

## **Hydrometeorological Disasters Caused by Forgotten Local Wisdom (A Study of Local Wisdom 'Pilot' of the Gayo Community in Forest Conservation)**

**Abdiansyah Linge**

IAIN Takengon

Email: [abdiansyahlinge15@gmail.com](mailto:abdiansyahlinge15@gmail.com)

### **Abstract**

The hydrometeorological disaster in Aceh caused floods and landslides, causing numerous casualties and significant economic losses. The hydrometeorological disaster was exacerbated by the deterioration of forests in the highlands. Forest destruction is caused by many factors, one of which is the decline in local wisdom regarding forest exploitation. The norms and values of the Gayo highland community are closely linked to the interaction between nature and humans. Communities living alongside forests or in highland areas play a key role in preserving forests. Their role in preserving forests is driven by values and ideas within the community, known as local wisdom. This study focuses on the local wisdom of "rintis" within the Gayo community. This research will construct the values contained within rintis norms as ideas or concepts in the interaction between humans and nature. The methodology used in this research is a qualitative approach in the form of micro ethnography, reconstructing the implementation of nature/forest conservation values in the local system. The wisdom or customs of the Gayo people in pioneering norms. Starting from describing norms to actualizing norms in life so that they have benefits for environmental sustainability. This study concludes that the values of the rintis norm have been forgotten in Gayo society due to the need to fulfill economic needs, leading to the conversion of areas prohibited by custom to agricultural and plantation land. Therefore, the rintis norm, as local wisdom, remains merely a figment of the imagination and is not applied in human-nature interactions.

**Keywords:** Hydrometeorological Disasters, Forests, Norma 'rintis, Gayo



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### **INTRODUCTION**

On Thursday, November 27, 2025, the Governor of Aceh issued a Governor's Decree on the determination of the status of the State of Emergency Response for Hydrometeorological Disasters in Aceh in 2025. The determination of this state of emergency response was due to the fact that most of the districts/cities in Aceh province were hit by hydrometeorological disasters, many districts/cities were hit by floods and landslides, causing several districts/cities to declare their inability to cope with emergency disasters. Based on information from BNPB, the number of victims from floods and landslides in the provinces of Aceh, North Sumatra and West Sumatra recorded the highest number of deaths occurred in Aceh Province with a total of 424 people, this data continues to fluctuate according to findings in the field. Between December 8-13, the number of deaths in Aceh increased by 33 people, and the total number of missing people reached 33 people (BNPB 2025). Furthermore, from the results of temporary data collection, damage due to the disaster includes: 220 government offices, 633 places of worship, 549 schools, 669 Islamic boarding schools/Islamic boarding schools, 193 health facilities, 1,098 roads and 492 bridges, 133,534 affected houses, 56,387 livestock, 72,406 hectares of rice fields and 23,307 hectares of damaged gardens. The severe flood and landslide disaster that hit the provinces of Aceh, North Sumatra and West Sumatra illustrates the enormity of nature when humans and nature can no longer communicate harmoniously, many parties blame each other for the causes and handling of the disaster and even question and doubt destiny (God's role in the disaster).

This article does not seek to identify who is responsible for the flood and landslide disasters that occurred, but rather serves as a reflection on the role of humans in building harmonious communication with nature. Disasters occur because so many variables are interconnected, causing the system to malfunction, resulting in losses and casualties. Floods and landslides are triggered by extreme rainfall (tropical cyclones) which are exacerbated by forest destruction, river silting, steep topography, and poor environmental governance, even to the point of policies, regulations, and many other variables that cause disasters. However, among the variables that cause disasters, one value or system that is forgotten, thus worsening the disaster, is *local wisdom*. This article will describe *the local wisdom* of the Gayo people in forest conservation that has been forgotten. So it is hoped that local Gayo wisdom can live in preserving nature/forests and can reduce disaster victims in the future. There is much evidence in Indonesia how the interaction of indigenous peoples with nature/forests can maintain forest sustainability and minimize floods and landslides that occur, such as the Naga and Baduy traditional villages in Banten, where people depend on their lives from products obtained from the forest such as bee honey, firewood, grains, vegetables, spices, hunting and preserved beauty to increase their income from visitors. These various forest products encourage indigenous people to remain tested in preserving forests, based on local wisdom in various fields such as medicine, martial arts, environmental conservation including forestry, agriculture, economics, government and so on (Huda, 2025).

