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Reinventarization of living procedures, local knowledge, and wisdom to environment (Study case on Tobelo Tribe-Halmahera)

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Abstract. Indonesia is a comprehensive and vast country with a lot of people inside of it. Diversity, or often referred to as cultural diversity, is a necessity in Indonesia. With a population of more than 250 million people spread throughout the archipelago in Indonesia. They inhabit areas with diverse geographical conditions but with the same climate. Every culture has social resources that support growth, such as traditional knowledge, wisdom, and ethics for the environment. This paper aims to review and evaluated the Tobelo tribe wisdom to the environment to utilize the qualitative method. Tobelo tribe acquire knowledge about the forest patterns in the forest to survive and avoid consumptive activities and modern lifestyles through their nomadic life. Forest are crucial for them cause forest is part of them. Through their knowledge and wisdom is to establish a harmonious human-environment relationship. That is a national asset that crucial for biodiversity and preventing harm to biodiversity and the environment.

1. Introduction

Local demand for material progress, foreign trade interests in mining and palm oil plantations, and international willingness to pay for environmental services (PES) are on the rise, with a rising focus on land as a source of economic growth in these areas and demographic shifts in Indonesia [1]. The eastern provinces of Indonesia, such as Maluku and East Nusa Tenggara, are among the country's poorest provinces. The central government is worried about the growing geographical gap in national economic growth gains and is planning to speed up progress. This is also where population growth is the highest, with average fertility rates being close to four in the two provinces.

More than 50 percent of Indonesia's 240 million people live in rural areas, and more than 17 percent of them are officially deemed deficient by the Indonesian government. In this paper's areas of study, this figure is considerably higher [2]. Agriculture's national GDP share is slowly decreasing, and strong reasons exist for rising agricultural productivity to reduce poverty. Indonesia's rural and



peripheral zones offer few opportunities for alternative jobs. Land productivity will possibly be improved, at least in the short term, by privatizing and reducing communal land ownership areas.

The Tobelo Dalam tribe, or better known as the Togutil tribe, is one of the most remote tribes in Indonesia who still inhabit the forests of Halmahera Island, North Maluku. The tribe is located in the deep forest in Northern Maluku, Indonesia. The place itself is particularly interesting because of its heritage and the unique custom law that they have there. It is incredibly unique because they conserve nature by using their customary laws. They practiced their local wisdom to combat climate change [3]. Then the said local wisdom is acquired generation upon generation. The standard applicable to such cultures is local wisdom. These norms have been developed over a long period that has experienced many transformations in the local system and society's development and climate change. The process was accepted in human life and became their everyday awareness. Therefore these standards are considered to be an everyday reality by the local community and are considered to be instructions for doing anything or not doing anything. On top of that, principles also add some complex changes to society's ethical life. The Tobelo in the Togutil tribe has many local pearls of wisdom passed down to each generation by ancestors named the forbidden forests or Ngonyeoko and Magilio Ruku, former forest zones (Mialolingiri), and stream forest zones. In Wasile, North Moluccas District, East Halmahera, this tribal group resides. Traditionally, people live and rely a great deal on forest products. Therefore since they assume that a forest is similar to human beings and vegetation owns a soul, they love nature's survival, so they need to be alive. Therefore to make use of natural resources, society needs to be prudently cautious. Vegetation is a source of life for every human being, and so it must be preserved. The ancestors told the living heritage (ngofangofaka) not to over-exploit land for their own sake but to take it wisely. This ensures that the public area and the prohibited place, in this case the forest, are not permitted to be killed, which brings benefits to their lives. Natural supply protection, like trees, is very closely related to their local culture. The Tobelo Dalam tribe (Togutil) people who live primarily to use natural resources are still motivated by their ancestors' reverence.

The forbidden forest zone (taboo) is a protected area not to be violated by the local people. Local people think that there is a supernatural power within the forest region. It is also not allowed for local people to pass through the forest because they can get sick or even die. The only way to enter the forbidden forest area is only by conducting a ritual called Homaliloa. The ritual is performed by spelling a cast in a local language to ask for help: *eh nenanga mima doyanga o ka nia-nia ngongaha ka, ne dia donongoho ho uha ni mi tigi-tigi deo uha mi gagawa ma*, which means "We are your inheritance, we beg you not to bother us." The forest's prohibited area is vast and is considered a living area of assistance. In a way, this ordinary local law has set nature to be protected, and when people hear customary law, it is something they do not think about.

