

## RESEARCH ARTICLE

# Bridging Tradition and Policy: Local Regulation and the Sustainability of the Hemaq Beniung Indigenous Forest

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## ABSTRACT

Indigenous forests in Indonesia are vital ecological and cultural assets, yet they often face legal uncertainty and limited recognition within formal governance systems. To address this, the Regional Regulation of West Kutai Regency Number 6 of 2014 concerning the Protection of Customary Forests, Historical Sites, Flora and Fauna, and Environmental Conservation in West Kutai Regency provides formal recognition and a legal framework for safeguarding indigenous forest management. This study analyzes how the regulation bridges indigenous law with formal governance to ensure the sustainability of the Hemaq Beniung Indigenous Forest in Juaq Asa Village, East Kalimantan. A qualitative descriptive approach was employed, drawing on interviews with government officials, indigenous leaders, and forestry stakeholders, as well as document analysis and field observations. The findings show that regional regulation establishes a foundation for protection, supervision, and conservation, while strengthening indigenous rights and community participation. Its implementation has enhanced legal recognition, fostered collaboration between government and communities, and improved conservation outcomes for biodiversity. However, challenges remain, including limited enforcement resources and pressures from illegal logging and forest conversion. This study emphasizes the significance of local regulation as a vital policy instrument for incorporating customary practices into formal governance, thereby enhancing both ecological sustainability and the resilience of indigenous communities.

## 1. Introduction

Forests are vital national resources that hold ecological, social, and economic significance, and their governance reflects the balance between state authority and community rights (Child, 2019). Based on their legal status, forests in Indonesia are classified into state forests and private forests, with further distinctions between indigenous forests and forests owned by individuals or legal entities. In line with Article 33, paragraph (3), of the 1945 Constitution, all forest categories are ultimately under the control of the state (Szablowski, 2019). This policy grants indigenous forest management rights to traditional customary communities. However, if a community is dissolved, the government reassumes the responsibility for managing these forest areas (Myers et al., 2017). This legal construction illustrates the shared responsibility between the state and indigenous peoples in sustaining forest resources. While the cultural stewardship of local communities is vital, the sustainability of indigenous forests also depends on formal local regulations that legally recognize their status and strengthen community-driven governance frameworks (Maraseni et al., 2019).

Indigenous forests are not only ecological assets but also cultural legacies that play a vital role in sustaining biodiversity and maintaining the global ecosystem balance (Hidayat et al., 2018; Nikolakis and Hotte, 2020). For indigenous peoples, forests embody cultural and ecological values, as they are managed through traditions that carry holistic meaning for both community identity and environmental stewardship (Bhattacharya and Panda, 2024). Rooted in the deep-seated wisdom and hereditary customs

of their people, these stewardship practices are guided by indigenous law, an organically developed framework of social norms and governance arising from the community itself (Negari and Mishra, 2018; Turnbull and Poelina, 2022). Therefore, safeguarding indigenous forests requires not only recognizing their ecological and cultural functions but also ensuring that indigenous law and local wisdom are reinforced through legal frameworks that guarantee long-term sustainability.

Notwithstanding their profound ecological and cultural importance, indigenous forests frequently encounter challenges stemming from legal ambiguities and insufficient acknowledgment within formal governance frameworks. While customary law establishes norms for forest stewardship, its legitimacy is often marginalized by state-centric regulatory systems, resulting in contested jurisdictions and heightened potential for conflict (Myers et al., 2017; Szablowski, 2019). In many cases, indigenous communities struggle to defend their forest rights because there are no binding regulations that integrate customary law into regional or national legal frameworks (Gebara, 2018). This condition weakens indigenous peoples' capacity to sustain forest resources and increases the risk of deforestation and ecological degradation (Maraseni et al., 2019). Therefore, establishing local regulations that formally recognize indigenous forests is a critical policy instrument to ensure the sustainability of forest ecosystems and the protection of indigenous communities' cultural heritage.

While numerous studies have examined forest governance in Indonesia, limited attention has been paid to the role of local regulations in bridging customary practices with formal legal frameworks to sustain indigenous forests. Existing research often highlights either the ecological value of indigenous forests (Hidayat et al., 2018; Nikolakis and Hotte, 2020) or the significance of indigenous law in resource management (Negari and Mishra, 2018; Turnbull and Poelina, 2022), but tends to overlook how local government policies concretely shape the recognition and protection of these forests. Moreover, studies that link indigenous cultural stewardship with sustainable development goals through the lens of local regulation are scarce, particularly in East Kalimantan, where the Hemaq Beniung Indigenous Forest serves as a pioneering case. Therefore, this article aims to analyse how local regulations contribute to the sustainability of the Hemaq Beniung Indigenous Forest by bridging indigenous law with formal governance, and to discuss its broader implications for policy innovation in sustainable forest management.

