

# Coral Reef Fisheries Resource Management In Taka Bonerate National Park Based On Constructionism Perspective

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**Abstract**—This paper is aimed at exploring the complexity of fishery resource use of Taka Bonerate coral reef zone from the past to the present when it has become a National Sea Park. The complexity of phenomena comprises dimensions of diversity and variation of technology, change and continuity, types of ideological interaction with environment, involvement of both internal and external stakeholders with various categories, kinds and multilevel control or ownership of various fishing grounds, influence of internal and external socio-cultural factors as well as its marine resources and environmental impacts, etc. It is realized that for understanding such a complexity needs a particular analysis with a holistic perspective. By applying the constructionist perspective, the writer discovered that the management of fishery resource use of Taka Bonerate coral reef zone by the local fishermen community could be viewed and understood in three paradigms: (1) communalism characterized the past pattern of management (up to the beginning of the 1960s) marked by inter-subjective relation model and a harmony between man and sea environment, (2) orientalism based on the mastery of nature and the application of modern catching technology, capitalism, industrialism, and free market, taking place from the middle of the 1960s to the beginning of the 1980s, which brought about coral reef ecosystem degradation and fish resources decrease, and (3) paternalism characterized by the tendency to protect the balanced state of nature by means of placing bureaucrats and scientists as managers and controllers of fishery resources. As the paternalism paradigm tends to observe bottom-up practices, it stands to reason that this paradigm has not been able to solve environmental problems and fishermen's poverty in Taka Bonerate.

**Keywords**—coral reef resource, management, constructionism perspective

## I. INTRODUCTION

From the review of literature and research results about interaction behavior of fishermen community and its marine environment in various places in the world, particularly in developing countries including Indonesia, there have been found striking complex phenomena characterizing the relationship of human community ecology making use of land natural resources. There are at least four categories of the complexity of fishermen community with its marine environment, namely (1) the diversity of types and variation and change and continuity of catching technological forms, (2)

the model diversity of ecological relations, (3) the forms of ownership right and control of various fishery zones often applied to the same fishery zone, and (4) the impact of outside stakeholders with various backgrounds including market impacts (regional, national, export). How can the complexity of this people-marine environment interaction can be explained and understood? What kind of approach in human ecology/ecological anthropology is relevant to be applied to the study of the phenomena?

An approach in human ecological perspective which has covering the characteristic complexity is constructionist perspective from [9]. This approach was first developed from the research data on ethnography of fishermen community in Icelandic from early period to colonial period until its independence.

The dynamic of management system and use of sea fishery resources at the Taka Bonerate waters, South Sulawesi (Indonesia) from colonial period to independence period and at present was through transitional periods, which is in most cases similar to Icelandic. Therefore, a study on the complexity dynamic process of fishery resources use system of Taka Bonerate fishery zone (before the period of the 1960s until it becomes the Sea National Park) tries to apply the constructionist perspective of Gisli Pálsson. The materials for this paper were collected selectively from several data on research reports by Lampe conducted in 1990s – 2013 at Taka Bonerate.

## II. PERSPECTIVE AND RESEARCH METHOD

In relation to phenomena of fishermen community relations with its marine environment, Pálsson builds three paradigms of explanation and understanding, namely orientalism, paternalism, and communalism. The paradigms were built from and based on ethno-epistemology, therefore it is in the opposite poles with Cartesian dualism as construction of enlightenment era (modernism). The paradigms of relation are convincing enough because the materials are gathered from ethnographic materials of fishermen community, particularly from Icelandic. With both orientalism and paternalism, man is assumed as master and owner of nature, of which the difference is the former exploits and dominates, whereas the latter protects. Communalism is different from

both relation models because the latter refuses the difference and extreme separation between nature and community and between knowledge and practical knowledge [8]. The construction of paradigm in the perspective follows chronological development process of communalism, orientalism to paternalism.

