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Developing Local Wisdom to Integrate Ethnobiology and Biodiversity Conservation in Mount Ungaran, Central Java Indonesia

Margareta Rahayuningsih, Nur Rahayu Utami, Tsabit AM, Muh.Abdullah

Abstract— Mount Ungaran is one area that has remaining natural forest in Central Java, Indonesia. Mount Ungaran consists of several habitat that supporting appropriate areas for flora, fauna, and microorganisms biodiversity, particularly of it is protected by government law and IUCN red list data. Therefore, Mount Ungaran also settled up as AZE (Alliance for Zero Extinction) and IBA (Important Bird Area). The land use for agriculture and plantation reduces forest covered areas. It is serious threat to the existence of biodiversity in Mount Ungaran. This research has been identified community local wisdom that possible to be integrated as ethno-biological research and biodiversity conservation. The result showed at least four local wisdom that possible to be integrated to ethno-biological and biodiversity conservation were Wit Weh Woh (a ceremony of life-giving tree), Grebeg Alas Susuk Wangan (a ceremony for forest protection), Iriban (a ceremony of clean water resource protection), and tingkep tandur (a ceremony for ready-harvested plant protection). It is needed ethno-biological researches of local wisdom-contained values, which essential to be developed as a strategy for biodiversity conservation in Mount Ungaran

Keywords—Mount Ungaran, biodiversity, ethnobiology, conservation

I. INTRODUCTION

MOUNT Ungaran has a potential of natural forest and also has a potential biodiversity such as flora, fauna, fungi, microorganism, and diverse of ecosystem [1]. Located between Kendal and Ungaran Regency with total areas around 5.500 hectares. Mount Ungaran also established as AZE (Alliance for Zero Extinction) and IBA (Important Bird Area) [2]. Several species of flora and fauna that have been found included in the protected category by Indonesian law and also included in the IUCN red data list. Mount Ungaran especially the forests are now threatened due to several factors, such as fragmentation, illegal logging, and flora and fauna trading. The land use for agriculture and plantation reduces forest covered areas. It is serious threat to the existence of biodiversity in Mount Ungaran. The natural forest dry land in Central Java (include area on Mount Ungaran) was decreasing and being fragmented at an alarming rate. This consequently will affect the survival of biodiversity that inhabit inside the natural forest dry land [3]. According to Sukmantor [4], the awareness from society is not

sufficient especially in the activities of protecting life buffering system and preserving the diversity of plants and animals along with its ecosystem. Also, in the utilization activities, there is no effort to preserve the renewable resources and its ecosystem. Besides the government, actively engage communities in forest conservation efforts are also very important. Without the participation and support of the community, it is impossible for the preservation of forests can be controlled. People are increasingly permissive to behaviors that destroy forests. However, in the villages around the forest of Mount Ungaran there are capable of performing an effort to control in order preserve the remaining forests. One of the key factors that cause them to preserve their forests are cultural factors or the so-called the local wisdom. Therefore, it is very important to know and associate the ethnobiological assessment and the local wisdom especially in Mount Ungaran. Ethnobiology is the study of the biological knowledge of particular ethnic groups—cultural knowledge about plants and animals and their interrelationships [5]. One of the most salient contributions of ethnobiology has been recognition and importance of traditional ecological knowledge (TEK) [6]. The objective of the research has been identified community local wisdom that possible to be integrated as ethno-biological research and biodiversity conservation.

II. METHOD

The Research Location was located in Mount Ungaran, Central Java, Indonesia with ordinate S 70 12 'E 110020'. The Research Station spread in 8 (eight) villages around Mount Ungaran : (1) Ngresep Balong, (2) Banyuwindu, (3) Kalisidi, (4) Gogik, (5) Indrokilo, (6) Pasigitan, (7) Sumber Rahayu, dan (8) Gondang.. The early research was conducted on October 2016 – April 2017. In this survey, a number of 45 informants were selected purposively to respond to questions. Informants were selected based on the representation of groups in society. Sources of data based on the first indication of informants recommend other informants (snowball) [7]. The data was collected by exploration survey and descriptive qualitative

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have been used for analysis. Besides, after the data collection and analysis will be done FGD (Focus Group Discussion) by inviting stakeholders to get input from them.

III. RESULT AND DISCUSSION

Researchers conducted surveys and interviews to determine the three main aspects, namely (1) an general understanding and the local wisdom related to conservation at the foot of Mount Ungaran; (2) The conservation model that had been developed there, and (3) barriers in the implementation of conservation carried out so far and hope development.

This aspect is to analyze how people in eight villages looked at the position of Mount Ungaran, local knowledge, and the existence of the biodiversity review, the history, sociological, and economical. For people in eight villages, the presence of Mount Ungaran has significance. This is because based on the survey as many as 71% of people make Mount Ungaran as a source of livelihood. Society perceives the existence of Mount Ungaran important, because there are people still depend (Fig. 1).

