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Preface

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The 5th INTERNATIONAL CONFERENCE ON AGRICULTURE AND BIOINDUSTRY (ICAGRI)

Theme is “The challenges of the agricultural sector in preserving natural resources and environment for future generations”

Banda Aceh, 11-12 October 2023

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The 5th International Conference on Agriculture and Bioindustry (ICAGRI)
Agriculture Faculty, Universitas Syiah Kuala, 2023

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Preface

Since 2019, we had successfully organized the four previous ICAGRI conference consecutively. Different from previous years, this year the 5th ICAGRI 2023 was held in a hybrid conference. A number of academics, researchers, policy makers, professionals and other stakeholders, both national and international, have contributed to the success of this conference.

Sustainable agriculture contains a moral invitation to the environment and natural resources by considering the following three aspects: (1) Ecologically Sound; (2) Economic Valueable; and (3) Socially Just. To create an agricultural sector that can preserve natural resources and the environment for future generations, it is necessary to carry out strategies in sustainable agriculture in the form of development that respects diversity, uses an integrative approach, has a long-term perspective and can guarantee equality and social justice. Therefore, this year's conference theme is “The challenges of the agricultural sector in preserving natural resources and environment for future generations”.

The editorial board of the 5th ICAGRI 2023 received a total of 132 papers from 8 countries throughout the world: United States of America (USA), Malaysia, Japan, Cambodia, Bangladesh, Thailand, Uganda, and Indonesia. A total of 102 papers were accepted to be presented in this conference, while the 19 submitted papers were rejected and 11 papers were withdrawn. All papers were reviewed and the accepted papers will be submitted to IOP Conference Series: Earth and Environmental Science indexed by Scopus.

On behalf of the committee, we want to acknowledge and express gratitude to all parties supporting this conference: the Rector of Universitas Syiah Kuala, the Dean and Vice Dean of the Agriculture Faculty, the Head of Research and Community Service Institution of Universitas Syiah Kuala, and the national and international partners of the 5th ICAGRI 2023. Our special thanks to our keynote and invited speakers, thank you to all committee members for your kind and hard work for this conference. Hopefully the conference will highly contribute to our future sustainable development in the agricultural sector. Have a nice conference and hope to see you again next year at the 6th ICAGRI 2024 conference.

Cordially yours,

Dr. Zaitun
Chairperson of the 5th ICAGRI 2023

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The role of indigenous people to the viability of traditional forest management: A case study from Imbo Putui Customary Forest

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The role of indigenous people to the viability of traditional forest management: A case study from Imbo Putui Customary Forest

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Abstract. Local communities play a significant role in the sustainable customary forest management. This research aims to determine local community participation in customary forest management important to know how participation of the local. Data was conducted using a survey method using a quantitative approach. Data was acquired by distributing questionnaires and conducting interviews with respondents, who were indigenous people *Kenegerian Petapahan*. Determination of the number of samples using the Slovin formula. The formula for frequency analysis is utilized to analyze questionnaire data. The analysis reveals that the *Kenegerian Petapahan* indigenous people have a 60.04% participation rate in the administration of the Imbo Putui customary forest. Utilization achieved 69.23% (good), followed by monitoring and evaluation 64.23% (good), planning 51.85% (fairly good), and 49.33% (fairly good) for implementation. Therefore, it may be inferred that the integration of bioresource consumption by indigenous groups necessitates the augmentation of their involvement in the governance of said bioresources. Furthermore, the effective management of the Imbo Putui customary forest requires the collaboration and involvement of multiple stakeholders. This study holds significance as a valuable resource for decision-makers in shaping policies related to forest management, particularly in the context of biodiversity conservation initiatives that involve indigenous or local groups.

1. Introduction

The inadequate utilization and administration of forest resources have resulted in various worldwide issues, including flooding and the climate catastrophe [1]–[5]. Multiple research have demonstrated a positive correlation between the degree of community wellbeing and the extent of deforestation [6]–[9]. Forest management strategies should be grounded in the premise that forests are valuable natural resources that ought to be utilized to their fullest potential for the betterment of society, all the while ensuring the long-term viability of forest ecosystems. Enhancing community welfare, particularly among forest-dwelling populations, is a primary objective in the pursuit of sustainable forest management [1], [10], [11].

