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Local Wisdom as Basic Material for Drafting Local Government Regulations: A Case Study of Dayak Forest Fires in Kalimantan, Indonesia

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Abstract---The Dayak tribe is a native of Kalimantan's island, one of the large islands in Indonesia that has a large forest area. This study aims to determine the local wisdom of the Dayak tribe in managing forests to prevent forest fires to realize sustainable forest development. This research uses a descriptive method. The study was conducted on the Maanyan Dayak tribe in Muara Tewe, North Barito Regency, Central Kalimantan, Indonesia. Data was obtained employing observation, interviews. Focus group discussion and documentation. Data analysis using Triangulation Technique. Namely by collecting data, processing data, presenting data, and drawing conclusions. The study results show that the Dayak tribe has Local Wisdom, which provides guidelines for interacting with the forest. The Dayak tribe understands the relationship between humans and nature with a religious dimension that can be used to manage forests. This research is expected to be a material consideration for related parties to forest fire prevention by utilizing the local wisdom of the Dayak tribe. The understanding of the Dayak community that the relationship between humans and nature has a religious dimension is local wisdom which is a strength and can be used as the primary material in constructing laws at the level of Regional Government Regulations.

Keywords---climate change, Dayak tribe, forest fires, local wisdom, sustainable forest management.

Introduction

Forests function to absorb carbon gas (Co2) which is the gas that triggers climate change (Dale et al., 2000). Therefore, forests have an essential function to maintain the survival of living things on earth (Silva et al., 2019). As one of the countries with the largest forest area, Indonesia plays a significant role in preventing climate change (Garzon et al., 2019). Through the ratification of various international conventions, Indonesia is committed to overcoming climate

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change by carrying out sustainable forestry development as a sub-part of the implementation of sustainable development (Tan-Soo & Pattanayak, 2019). This sustainable forest development is expected to maintain forest sustainability in Indonesia (Linser & Lier, 2020).

For this reason, the policies adopted by various countries are to implement sustainable forestry development, which is based on a balance between the sustainability of ecological, economic, and socio-cultural functions of forest resource management that is not centralized by building community self-reliance. Forest conservation is now the concern of many countries, including Indonesia, because the current condition of the world's forests has suffered from deforestation, which is worrying (Walentowski et al., 2020). Therefore, fundamental policies are needed to overcome forest destruction (Brambilla et al., 2020).

Forests have a central role in producing oxygen for humankind (Delabre et al., 2020). However, unfortunately, the case of forest fires that hit Indonesia made the forest area in Indonesia even narrower. Forest fires are forest fires that can result in danger or bring disaster (Riera & Mogas, 2004). Fires can occur due to uncontrolled burning, a natural and intentional process by humans (Barmpoutis et al., 2020). Forest fires in Indonesia are caused mainly by human activities, both deliberate and unintentional (Santika et al., 2020). Kalimantan Island is one of the islands in Indonesia which has the largest forest area. In 2018-2019, the island of Borneo experienced a large forest fire.

Forest fires in Indonesia occur almost every year, although the intensity, frequency, and area are different. These forest fires impact the environment, including decreasing levels of biodiversity, disrupting the production of organic matter and the decomposition process (Tran et al., 2020). In addition, the impact of forest fires is the loss of various ecosystem benefits from forests and other potentials contained therein, including biodiversity. Forest fires can also produce toxic dioxins, which can be detrimental to human health (Gonzalez-Redin et al., 2019). Forest fires impact the location of the incident and affect the region, the country (Stephens et al., 2020).

The frequency of forest fires is increasingly occurring in Indonesia caused by two factors, namely natural factors and human factors. First, the triggers of forest fires are caused by a long dry season and forest encroachment by humans (Mohajane et al., 2021). Second, the long dry season causes the plants in the forest to dry out because of the heat, so they are easy to burn (Kim et al., 2019). In addition, forest fires in Kalimantan occur due to land clearing and forest conservation into irresponsible plantations. Thus, forest fires are a severe problem in Indonesia, especially during the dry season (Podolskaia et al., 2020).

