunung Kidul Yogyakarta in interpreting the use of environmentally friendly fishing technology. Also, to analyze how the form of social embeddedness related to the conservation of environmentally friendly fishing gear is seen from the dimensions of relational relationships and structural relationships in the context of social networks Coastal fishermen community Drini Gunung Kidul Yogyakarta. This study uses the sociology theory of economics from Granovetter on Social Embeddedness in "The New Economic Sociology". The research method was conducted qualitatively with phenomenology approach. The data collection was done by observation and in-depth interview. The results show that the understanding of fishing communities related to the use of environmentally friendly fishing gear technology cannot be separated from the existing social network of fishers. In the relational dimension of conservation form among fishers skipper, fisherman and fisherman who form a cooperative relationship in the fulfillment of daily necessities, including in the face of famine season, so that no fisher is desperate to use environmentally friendly fishing gear to get personal benefit Only. Meanwhile, in the structural dimension or fisherman institution, the rules on marine environment management including conservation of environmentally friendly fishing gear are among the cooperative units, and fishermen organizations under the supervision of the Office of Marine and Fishery of Yogyakarta by holding socialization and fish catching operation every three times in a year.

Keywords: Social Embeddedness, Fisherman, Eco-friendly fishing gear.

I. INTRODUCTION

Technology in the view of sociology is seen as a factor affecting the transition of a traditional society to modern society. Technology is also viewed as a "new era" in the development stage of human life. Therefore, human interest in this technology then also become one of the development phases of an era (Turner, 2006: 16). Technology on the essence of human life will bring enormous impact in human development. But like two sides of the same coin, technology will also have a particularly negative impact on ecology or the environment (Vries, 2005: 88). Therefore human actions against nature including in the case of the use of technology must then be controlled.

Hans Jonas (May 10, 1903-5 February 1993) in Suseno (2000: 185) on his ethical view on ethical and social issues also states that the human "technological instinct" must be controlled to prevent future ecosystem destruction. In line with the sociological meaning of technology, every human being is always interested in technological matters, and therefore the attraction must be controlled to maintain ecological or environmental balance. Humans understand that a certain kind of technology or a particular institutional form will not be able to solve the problem in terms of economics satisfactorily. Therefore, humans will always design new technology or new social networks to accommodate all changes in the environmental system on the basis of their knowledge and understanding of the circumstances they are facing (Suparmoko 1989: 3-4).

In Indonesia, as written in Greenpeace (2011: 3), one of the environmental issues is the overfishing fishing by marine fishers has caused the decrease of Fish Resources (SDI) in Indonesia. The sea with its renewable nature, open access, and free use of common property resources have allowed every person or group to utilize marine resources (Sukardjo, 2002: 200-218). The nature of such a resource makes many people plunge into the realm of fisheries and fishing. It is at this point that problems emerge from economic, social, political, and environmental problems. While another problem is the use of fishing gear that is not environmentally friendly by the majority of fishermen in Indonesia is considered to cause a lot of damage to marine ecosystems including marine biota in it.

Responding to the issue, on January 19, 2015, the Ministry of Marine Affairs and Fisheries issued a new policy on the use of unsustainable fishing gear in the entire territorial waters of Indonesia. Innovation, including fishing technology, should meet three basic requirements (triple bottom line), namely: 1) ecologically sound; 2) economically viable and 3) socially acceptable (BPP FPIK, 2015: 2). However, the expert's judgment indicates that not all fishing gear operating in the fishery management area of the Republic of Indonesia meets the criteria of such basic provisions. The two types of fishing gear that allegedly have quite severe negative impacts, that are Cantrang and Pukat Hela. Both of these tools, in addition to causing the exploitation of fish catches, it also creates damage to habitat and causes conflicts with fishermen who use other fishing gear.

In line with the issuance of ministerial regulations related to the prohibition of the use of fishing gear is not environmentally friendly, in fact, it leads to many pros and cons.

The Later rejection that occurred on a large scale happened to the North Sea coastal fishermen of Central Java. Opposition and rejection took place at rallies, roadblocks, to violence by fishers to police officers. In an oration conducted by the coordinator of the Fisherman's Front said that the Regulation of the Minister of Marine prohibited the use of cantrang equipment, trawling net, and trawl drag that is considered as a very harmful tool. The fishermen, ranging from the big scale fisheries businessmen to the small fishermen in the Pantura Sea Central Java have to follow that regulation. The fishing equipment used by many fishermen in Pantura is vital to meeting the economic needs of fishermen families who are mostly on the poverty line (<http://semarang.bisnis.com/>, accessed October 9, 2016). The most common classical problem is that the greedy fishing gear that cannot produce the short-term economic benefits that can meet basic needs (fishers). In contrast, unsustainable fishing gear is considered economically profitable (in the short term). Therefore, until this ban was implemented, some areas in Indonesia still expressed the rejection because the substitution of the program is not maximal. Interestingly, in the midst of this massive rejection, the fishing community in Drini Beach Gunung Kidul Yogyakarta, which consisted of as many as 62 people, with the majority of them are the fishermen who are categorized as the poor one, accept and apply the regulation. Another exciting thing found during the time of observation is the construction of fishing by using environmentally friendly technology is indeed a long-established fishing culture of the coastal fisherman at Drini Gunung Kidul. In some cases, fishermen have been using unscrupulous fishing gear to gain more catches, getting warnings from fisherman community leaders and threatened not to go to sea anymore. Based on this, this paper is interested to see more and explain how the use of environmentally friendly fishing gear technology is attached or tied to social relationships between fishermen (Individual and group) along with social institutions in the fishing community of Drini Beach Gunung Kidul Yogyakarta.