Customary forest management is predominantly carried out by indigenous communities. The involvement of indigenous communities is crucial in the implementation of sustainable forest management strategies [12]–[14]. The relationship between indigenous populations and natural resources remains robust in various forest regions [15], [16]. This connection represents a promising development in the pursuit of forest sustainability. The level of community participation in forest management positively correlates with the degree of ownership felt by these people towards the forest [17]. The literature suggests that the involvement of indigenous communities in forest management can contribute to the development of biodiversity conservation practices. This participation is believed to be beneficial for utilitarian, rights-based, and moral reasons, as highlighted by [18]–[21]. Multiple studies have demonstrated that the involvement and participation of communities in forest management can serve as a form of social capital within the context of sustainable forest management [22]–[27]. Additionally, this involvement has the potential to enhance welfare [28]–[30], and community forestry initiatives have been found to positively impact the livelihoods of rural populations [31], [32]. However, it is worth noting that there is often a lack of commitment to providing specific assistance to impoverished individuals [33].

The Imboi Putui customary forest is situated within the Kenegerian Petapahan traditional area, specifically in Petapahan Village, Tapung District, Kampar Regency. It is noteworthy as one of the few remaining forests in Riau Province. The Imbo Putui traditional forest, located in Riau, is a registered traditional forest with a total area of around 251 hectares. The forest in question has been bestowed with official recognition by the state, making it the inaugural traditional forest in the Riau region to obtain such acknowledgment. The woodland in question was formerly referred to be a prohibited forest until it underwent a legal transformation and was recognized as a customary forest. The Imbo Putui traditional woodland area exhibits a remarkably conserved environment. The realization of sustainability in the Imbo Putui customary forest region is achieved by the management efforts undertaken by indigenous groups, as indicated by [34], [35]. The practices of the Kenegerian Petapahan community center around the preservation and celebration of the indigenous forest and its associated river ecology.

Numerous investigations pertaining to engagement in forest management have been conducted. According to the study conducted by [36], the level of involvement in community forest management in Tandung Billa Palopo was seen to be comparatively inadequate. This insufficiency in participation resulted in many challenges and disputes among the farmer groups responsible for forest management. Consequently, the researchers suggested that enhancing community engagement could serve as a viable approach to mitigating conflicts. In their study, [37] examined the management practices of three customary forests, specifically those located in Sasak, Bali Aga, and Minangkabau. Similarly, [38] conducted a study that explored the local wisdom of the Baduy people in forest management, emphasizing the preservation of their customs and culture. The Baduy community has been seen to employ the practice of sustainable forest management, wherein local communities actively participate in forest management activities with the aim of enhancing their well-being and promoting the long-term sustainability of the woods. The Javanese population, particularly those residing in proximity to forested areas, continue to engage in customs pertaining to forest preservation, despite the ongoing reduction in forest coverage [39]. Moreover, the study conducted by [1] demonstrated that the effectiveness of sustainable forest management is closely tied to the presence of diverse and high-quality policies, legal frameworks, and institutional circumstances, as well as the active involvement of local people. Based on the aforementioned considerations, it is imperative to do a comprehensive investigation pertaining to the engagement of local populations in forest management. Such a study would serve as a valuable resource for policymakers, aiding them in formulating effective strategies for biodiversity conservation initiatives by actively involving local communities.

2. Materials and methods

2.1 Area study

The research was conducted in the customary forest of Imbo Putui, Petapahan Village, Tapung District, Riau Province. The selection of this customary forest as a research location is based on the fact that Imbo Putui customary forest is one of the two customary forests that have obtained a decree from the Ministry of Environment and Forestry (KLHK), which affirms that the Indigenous Community of

Kenegerian Petapahan has full rights over its ownership and management. The following is a map indicating the location of the research (Figure 1).