## 2. Materials and Methods

### 2.1. Study Area

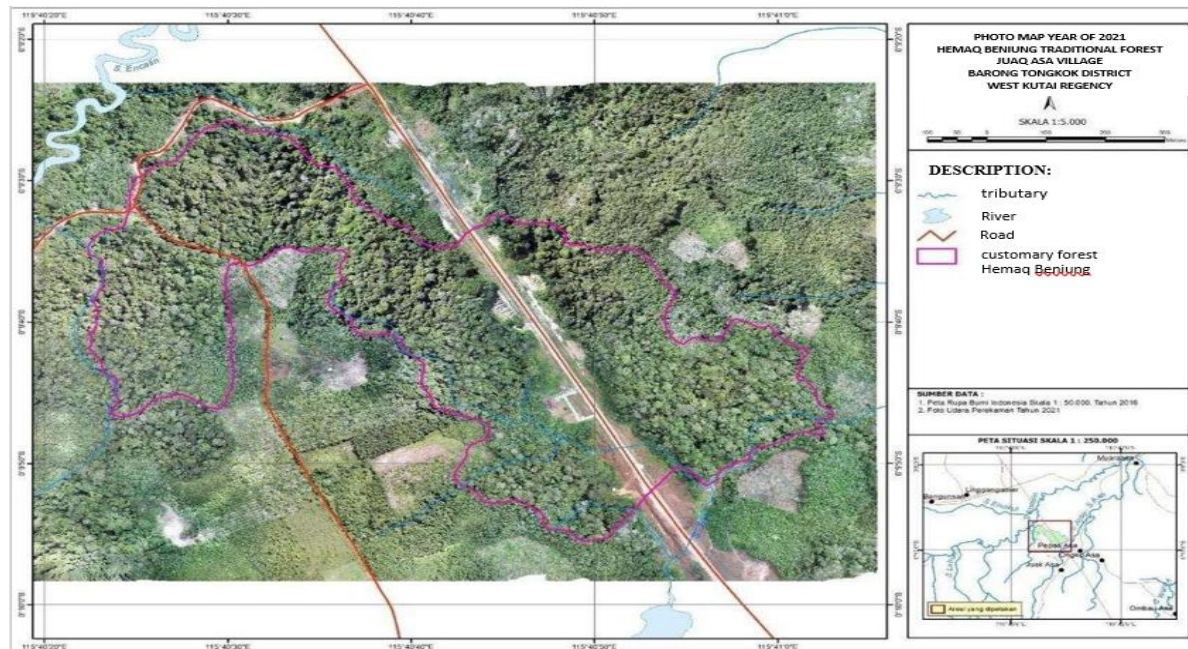
This research was conducted in Juaq Asa Village, Barong Tongkok District, West Kutai Regency, East Kalimantan. The Hemaq Beniung Indigenous Forest is geographically located between 115° 40' 22.8"–115° 41' 2.4" E and 0° 9' 25.2"–0° 9' 54" S (Fig. 1). The area covers approximately 48.85 ha, consisting of secondary dryland forest (84.17%), open land (9.52%), and scrubland (6.31%). The site was chosen because it is the first indigenous forest in East Kalimantan officially granted by the Ministry of Environment and Forestry.

### 2.2. Research Design

This study adopted a qualitative descriptive approach to understand the role of local regulations in protecting and preserving indigenous forests through the lens of community-based governance. A qualitative approach was considered most appropriate to capture the perspectives, experiences, and practices of stakeholders involved in forest governance.

### 2.3. Data Collection

Primary data were obtained through semi-structured interviews, while secondary data were drawn from official documents, regional regulations, reports, archives, and online resources. Observations were also conducted to document on-site forest management practices, conservation activities, and community participation.