The Wehea protected forest in East Kutai Regency, East Kalimantan, is consistently maintained and preserved by the local indigenous community. Visitors to the protected forest are welcomed by local residents with traditional ceremonies, traditional dances, and souvenirs, symbolizing a sense of community. The large trees, lush foliage, fruit trees, and wildlife add to the beauty. While the forest is located close to the main road and the HPH (Logging Concession) concession, its preservation remains well-maintained (Arham, 2023). The discipline of indigenous communities in maintaining forests based on local knowledge is a source of innovation, awakening the ethos and skills of hereditary entrepreneurship, empowering communities to achieve prosperity, because local wisdom is a collection of facts, beliefs and perceptions of the community regarding the world around them (A. C. A. Dkk., 2009) and building harmonious communication between humans and nature so as to minimize the occurrence of floods and landslides.

## RESEARCH METHODS

This research is a study of local wisdom from the Gayo traditional perspective using a qualitative approach (Fiantika, 2022) in the form of micro ethnography, analyzing the implementation of nature/forest conservation values in the *local system. genius* or custom of the Gayo people. Meanwhile, the basics of research and writing are to first carry out library research, especially regarding problems related to theoretical foundations, then carry out field research to obtain the necessary data. The sociological construction process is carried out in two ways: *First*, defining reality and knowledge. Social reality is something implied in social interactions that is expressed socially through language communication, cooperation through forms of social organization, and so on. Social reality is found in intersubjective experiences, while knowledge of social reality is related to social life in all its aspects, including the cognitive, psychomotor, emotional, and intuitive domains. *Second*, to examine something intersubjective, the paradigm used is that individuals are the builders of society and society is also the builders of individuals, which is called local knowledge (Irawati, & Mursyid, 2023).

## **RESEARCH RESULTS AND DISCUSSION**

### **Forest Conservation Customs and Norms**

Custom, in the Great Dictionary of the Indonesian Language, means a set of rules of conduct that have been commonly observed and practiced since ancient times, behavior that easily becomes habitual. Thus, custom is part of culture, a product of the thoughts and reason of a group of people, used as a standard of behavior in a particular society, regulated in various ways and thus referred to as custom. Custom or culture has become a separate science called ethnology. Ethnology is a branch of science that tries to achieve an understanding of the principles of humanity, by studying the cultures in the lives of people from as many ethnic groups as possible spread across the face of the earth today (Koencarabingrat, 2009). Ethnology has two schools of study, or two groups of research. The first emphasizes the diachronic (sequential) field of study over time, while the second emphasizes the synchronic (simultaneous) field of human culture. There is no fixed name for these two types of research, but we often see names such as *descriptive integration* for diachronic research, and *general approach* for synchronic research (Nirzalin., & Zainal, 2023). Scholars call the first form *ethnology* in the special sense, and *social anthropology* for the second.

According to Abdul Haq, habits or customs contain values that are believed to be norms of life that regulate and direct the way of thinking, feeling, acting, organizing, socializing, economics, family, education, environmental care and so on (Mahmud Ibrahim, 2017). Every rational person does something because it is seen as valuable and his way of life is shaped by the values he internalizes. People who do not carry out valuable actions that are usually carried out are considered to have experienced a shift in values. In the context of forest conservation, customs or habits that are part of the culture of the Gayo tribe are outlined in norms, thus becoming *living law* in forest conservation in the central region of Aceh province. *Patrilineal* family system is a system used in Gayo society, where the male or husband's family is more responsible for the interests of the family than the female or wife. Men or husbands are obliged and responsible for earning a living for the family, while women or wives are not obliged or not responsible for earning a living, they have the main task of maintaining and managing the household or doing light work to look after the interests of the family. The Gayo people's social system is bound by integrated Islamic and traditional values. This principle is established in 45 articles of Gayo customary law within the Linge kingdom (Ramadhani, A., & Pratama, 2025).