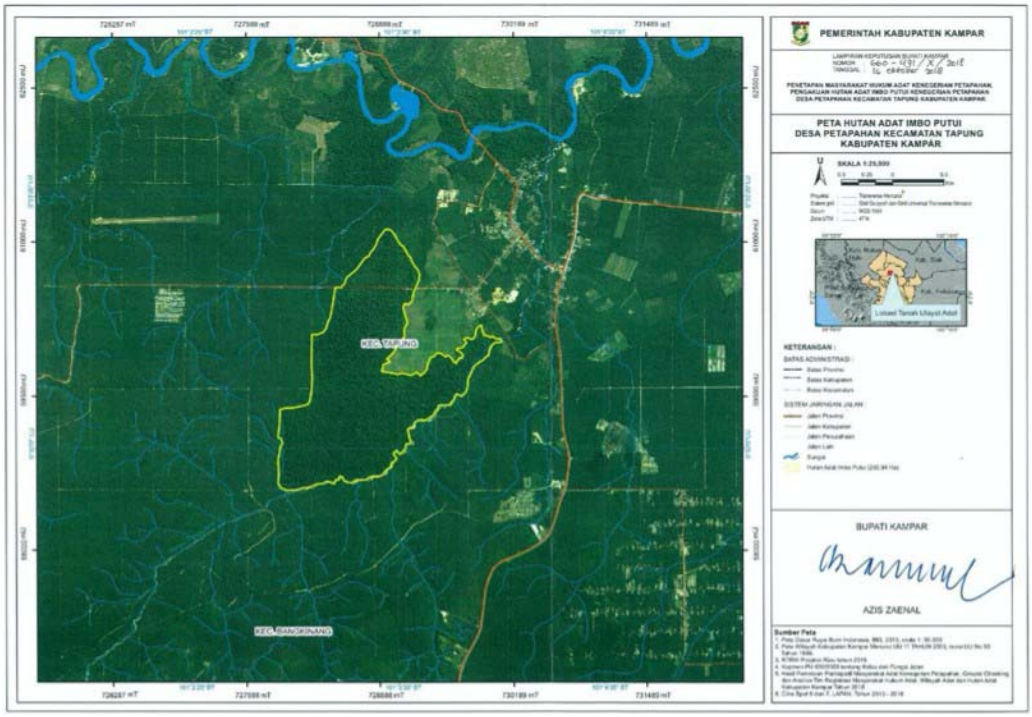

Figure 1. Study area

2.2 Sample and Analysis

The process of data gathering involved the distribution of questionnaires and conducting interviews with the participants. The questionnaire was developed with consideration for four key dimensions of participation, including planning, management, utilization, and monitoring and evaluation. The data underwent examination by the application of frequency analysis, as described in equation 1. To derive meaning from the scores obtained by computations on the questionnaire, it is recommended to employ the subsequent formula by [58].

$$P = \frac{F}{N} x\ 100 \quad (1)$$

Explanation:
P : Percentage (%),
F : Frequency,
N : Number of respondents

The extent of community involvement in the governance of the Imbo Putui customary forest is evident in the findings of a research study that included the distribution of questionnaires to the indigenous community of Kenegerian Petapahan. The determination of sample size is conducted using the Slovin formula (2). A total of 105 individuals were selected as participants in the study, and questionnaires were subsequently sent to them. It is important to acknowledge that a significant proportion of participants, specifically 53.33%, belonged to the demographic category of youth, encompassing those aged 17 to 25 years, as indicated by the findings of this study. The proportion of adults in the population was found to be 29.53%, whereas individuals aged 50 constituted 17.14% of the total population. Table 1 presents the categorizations of educational attainment and gender.

$$n = \frac{N}{Nd2 + 1} \quad (2)$$

Tabel 1. Number and Percentage Characteristics of Respondents

No	Respondents Characteristics	Total (peolpe)	Frequency (%)
1	**Age**		
	Young (17-25 years old)	45	47,87
	Mature (26-45 years old)	31	32,98
	Old (≥ 46 years old)	18	19,15
	Total	94	100%
2	**Formal education**		
	Low (Elementary school and junior high school)	15	15,96
	Medium (Senior high school)	28	29,79
	High (College)	51	54,26
	Total	94	100%
3	**Gender**		
	Male	55	58,51
	Female	39	41,49
	Total	94	100%

3. Result and discussion

3.1. Community participation in the management of the Imbo Putui customary forest

The objective of descriptive analysis is to gain comprehension of the characteristics and details of the research data. This study employed descriptive analysis to examine frequency distribution values, averages, and percentage achievements, as well as interview findings. The present study employed a descriptive analysis approach, focusing on the examination of each indicator as depicted in Figure 2.