**Fig. 1.** Research location.

#### 2.4. Informant Selection

Informants were selected using a purposive sampling strategy, focusing on individuals directly involved in implementing the Regional Regulation of West Kutai Regency Number 6 of 2014. These included:

1. Indigenous leaders (*Kepala Adat*) of Juaq Asa Village,
2. Officials from the West Kutai Regency Forestry Service,
3. Members of the Civil Service Police Unit (*Satpol PP*), and
4. Village government officials.

To ensure diverse perspectives and validate findings, a snowball sampling technique was also applied, in which initial informants recommended additional relevant stakeholders, such as community elders, local youth, and conservation practitioners familiar with the indigenous forest. This dual sampling strategy ensured a comprehensive representation of both government and community perspectives.

#### 2.5. Data Analysis

The data were analyzed using the interactive model developed by Miles et al. (2014), which involves three concurrent activities:

1. Data condensation (selecting, focusing, and simplifying raw data),
2. Data display (organizing information into matrices, tables, or narrative descriptions), and
3. Conclusion drawing and verification (identifying patterns, relationships, and implications).

This iterative process enabled triangulation among interview results, observations, and secondary documents, thereby ensuring the reliability and validity of the findings.

### 3. Results and Discussion

Kalimantan Island is one of Indonesia's islands with the largest forest cover (Sari et al., 2023). This makes Kalimantan a region with high biodiversity and indigenous forests, which are integral to its conservation efforts. One of the forests in East Kalimantan that has received special attention is the Hemaq Beniung Indigenous Forest located in Juaq Asa Village, Barong Tongkok District, West Kutai Regency, East Kalimantan Province (Kuspradini et al., 2023). This forest became the first indigenous forest in East Kalimantan, which was determined through the Decree of the Minister of Environment and Forestry Regarding the Determination of the Inclusion of Hemaq Beniung Indigenous Forest to the

Indigenous People of Juaq Asa Village, covering an area of 48.85 ha (Decree Number SK.4618/MENLHKPSKL/PKTHA/PSL.1/9/2017). In this case, the Hemaq Beniung Indigenous Forest has been managed by the Ethnic Dayak Tunjung in Juaq Asa Village for generations.

In the Hemaq Beniung Indigenous Forest, there are various water resources, flora, and fauna that are crucial to protecting and preserving for the survival of indigenous peoples in the future (Kuspradini et al., 2023). Not only does this forest function as a source of life, but it is also a symbol of identity and local wisdom. The indigenous people in Beniung Village have managed the forest for generations, guided by the principles of sustainability, maintaining a balance between the use of natural resources and environmental preservation (West Kutai Regency Secretariat, 2021). However, alongside the times, these indigenous forests face various pressures, including land conversion, overexploitation, and the lack of legal recognition of indigenous peoples' rights (Bhattacharya and Panda, 2024; Diwa, 2023). This threatens the sustainability of indigenous forests and the lives of the people who depend on them.

The protection and management of indigenous forests require a clear, binding legal framework. The West Kutai Government issued Regional Regulation Number 6 of 2014 concerning the Protection of Customary Forests, Historical Sites, Flora and Fauna, and Environmental Conservation in West Kutai Regency. This regulation is the local government's effort to provide legal recognition and protection for indigenous forests and reflects its commitment to upholding the principles of sustainable development. This regulation regulates indigenous forest management mechanisms that involve community participation, law enforcement against illegal activities, and conservation efforts to maintain biodiversity (Fa et al., 2020; Myers et al., 2017). In addition, this regulation also recognizes the local wisdom of indigenous peoples as an integral part of forest management strategies.

The local regulation is an important milestone in efforts to preserve the Hemaq Beniung indigenous forest in Beniung Village. Under this regulation, there is harmonious collaboration among the government, indigenous communities, and other stakeholders to ensure the preservation and sustainability of indigenous forests. Thus, it is clear that the task of the West Kutai Regency Government is not only to establish legal regulations, but also to protect, monitor and preserve the Hemaq Beniung Indigenous Forest.

The promulgation of the Regional Regulation of West Kutai Regency Number 6 of 2014 is a concrete step toward protecting and preserving indigenous forests, especially Hemaq Beniung in Juaq Asa Village. Through this local regulation, local governments and indigenous peoples are collaborating to sustain native forests, recognizing that these ecosystems are vital not only for their environmental benefits but also for their social and cultural value to communities (Akalibey et al., 2024). As a legal instrument that regulates efforts to protect and preserve the Hemaq Beniung Indigenous Forest, the regional regulation's implementation comprises three main aspects described in the following sub-chapter.