### **Customary Means of Effective Transfer.**

Custom as part of culture, viewed from its existence as only owned by humans, functions as an effective means of transfer, giving rise to three forms: (1) Form as a complex of ideas and concepts resulting from human thought. (2) Form as a complex of activities. (3) Form of culture in the form of objects or conditions. These three forms are expected to produce happiness, because all three have valuable values for life (A. H. Dkk, 2020) Meanwhile, culture *has* the definition; " *the entire system of ideas, actions, and works of humans in social life that are made human property through learning*" (Koentjaraningrat, 2009, p. 144). From this definition, it can be said that almost all human actions are 'culture' because there are only a few human actions in social life that do not need to be accustomed to learning. The word " *culture* " is a foreign word with the same meaning as "culture." It comes from the Latin word " *colere*," meaning "to cultivate, to work," especially to cultivate the land or to farm. From this meaning, culture evolved as "all human efforts and actions to cultivate the land and transform nature." This later evolved into the concept of culture as understood today (Koentjaraningrat., 1990). Forest preservation is inseparable from valuable values and becomes the guiding principle for human action. The customary norms for forest preservation found in the Gayo community determine the activities

and interactions between humans and nature. If the values of forest preservation, according to customary values, are not shared by the community, then there will be no more ideas or concepts for preserving nature/forests. Instilling these values is crucial for harmonious interaction between nature and humans.

### **Local wisdom**

The study of forest maintenance and preservation is not a new issue, but rather an old one, dating back to the beginning of human existence. Forest preservation has been well-regulated and implemented with mutual respect, based on local wisdom based on the customary norms of various ethnic groups in Indonesia, including the Gayo customary norms. Local wisdom related to forest conservation positions individuals as givers of meaning. This meaning has an impact on actions based on intentional daily experiences. From <sup>1</sup>this thought, the thought and tradition of symbolic interactionism arose. This tradition has three main premises, namely; (1) humans act towards something based on the meaning that exists in something that impacts them (physical objects, other people, social institutions and abstract ideas or values). (2) this meaning comes from social interaction. (3) these meanings are refined and modified through a process of interpretation during the social interaction process (Nirzalin., 2024). The actualization of local wisdom in forest conservation is influenced by the understanding of values and law enforcement so that local wisdom can live as a balanced value in the sustainability of natural resources or the preservation of nature/forests. Customs and culture, embedded in local wisdom and knowledge, serve as driving values for communities in forest conservation, enabling forests to provide benefits and mitigate harm in the form of disasters. The Gayo people embrace values related to interacting with nature, embedded in their social norms. One such norm in nature conservation is the "*rintis*" norm. The following will discuss the *rintis* norm within the Gayo community as a form of interaction in nature conservation.

### **Pioneering Norms in Forest Conservation**

Forest conservation through Gayo customary values (including *rintis*) has become part of the Gayo community's ideas and concepts for forest preservation. According to (Ramadhani, 2025), these values have been implemented since the Linge kingdom, and are contained in 45 customary provisions governing several customary norms, including those concerning the environment: Several customary norms relating to environmental and forest conservation, such as "

1. Forests can only be cleared for rice fields or plantations.
2. Before clearing the forest or cutting down trees, *a feast is first held* asking Allah for safety.
3. It is prohibited to cut down trees in and around water sources, along rivers or streams, on cliffs, beyond the boundaries of mountains or hills and near trees that are close together.
4. Environmental maintenance must be carried out in the following order: water, village, rice fields, gardens, *rintis* (the boundary between gardens and forests).
5. Gardens or rice fields must not be abandoned. If abandoned for more than five years, the land rights are revoked, unless there are permanent signs such as rice field embankments or water channels or plantation/horticultural trees, that the land in question has been cultivated. The revocation of land rights is based on the customary provisions of *beluh koro taring tunah*, *beluh jema taring umah* (buffalo leave their hole, people leave their house).