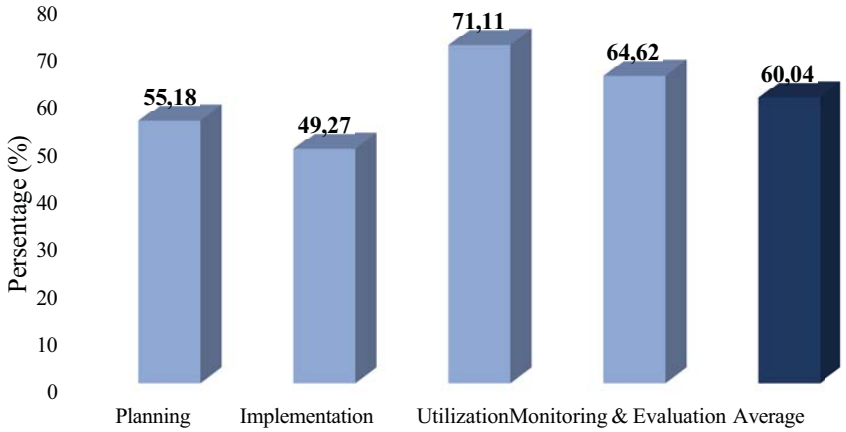

Figure 2. Analysis of each facet of indigenous community participation in Imbo Putui Customary Forest management.

According to the data presented in Figure 2, it is evident that the average participation rate of indigenous communities stands at 60.04%, indicating a commendable level of engagement. The utilization aspect demonstrated the highest percentage of achievement, with a notable 71.11% falling within the good category. Following closely behind, the monitoring and evaluation aspect achieved 64.62% in the good category. The planning aspect attained a percentage of 55.18%, placing it within the quite good category. Similarly, the implementation aspect achieved a percentage of 49.27%, also falling within the quite good category. Each element is comprised of multiple question items. This paper presents a comprehensive examination of the statements encompassed within the planning element. According to the finding of [26], the management of the Bleih Community forest shown a lack of comprehensive inclusivity towards the local community members residing in the vicinity of the forest. A significant majority, comprising 84% of the respondents, abstained from engaging in the various stages of the management plan, including its formulation, as well as the subsequent management and monitoring of the forest. Individuals that fell outside the age range of 36-56 years old, as well as females, had lower levels of engagement. Regarding individuals' roles within the community, it was observed that the traditional leaders exhibited a complete absence of involvement in both the execution and oversight of the forest's implementation. Furthermore, the respondents' educational attainment and geographical origin did not demonstrate a significant impact on their level of engagement in forest management. The participants, encompassing various demographic groups such as age, sex, position in the community, and degree of education, exhibited a lack of satisfaction with the management of the forest, as indicated by 89% of the respondents. Then, [40] stated that the investigation revealed that local populations possess a superior ability to oversee forest monitoring due to their extensive understanding of indigenous techniques for conserving plant and animal species inside their forested areas. The findings also demonstrated a variety of advantages associated with community involvement, such as enhanced food production, money generation, and increased availability of raw resources.

3.1.1 Participation of the Kenegerian Petapahan Indigenous Community in Imbo Putui Traditional Forest Management Planning

Figure 3 displays the outcomes pertaining to the involvement of the local community throughout the design phase of the Imbo Putui customary forest.