The Dayak tribe is a native tribe of Kalimantan who depends on the forest, utilizes and manages it according to the knowledge passed down from generation to generation (Mulyoutami et al., 2009). Forests are part of the life of the Kalimantan Dayak tribe (Abby et al., 2019). The Dayak tribe protects the forest because it meets their needs continuously (Luardini et al., 2019). The Dayak people depend on the forest to meet their daily needs, starting from hunting and gathering forest

plants for daily food (Zainuri, 2018). Many of the resources needed to live are available in forest areas (Haeruddin et al., 2017). The Dayak people also cultivate crops using fertile land in the forest (Sillander, 2016).

On average, each Dayak family manages an agricultural area of at most 2 ha. Yet, communities still use simple tools in carrying out sustainable forest management activities (Bedner & Arizona, 2019; Sheppard & Meitner, 2005). In this case, the Dayak community continues to preserve the forest by not using chemicals for their agricultural land (Haeruddin et al., 2017).

Forest fires in Kalimantan have made the Dayak people a target for forest fires. Forest fires are detrimental to Dayak because their sources of life are disrupted in meeting their needs (Demitra & Sarjoko, 2018). The Dayak tribe received damaging accusations as the perpetrators of forest fires (Woldie & Tadesse, 2019). In practice, the Dayak tribe only uses the forest to fulfill their living needs and protect forest areas from dredging by irresponsible people. Straighten the information on people's views of the Dayak tribe in managing the forest environment, and this research is needed (Baumgartner, 2019). This study aims to determine the local wisdom of the Dayak tribe in managing forests to prevent forest fires to realize sustainable forest development (Pornpimon et al., 2014).

Research Methods

This research uses a descriptive method. Data was obtained utilizing observation, interviews. Focus group discussion and documentation. This research was conducted on the Maanyan Dayak tribe in Muara Tewe, North Barito Regency, Central Kalimantan, Indonesia. This study involved the Indigenous community consisting of a customary leader (Damang 'Marcos Tuwan, Damang Pahandut Customary Head), a district-level everyday leader (Chairman of the Damang Muara Tewe Communication Forum), and three Dayak farmers. Data was obtained utilizing observation, interviews, and documentation. Data analysis using Triangulation Technique, namely by collecting data, processing data, presenting data, and drawing conclusions

The Focus Group Discussion involved three community elements: the local government, police officers, lawyers, traditional leaders, and representatives of the Dayak community. The researcher made several questions to be answered and discussed by the FGD participants. The study's questionnaire aimed to understand better the values and norms of the Dayak community in managing forests for agriculture.

Results and Discussion

Tradition in opening Dayak community agricultural land

The Maanyan Dayak tribe in social and agricultural activities involves a damang (customary leader). Damang leads traditional ceremonies or rituals, such as weddings, births, prayer rituals when opening new gardens, thanksgiving rituals for harvests, and Dayak life activities. In addition, Damang has the responsibility of being a liaison between the Dayaks and the local government. The Maanyan Dayak tribe still adheres to the belief in sacred values (religious) (Demitra &

Sarjoko, 2018). So that in utilizing the natural resources around them, they perform a permit application ritual (Jubata or Panompa). Every time the Dayak community clears land, they will perform a ritual and ask the customary leader to determine the areas that may be used and which are prohibited (Ardhany & Novaryatiin, 2019). The livelihoods of the Maanyan Dayak people are generally gardening and farming (Harlita et al., 2018). The area of each farm owned by each family is on average below 2 (two) hectares. The land area obtained is adjusted to manage the fields (Fauzi & Widodo, 2019). Land management for the Dayak Maanyan community still uses traditional tools (Supiandi, Leliavia, et al., 2019).

The most common land clearing is by burning the forest. The burning process as part of land clearing is carried out utilizing calculations/considerations of natural science. The concerns are usually related to the season when land clearing is carried out from knowledge that has been passed down from generation to generation (Qamariah et al., 2020).