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<sup>1</sup> *Intentional* ; is an adjective related to behavior that someone does intentionally and consciously to achieve the intended goal.



6. Lakes and rivers are kept clean to preserve the purity of the *Depik fish* and other fish species. Fishing using fine-mesh nets, poison, bombs, or other methods that damage God's creation is prohibited.
7. Livestock development areas, called *peruweren*, are collectively owned by the livestock owners and are subject to the *peruweren regulations*, led by the *pengulu uwer* (farm leader). Opening gardens in the livestock area is prohibited. Livestock are released from morning until evening. At night, all livestock must be kept in pens.
8. Hunting in forest areas requires permission from the local *pawang uten* (animal handler), and a small feast is held before the hunt to ensure a successful hunt. Hunting pregnant or underage animals is prohibited.
9. In each village, a garbage disposal area is designated at the back of the village, called a *dewal*.

Apart from the provisions above, people generally care for plants with great care, calling on the spirits of the plants, especially rice and secondary crops, by calling them *kuur semangat*, and raising livestock by determining the *uluni tawar* of the old livestock, giving them special names which are then followed by their descendants. Planting rice and secondary crops cannot be done as one wishes, but must follow the leadership of the *keujeurun blang* (Aceh), *Kejurun belang* (Gayo), namely someone appointed by the community as a farmer leader. Some of these positions are hereditary to lead the farmers down to the rice fields to start the rice or secondary crop planting season and the maintenance process. Before starting to cultivate the land, a *kenduri belang* or *troeun u blang* is held, praying together asking God, so that the process of working the land until planting rice or secondary crops, avoid danger and the crops are successful. This ceremony is carried out by almost all ethnic groups in Aceh: the Gayo people call it *kenduri ku ului weh* (feast at the water source), *turunku ume* (starting to cultivate the rice fields), *murerak* (cleaning the water channels), *jeme* (determining the distribution of water) and *kenduri luwes belang* (giving thanks after the harvest). Aneuk Jamee calls it *keuduri sawah*.

The customs as stated above are local wisdom on how to maintain the environment: water and plants well. The culture and customs of the Gayo people who live in the Gayo highlands in the central region of Aceh, are shaped by the natural conditions of their environment, giving rise to several norms regarding forest conservation, one of these norms is *rintis*. *Rintis* Norm is a boundary mark between gardens and forests created by cutting down the forest, prohibiting anyone from cutting down trees above the *rintis*. A *rintis* is a forest or thicket cut down along the foot of a hill with a slope above 30 degrees and a width of two meters. No one is allowed to cut down trees, let alone clear the forest above the *rintis*. An imaginary line agreed upon by the government (Gayo: *sarak opat*) as the boundary of areas that can be managed by the community to meet economic needs, such as plantations, rice fields, agriculture and livestock, and areas that are prohibited from exploitation in the form of protected forests/village forests. Violating the consensus established by *sarak opat* will result in social sanctions for violators. The law or witnesses for violating this *rintis* norm will be explained in the sub-sanctions for violating *rintis* norms. The norms of life pioneered as living law in the Gayo community are influenced by several factors, such as the location or topography of the area inhabited by the Gayo people, as well as the forms of economic activities carried out by the Gayo people, such as agriculture and animal husbandry. These norms have been in effect since ancient times, influenced by:

### Topography of the Gayo Region

The natural conditions where the Gayo people live are highlands covered by vast expanses of green leafy forests and abundant water sources, causing this region to have agricultural status. The Gayo region is located between 4o 10' 33" – 5o 57' 50" north latitude and between