### 3.1. Protection of Hemaq Beniung Indigenous Forest

Referring to Regional Regulation of West Kutai Regency Number 6 of 2014, protection is defined as a form of service that the local government must provide to indigenous peoples to ensure that their rights are fulfilled through management to anticipate, prevent and overcome security problems and take action against forest damage for crimes either directly or indirectly committed by humans, animals or natural disasters under applicable indigenous law. Dawson et al. (2021) stated that ensuring the sustainability of indigenous forests requires a collaborative effort, built on mutual awareness and commitment from the government and the community. As these territories represent both protected ecosystems and ancestral homelands, their enduring existence depends on our collective responsibility.

The management and protection of indigenous forests are carried out by the indigenous leaders and the indigenous law community of Kampung Juaq Asa in important areas of the Hemaq Beniung indigenous forest. In this case, the West Kutai Regency Government also assists through the West Kutai Regency Civil Service Police Unit (*Satuan Polisi Pamong Praja/Satpol PP*) and the Regional Technical Implementation Unit (*Unit Pelaksana Teknis Daerah/UPTD*) of the Damai Production Forest Management Unit (*Kesatuan Pengelolaan Hutan Produksi/KPHP*). Efforts to protect and preserve the Hemaq Beniung Indigenous Forest carried out by the Juaq Asa Village Government and the West Kutai Regency Government, and involving the active participation of local communities, are expected to create synergy in maintaining the sustainability of the indigenous forest ecosystem. This collaboration aims to achieve a common goal, namely ensuring the preservation of the Hemaq Beniung Indigenous Forest as

an area that not only has high ecological value, but is also widely known and recognized by people outside the region, so that it can maintain its authenticity and existence as a sustainable natural and cultural heritage (Procentese et al., 2024).

In addition, efforts to establish the Indigenous Forest in Juaq Asa Village as a protected area continue and are being strengthened. To protect the Hemaq Beniung Indigenous Forest, the UPTD KPHP Damai is responsible for managing and supervising the area. At the same time, the Satpol PP of West Kutai Regency is responsible for guarding and policing the area. In addition, most people in Juaq Asa Village have shown strong awareness of the need to maintain and protect the Hemaq Beniung Indigenous Forest. However, some people still engage in irresponsible activities, such as poaching, clearing land, and taking forest products without permission, which can threaten forest sustainability. Consequently, safeguarding and surveillance measures for customary forests must be consistently enhanced to preserve their viability as invaluable ecological and cultural resources (Parrotta et al., 2016).

One of these efforts by the Juaq Asa Village Government is to establish Juaq Asa Village Regulation Number 1 of 2017 concerning the Protection of the Hemaq Beniung Indigenous Forest as a regulation of the Hemaq Beniung indigenous forest management system, which includes indigenous law enforcement and indigenous sanctions. The regulation is based on the Regional Regulation of West Kutai Regency Number 6 of 2014 and applicable indigenous law. This is a formal effort implemented by the people of Juaq Asa Village to protect and preserve the Hemaq Beniung Indigenous Forest.

Furthermore, these regulations are mandatory and must be obeyed by all parties, where any violations will be subject to indigenous sanctions. The sanction is an indigenous fine called an “*Antangk*”, which in Indonesian refers to an old urn that is currently very rare. Therefore, the *Antangk* is valued at IDR 400,000 to enforce the rule and respect prevailing indigenous values (Pelu, 2020). The protection and preservation of the Hemaq Beniung Indigenous Forest have had a significant impact on the community, especially by changing mindsets and increasing awareness of the importance of forest preservation. This is reinforced by Gunawan (2024), who argues that, through various programs and rules implemented, the community began to realize that forest sustainability is not only beneficial for the environment but also for social and economic welfare. Thus, protecting and preserving the Hemaq Beniung Indigenous Forest not only preserves nature but also builds collective awareness of responsibility for the natural resources held in common.