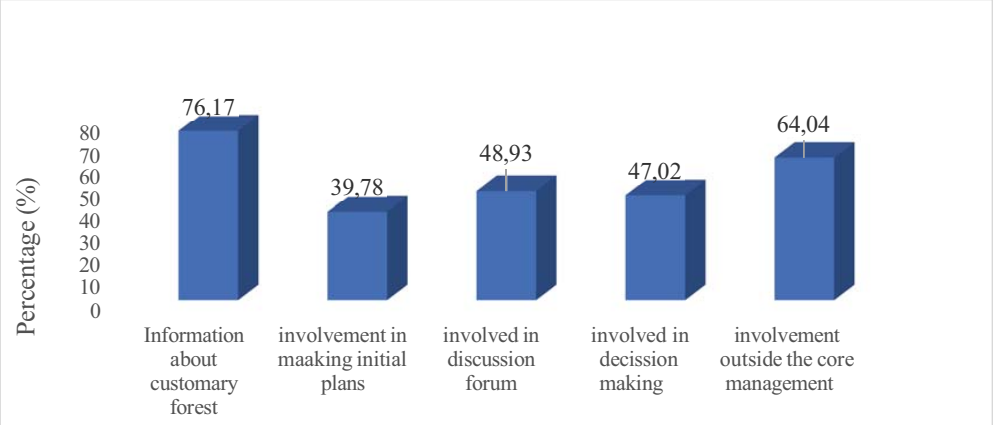

Figure 3. Percentage achievement in the planning aspect

According to Figure 3, the data illustrates the respondents' feedback on their involvement in the Imbo Putui traditional forest planning process for each question. In the realm of planning, it becomes evident that inquiries pertaining to the administration of the Imbo Putui HA hold the utmost significance as a means of engagement offered by local communities in the governance of the Imbo Putui traditional forest. Based on the findings from the conducted interviews, it can be observed that a significant portion of the community has been duly informed about the forthcoming development initiatives in Imbo Putui. These initiatives aim to establish Imbo Putui as a customary forest, with its rights being legally acknowledged by the state. According to the management agency, the dissemination of this knowledge typically occurs through conventional meetings or tribal gatherings. In contrast, the Imbo Putui HA management program exhibited the lowest level of participation in inquiries pertaining to the formulation of early plans, specifically amounting to 39.78%. This finding was substantiated through conducting interviews with multiple stakeholders, including the traditional leader and the chairman of the Local Public Health Authority (LPHA). According to the available information, the planning stage was conducted through a collaborative process including deliberation and consensus among several stakeholders, including the ninik mamak, village government, village elders, and a limited number of individuals from the traditional community. The evidence suggests that the participation of the indigenous community of Petapahan in the forum for the development of customary forest management plans has been incomplete. Despite the forum's purpose of providing a platform for the community to articulate their aspirations in the formulation of plans pertaining to the management of the Imbo Putui customary forest, the indigenous community of Petapahan has not been fully engaged. A comparable phenomenon was observed in the management of nagari forests in West Sumatra, wherein participation was limited to individuals who were deemed active and important within the community, despite the relatively high aspirations of the members themselves [41]. [42] posited that inadequate community engagement in the planning process led to a dearth of information dissemination, thereby diminishing the community's motivation to actively participate in program activities. Subsequently, the level of engagement in negotiations was observed to be merely 48.93%, specifically in the context of articulating viewpoints pertaining to the management planning to be implemented at HA Imbo Putui. The community's minimal engagement can be attributed to their perception that LPHA Imbo Putui and ninik mamak has a greater understanding of the development of HA Imbo Putui, leading them to entrust their support. Nevertheless, it is important to acknowledge that the involvement of the community in the planning of HA Imbo Putui cannot be disregarded, as they can contribute ambitions, opinions, criticism, and input. Typically, the community directly communicates their concerns and suggestions regarding the administration of the Imbo Putui HA to the LPHA chairman or traditional leader, often known as the mamak tribe. This is because the LPHA and Ninik Mamak rely on the community's aspirations and input to effectively strategize the management of the Imbo Putui HA. In relation to community engagement in the decision-making process for the management planning of the Imbo Putui HA, the proportion of community involvement was found to be 47.02%. Furthermore, it was observed that 64.04% of the indigenous community members actively participated in the formulation of the management planning for the Imbo Putui HA. According to the research conducted by [43], the

involvement of forest users' groups was found to be substantial in the collection and distribution of forest products, but relatively low in plantation activities related to forest management. The study also revealed that the decision-making process was generally satisfactory, and the mechanism for sharing benefits was transparent. The researchers identified illiteracy and engagement in farming as key factors influencing the participation of users' groups.

3.1.2 Participation of the Kenegerian Petapahan Indigenous Community in the Management of the Imbo Putui Traditional Forest in the Implementation Aspect

Figure 4 displays the outcomes pertaining to the involvement of the local community throughout the implementation phase of the Imbo Putui customary forest.