95o 15' 40" – 97o 20' 25" east longitude, with an area of 11,899.92 km<sup>2</sup> and is at an altitude of 200 – 2,600 m above sea level. The forest area in 2013, 935,160.304 ha consists of: protected forest 413,618.58 ha, limited production forest 25,645.69 ha, convertible production forest 100,166.16 ha. other use areas 2,408.96 ha and nature reserve forest/hunting park 85,993.08 ha (Koentjaraningrat, 1983, p. 100). The water source in Gayo consists of a lake Lut Tawar; located 1,100m above sea level which occurred due to tectonic phenomena (slenk) covering an area of approximately 120 km (34 x 4 km) and a maximum depth of 120 m. Around the lake there are quite a lot of water sources, both in the form of estuaries of tributaries and springs on the edge of the lake and at certain depths of the lake (BPS Aceh Tengah, Bener Meriah, & Gayo Lues, 2014). The abundant water sources supported by high mountains and sustainable forests around the lake mean that the water volume of Lake Lut Tawar does not decrease (Lintas Gayo., 2025). Other water sources in Gayo include numerous river headwaters. The largest are the Jambo Aye, Peusangan, and Tamiang rivers, which flow into the Sumatra Strait in Bireuen, East Aceh, and Aceh Tamiang, respectively. The Lawe Alas and Teripa rivers flow into the Indian Ocean in Singkil and West Aceh, respectively. Furthermore, these large rivers have numerous tributaries. The water flow of these rivers consistently increases, sometimes overflowing during the rainy season, causing flooding in the lowlands near the coast, as much forest has been cleared for plantations.

## **Discussion**

### **Business field**

The Gayo people generally cultivate rice fields and gardens, which require careful attention to the function of water sources as a top priority. The development of Gayo people's businesses until the 19th century included concocting medicines, hunting, fishing, raising livestock, farming, and cultivating rice fields (Snouck Hurgronje, 1903/trans. Hasan & Asnah, p. 339). According to MJ Melalatoa, these types of livelihoods originated and grew simultaneously during the early period of the development of Gayo people's lives. Starting in the 19th century, the livelihoods referred to as "food gathering economies" (*foodgathering economies*) as mentioned above began to disappear as a means of livelihood (Melalatoa, 1983, p. 204). In addition to rice fields, gardening, and livestock farming, the Gayo people maintain a forest area of 3,988.50 km<sup>2</sup> (71.6%) and a marculi pine forest of 496.00 km<sup>2</sup> (8.9%) (Melalatoa, 1983, p. 39) which is very important for their lives. In addition to being a building material, the forest is a source of income from the trade in rattan, honey, palm sugar, elephant ivory, deer meat, and various animals (Ibrahim, 2015, interview with Samarnawan, December 2014). Starting in the 20th century, the Gayo people intensified their efforts in coffee, rice, tobacco, horticulture, secondary crops, and sugar cane plantations, while still trying to maintain and not damage the forest (Ibrahim, 2015, M. Husin Saleh, May 21, 2015).

### **Pioneering norms form spatial planning**

The pioneering norms that serve as values in the economic activities of the Gayo people shape spatial planning (planology) in community life. Spatial planning is a system of planning and regulating the use of space on land, rivers, and forests in a structured manner to achieve optimal, sustainable, and harmonious use between nature and humans, with the aim of avoiding disasters that could harm the Gayo people themselves. This includes determining the location of settlements, rice fields, agriculture, protected forests, and infrastructure, and is regulated in a social agreement regulated by *sarak opat* (government). The spatial planning of the Gayo region is in the following order:

1. Water, in the lowest places, forms lakes, rivers, channels, swamps, reservoirs, waterways and so on. It is used for drinking, purification, maintaining cleanliness, irrigating rice fields and plantations as well as livestock drink. Near the water area, a mosque, *menasah*, *joyah*, *berawang* (a pool for bathing in women) and *wunen* (a place for women's bathing) were built.
2. On higher ground above the water level, a village was built, equipped with a *mersah* (grinding) gate, a *dewal* (trash disposal area), and a *serami* (youth security center), where the *bebujang* (young men) were in charge. The village security center's duties included preventing unethical behavior ( *sumang* ), protecting the forest from fires and theft, and other damage.
3. Rice fields are located around villages. Initially, rice fields were located close to villages to ensure the safety of crops and rice harvests after harvest, as well as to maintain the smooth flow of water from forest areas. Rice fields subsequently expanded due to adequate irrigation, a result of forest conservation. Currently, rice fields around urban areas are decreasing due to infrastructure and housing development.
4. The garden is located at the top of the rice field area at the foot of the hill on a slope below 30 degrees.