Indonesia is blessed with natural resources and an abundance of cultural diversity and pluralistic culture throughout the archipelago [4]. Indonesia has approximately 210 million, with 500 ethnic groups speaking over 600 languages [5]. This cultural richness in Indonesia also attracts international tourists. Many tourists are interested in culture-based recreation as the primary place in Bali [6]. Based on the 2010 census by the Indonesian Central Bureau of Statistics, there were 1,340 ethnic groups in Indonesia. The Javanese are the largest ethnic group in Indonesia and mostly gather on Java, although millions of people have migrated and spread to various islands in the Indonesian archipelago [7] [8]. Every culture has social resources that support growth, such as traditional knowledge, wisdom, and ethics for the environment [9]. The local community communicates its culture and survival capacity through the unique way they communicate with their environment [10]. Local communities

collectively encounter a place creating local knowledge to incorporate cultural and natural conditions [11]. Wisdom is a collection of information established by a community of local communities, gathered in a sustainable and harmonious rhythm from long experience and mutual relations between humans and the environment [9].

In Indonesia, much local wisdom has been recognized internationally. UNESCO has approved some of Indonesia's local wisdom. Not even a few citizens (foreigners) are interested in Indonesia's cultural riches and do not hesitate to spend time living in Indonesia to learn the culture. It does not mean returning to ancient life using local knowledge. For years, the implementation of life principles has been studied to solve problems and behavioral guidelines [12]. Local wisdom is created, guided, and passed down from generation to generation by the community [4]. The ability to adapt, organize, and cultivate the forces of the natural world and other cultures, which are the driving force behind the transformation and growth of Indonesia's remarkable cultural diversity, is local wisdom [10]. Because of social experience and culture and its environment, local wisdom is an explicit understanding that emerges from a long evolution in the local system [12]. A great deal of local knowledge has been developed by thousands of communities across Indonesia—community adapts, acculturates, and can assimilate various abstractions and experiences in environmental management development [9]. Almost all ethnic groups and regions of Indonesia have local expertise in environmental preservation [2]. In the management of coastal areas, local knowledge plays a role [13]. The extended evolutionary process creates local knowledge and inherent in society as a potential energy source for the community's collective information system to live together, diversely, and peacefully [12].

Local wisdom is to establish a harmonious human-environment relationship and be used as a basis of the life of the local community [14]. Indonesia is a possible destination for proliferating transnational radical ideas; local wisdom should establish a counter-radicalization strategy [12]. As part of an anti-radicalism policy, local wisdom solution improves awareness of tolerance [12]. A philosophical method in the case of local wisdom seeks to explain the phenomenon's essence and pattern [10]. Local wisdom encourages the community to play an active role in developing the environment in their place. Enabling community engagement in growth not only strengthens the role of the economy and society in environmental protection but can also improve the capacity of communities to have democratic access to and monitoring of natural resources [9]. The younger generation needs to know the advantages of learning about the culture, particularly those in the academic setting, to prevent cultural heritage extinction [8]. Elementary school is a training program capable of teaching young people to take care of the environment [15]. Children develop social values, attitudes, abilities, and information from school and the family environment by acquiring local wisdom [15]. In this period of industrial capitalism, in particular, all kinds of investment have penetrated various industries, including the management of natural resources [16], which can challenge the life of local wisdom and cultural wealth. Therefore, to acknowledge cultural diversity among people, it is essential to include culture in the curriculum [15].

2. Method

The field observation was conducted before pandemic COVID-19 in Indonesia, which was conducted in 2019. Halmahera archipelago was the research area that was analyzed. Specifically, this paper is to evaluate the culture of the Tobelo tribe in Halmahera. The economic and social activities that the tribe conducted in they are lifestyle were observed and evaluated. At the same time, this article also used study literature as a reference and strengthened the argument from field observation results.