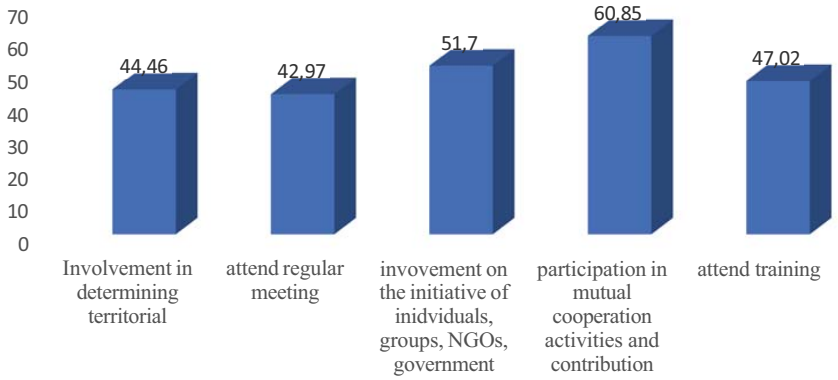

Figure 4. Percentage achievement in the implementation aspect

According to Figure 4, the comments of the participants about their involvement in the implementation aspects of Imbo Putui customary forest management are categorized based on individual statements. In the realm of management, it is evident that the highest form of participation (60.85%) exhibited by indigenous communities in the management of the Imbo Putui customary forest is through their engagement in cooperative labor activities and financial contributions. Based on the findings derived from conducted interviews, it was observed that a limited proportion of individuals actively engaged in the administration of HA Imbo Putui. Their involvement mostly encompassed participation in collaborative endeavors, such as the establishment of prayer rooms, as well as the provision of financial resources and personal efforts. Activities characterized by mutual cooperation are frequently observed or undertaken by younger cohorts or indigenous adolescents. In contrast, additional groups often prioritize the surveillance of foreign incursions into the Imbo Putui HA region. Subsequently, declarations were made on participation in managerial endeavors encompassing individual, collective, or non-governmental organization initiatives, constituting 51.7% of the total. According to the findings of [44] their research demonstrates that the management of CFM (Community Forest Management) has been effectively implemented. The study highlights that engaging in farming activities as a collaborative effort with the community presents favorable business opportunities. Furthermore, the evaluation of the co-management implementation yielded positive outcomes. The involvement and motivation of the local community in relation to the forest play a significant role in influencing the level of commitment, direction, and dedication of individuals in their efforts to contribute to the preservation of the area's ecological well-being [45]. Through active participation and motivation, the forest is safeguarded.

3.1.3 Participation of the Kenegerian Petapahan Indigenous Community in the Utilization Aspect of the Management of the Imbo Putui Traditional Forest

Figure 5 displays the outcomes pertaining to the involvement of the local community during the use phase of the Imbo Putui customary forest.