The boundary between community plantations and forests is called *rintis*, so that the economic livelihood of the community continues to maintain the sustainability of nature, because the lower areas as a place of residence and economic source are closely related to the condition of the forests in the highlands/forests.

### Sanctions for Violations of Pioneer Norms

As described above, *Rintis* is a forest or thicket along the foot of a hill with a slope above 30 degrees and a width of two meters. No one is allowed to cut down trees, let alone clear the forest above *the rintis*. Violations of this provision are punishable by severe customary sanctions. Meanwhile, anyone who violates the *rintis norm* by cutting more than three trees is punished with *parak* (social isolation) from the local village community. This social law is enforced by isolating (banishing) violators from the village community by excluding them from social events. This law is simple yet highly effective because it is related to the reputation of the extended family and descendants. When the Dutch occupied the Gayo region in 1904, *the rintis* were replaced or reinforced with permanent structures consisting of concrete pillars, thus marking the boundary permanently. Over the past 10 years, some farmers have violated the *rintis norms* by planting coffee, due to the lack of firm action by the government and traditional leaders. According to Ali Djadun, *the rintis* as a boundary marker between people's plantations and forest areas, was strengthened by the Dutch government in two ways: *First*, building concrete pillars every 250 m along *the rintis* in mountainous locations. *Second*, building a road around the single mountain. Both permanent boundary markers contained provisions that the forest area above *the rintis* (pillar or road) was prohibited from being cut and the lower part could be cut or opened for plantations and rice fields with government permission. Violations of these provisions resulted in the perpetrator being subject to sanctions in the form of *parak* (being excluded from social communication) and since the Dutch era it has been replaced with fines or imprisonment according to the level of the crime (Pratama, R., & Sari, 2025).

In addition to the determination and implementation of clear spatial planning and forest boundaries as mentioned above, the principle contained in the sentence "*belang bepancang, uten betene*" (grasslands and forest areas are marked with certain markings) is also implemented so that their designation is clear. Violation of customary norms or carrying out customary taboos as described above is called *terjah* (disobedience or opposition to *the Sarak*

*government Opat* ), *empah* (bad behavior), *keliling* (breaking the law) and *juge* (usurping government authority) (Kemdikbud., 2024). These customary norms apply to all aspects of life, including violations of customary norms for preserving and destroying forests. There are several customary sanctions against anyone who violates the provisions or carries out customary taboos regarding forests: cutting down trees outside or at the top of *the rintis* , near water sources, along rivers/tributaries, channels and cliffs and in the *musara* forest area (village forest), sanctions are imposed which are contained in the sentence *salah besemah ilit isi* (apologize and fine) which are detailed according to the level of the perpetrator's mistake as follows:

1. Minor offenses such as releasing livestock in the *musara* /village forest area, cutting down a tree in the forest without the permission of *the village head. uten*, was given a sanction of *ma'as* (apologizing to *Sarak Opat* and the community for the violation and stating that the person concerned regretted it and would not repeat the act of violating customs) (Fuadi, 2020).
2. Moderate crimes such as cutting down several trees and hunting in the forest without *Sarak's permission. Opat* is given a sanction of *ma'as* and *dene* (apology and fine) in the form of a statement and a sum of money or livestock, the amount of which is determined by the type and consequences caused by the perpetrator's actions, and declares to *Sarak Opat* and the community that the person concerned will no longer carry out actions that are taboo/prohibited by customary law.
3. Serious mistakes such as allowing the forest to burn, cutting down trees in the forest for rice fields or plantations without *Sarak's permission*. The perpetrators *were given a severe punishment* , namely being separated from the local village community or being expelled from the local village area for one month to one year, depending on the level of the crime committed, and expressing regret and apologizing ( *maas* ) to *Sarak. Opat* and the forest community.
4. Sanctions for very serious violations such as burning the forest so that more than two hectares are destroyed or cutting down the forest and then abandoning it, are subject to *jeret naru sanctions* (long grave, considered the person concerned to have died) by being officially expelled from the village forever, for at least one year if the person concerned is able to entertain the local residents by slaughtering large livestock and apologizing and sincerely stating his/her apologies to *Sarak. Opat* and the local community, that the person concerned regrets his actions and will not damage the forest again in any form.

