

Stakeholder Role Analysis in Managing the Special Purpose Forest Areas (KHDTK) of Mungku Baru, Central Kalimantan, Indonesia

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ABSTRACT

The change in status of forest areas to Special Purpose Forest Areas (KHDTK) aims to optimize forest resource management to support sustainability and sustainable use. KHDTK Mungku Baru is one example of an area managed by the local government and universities, but it faces various challenges, especially conflicts of interest between stakeholders. This research aims to analyze the role of stakeholders in managing KHDTK Mungku Baru and understand the interests and influence of each party in the management process. Data were collected through in-depth interviews with various parties involved, such as local governments, academics, NGOs, and the surrounding community. The results of the study indicate that stakeholders in the management of KHDTK Mungku Baru can be categorized into four groups based on their level of influence and interests: key players, context setters, subjects, and crowd. Local communities have high interests but low influence in the management of KHDTK, thus requiring a more effective empowerment approach. Meanwhile, local governments and academic institutions, as key players, play a major role in decision-making and policy implementation. To optimize the management of KHDTK Mungku Baru, a collaborative strategy that actively involves all stakeholders is needed.

Keywords: KHDTK Management; Local Community Empowerment; Participatory Governance; Stakeholder Engagement; Sustainable Forest Management

INTRODUCTION

Special Purpose Forest Areas (KHDTK) are parts of forest areas designated by the government to support research, education, and training activities in the forestry sector. Unlike other forest areas, which are more oriented towards production or conservation alone, KHDTK has a dual role in combining the sustainable use of natural resources with academic activities and scientific research. The existence of KHDTK is very important in supporting science-based forest management, which aims to produce innovation in forest governance and the development of management models that are more adaptive to environmental and social challenges.

Changing forest area management to KHDTK can be an alternative to reduce the negative impacts of unmanaged forests. The determination of KHDTK can be carried out on all forest area functions except for nature reserves and national park core zones, forest areas that have been burdened with management by state-owned forestry enterprises, or forest areas that have been burdened with forest utilization business permits after being removed from their work areas ([The Audit Board of Indonesia \[BPK RI\], 2021](#)). Optimal KHDTK management is in line with the Indonesian Government's efforts to address deforestation, such as setting targets to control emissions from the forestry sector and land use through the Forestry and Other Land Use (FOLU) Net Sink by 2030 through sustainable forest management ([Parimita & Najicha, 2023](#); [Syahiib & Safe'i, 2024](#)).

KHDTK management often faces conflicts of interest, such as disputes with the community ([Yoserizal & Yesi, 2017](#)), permit holders, and local governments. Conflicts in KHDTK management are generally caused by differences in interpreting and implementing policies ([Sumanto & Sujatmoko, 2008](#)). In addition, the limited number of supervisors and the location of KHDTK, which is far from the manager, make it vulnerable to disruption by community activities, such as forest encroachment, illegal mining, and illegal logging. Research from [Ekawati \(2020\)](#) added that most of the current KHDTK are former forest areas that previously had management rights or utilization permits, but were then abandoned and became unowned land, which was finally inhabited by the community.

One of the KHDTK in Palangka Raya City, Central Kalimantan Province, is located in Mungku Baru Village, Rakumpit District, known as KHDTK Mungku Baru ([Hanafi et al., 2025](#)), is one of 26 KHDTK managed by Universities. The appointment of KHDTK Mungku Baru since 2014 has been managed by the Palangka Raya City Government and the Muhammadiyah University of Palangkaraya (UMPR). Conflicts of interest in the management of KHDTK between the management and the community can have an impact on the suboptimal function of KHDTK. Communication between stakeholders is needed to minimize conflicts of interest. According to [Wakka and Bisjoe \(2018\)](#), mediation with the community is needed to reduce conflicts and optimize the function of KHDTK. In addition, forestry partnership activities can be a solution for participatory forest management in KHDTK and the community empowerment process ([Wahyuni et al., 2020](#)).

The aim of this research is to analyze the role of stakeholders in managing KHDTK Mungku Baru, and provide information on the role of stakeholders in managing KHDTK Mungku Baru. Stakeholder analysis is a technique used to generate participant knowledge and understand their interests and behaviors to generate interest values in decision making ([Varvasovszky & Brugha, 2000](#)). Stakeholder analysis is a crucial tool in understanding the dynamics of KHDTK management. Through this method, various parties who have direct or indirect interests in KHDTK can be identified, the extent of

their influence and role, and how stakeholders interact in formulating policies and implementing management programs. With in-depth analysis, KHDTK managers can formulate more optimal strategies to build collaboration between stakeholders, minimize the potential for conflict, and encourage active participation in forest area management.