The communalism paradigm based on ethno-epistemology refuses the separation of nature from community, and certainty and monolog views as the basis for orientalism and paternalism, on the contrary emphasizes possibility and dialog views. Like paternalism, communalism proposes reciprocal relation without self-interest (generalized reciprocity), a metaphoric exchange presented with full intimacy and personal relation. Man, according to [8], cannot be separated from nature, and vice versa. According to communalism paradigm (people model), the fish catch effort is limited socially and technical constraints. With the people model, fish is as gift for man according to divine quota system which cannot be predicted. Conversation about nature emphasizes interaction among aquatic creatures with various effects which bring a profit or a loss for man. Fish is responsible for the survival of human beings.

In environmental orientalism paradigm, man is assumed not a pious creature, but at least they compete with God. Specific vocabularies of orientalism is domestication, expansion, investigation, conquest, and exploitation of environment for various unlimited production purposes. In the context of orientalist, the scientists give themselves as an analysis of material world unaffected by an ethical consideration. The characteristics of orientalist paradigm of marine environment such as production without limit oriented to market with unlimited production target; manpower is market value commodity; equipment of catching technology and service are ready, and discovery of new deep sea fishery areas. New world market and national economy are centered at extraction, processing, export of fish and products from it. The fish value is redefined at merely market demand. The taste of European and American consumers causing species which at first were caught because they were rotten and bad (including herring, shrimp, lobster), but now they are sought because the increase of market demand. Fish is redefined here as a unlimited resource which is looked for and exploited every where. Man controls to natural resources with various forms of practice destroy the environment sometimes up to depletion condition.

The paternalism paradigm of environment besides having some characteristics from modernist orientalism assumption, are also characterized by protection relations, not exploitation. This paradigm involves special right of scientific expertise. In the case of Icelandic fishery, paternalism paradigm is described with the application of scientific rationality. There is a threat of overfishing as a result of cod war with England and West Germany in the 1970s. The hope for orientation harvests from homeostasis fishery (vision and mission of environmental balance). Fishermen boats are not allowed to catch fish temporarily at certain places. Quota of catching

system is made effective and fishermen are dominated by knowledge of scientific management mastered by biologists, economists, and government, who always commit to modernist and objectivist attitudes.

The fishery resource use system of Taka Bonerate in the past was characterized by the closed system, collection, and full of balance. The next it was characterized by the use of fishery resource openly, commercialization, capitalism, and global market. The protection period (management of the Sea National Park) is marked by the intervention of national government and scientists from different fields (marine biology, marine science, marine ecology, forestry science), and donor agencies from home and abroad. In reality at the latest era of development, the voice of local fishermen community as the direct users are less involved and listened to their aspiration.

### III. RESULT AND DISCUSSION

#### A. *The traditional management system of marine environment by Bajo fishermen community and communalism*

From the stories told by Bajo fishermen from Rajuni, Pasitallu, and Tarupa, it was clear that the system of fishery use resource of Taka Bonerata in the past indicate the characteristics of communalism paradigm such as construction from Palsson. In the past according to their stories, the use of sea resource was managed with traditional communal institutional system known as *Panglima Menteng*. With this institution, the sea and its resource in it is not public own and managed by and for all people as it is understood and practiced by fishermen of Taka Bonerate in the following period. Basically, the traditional management system was described by Ar (67 years old) as follows:

“During and before the colonial era Taka Bonerate zone belonged to the community of the zone. Most of them are Bajo people or half breed of Bajo-Bugis and Bajo-Selayar/Makassar. Fishing is their main livelihood under the arrangement of *pongawa laut* (leader of fishing activity): types of sea resource to be collected, fishing schedule, tool used, location, etc. For July and August periods for example, the fishermen collect giant clam and other oyster species, and from September to December periods most of them use hooks, seine net and net, and from November to December (only one month) they dive for sea cucumber, except for April as transition period in which the sea condition is very rough and dangerous that most of them just stay on land repairing their fishing tools. The *pongawa laut* gives their catch to *pongawa lolo* (Bajo nobleman) as the cooperative organizer. The *pongawa lolo* distributes the fish to local traders to be sold outside the area such as to Bulukumba, Bantaeng, and other places. The appointment of local traders is based on their skill and honesty. Among the local leaders, there is one who has the position as head of government

entitled “*Panglima Menteng*” which can be paralleled to president in today’s government. Whoever violates the catch and marketing system of sea products will be sanctioned in the forms of warning, fine, etc., but in reality violation cases rarely happen.” (Interview in May 2004).