### 3.2. Supervision of the Hemaq Beniung Indigenous Forest

Considering the vast forest area and the high level of vulnerability to forestry crimes, such as illegal logging, timber theft, transportation of timber without legal documents, smuggling of forest products, and forest encroachment, which has reached an alarming level, efforts to implement forest protection and security through a comprehensive and effective approach are needed. As reported by Yi et al. (2018), failures to recognize the forest's multifaceted value as a source of life, an ecological system, and a cultural legacy underscore the critical need for the Regional Government to exercise its authority and act as a facilitator in ensuring environmental sustainability. In response to these challenges, the West Kutai Regency Government, as the policy-maker, has taken strategic steps to protect the Hemaq Beniung Indigenous Forest. Intensive monitoring and active enforcement in indigenous forest areas are vital for tackling violations and crimes that threaten ecosystem sustainability. Effective protection requires a combination of preventive, repressive, and educative actions, such as patrols, law enforcement, and community outreach (Modise, 2023). The Forestry Police's authority specifically covers these three aspects to ensure forests remain secure from illegal activities while maintaining environmental balance.

Based on the Regional Regulation of West Kutai Regency Number 6 of 2014, the supervision of the Hemaq Beniung Indigenous Forest in Juaq Asa Village is carried out by the Regent of West Kutai District through the UPTD KPHP Damai, which is under the auspices of the West Kutai District Forestry Service. UPTD KPHP Damai has a strategic role in monitoring and managing indigenous forests, while ensuring that forest protection and conservation policies are effectively implemented. The West Kutai District Government realizes that successful forest protection depends not only on law enforcement but also on community awareness and active participation. With a combination of close monitoring, law enforcement and community empowerment, it is hoped that the Hemaq Beniung Indigenous Forest can remain sustainable and avoid the threat of damage from illegal activities. This effort not only aims to restore the

forest but also to create a model of indigenous forest management that can serve as an example for other regions.

To maintain the sustainability of the Hemaq Beniung Indigenous Forest, monitoring activities are also carried out in collaboration with the West Kutai Regency Satpol PP, which conducts daily routine patrols in the area. The presence of West Kutai Regency Satpol PP in the field not only serves as a preventive measure to prevent forestry crimes, but also as a repressive effort to take action against violators. In addition to supervision by the West Kutai Regency Satpol PP, efforts to protect the Hemaq Beniung Indigenous Forest also involve a participatory approach by involving the local community. This aims to prevent and take action against illegal activities that can damage the forest ecosystem, such as illegal logging, encroachment, and irresponsible exploitation of forest resources. Such measures are supported in the West Kutai District Regional Regulation No. 6 of 2014, emphasizing the need for intensive supervision by the Regional Government of the diversity of indigenous forest resources, including historical sites, flora and fauna, and the environment as important assets in the context of protecting and managing indigenous forests sustainably (Paramita et al., 2022).

However, in implementing the Regional Regulation of West Kutai Regency Number 6 of 2014, especially regarding the protection of Hemaq Beniung Indigenous Forest, several obstacles hamper the effectiveness of supervision, including the lack of personnel at the West Kutai Regency Satpol PP. Given the vast area of the indigenous forest that must be guarded, members of the West Kutai Regency Satpol PP have difficulty evenly reaching all points along the monitoring route. This results in gaps in the monitoring system, which perpetrators of forestry crimes, such as illegal logging or forest encroachment, can exploit. This condition is exacerbated by the limitations of transportation and other supporting equipment, such as communication and navigation systems, needed to reach large, remote forest areas. An internal study by the Forest Service in the United States also shows that the lack of equipment suitable for natural conditions, especially in steep areas or narrow roads, makes it difficult for patrol vehicles and personnel to reach priority surveillance points (Rimba Collective, 2022). As a result, the guarding activities carried out by Satpol PP personnel have not been able to run optimally.

### 3.3. *Ecosystem Conservation of Hemaq Beniung Indigenous Forest*

In an effort to preserve the environment in the Hemaq Beniung indigenous forest area of Juaq Asa Village, the Community, the West Kutai Government, and the Village Government have worked together to implement several conservation programs and activities. Environmental conservation efforts are a shared responsibility between the community and the government as a form of active participation in maintaining the sustainability of the ecosystem. The West Kutai Regency Government has taken strategic steps by building infrastructure in the form of roads, which not only aim to encourage regional development growth but also improve accessibility to various areas, including indigenous forest areas as Gupta (2016) explains that this infrastructure development has also changed people's perceptions of the importance of maintaining the sustainability of forests as a source of life and a guardian of ecosystem balance.

