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ECOLOGICAL INTELLIGENCE OF COASTAL COMMUNITY ON BIODIVERSITY CONSERVATION (Case Study of Bajau Coastal Communities, Gorontalo) Ramli Utina Department of Biology State University of Gorontalo, Gorontalo-96128, Indonesia Centre for Coastal Ecology based on Local Wisdom Research, State University of Gorontalo, 96128, Indonesia \*Email: ramliutina@yahoo.com ABSTRACT Human behavior is a part of the ecological system, therefore overcoming the ecological crisis and living resources need to explore human traditions, way of life and human behavior toward natural resources.

Understanding and translation of human harmonious relationship with all elements along with other living beings is a form of human ecological intelligence. The objective of this study was to describe the traditions and coastal communities behavior that contains the value of ecological intelligence in coastal biodiversity conservation.

The study was based on observation, focus group discussion and identification of Bajau coastal community tradition in their lives and livelihoods on fishing, as well as the behavior toward biological resources. Bajau coastal communities settled in three villages in Pohuwato regency, Gorontalo. There are two themes that contains the value of ecological intelligence of Bajau communities in the conservation of biodiversity, namely; mamia kadialo in tradition of fishing, and fishing behavior. The prohibition in the tradition of mamia kadialo contains the value of conservation of biodiversity.

Usage of simple equipment on fishing activities provide a positive ecological consequences for the conservation of coastal biodiversity. Keywords: ecological intelligence, conservation, biodiversity BACKGROUND Availability of natural resources is absolutely necessary to meet the needs of human life (Azariah, 2009). Biological resources around the man is part of the human community.

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In a community, humans interact with elements of the physical environment to form an ecological system, and in the ecosystem there are elements of the biotic and physical environment (abiotic) that form functions as a natural resource. Malfunctioning or one or more elements in the ecological system will have an impact on the functioning of other subsystems (Cunningham, 2003).

Efforts to meet the needs of human life cause a changes to the elements or components of the environment and its natural resources. Two major factors that cause a the current ecological crisis, namely; use of natural resources and biodiversity are beyond the capacity grows, and the low quality of human resources involved in the management of natural resources (Revelle, 2006).

However, overcoming the ecological crisis is not merely a technical matter, but it needs to be pursued the spiritual origin of man, outlook on life, awareness of nature and ecological behavior that will preserve the balance of nature. It is necessary for ecological intelligence (McCallum, 2008). Ecological intelligence as a JURNAL METAMORFOSA IV (1): 54-57 (2017) ISSN: 2302-5697 55 sense of deep empathy and concern for the environment, as well as how to think critically about what is happening in the environment (Jung, 2010).

Intelligence ecological form of attitudes and actual behavior that considers ecological capacity, and delivery loyal attitude of man towards nature (Sternberg, 2004). Local knowledge is seen as the actions and behavior of human beings towards something objects or events that occur in a given space. The substance is the enactment of local wisdom values believed to be true by a society and coloring behavior that society.

Attitudes and human behavior toward the environment containing values of ecosystem conservation is part of an ecological intelligence community. Bajo community settlement in the village Torosiaje Gorontalo province, has a variety of biological resources and ecosystems of mangroves, seagrass beds and coral reefs are still preserved and maintained properly.

Bajo communities that inhabit these coastal areas have emotional closeness and thought for natural resources, which then bring forth the attitudes and actual behavior by considering ecological capacity. Bajo communities have local knowledge in the form of traditions, rules or prohibitions still apply for generations by the people of Bajo.

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Local knowledge has intelligence ecological values that need to be maintained and developed in order not to be crushed by the progress and challenges of life. This paper aims to describe the form of traditions, rules and practical knowledge that contains the values of ecological intelligence in the conservation of biodiversity. It is expected these values can be reconstructed and disseminated so that the identity of the other coastal communities, and contributed constructive thinking to formulate policy management and conservation of biodiversity.

**MATERIALS AND METHOD** This research method is a survey- descriptive, targets communities in the Bajo tribe village of the District Torosiaje Popayato Pohuwato, Gorontalo. Survey from 2011 to 2014, includes the Bajo community traditions in managing biodiversity, people's behavior on natural resources and coastal ecosystems. Information was obtained through in-depth interviews, focus discussion and observations about the traditions and knowledge of the local community and society behavior Bajo on natural resources in the coastal and marine. Informants determined by purposive, composed of village chiefs, community leaders, traditional leaders.