The sanctions are determined and imposed on a person or several people through a customary court consisting of four elements of *the Sarak Opat* Kampung government, namely *Reje* as Chairman, *Imem*, *Petue* and several people from *Rayat Genap Mupakat*, each as members. If the act of destroying forests or cutting down prohibited trees is carried out by more than one person, punishment is imposed on the leader or all perpetrators. The most severe and memorable punishment that affects the descendants of the person sentenced is the moral punishment in the form of being called a *thief* or a *destroyer* (peremok) against themselves and their descendants. In addition, most people believe that there are *supernatural sanctions* in the form of illness or disaster or being hit by/struck by wood, falling, being disturbed by wild animals and so on, if cutting or clearing forests without rules or done with *riya* or arrogance. From the description above, it is clear that the Gayo customary norms regarding forest conservation prohibit clearing forests or cutting down trees in forest areas in:

1. The top of the forest boundary marker is in the form of a *stub* or pillar or footpath.
2. Around the water source/spring, 22 fathoms or 44 meters from the water source.



3. Along the river and channel as far as 10 fathoms or 20 meters from the edge of the river and channel
4. The forest area belonging to the village (*uten/tanoh musara*) averages 100 ha.
5. Without government permission, cutting down *trees* or clearing forests outside the forest areas mentioned above.

There are several Gayo traditional taboos in the process of cutting down trees:

1. examine the tree to be cut down through several stages: examine the location of the tree to see if it is in an area prohibited from being cut down, ask for guidance from Allah, hold a feast and pray to Allah to avoid danger (Irawati, & Mursyid, 2023).
2. trees must not be cut down in an uncivilized manner and must be cut with very sharp tools to avoid harming the wood. Because, according to their beliefs, wood and other creatures are equal to humans, worshipping God.
3. you must not cut down trees that are close to other trees, because it will damage other small and useless trees.
4. you are not allowed to cut down trees at certain times, including: Friday, Wednesday Nas, near the time of obligatory prayers, at night, on the day when a villager disastrously dies.
5. know and mention the name of the large tree and say *basmalah* and it is best to face the Qibla when cutting it.

Violations of customary norms or carrying out customary taboos as described above are called *terjah* (disobedience or opposition to the Sarak Opat government), *empah* (misbehaving), *touring* (breaking the law) and *juge* (usurping government authority (Mahmud Ibrahim, 2017)

## CONCLUSION

Local wisdom that lives in the Gayo community is a value for building harmonious interactions between humans and nature so as to minimize hydrometeorological disasters that are closely related to forest sustainability. The pioneering norms that exist in the Gayo community are essentially a strong fortress for maintaining forest sustainability in the central region of Aceh, but these pioneering norms have been displaced by economic interests and have been forgotten. Pioneering norms do not run effectively in Gayo society because the implementation of social sanctions does not work due to the development of economic needs of both the Gayo people themselves and immigrants. The recent hydrometeorological disaster in Aceh is inextricably linked to the conversion of forests to agricultural land. Economic growth and community well-being have become the primary focus, resulting in the implementation of the pioneering norms being neglected or neglected. Regulations enshrined in state regulations and customary norms will only be effective if law enforcement is implemented. The firmness of regulators as managers of the state and society, living by and upholding the values entrenched in society, will create a harmonious interaction between nature and humans that will benefit the environment.

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