This research has important significance because it is able to reveal in more depth the dynamics and diversity of relationships between stakeholders in forest areas with high ecological and social value. The results of this study are expected to be the basis for formulating more accurate and responsive management policies by considering the interests of all related actors, such as local communities, government agencies, academics, and the private sector.

The novelty in this study lies in the selection of KHDTK Mungku Baru as the object of study, which is still rarely studied in the context of collaborative management, especially those that simultaneously combine aspects of conservation, education, and community empowerment. In addition, the use of a participatory approach in the stakeholder mapping process allows for more contextual findings and reflects local realities more accurately.

The main contribution of this study is to provide an empirical basis for decision-making and planning of management strategies that are more inclusive, participatory, and adaptive to social dynamics and environmental challenges in the area. In addition, the results of this study can be a reference for other forest area managers who are implementing similar approaches to improve the effectiveness and sustainability of collaborative-based forest management.

LITERATURE REVIEW

Forest management aims to ensure that the managed forests remain sustainable and is an effort to overcome various global threats such as global warming, loss of biodiversity, and poverty (Juriyah et al., 2024). There are three principles of the concept of sustainable forest management, namely: sustainability of forest products, sustainability of potential forest products, and sustainability of forest resources (Natural Resources Development Center, 2013). In sustainable production forest management, it is aimed at: (a) maintaining the sustainability of production functions; (b) maintaining the sustainability of ecological functions; and (c) maintaining the sustainability of social functions (National Standardization Agency [BSN], 2015). One important aspect that must be considered in achieving the goal of sustainable forest management is the certainty of the management unit area (Aswandi & Harahap, 2007). Regional development activities play a role in reducing forest area, so conservation policies and strategies are needed to protect the remaining forest cover (Ahmammad et al., 2021; Mengist et al., 2022).

Sustainability of social functions is the sustainability of forest functions for community life. Indicators for achieving sustainability of social functions are: community access and control, regional economic development, and social and cultural integration of communities and workers. Collaborative forest management plans at the landscape level can contribute to the diversification of forest management models and broader ecosystem service providers (Marques et al., 2020). Collaborative relationships with communities and internal and external cooperation can improve the quality (Aji & Andriyani, 2020). Collaborative forest management between communities and government agencies works together to jointly develop natural resource management plans and is mutually accountable for the plan (Bettinger et al., 2017).

The involvement of indigenous communities in forest management planning processes and practices can be a criterion and indicator in assessing sustainable forest management (Spies et al., 2019). Community involvement in the plantation forest industry will increase the opportunities for communities to play a role in forest sustainability, especially to prevent the dangers of forest fires (Kainyande et al., 2022). Research on social capital in East Tanjung Jabung Regency and Sorolangun Regency (Jambi Province) and South Solok Regency (North Sumatra Province) shows that social leadership, customs/cultural values/local wisdom, beliefs and social institutions are positively correlated with forest sustainability, while the economic benefits felt by communities around the forest are negatively correlated with forest sustainability, and ecological benefits are positively correlated with forest sustainability (Ekawati & Nurrochmat, 2014).

The goal of sustainable management of educational forests is to maintain and restore the ecological function of the area while utilizing it as a learning, research, and training space that supports the development of forestry science and technology. This management aims to create a sustainable educational ecosystem by involving various parties, including KHDTK managers, local governments, and other forestry agencies. Educational institutions play a role in designing and implementing research programs and field practices for students and academics, so that they can produce innovations in forest resource management. Local governments contribute through the formulation of policies that support the sustainability of educational forests and integration with regional development programs. Meanwhile, forestry agencies are responsible for supervision, providing regulations, and providing technical support to ensure that educational forest management runs according to the principles of sustainability. In addition to being a center for forestry science research and development, educational forests are also directed to become models of best practices in sustainable forest management. This model can be replicated in other areas as an effort to increase the capacity of science-based forest management, conservation, and empowerment of local communities. Thus, educational forests function not only as natural laboratories but also as a means of education and collaboration between academics, government, and the community in supporting environmental conservation.

Stakeholders are the actions of individuals, groups and organizations that are affected by and/or can influence decisions (Reed et al., 2009). A group of people, whether organized or not, who share interests or systems from various components of society, both local and global (Grimble & Wellard, 1997). People, organizations or groups that have an interest in a particular issue or resource (Brown et al., 2001).