Land burning is done to clear the land and fertilize the soil before planting (Qamariah et al., 2020). Ash from burning plants becomes a natural substance that fertilizes the soil (Hersipa et al., 2020). However, if it is calculated from the other side, the ground's fertility obtained by burning the land is not proportional to the level of loss caused by forest fires. Forest fires can endanger people's respiratory health and can damage forest ecosystems (Großmann, 2019).

Opening new land is not always done; it must be done with the permission of the Customary Leader, who will inform knowledge about 'natural science,' which is the basis for determining the right time to open new land. Such as wind direction, dry season, or rainy season (Springgay et al., 2019). They also understand how to prevent fires from spreading and not endangering other areas. They maintain the balance of the forest ecosystem, which in their understanding of the forest ecosystem is disturbed, the balance of their life will be shocked (Baskent et al., 2020).

Forest resources for the Dayak tribe

With their local wisdom for hundreds of generations, the Dayak community has proven to preserve natural resources (SDA) that are part of life (Fagerholm et al., 2019). The Maanyan Dayak people have a very close relationship with the forest (Rombe, 2020). This understanding has similarities with the people in Indonesia, where the relationship between humans and nature is seen from a religious/spiritual perspective (Suwija et al., 2019). The surrounding nature is not only an 'object' of survival but more than that as something sacred (Bedner & Arizona, 2019). The understanding of the Dayak community that the relationship between humans and nature has a religious dimension is local wisdom which is a strength and can be used as the primary material in constructing laws at the level of Regional Government Regulations (Sumintono et al., 2015).

Local government regulations as a means of maintaining local wisdom

The position of Regional Government Regulations is a subsystem in the Indonesian national legislation system. As the lowest regulation in the hierarchy

of laws and regulations, Regional Government Regulations theoretically have a narrow degree of flexibility because they cannot deviate from national laws and regulations (Saharjo & Hadiwijoyo, 2019). In terms of granting broad autonomy to regions to provide space for regional governments to pay attention to improving people's welfare (Kauppi et al., 2020). Interest is realized by utilizing the potential in the area, including the possibility of forest resources (Ahmad et al., 2019).

Regional autonomy provides an opportunity for local governments to explore the value of local wisdom in making regional regulations. For example, making local regulations on land clearing and sustainable forest land management can use the local wisdom values of the Maanyan Dayak tribe (Haeruddin et al., 2017).

The use of the local wisdom of the Maanyan tribe is expected to provide prevention against forest fires that have an impact on climate change. In addition, the value of local community wisdom can be used as a source of local government regulations in opening regional regulations (Supiandi, Mahanal, et al., 2019). Finally, the local wisdom of the Maanyan Dayak tribe in forest management can be used as a source of value to realize sustainable forest development (Supiandi, Mahanal, et al., 2019).

The Indonesian government commits to preventing climate change caused by forest fires. Furthermore, Indonesia is bound to carry out the obligation to manage the existing forest area due to ratifying several conventions on climate change (Finley & Zhang, 2019).

Local wisdom contains conservation value, showing that the Dayak people are not the perpetrators of forest fires, which they have been accused of (Harahap et al., 2018; Rasna & Tantra, 2017). The Maanyan Dayak tribe The local wisdom of functions as a forest guard and protector from a group of irresponsible people (Siombo, 2021; Werdistira et al., 2020). Local governments must be responsive in overcoming cases of forest fires that occur in their territory (Sundnes et al., 2020). The provincial government needs to accommodate the local wisdom of the Dayak tribe and use it as the basis for the preparation of local government regulations related to dealing with forest fires.

Conclusion

Law serves as a means of maintaining the use of natural resources. The Maanyan Dayak tribe has values and norms as local wisdom in managing forests. Local wisdom has knowledge, belief, understanding or insight, and customs that guide people in life in the community. The Dayak tribe has an experience of the relationship between humans and nature with a religious dimension that can be used to manage forests. This research is expected to be a material consideration for related parties to forest fire prevention by utilizing local wisdom. The understanding of the Dayak community that the relationship between humans and nature has a religious dimension is local wisdom which is a strength and can be used as the primary material in constructing laws at the level of Regional Government

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