

BECOMING THE FISH-BOMB FISHERMAN AS AN ADAPTATION STRATEGY IN ECONOMIC CRISIS PERIOD : CASE STUDY OF *PULAU KARANG*, SULAWESI SELATAN PROVINCE, INDONESIA

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1. Introduction

Indonesia is recognised as the largest archipelago country in the world. The total number of island is around seventeen thousands (17.508 islands), which reflected a complexity of biodiversity management. One of the recent issues in the coastal environment is about coral reef. Around worldwide, coral ecosystems are found in one hundred countries. Indonesia, which has 81.000 km coastal length and some 75.000 km² of coral area is a centre of variety's coral reef in Asia Pacific. It holds approximately one-eight of the world's coral reefs (Cesar, 1996:1).

The coral reef has some important functions. It protects the coastal land from sea waves. The coastal communities rely their life on reef fisheries. The variety's color and beautiful form of coral reef have attracted a lot of tourist. For example, some tourism objects in Mollucas Province and in North Sulawesi have promoted the exhibition of coral reef as a main program. Besides, the coral reef is a place for fish and other sea life world.

The coral reef also has contribution for the development of sea product manufacture. Many manufacturing industries that related to the sea should use the coral reef as a necessary component, such as pharmacy, medical and food industry. Those benefits have made coral reef as a main object of sea-knowledge development.

Unfortunately the environmental research since 1984, by P3O-LIPI found that it is only 6 percents of coral reef in the good condition, 43 percent of coral reef in the poor condition and the rest of them in the damage condition. The destructive factors are natural reason and human beings. A lot discussion pointed out that human being has many portion on this process. Over exploitation of sea life using inappropriate sea technology (such as bomb, poisoning, trawl etc.), industrial pollution and mismanagement of mining activities had destroyed coastal environment, especially coral life.

Some experts underlined wrong philosophy. Many groups in our society always thought that sea is common property (or *open access*). It creates perception that they can be irresponsible for sea life. The impacts of this opinion are low social awareness, low supervising capability, inconsistent institutional role, and non-integrated exploitation plan sea potentials. Up to now, the effort to resolve these problem is still minimum. On the other hand, the increasing of coastal population, economic activities and regional developments and reducing of national resources capacities have increased dependency to the sea natural resources.

In this paper, I would like to focus on the fishermen who use fish-bomb as their method in related with regional autonomy policy in Indonesia. *Pulau Karang* (unreal name) is the place of case study.

2. Adaptation Strategy

How to survive is interesting for Anthropologist.. Their interest is based on an assumption that mankind could survive if they are adaptive to environment. If not, they would be immediately extinct. A different environment, of course, needs a different pattern of adaptation. Thus, an individual or community would do some strategies in order to survive.

The Anthropologist are also interested in fishing society. The characteristics of this community are specific. The sea is a dangerous place and sea natural resources is not easy to be managed, therefore risk and uncertainty become dominant characters of the sea that have an

implication for the living and economy of fisherman. (Acheson, 1981; Smith, 1977). The Anthropologist found that sea provided potential economic resources for human beings, such as fish and other sea life, which have economic values (to be consumed or sold), but working in dangerous and uncertainty situation to obtain them is not easy. The risk and uncertainty are not only caused by nature, sea life, and changes of the physical sea, but also by the policy of government and social economic condition of fishing community is interesting for the Anthropologist.

Actually, adaptation concept becomes very important and central in neo evolutionism period, as Hardesty stated in his book (1977:21) :

“Adaptation is the central concept in ecological studies because it is the process whereby beneficial organism / environment relationships are established. Since the explanation of how adaptation takes place is the dominant problem in the modern theory of evolution, ecological and evolutionary approaches can not easily be separated from each other.”

Even up to now adaptation is still a basic concept in an anthropological branch, i.e. ecological anthropology.

The ability of people to do adaptation has an important value for their life survival. If they have bigger ability for adaptation, they have bigger possibility to survive. Thus, adaptation is a process that an individual take his efforts to maximize their life chance. For Sahlin (1968: 367-373) and also Anderson (1973:179-239) adaptation was a very dynamic process, because environment and human population were always change. Hardesty (1977: 179-239) told : *“new problems and new solutions to old problems arise and must be taken into account”*.