From the senior fishermen in Taka Bonerate were gained many folklores strengthening the assumption of the subjective relationship between man and supernatural force, creatures, spirits of the deaths, genie and ghost, and God/Allah the Almighty. For example, according to the stories of Pasitallu and Jinato people, *taka-taka Kayu Bulan*, *Balaloong*, and *Kumai* are haunted because they are guarded by genie and sea ghosts. The haunted sea creatures according to the stories usually trap fishermen by the appearance of biota species which have high economic value such as black sea cucumber, pearl oyster, etc in large amount. The conceited fisherman who collects them directly without asking for permit will be the victim of pain or die at the location. Likewise *taka-taka Mariam* and *Belanda* which are guarded by the spirits of *bulek* (local term for white people from abroad) who died during colonial period. The spirits must be domesticated by certain rituals [6].

In the life of Bajo community in various places including Taka Bonerate, there is a view and understanding to the sea as a source of luck, travel, settlement, friend, medicine, and place for the spirit of the ancestor. According to the story, every day the spirit of the ancestor goes round the sea in the world as many as seven times [7]. It can be interpreted that adventurous character, friendship, and dependency of Bajo people on the use of marine resource, especially coral reef zone is the realization of such view and understanding.

It can be interpreted from their stories that there are several elements in the management system of fishery resource of Taka Bonerate in the past (prior to the 1960s) characterized the communalism paradigm. The elements are (1) the institutionalization of communal ownership to fishery zone, (2) management activity based on balanced condition of sea ecosystem, (3) maintain subsistence economic level, (4) common welfare, (5) human inter-subjective relationship with spirits and sea supernatural power. The order of local communalism relatively assures stable social structure and balanced ecosystem of coral reef condition in Taka Bonerate in the past.

#### *B. Domination of Bugis Economic System and Orientalism*

As time goes by, the environmental communalism paradigm of Bajo community cannot be maintained due to outside demographic social pressure that cannot be avoided. The process was at first begun by migration of population, especially Bugis and Makassar people from towns and coastal villages in South Sulawesi (Bone, Sinjai, Bulukumba, and Bantaeng) to the islands of Taka Bonerate. This happened in the 1950s up to the early of the 1960s. The migration of population was due to rebellion of Kahar Muzakkar army and difficulty to develop economy of agricultural sector because

the agricultural land condition became narrow. Security problem in the place of origin encouraged most of Bajo Baupinang people from Buton (Southeast Sulawesi) came and settled in Taka Bonerate zone until the end of the 1960s. At the same period there came gradually people from Selayar, Bonerate, and Buton because they were interested in economic potential condition of Taka Bonerate which is much better than the place of origin [5] [3].

According to the stories of Bajo and Rajuni people, the migrant ethnic groups, Bugis was always dominant in each island because of their economic entrepreneurship, knowledge, and management skill in capitalist business. The Bugis presence in Taka Bonerate caused the order of environmental communalism of Bajo was gradually wiped out and changed to economic system and open ecology. Thus in the 1970s and 1980s and early 1990s, Taka Bonerate became a free fishery exploitation area both from fishermen who came from coastal area in South Sulawesi and surrounding islands and from Southeast Sulawesi, East Nusa Tenggara, and Bali.