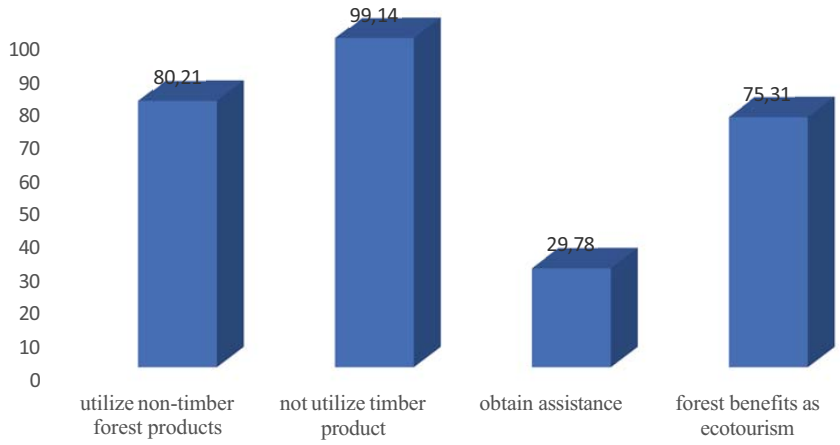

Figure 5. Percentage achievement in the utilization aspect

Based on the data shown in Figure 5, the responses of the participants about their engagement in various elements of utilizing the Imbo Putui traditional forest are depicted for each statement. In terms of consumption, it is evident that statement to not utilizing timber products exhibits the highest percentage value (99.14%). Based on the findings from interviews and an assessment of the empirical conditions in the Imbo Putui area, it is not justifiable to extract wood forest products or any botanical specimens, except for those required for domestic purposes and the construction of fish cages. The subsequent highest proportion was observed in another statements (80.21%), which pertained to the utilization of non-timber forest products from HA Imbo Putui. Additionally, statements about utilization for tourism (75.31%) were associated with the utilization of customary woods as recreational amenities for tourism, facilitated by local communities in their utilization. According to the findings of [46], the utilization of timber and non-timber forest products in conservation forest regions in Riau is significantly prevalent. The Imbo Putui traditional woodland is a significant ecological area. This finding also demonstrates the correlation between the primary utilization of the Imbo Putui traditional forest by the Kenegerian Petapahan community, which is the implementation of ecotourism patterns [47]. In contrast, statement about get business support is the lowest frequency (29.78%) in relation to the utilization of business support for the purpose of fostering the growth of food stalls and other forestry enterprises. The limited occurrence of this phenomenon can be attributed to the relatively small segment of the community engaged in the establishment of forestry enterprises. Specifically, this group comprises Kenegerian Petapahan traditional women, who possess expertise in craftsmanship, as well as members of the LPHA (Local People's Forest Management Institution) responsible for the management of the Imbo Putui traditional forest. [28] argue that the inclusion of women in the management of forest products is vital as a means of diversifying income streams. Regular training is essential for enhancing individuals' abilities to effectively uphold the quality of forest products.

3.1.4 The Kenegerian Petapahan Indigenous Community's Participation in the Management of the Imbo Putui Traditional Forest in the Monitoring and Evaluation Aspect

The monitoring and evaluation component comprises four statements, and the distribution of response percentages for each statement in the monitoring and evaluation component is illustrated in Figure 6.

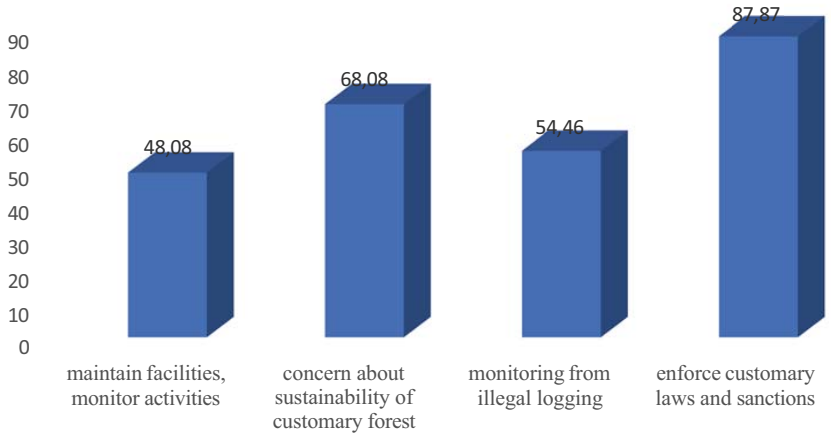

Figure 6. Percentage achievement in monitoring and evaluation aspects

Figure 6 illustrates the data collected from respondents about their engagement in the monitoring and assessment components of the Imbo Putui traditional forest, as indicated by each statement. In the domain of monitoring and evaluation, it is evident that the highest level of participation (87.87%) exhibited by local communities in the Imbo Putui HA pertains to concerns the community's role in upholding the law and imposing sanctions on individuals or entities that contravene the established regulations. The Imbo Putui tradition is a cultural practice observed by a certain community. Based on the findings derived from conducted interviews, it can be observed that a significant portion of the community actively engages in the enforcement of customary law and the imposition of punishments upon individuals who transgress the regulations governing HA Imbo Putui. One method employed by the community to implement monitoring, law enforcement, and sanctions involves apprehending those who engage in the theft of forest resources. During the data collection process in the field, instances were observed where kulim fruit, a potential non-timber forest product in the Imbo Putui HA, was subject to theft. One of the individuals residing in the area promptly apprehended and reported the wrongdoer to the Local Public Health Authority (LPHA), thus leading to their referral to the traditional leader for appropriate disciplinary measures. In this particular instance, the imposed sentence takes the shape of ten sacks of cement. Typically, these traditional penalties have persisted for multiple generations, spanning from the era of our forebears to the present day. Following the acknowledgment of customary forests by the national government, laws and sanctions pertaining to these woods have been formulated and included into village ordinances. This particular type of sanction arises from the deliberations and talks conducted by *ninik mamak* in order to establish a deterrent impact and demonstrate adherence to prevailing cultural norms. The enforcement of these traditional penalties represents a strategy employed by indigenous communities in safeguarding their forested areas. 68.08% expressed their perspectives on the desires, concerns, and aspirations communicated by indigenous communities regarding land and forests to various authorities, including local officials (customary institutions), government representatives (village government), non-governmental organizations, and others. The subsequent statement, with a percentage of 54.46%, pertains to the community's participation in monitoring and overseeing customary forest areas against unlawful logging, land clearing, and encroachment. In this context, there is direct community participation and coordination in monitoring individuals who enter the Imbo Putui HA region. This procedure is typically carried out by traditional groups who live and garden in the vicinity of the Imbo Putui traditional forest area. In the framework of customary communities, foreign individuals who enter customary forest regions without being accompanied by the Customary Forest Management Institution (LPHA) are often directly warned. On the other hand, the lowest frequency is statement about meeting session, which accounts for 48.08% of the respondents' involvement in meetings or evaluation sessions. But, according to [48], [49], the transfer of monitoring systems to local communities has exhibited limited success in practice. The