Actually, adaptation strategy is a central concept for many anthropological studies, In their studies, the Anthropologists tried to make definition of adaptation. I prefer to choose definition from Jochim and Bennet those are suitable with the topic of this paper. Jochim (1981:14) gave definition of adaptation as a valid set of solution for many difficulties and gave possibility mankind to be survival. Bennet (in Mc Cay, 1978:403) mentioned that :

“adaptive strategy is the patterns formed by the many separate adjustments that people devise in order to obtain and use resources and to solve the immediate problems confronting them”. He also wrote (1976:272): *“...adaptive strategy, is perhaps best defined as a component of strategic action : specific acts with a predictable degree of success, which are selected by the individual in a decision making process.”*

3. Hazard

A cultural aspect which connects directly to human adaptation to environment subsistence technology (Steward, 1955:37), which is called by Steward as “culture core”. Understanding human efforts for adaptation with their environment could be seen through the development of subsistence technology. We can see the influence of environment from two sides, i.e. functional and processual way.

Functional ecological perspective and processual ecological perspective could be applied to study the influence of environment to human beings. Human adaptation from functional perspective can be seen as a human response or system response with the aim to maintain homeostasis. In contrary, from processual ecological perspective is a system of behaviour which is built as the product of adaptation process to environmental change (Vayda, A.P. and McCay, B.J., 1975:293-306 ; Vayda, A.P. and Rappaport, R.A., 1968:477-497). Thus, in this case, adaptation is seen more as a process. It is applied to understand mechanism of social change.

Adaptation process – as a response to physical change or social change – is temporary. Environmental change that influences too much to the system of human adaptation is environmental change caused by hazard / perturbation (Vayda, A.P. and MacCay, B.J., 1975 : 293-306) which will have an impact to health or human life. There are two groups of hazard, i.e. *physical hazard* such as flood, hurricane, fired mountain, the extinct of certain fish species for fisherman (in *Pulau Karang*, for instance : seacucumber, napoleon wrasse, etc.) ; and

nongeophysical hazard as an example are war, robbery, assassin and also economy crisis in Indonesia, etc. Facing these hazards mankind builds a pattern of adaptation which is seen as a pattern of behaviour such as the change in livelihood.

If the hazard / perturbation is too long, normally more complex the system of adaptation which is indicated from social-cultural changes, like in *Pulau Karang* are 'money collecting' by police to *Pa'es* fisherman (fish-bomb fisherman) more systematic, the fisherman applies more intensive ritual/magic/religion, to increase the quality of bomb materials, fish marketing strategy and so on.

4. Phenomena in Research Area

During my fieldwork, there were three types of fisherman in *Pulau Karang* (unreal name), i.e. *Pa'taripang* (the sea cucumber fisherman), *Pa'sunu* (the commercial fish-fisherman) and *Pa'es* (fish-bomb fisherman, daily and weekly). Traditionally the aim of fishing in Sulawesi Selatan province is not for fish as the main target. They catch fish just for subsistence need. The sea cucumber is the aim of their fishing especially in period 1990s in the same time of increasing the sea cucumber price and demand of Chinese restaurants in foreign countries (example : Singapore, Hong Kong, Taiwan etc.) and also Chinese restaurants in Indonesia (such as in Jakarta, Surabaya, Medan, Ujung Pandang etc). Even when the sea cucumber was already difficult in their ground fishing, they sailed to Australia to look for the sea cucumber. The Australian government had known and caught them, sent them back to Indonesia, and burned their ships.

In 1993s many fishermen were interested to catch Sunu fish and Napoleon Wrasse because of its flesh delicious and expensive price. It was sold to foreign country (export) still alive. Nowadays it is difficult to find Napoleon Wrasse, and also less Sunu fish. The fishermen of *Pulau Karang* at present to do fishing for Sunu fish in inshore of Kalimantan Selatan province. The caught sunu fish is only a little and recently the price is decrease. It is also for sea cucumber as well. The foreign currency exchange influences too much especially from dollar to rupiah. Another else, the price of salt was also increase extremely at the time of my fieldwork.

The interesting one, in the same time of my field work there were too many fishermen in *Pulau Karang* moved to become fish-bomb fisherman (*Pa'es*). As a note, since a few years ago there were already *Pa'es*, especially daily *Pa'es*. At that moment the bomb as one of their technology was still simple, as an example the fuse of bomb was not function (unfired) when it was in the seawater.

5. New ground fishing

The reason why they chose *Pa'es* as their work is based on the reality that the price of material for making a bomb was more expensive because of illegal trade system, but their income was still better than cost. But, the question : how long could they keep their big income as *Pa'es* ? Commonly, *Pa'es* works only 5 days until 7 days. But, at present, they sail until 3 weeks because their ground fishing is further than before. Nowadays their ground fishing is near from Java island. They usually have to look for a new ground fishing because of destructed coral reef in their ground fishing and decreasing their catching fish. The new problem is a new policy of government to apply **regional autonomy** (Law no.22 / 1999). It is intended to do decentralisation. So, they would face difficulty to find another ground fishing. As a note, there is already a few cases in other provinces that the fisherman from other area is driven out with the reason : regional autonomy.