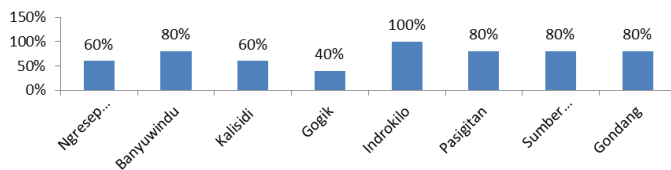


Fig. 1 Mount Ungaran make society as a source of livelihood

Of the eight villages, the people in the Indrokilo village most who have a dependency on Mount Ungaran as a source of livelihood. Meanwhile, the people in the Gogik village is the lowest. People there also claimed that the damage occurred at Mount Ungaran, this will have an impact on their lives. This is evident from the 84% of people who answered that there is a correlation between damage to the livelihood of Mount Ungaran. A total of 73% of the respondents considered that there are those within community who perform activities of damaging in the Ungaran (Fig 2). The dominant factors of the destruction is the logging (56%) and trade, also hunting (33%).

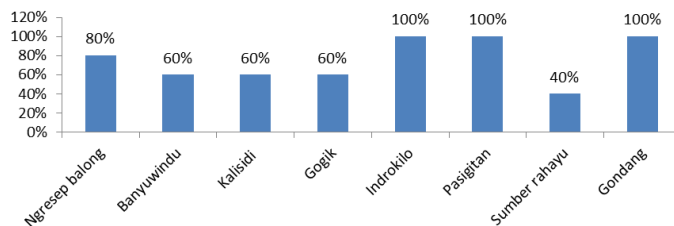


Fig 2. An assessment of the the destruction of the preservation of Mount Ungaran in society

Totally 76% of respondents generally knowing the benefits and role of biodiversity in Mount Ungaran. Mount Ungaran communities have a variety of local wisdom in managing the environment. It can be shown how they know, using and

managing the diversity such plants and animals. Some traditions in some villages is actually very strategic to be linked to the preservation of biodiversity in Mount Ungaran. Fragmentation of habitat and forest clearing for farming, coffee or tea in Mount Ungaran a serious threat to the existence of biodiversity and local knowledge. Land use continue to occur at the expense of forests and turn it into another designation (primarily residential and agriculture). However, in the villages around the forest of Mount Ungaran there are villages that can perform control measures in order to preserve the remaining forests. One of the key factors that cause them to preserve their forests are cultural factors or the so-called local knowledge. Environmental issues from day to day more complex and the environmental crisis. One of the causes of the crisis is the perception and behavior of humans who pursue economic interests and pragmatic life style [8]. The proximity of lives to forests, bring up the bond between their imaginary and forest nature. The natural bond with providing knowledge about how they treat the environment. Ethics, behavior attitudes, lifestyles and traditions has positive implications for the maintenance and preservation of the environment, particularly the forests. The result showed at least four local wisdom that possible to be integrated to ethno-biological and biodiversity conservation were: 1) Wit Weh Woh, a ceremony of life-giving tree and protected the tree, this ceremony provide learning to the community about the importance of environmental conservation, among others, through the movement of the maintenance of large trees, fruit, rare and endangered, and unique, maintaining the tree will keep the water source; 2) Grebeg Alas Susuk Wangan, the ceremony for forest protection, this ceremony to reminds community that always keep the biodiversity in the forest also a water source that both are benefits to the community around Mount Ungaran. People are prohibited to cut down trees carelessly. In addition, there is a prohibition to enter the forest on a particular day. This ceremony almost same with the tradition in Setren Village Wonogiri Central Java its call Susuk Wangan to [9]; 3) Iriban, a ceremony of clean water resource protection, this tradition is a form of thanksgiving and gratitude of the people to God who had transferred the water to the source of life and agriculture; and 4) tingkep tandur, a ceremony for ready-harvested plant protection. This ritual is performed that the plant belonging to the community could survive until they can be harvested. Local knowledge is generally seen associated with forest conservation, water resources, and agriculture. Furthermore, it can be integrated with ethnobiological, by looking at the potential benefits of biodiversity for sustainable society. Integration between local wisdom and ethnobiological ultimately directly/indirectly support biodiversity conservation in Mount Ungaran. g. Local wisdom which is a apart of human resources is still one of the most important factor in maintaining natural forest resources [10].

IV. CONCLUSION

Integrated between local wisdom and ethnobiological will be support biodiversity conservation in Mount Ungaran. Local

Wisdom is still alive in the Mount Ungaran although modernizations society has reached this region. Long-established local wisdom and maintained in the community is expected to be an effective to biodiversity conservation strategy.

V. KNOWLEDGMENT

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