Information and data about the traditions, behaviors and knowledge of the local community was analyzed and described the values of conservation for biodiversity protection. **RESULTS** Bajo settlement was originally built in the coastal area since 1901, with the name Torosiaje, then grow until the year 2011 with an area of approximately 200 hectares.

Socio-economic development and the development of the population has access to enable the deployment of Bajo community to the other coastal areas such as Tanjung Bajo in Boalemo regency. Currently Bajo settled in the coastal villages of Torosiaje, Torosiaje Jaya, and Bumi Bahari in Pohuwato, Gorontalo Province. The tradition of fishing and behavior for fishing still lived the majority of the community, although there are those who are already using the method of cultivation by the intervention from other regions of coastal communities.

Currently, prohibitions **in the tradition of Mamia kadialo** and fishing behavior that contains the values of ecological intelligence for the biological resources conservation. **DISCUSSION 1.** The Tradition of Fishing Bajo people has emotional closeness with coastal biological resources that bring tradition called Mamia kadialo. This tradition form of grouping people when catch fish in the sea by boat within a certain period, and

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there are restrictions that must be adhered to during Mamia kadialo. (Ramli and Alwiah, 2008). During Mamia kadialo, there are rules that should not be done by families and those who are at sea.

JURNAL METAMORFOSA IV (1): 54-57 (2017) ISSN: 2302-5697 56 Abstinence among others, should not be disposed into the sea waters like dishwater sea cucumbers, charcoal or ash, cigarette butts and ash, water chili, ginger or lemon, and the prohibition of the cooking utensil washing in the sea. The washing water and the materials should be stored and then disposed of on land.

There are also restrictions consuming Turtle meat, if it is violated, it can be disastrous, catastrophic storms, against evil spirits even those who go to the sea do not get any results (Harun, 2011). Bajo communities believed that the Turtle widely to help the unfortunate man, therefore these Turtle should not be killed (Utina, 2012).

Bajo people especially the elderly generation still believe coral reef as the dwelling place of the ancestors. Parents forbid family members caught fish and other biota around the reefs, except having to perform certain rituals to prepare a dish for ancestral (Harun, 2011). Ecological intelligence **in the tradition of Mamia kadialo** is the prohibition to dispose the waste into the sea waters that can lead to pollution of the sea and disrupt the microbial life. Disposing of ash, cigarette ash, water chili, ginger juice to the water can be deadly jellyfish.

Water washing pans and cooking tools containing charcoal that can cause of turbid water, so as to disrupt the seagrass and coral reefs (Utina, 2012). Abstinence is an effort in the Mami kadialo marine biological resource use within a specified period. Prohibition for the people to kill turtles or fish in particular contain a coral reef biota conservation value aquatic ecosystem to support the existence of marine and coastal biological resources. 2.

The Behavior of Fishing The tools that used for fishing, for example, fishing tool that use a type of cotton without a hook, they called Bina. This tool is specifically fishing Sori fish who has a long and jagged mouth, the thread will be twisted so that the fish's mouth easily entangled. Besides fishing, people also use spears or arrows speciall for fishing on the reef. Arrows and spears lead to the specific fish that were targeted (Harun, 2011).

The use of simple fishing equipment is easy and inexpensive to preparation. The

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equipment is selective towards fish and biota in certain sizes and can already be consumed. Spears and arrows only for certain fish being targeted. Ecological intelligence in this case, that the baby fish are given the opportunity to reach an adult stage to be able to reproduce.

Thus, the biological resources have an opportunity to increase its population in order to maintain the species. CONCLUSION Bajo people close to natural resources and coastal biodiversity. Bajo community has ecological intelligence that appears in the forms of local wisdom that considers the interests of people living with the concept of ecosystem conservation and biodiversity. **The prohibition in the tradition of Mamia kadialo** has conservation value ecosystems and biological resources.

The use of fishing equipment is considered to give a positive ecological consequences for the survival of the ecological system and its biological resources. Local wisdom in tradition and community behavior has ecological values and principles coastal biodiversity conservation as a form of ecological intelligence community Bajo. Necessary efforts to investigate and reconstruct the ecological intelligence so that it can be adapted for other coastal communities.

Bajo ecological intelligence community would be constructive thinking for policy formulation and management of coastal conservation of biological resources. ACKNOWLEDGEMENT Presented thanks to the staff of experts and helpers researchers from Center for **Coastal Ecology based on Local Wisdom** Research, Department of Biology State University of Gorontalo for its support in the preparation of data and other documents as well as field technical assistance, so that this research can be carried out properly.

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