LITERATURE REVIEW

a. Social Embeddedness

Granovetter (1985) defines embeddedness as a socially disposed of economic action inherent in the ongoing personal network of actors within the social structure. In this case, economic action is not limited only to the actions of individual actors themselves but includes broader behaviors, such as price income and economic institutions, all of which are buried in social networks (Blikololong, 2012: 24). Granovetter (1985) in the discussion of "*The Old and the New Economic Sociology*" in Friedland (1990: 95-97) also distinguishes two forms of attachment, namely: 1) Relational Embeddedness, for example, economic action in customer relations between the seller and the buyer is a form of relational attachment. 2) Structural Embeddedness is the attachment that occurs in a wider network of relationships. A wider network of relationships can be an institution or social structure. Social structure is a pattern of relationships or interactions organized in a social space. For example, the Fishermen Community Institution in Indonesia is a social structure, because in it there are organized structures such as chairmen, secretaries and members, articles of association and household, and so on.

Social embeddedness in "The New Economic Sociology" is an approach to economic sociology that sees the actions of economic actors within the framework of the social structure. However, Granovetter more analyzes the structure of social relations or network against economic phenomena. There are three things related to the problem of Embeddedness. First, the conception of "undersocialized" and "oversocialized". Both "under-" and "oversocialized" according to Granovetter have a certain similarity, namely the rejection of the social relations structure in the process of production, distribution, and consumption. Therefore economic actors should be avoided from the atomization process because it keeps the actors out of the social context. This is to prevent the conception of "undersocialized". Nor are the actors placed in the spaces of cultural determination that result in "oversocialized". However, the actors are placed on the structure of social relations within an ongoing system (Granovetter, 1985: 487).

Second, Granovetter discusses embeddedness in problem trust and distrust. The phenomenon of trust and distrust in economics cannot be explained if economic actors are assumed to be "under-" and "oversocialized." Trust is an element built on congruous social relations rather than "self-interested" as the arguments of modern economics today (Granovetter 1995: 221). Third, the problem between market and hierarchy. This problem is a Granovetter critique of the idea of Oliver Williamson. According to Williamson, growing businesses are influenced by hierarchies within organizations or companies. However, Granovetter sees social relationships between companies at all levels more important than the mechanism of authority within the company. Relations at all levels can create new suppliers and buyers. At some level, embeddedness in social relations can present trust and solidarity.

b. Fisherman Community

Community or community of fishermen is a group of people who live and live in the coastal areas with basic livelihood is in the field of fishing, fish sales, and cultivation. In fishing activities conducted every fisherman requires a catching equipment such as boats, fishing lines, nets, or nets (Bintarto, 1977: 25). In general, fishing communities will live in a residential neighborhood close to the location of their daily work activities (Imron in Subri, 2005: 7). Kusnadi (2009: 27) explains fishermen as a group of people who live, grow, and develop in the coastal area of a transition region between land and sea areas. This group has several features that are: have low socioeconomic conditions, low education, very limited facilities, and illegal housing or slums.

Wahyuningsih et al. (1977: 33) divide fishing communities based on several categories based on capital ownership: 1) the fishermen skipper, this group usually owns boat and fishing equipment that can change the fisherman workers as a maid in the effort to catch fish in the sea. These fishermen also have land that can be cultivated during the famine season. 2) the fishermen workers, this is a category of fishermen who do not have the means of production and provides service to the skipper to help running the fishing business at sea. These fishermen can also be called fisherman or sawi (fisherman boat crew). 3) Fisherman owner, is a less capable fisherman. This

fisherman only has a small boat that he uses for his own purposes. Therefore these fishermen are called individual fishermen or poor fishermen who have no land to work on during the famine season.

c. Eco-Friendly Fishing Gear Technology

Martasuganda (2002) argues that environmentally sound fishing technology is a conscious effort made in planning the use of environmentally friendly fishing gear. Through the wise use and management of marine and fisheries resources, it will encourage sustainable development to improve the quality of marine ecosystems that benefit future generations. According to Arimoto et al (1999) a fishing gear can be said to be environmentally friendly if the capture device does not negatively impact the marine environment, does not damage the benthic disturbance, contributes to pollution, impacts on biodiversity and target resources that include The composition of the catch that does not damage the marine biota including the young fish. This environmentally friendly fishing paradigm is then referred to as responsible fisheries.