3. Results and discussion

Togutil is recognized to be mostly still moving about in the forest, continuing to describe the Togutil tribe, and they live together even though their lives do not stay long enough in one part of Halmahera. Local governments are making efforts to enter them as the exploited forest was also reforested by the Tobelo Dalam tribe (Togutil). The reforestation was carried out by putting together some farmers who had been funded by the East Halmahera government and the Natural Resources Conservation Association of North Moluccas. Groups of farmers call themselves Maku Tuda and Oga Raga. The farmers' role is to provide seeds, care for the seeds, and important areas for reforestation. It is done to preserve forest stability. The used forest area is maintained for society's needs since they consider the forest as their home. Although some of them have settled in many locations in Tobelo villages, their way of life that respects the forest is still maintained. The Zone of Forest Use (Mialolingiri) is an area serving the Tobelo Dalam (Togutil) tribe's daily needs. This zone is intended for many activities in manufacturing, hunting, and gathering. This area gives the people of Tobelo Dalam (Togutil) many advantages and helps people use it wisely. The sectors used to serve as economic resources that provide basic human needs and enhance welfare. Using resources would direct the community's perspective towards material resources from forests, where forests are used only for material value. However, the point of view is not a concern with the success of conserving forests. The Tobelo Dalam (Togutil) tribe is home to most people, but some are nomadic. This nomadic life helps them to gain insight into the patterns of life in the forest to survive. The goal of nomadic life is to prevent consumptive activities and modern lifestyles, which tend to be materialistic to conserve forest resources to balance them. In this study, the authoritative informants reported that they could incorporate nomadic attitudes such as hunting and using vegetation as required by living a nomadic life. This small group believes they are part of the forest, which gives them the right to protect and control the land. Concerning forest use, this group has local knowledge relating to nature's use in their everyday lives based on local knowledge.

As one of the regions of Indonesia, Halmahera in Maluku has several tribes and ethnic groups that hold many unique and traditional legacies and local knowledge, including the Tobelo, Lingon Romadecade, Makian, and Pagu ethnic groups. The Tobelo tribe is divided into four, namely Modole (located in eastern Halmahera to central Halmahera), Boeng (in northern Halmahera, east, to central Halmahera), Pagu (in northern Halmahera, and Hoku living on the coast and declared extinct [17]. In the Togutil tribe tradition, they teach the science of hunting and planting to their children early. Capitalization is possible to ensure that each generation inherits knowledge to survive well in a forest area. Dwelling in the wild of East Halmahera, the Lingon included in the Caucasoid race. The Lingon tribe has a unique characteristic that is quite surreal, which has blue and white eyes, according to the people around the Lingon tribe, not native to Halmahera. However, from Europe, whose ship sinking in Halmahera's waters, the Lingon is classified as tribes that still live their lives primitive. Its existence is still mysterious because some people only know it, and the place they inhabit is quite difficult for other people to reach. Ethnic Makian is one of the ethnic groups inhabiting the island of Makian, located in North Maluku [18]. Although the Makian ethnic group lives surrounded by the ocean, their main livelihood is farming. This is due to an inadequate marine environment. Whereas the ethnic Pagu, according to [18], the pagu ethnicity is one of the native ethnicities on Halmahera island, ethnic Pagu is scattered in villages in the Kao district. Their main livelihood comes from gardening and forest products. This ethnicity has a characteristic that has a softer intonation of language than other ethnicities on Halmahera and has a calmer nature. The arrival of ethnic Makian is not a big problem for indigenous people. Their friendly attitude and thanks to the socialization carried out by the government made the reception process work well. The conflict in 1999 broke out because of the entry of several Pagu villages into the new sub-district that had been proposed [19]. The Pagu community does not want to be ruled by the Makian people. They also do not want to be separated from their original siblings, which is feared to make them unable to continue their traditional ties.