The Damai KPHP UPTD plays an active role as an educator and mentor in forest conservation by providing new knowledge on forest plant cultivation techniques, particularly for rare species such as Ulin trees and forest orchids. This educational program teaches community members effective conservation techniques to protect rare species in the Hemaq Beniung Customary Forest area (Rimba Collective, 2024). In addition to being an educator, UPTD KPHP Damai also serves as a mentor who motivates indigenous stakeholders and local communities to adopt new methods of forest conservation, including reforestation as an important step in restoring forest damage and maintaining ecosystem balance (Dinas Kehutanan Provinsi Kalimantan Timur, 2024)

Conservation carried out in the Hemaq Beniung Indigenous Forest area focuses on two main aspects, namely flora and fauna diversity. In terms of flora, conservation efforts focus on important species such as Ulin trees and rattan plants, which have high ecological and economic value but are increasingly threatened. Meanwhile, on the fauna side, conservation aims to protect endemic and rare animals such as macaque monkeys, clouded leopards, sun bears, and tarsiers, which are categorized as animals with vulnerable to endangered populations. Forest fragmentation and intensive human activities cause declines in wildlife populations, reduce habitat availability, and increase negative interactions between humans and animals (Antongiovanni et al., 2018; Chomba et al., 2015). Habitat fragmentation limits movement,

breeding opportunities, and access to resources for wildlife, causing populations to become smaller and more isolated, increasing the risk of extinction (Haddad et al., 2015; Think Wildlife Foundation, 2022).

Not only that, the active participation of the Juaq Asa Village community in supporting the Regional Regulation of West Kutai Regency Number 6 of 2014 is reflected in the community's cooperation (*gotong royong*) activities, initiated as a commitment to preserving the Hemaq Beniung Indigenous Forest. This activity was led by Juaq Asa Village officials, together with residents, to maintain the cleanliness and beauty of the indigenous forest area. Some of the activities carried out include collecting garbage around the Hemaq Beniung Water Tour, cleaning the area around large trees in the forest, and reforesting trees. In the research, Bodin (2017) argues that, as responsible members of society, citizens are encouraged to demonstrate a strong sense of environmental stewardship, contributing in line with their individual capacities and positions. Furthermore, community-driven initiatives serve a dual purpose: they fortify social bonds while simultaneously cultivating a shared commitment to and heightened awareness of ecological conservation.

The management of indigenous forests by Village-Owned Enterprises (BUMKAM) has contributed to Juaq Asa Village's economy by increasing tourist visits, aiming to preserve the forests while promoting them as a leading year-round tourist destination. Partnering with the private sector, such as PT Pama Persada through its *Corporate Social Responsibility* (CSR) program, is a strategic measure for establishing an effective and sustainable preservation model. This collaboration merges financial resources, innovation, and novel methodologies to enhance the Indigenous Forest's ecological, social, and economic value, ensuring its legacy for future generations (Kohsaka and Rogel, 2019). One of the programs implemented is planting activities, including introducing new plant species not previously found in the Hemaq Beniung Indigenous Forest and replanting trees damaged by natural disasters. Planting new species and replanting damaged trees aim to increase biodiversity and strengthen the ecological functions of customary forests. These activities aim to increase biodiversity and restore damage to forest ecosystems, while strengthening the ecological functions of indigenous forests.

#### 4. Conclusion

The Regional Regulation of West Kutai Regency Number 6 of 2014 concerning Protection of Customary Forests, Historical Sites, Flora and Fauna, and Environmental Conservation in West Kutai Regency plays a crucial role in efforts to preserve the Hemaq Beniung Indigenous Forest. The regulation serves as an important legal foundation for recognizing and protecting indigenous communities' rights to manage their forests. The implementation of the regulation involves various aspects, including the protection, supervision, and preservation of forest ecosystems, which, overall, contribute to the sustainability of indigenous forests. The protection of indigenous forests involves collaboration among local governments, indigenous communities, and other stakeholders to prevent damage from illegal activities and natural disasters. Supervision by local governments and indigenous communities aims to address forestry violations and crimes that threaten the sustainability of forest ecosystems. Forest ecosystem preservation focuses on conserving biodiversity and rehabilitating forest damage by collaborating with the private sector. The implementation of the regional regulation has had a positive impact in increasing public awareness of the importance of preserving forests. However, there are challenges, such as limited resources and rampant illegal logging and hunting. In summary, strengthening supervision mechanisms, enhancing multi-stakeholder cooperation, and promoting sustainable management models are essential strategies to ensure the long-term preservation of the Hemaq Beniung Indigenous Forest. These efforts not only safeguard ecological sustainability but also foster the well-being and resilience of indigenous communities.

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