Monitja (2001) mentions that the criteria for capture technology have several important rules, namely: high selectivity, no harm to fishermen, nondestructive to fishermen, quality production, products not endangering consumers, minimum waste fish, does not catch protected or endangered species, Minimum impact on biodiversity and socially acceptable. Based on this statement can be understood that all forms of fishing gear used in fishing operations can be said to run smoothly if a fishery business meets several criteria of eco-friendly fishing.

d. Ecological, Economic, and Social Impacts Using Of Not Eco-Friendly Fishing Gear Technology Based on Library Research and Field Observatioan.

1. Pukat hela dasar (*Bottom seine net*), ecological value is -2, economic value is 1, and social value -1, so total value is -2.
2. Pukat hela dasar (*Bottom seine net*) type Bottom Seine Paved Net, ecological value is -2, economic value is 2, social value is -1, so total value -1.
3. Pukat hela dasar (*Bottom seine net*) type Trawler Bottom Hela Two Ship, ecological value is -2, economic value is 2, social value is -1, so total value is -1.
4. Pukat hela dasar (*Bottom seine net*) type Nephrops Trawl, ecological value is -2, economic value is 1, social value is 0, so total value is -1.
5. Pukat hela dasar (*Bottom seine net*) type Shrimp Bottom Trawl, ecological value is -2, economic value is 2, social value is -1, so total value is -1.
6. Pukat hela kembar (*Twin hawns*) type Trawl Nets, ecological value is -1, economic value is 2, social value is -1, so total value is -1.
7. Pukat tarik (*seine nets*) typw Seine Drag, ecological value is -1, economic value is 2, social value is 0, so total value is 0.
8. Pukat tarik (*seine nets*) type Trawling Boats, ecological value is -2, economic value is 2, social value is -1, so total value is 1.
9. Pukat tarik (*seine nets*) type Payang, ecological value is -1, economic values is 2, social value is -1, so total value is 0

10. Pukat tarik (*seine nets*) type Cantrang, ecological value is -2, economic value is 2, social value -2, so total value is -2.

Ecological Value (Assessment based on the Regulation of Marine Minister Regulations 2015)

+2 = Operation of fishing gear has resulted in positive impacts of improved habitat (healthier) and improved resource stock.

+1 = Operation of fishing gear leads to improved habitat of fish resources or stock of fish resources only

0 = The operation of the catching equipment has a neutral impact, both on the resource habitat

-1 = Operation of fishing gear causing ecological damage due to habitat destruction only or decreased resources (fish stock) only

-2 = Operation of fishing gear has caused negative impact, in the form of damage and decrease of stock of fish resources.

Economic Value (Assessment based on the Regulation of Marine Minister Regulations 2015)

+2 = Operation of fishing gear has caused a very real positive impact for fishery and fishery households

+1 = Operation of fishing gear has caused a positive impact, but not so obvious for fishery and fishery households

0 = Operation of neutral fishing gear, for the income of fishery households and fishermen (no change)

-1 = Operation of fishing gear sometimes causes harm to fishery and fishery households

-2 = Operation of fishing gear often causes economic loss to fishery and fishery households

Social Value (Assessment based on the Regulation of Marine Minister Regulations 2015)

+2 = Operation of fishing gear never leads to social jealousy from communities using other tools, even the use of tools supported by other fishermen

+1 = Operation of fishing gear does not generate social jealousy from fishing communities using other tools, but not accompanied by support by other fishermen

0 = Operation of socially neutral fishing gear, for fishery households or other fishermen

-1 = The operation of fishing gear is perceived to be detrimental to fishermen or other fishery households, thus occasionally causing social jealousy although never disclosed

-2 = Operation of fishing gear is often perceived to be detrimental to most fishermen so there is often conflict between fishermen.

Based on the data above, there are two types of fishing gear that is suspected to have severe negative impact (with total value -2) are Cantrang and Bottom Seine Nets. Both these tools, in addition to causing the exploitation of fish catches, also cause habitat destruction and conflict with fishermen who use other fishing gear. While some calibration tools 0 (neutral) have economic advantages and have low social impacts, the catchment category remains an environmentally friendly fishing tool that must be rationalized and controlled for use in ecological aspects.

II. RESEARCH METHODS

The research method used in this research is qualitative research method with phenomenology approach. The social phenomenology introduced by Schutz presupposes the existence of three elements of knowledge that make up the human understanding of society, namely the everyday world, social action, and meaning. A social study was undertaken to understand how social relationships and social networks formed through social relationships between fishermen and the foundation that embedded the economic system (fishing in the sea) by using environmentally friendly fishing gear. In qualitative research with this phenomenology approach, the researcher will look for a social reality in detail behind the social facts seen in the fishing community of Drini Beach Gunung Kidul. To then try to study, analyze, and reveal how a social network that formed influence the construction and the closeness of the use of environmentally friendly fishing gear in the economic action of the fisherman community of Drini Beach, Gunung Kidul, Yogyakarta.