In the context of our discussion this time, Tobelo Dalam has its uniqueness that might assess outsiders that they are primitive to be falsifiable. The Togutil community has a meaning about their

lives and also has a system of values and beliefs. In Jati, Ternate, North Maluku, explained that Dutch researcher J. Plantekamp gave the Togutil's name for the Tobelo Tribe, who lived in jungle boundaries [17]. The word Tugutil existed in Tobelo Language, namely *O'Tau Gutili* or medicine house [17]. In identifying themselves as a Tobelo Luar and Tobelo Dalam, the Tobelo people themselves call the Tobelo Dalam as *O'Hongana Manyawa* (Tobelo people who live in the forest, while Tobelo Luar as *O'Hoberera Manyawa* (Tobelo people who live outside the forest). In Tobelo Adat law, each birth of a baby girl is celebrated with five tree seeds, while the male baby is marked with ten tree seeds [17]. Man Tobelo is responsible for making a living, so they have to plant more trees. This tradition is an example of how humans live in harmony with their surroundings. The Tobelo community hunts, mixes, farms, fishes, or mixes them to meet their daily food needs. Local populations eat food crops based on their cultural structure, which has lasted a long time in the family hierarchy [20]. Forest plays a significant social and economic role in providing local people with different needs and a place to live, and a source of food for wildlife [21].

The Togutil ethnic group continues its hunting and resin collection activities from *Agathis dammara* and *Aquillaria Moluccensis* [22]. They regard forests as they understand as a guarantee of food security, as the universe of religious aspects, farming systems, hunting, and cultural aspects that help them create a lifetime. Local cultural activities contribute to the protection of the forests [23]. They live in harmony with the surrounding natural conditions following the values of environmental wisdom. The conceptualization of self and the environment of the Tobelo Dalam community in the *Wawango* oral tradition (life) and *Lilingiri* (search) became a reference for interpreting their lives in the forest environment [17]. Local knowledge is an effort to find a way to manage natural resources with minimum environmental degradation [24]. This also applies to their social behavior in managing forest products regulated in oral traditions to protect forests in their respective forest units. Their knowledge and trust in the forest unit is a force that can affect the level of success and failure in the daily lives of this community [17]. Local knowledge is a valuable asset for achieving the biodiversity target; traditional knowledge and practices used by a traditional society or local communities are crucial to preventing harm to biodiversity and achieving sustainable development [22]. The Tobelo Dalam ethnic group uses *Canarium* plants in various aspects, such as economics, ecology, health (like recommended fruit for pregnant women and as skin protection), and culture [3]. Therefore, they protect the plants through *ex situ* conservation [3]. In their oral traditions, community members are required to preserve and protect the forest and its contents for their children and grandchildren's lives in the future. Traditional beliefs on taboo matters help maintain environmental conservation rules since everyone restrains themselves from using the resources carelessly [22].

4. Conclusion

In Indonesia, there is a tribe that still do nomadic life. That allows them to acquire knowledge about the patterns of life in the forest to survive and avoid consumptive activities and modern lifestyles that tend to be materialistic so that forest resources can be preserved to balance them. Some believe they are part of the forest, which gives them the right to protect and control the land. It is crucial to notice how the Halmahera tribe and people treated the ecosystem kindly by incorporating their customary law to benefit the ecosystem. The strengths of the Indonesian people over other nations are that they have a very varied culture. Furthermore, no less exciting and essential is that Indonesian people have an interesting historical dynamic, socially, culturally, and politically. Local knowledge and wisdom are national assets that crucial for biodiversity and preventing harm to biodiversity and the environment.