The new marine resource system of Taka Bonerate is characterized by patterns, a part of it is like Palsson environmental orientalism paradigm. The patterns are control and open access to marine resource, appearance of businessmen groups in fishery (*boss*) and capitalistic trader of sea products, fishermen community is trapped to and is much influenced by regional market power (between regencies and islands in South Sulawesi and Southeast Sulawesi areas), and global markets (Hongkong, China, Japan, Korea), catch specification, intensification of fishery business (sea cucumber, shark fin, fish, living lobster, flying fish), and adoption of catch technology from abroad including destructive catch tools such as bomb and tranquilizer, overfishing and degradation of coral reef habitat environment, less involvement of women in production and distribution process, lowering income of traditional fishermen (especially Bajo fishermen family) because they are competed by Bugis fishermen groups who have big capital [5].

The negative phenomena mentioned last then call for government intervention and scientist supported by world environment agency, NGO, and donor agencies, home and abroad to carry out recovery program and conservation of coral reef in Taka Bonerate. The development of the Sea National Park of Taka Bonerate during the New Order era was the beginning of series program bringing a new change in the management of Taka Bonerate resource in the future.

#### *C. Management of the Sea National Park and Paternalism*

The degradation of coral reef condition in various places in the world including Indonesia is mainly caused by human behavior encouraging the world environmental conservation to make a great program of rehabilitation and management of coral reef. In Indonesia based on the results of exploration and survey studies of the coral reef condition of Taka Bonerate, the government appointed this zone as Nature Preserve and Sea National Park at early period of the 1990s. The

chronological status of the appointment of this zone to become the Sea National Park and its legal basis are as follows:

- In 1982 the explorative study by the Directorate of Forest Protection and Nature Preserve cooperated with UNDP/FAO.
- In 1985 the implementation of potential survey by the Directorate General of Forest Protection and Nature Preserve.
- Appointed as Marine Reserve based on Ministerial Decree of Forestry No. 100/Kpts-II/1989 dated February 10, 1989.
- Appointed as the National Park based on the Minister of Forestry Decree No. 280/Kpts-II/1989 dated February 10, 1989.
- The Governor Decree of South Sulawesi Province No. Sk.500/VII/1994 dated August 3, 1994 on the establishment of a team for Coordination of Conservation and Development of Taka Bonerate National Park in Selayar regency.

The main goals of the management of the Taka Bonerate Sea National Park are (1) protection to sustainability of ecological process of life buffer system, (2) preservation of diversity of *nuftah* plasma, and (3) preservation of species use and its ecosystem through the following steps:

- a. Exploitation control based on preservation principles.
- b. Promote recreation efforts, tourism, research, and education.
- c. Promote culture, development and improvement of selective species having direct benefit for the community around the area [10].

Although in the data on social demography, economy, and culture were collected through in-depth interview, Focus Group Discussion, involvement of community leaders in formal meeting, workshop, and various events, but only few are made reference in the formulation of policy and implementation program. Viewing the management process of Taka Bonerate to become the Sea National Park with all its programs, most is similar to environmental management having characterized by paternalism paradigm from Palsson. How is the situation and condition of the development of Taka Bonerate environmental paternalism so far and in the future? Is it compatible or incompatible with the goal and target set up before? The history will never end and also the fishermen community and stakeholders will be dominant to always seek and manipulate its new environmental paradigm according to the change of environment and human civilization.

#### IV. CONCLUSION

There are three important things put forward. First, in applying the three environmental paradigms by Palsson in the

study of model change in environmental management of Taka Bonerate, relevance of data is only at the level of tendency because the pattern characterizes communalism (for example, belief in sacred places and subsistence economic type for most of the Bajo community) some still appear in orientalism, and even at the paternalism era.

Paternalism of environmental management involving various categories of stakeholders has not shown significant results according to goal and target set up before. This can often be seen from exploitation causing damage to ecosystem environment of coral reef, and yet there are many fishermen in poverty condition.

Viewing the recent development process, it seems that paternalism which tends to be top-down will shift and need to be perfected to become paradigm of pure co-management or integrated management. A paradigm which involves all groups and stakeholders who have commitment and common responsibility, awareness, ideals, position and role in the realization of goal and target of development of the Taka Bonerate Sea National Park management in the future.

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