monitoring system provides an opportunity to evaluate the adherence to contractual requirements by both the state and local parties.

3.2 The role of local community participation in achieving sustainable forest management

It is imperative to allocate a more prominent role to local communities in the future management of forests. Numerous empirical investigations substantiate the implementation of sustainable forest management methods by local populations, particularly those belonging to indigenous groups. According to [50], the implementation of customary forest management through the utilization of customary law by the Bayan community in North Lombok has been observed to yield significant economic, social, and cultural advantages for the local populace. The Bayan community implements the customary practice known as "*Awiq-awiq*" to govern restrictions, penalties, and traditional gathering procedures pertaining to forest governance. The local community demonstrates a high level of compliance with awiq-awiq regulations due to their active participation in the formulation and evaluation processes of these rules. Moreover, a research conducted by [51] demonstrates that the Manggarai community has been engaging in the preservation of environmental values, societal norms, and cultural practices across multiple generations. As an illustration, the Manggarai community holds the belief that invoking Mori Kraeng through prayer is essential when undertaking activities such as felling a substantial tree or clearing a garden space, as it is believed that this practice invokes divine protection from malevolent spirits. The ceremony is conducted as a means of demonstrating reverence towards the natural environment and the various organisms inhabiting it. The integration of Manggarai culture with actions aimed at the protection, preservation, and sustainable use of natural resources is a viable approach. Similar occurrences can also be observed inside many small communities in different nations. In Nepal, the implementation of efficient riverine habitat management is being carried out by economically disadvantaged people through the establishment of novel local organizations focused on conservation [52]. In Taiwan, a village inhabited by the Tsou indigenous people successfully rehabilitated a state-owned national forest that had been degraded. They achieved this by collectively and voluntarily regulating the utilization of resources, while also resisting external commercial pressures. As a result of their efforts, they were able to establish themselves as legitimate forest managers, thereby securing ownership rights [53]. The research conducted by [54] revealed that the collaborative management model involving both the government and the community is well-suited for the implementation of Community Forest management. This model offers enhanced prospects for acknowledging the forest resource rights of local communities and facilitating the empowerment of rural communities, In order to ensure the long-term viability and accessibility of forest resources for future generations, it is imperative to take appropriate measures [55]. The realization of sustainable forest management by local people is contingent upon their ability to assume an active role as agents rather than passive recipients. The authors [28], [56], [57] argue that the benefits individuals receive should be sufficient to ensure their survival. The forest management practices employed by indigenous groups serve as noteworthy illustrations of sustainable forest management practices that demonstrate efficacy. These practices hold significant potential as a viable model for contemplation by the Indonesian government and other entities responsible for forest conservation.

Conclusion

This study found that 60.04% participation rate in the administration of the Imbo Putui customary forest. Utilization achieved 69.23% in the good category, followed by monitoring and evaluation with 64.23 in the good category, planning with 51.85% in the fairly good category, and with 49.33% in the fairly good category. Therefore, it may be inferred that the integration of bioresource consumption by indigenous groups necessitates the augmentation of their involvement in the governance of said bioresources. Furthermore, the effective management of the Imbo Putui customary forest requires the

collaboration and involvement of multiple stakeholders. This study holds significance as a valuable resource for decision-makers in shaping policies related to forest management, particularly in the context of biodiversity conservation initiatives that involve indigenous or local groups.

Reference

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