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References

- [1] Kristiansen S and Sulistiawati L 2016 Traditions, Land Rights, And Local Welfare Creation: Studies From Eastern Indonesia *Bull. Indones. Econ. Stud.* **52** 209-227
- [2] BPS, 2014
- [3] Tamalene M N, Al-Muhdhar M H I, Suarsini E, Rahman F, Hasan S 2016 Ethnobotany of Canarium Plant species used by Tobelo Dalam (Togutil) Ethnic Community of Halmahera Island, Indonesia *Biodiversitas* **17** 61-69
- [4] Ministry of Environment of Republic Indonesia 2002 *Bunga Rampai Kearifan Lingkungan (Anthology of Environmental Wisdom)* (Jakarta: Ministry of Environment of Republic Indonesia)
- [5] Alcorn J B 2000 An Introduction to the Linkages between Ecological Resilience and Governance *Indigenous Social Movements and Ecological Resilience: Lessons from the Dayak of Indonesia* ed J B Alcorn and A G Royo (Washington: Biodiversity Support Program)
- [6] Santika N E and Suryasih A S 2018 Elemen Budaya sebagai Daya Tarik Wisata di Desa Wisata Pengotan, Kecamatan Bangli, Kabupaten Bangli, Provinsi Bali (Cultural Elements as a Tourist Attraction in Pengotan Tourism Village, Bangli District, Bangli Regency, Bali Province) *J. destinasi pariwisata* **6** 2338-2881
- [7] Institute of Southeast Asian Studies 2003 *Indonesia's Population: Ethnicity and Religion in a Changing Political Landscape*
- [8] Roslidah N and Komara 2017 Culture Differences of Indonesia Ethnic Minorities in Non-verbal Communication *J. Studi Komun.* **1** 6-18
- [9] Hasbiah A 2015 Analysis Of Local Wisdom As Environmental Conservation Strategy In Indonesia *Journal Sampurasun: Interdisciplinary Studies For Cultural Heritage* **1**
- [10] Pesurnay A J 2018 Local Wisdom in a New Paradigm: Applying System Theory to the Study of Local Culture in Indonesia *IOP Conf. Ser.: Earth Environ. Sci.* **175** 1755-1315
- [11] Padmanugraha A S 2010 Common Sense Outlook on Local Wisdom and Identity: A Contemporary Javanese Natives' Experience' Paper Presented in International Conference on "Local Wisdom for Character Building". Yogyakarta.
- [12] Widyaningsih R 2019 Local Wisdom Approach to Develop Counter-Radicalization Strategy *IOP Conf. Ser.: Earth Environ. Sci.* **255** 012049
- [13] Primyastanto M, Muhammad S, Soemarno and Efani A 2013 Fisheries Resources Management by Empowering the Local Wisdom in Madura Straits *Fisheries* **3**
- [14] Affandy D and Wulandari P 2012 An Exploration Local Wisdom Priority in Public Budgeting Process of Local Government Case Study in East Jawa *int. J. Eco. Res.* 61-76
- [15] Yufiarti, Rivai R K and Pratiwi A P 2018 Development of Adiwiyata Curriculum Model Based on Local Wisdom *AIP Conference Proceedings* **2019** 030012
- [16] Rindarjono M G, Ajar S B and Purwanto W 2018 Local Wisdom in Environmental Conservation *IOP Conf. Ser.: Earth Environ. Sci.* **145**
- [17] Bobero F 2019 Menengok Kehidupan Suku Tobelo di Belantara Halmahera (Looking at the Life of the Tobelo Tribe in the Wilderness of Halmahera). Kumparan. Retrieved July 25, 2019, from <https://kumparan.com/ceritamalukuutara/menengok-kehidupan-suku-tobelo-di-belantara-halmahera-1qq8ViAQvnZ>.
- [18] Danius E E 2018 Social Conflict in Malifut Sub-district of North Halmahera Regency *IOP Conf.Ser.: Earth Environ. Sci.* **156** 012002.

- [19] Duncan C R 2009 Reconciliation and Revitalization: The Resurgence of Tradition in Postconflict Tobelo, North Maluku, Eastern Indonesia *J. Southeast Asian Stud.* **68** 1077-1104
- [20] Tamalene M N 2017 Traditional Knowledge on the Use of Local Food Crops by Togutil Ethnic in Halmahera Island, Indonesia *Asian j. agric.* **1** 66-72
- [21] Montagnini F 2004 Plantaciones Forestales con Especies Nativas. Una Alternativa Para la Produccio'n de Madera y Laprovisio'n de Servicios Ambientales *Recursos Naturales y Ambiente* **42** 28-35
- [22] Tamalene M N, Almudhar M H I 2017 Local Knowledge of Management System of Forest Ecosystem by Togutil Ethnic Group on Halmahera Island, Indonesia: Traditional Utilization and Conservation *Int J Conserv Sci* **8**
- [23] Rim-Rukeh A, Ierhievwie G, Agbozu I E 2013 Traditional Beliefs and Conservation of Natural Resources: Evidences from Selected Communities in Delta State, Nigeria *Int. J. Biodivers. Conserv.* **5** 426-432.
- [24] Peluso N L 1992 *Rich Forest, Poor People: Resource Control and Resistance in Jawa* (Berkeley: University of California Press) p.336