Stakeholder analysis is a technique used to generate participant knowledge and understand their interests and behaviors to generate value of interest in decision making (Varvasovszky & Brugha, 2000). The stages in stakeholder analysis are: i). identifying problems; ii). identifying stakeholders; iii). investigating stakeholder interests; iv). investigating stakeholder relationships (Wang & Aenis, 2019).

Stakeholders are categorized into "key players," which are stakeholders who have a high interest in and influence on a particular phenomenon. "Context setters" are very influential, but have little interest. "Subjects" have high interest but low influence and have little impact, although they can become influential by forming alliances with other stakeholders. "Crowd" is stakeholders who have little interest or influence on the desired outcome and do not need to be considered in detail (Reed et al., 2009).

Stakeholder identification and classification follow a structured process designed to ensure that all relevant parties are considered in decision-making and goal-setting (Reed

et al., 2009). The first stage involves identifying stakeholders using various data sources, including survey results, community input, and direct observations. This step ensures a comprehensive understanding of the individuals or groups who may affect or be affected by a given initiative. The second stage assesses the level of interest each stakeholder has in the process, along with the potential benefits they may seek or expect to gain. This helps prioritize engagement strategies based on stakeholder expectations. The third stage examines the relationships among stakeholders, particularly their influence on project outcomes and their ability to affect or shape decisions. Understanding these dynamics is essential for managing power structures and fostering collaboration toward shared objectives.

Stakeholder analysis can be used to find the best scenario in determining sustainable development scenarios (Mumtas & Wichien, 2013), using the analytical hierarchy process (AHP), a matrix-based approach with data visualization techniques, and scenario analysis (Cabral et al., 2021). In addition, stakeholder participation is widely applied in biodiversity conservation management (Sterling et al., 2017) and ecosystem services for improving human welfare (Ebner et al., 2022; Ureta et al., 2020). Stakeholders in the context of KHDTK management are all parties, both individuals and groups, who are influenced and/or influence decision-making and the achievement of the goals of KHDTK management.

RESEARCH METHOD

This research was conducted in Palangka Raya City, Central Kalimantan. The research period starts from October 2023 to April 2024. The initial stage in stakeholder analysis is to identify stakeholders and categorize stakeholder priorities, as well as who will be involved in the management process of KHDTK Mungku Baru. Stakeholder categories vary depending on their level of influence and importance (Brown et al., 2001). Primary data collection was conducted through in-depth interviews using the semi-structured interview method, where key informants were guided in discussions by researchers related to the research topic. The selected key informants represented elements of local government, academics, non-governmental institutions, and community leaders in Mungku Baru and Bukit Sua Villages.

The data collected is the level of stakeholder interest and influence in the management of KHDTK Mungku Baru. The influence and interests of stakeholders in the management of KHDTK Mungku Baru are described in the form of a matrix based on stakeholder information that is transformed into quantitative measures. Next, grouped according to the criteria of importance and influence. The score of the level of importance and influence of each stakeholder is obtained from the assessment of the elements and sub-elements that have been set. A score of 0-5 indicates low criteria, 6-10 is not high enough, 11-15 is quite high, 16-20 is high, and 21-25 is very high.

Qualitative stakeholder analysis techniques are used to determine and explain stakeholders who will be involved in the management of the KHDTK Mungku Baru and the interests and influence of each stakeholder in achieving the management objectives of the KHDTK Mungku Baru. The number of scores obtained from stakeholders is grouped according to criteria and juxtaposed to form coordinates. The interests and influence of stakeholders are described in the form of a matrix using Microsoft Excel and are divided into four quadrants that describe the level of stakeholder interest and influence.

This classification results in four distinct stakeholder categories. The first category, key players, includes stakeholders with both high interest and high influence, making them

critical to decision-making processes. The second category, context setters, refers to those with high influence but relatively low interest, often shaping the broader environment or strategic direction. The third group, subjects, comprises stakeholders who show a strong interest in the management activities but have limited influence. Lastly, crowd stakeholders are characterized by both low interest and low influence and thus typically have minimal impact on management decisions. This matrix approach enables a clearer understanding of stakeholder dynamics and supports more targeted engagement strategies in managing KHDTK Mungku Baru.

RESULTS

The management of KHDTK aims to maintain forest sustainability and ensure its sustainability, while providing benefits to the surrounding community. The complexity of forest ecosystems requires a multidisciplinary approach and various perspectives to understand the importance of these ecosystems. Every decision in the management of KHDTK Mungku Baru has a significant impact on the quality of water, soil, air, and global climate change. Therefore, the active involvement of all stakeholders is essential to maintain environmental balance.

In addition, various needs and interests must be taken into account, including those of local communities who depend on forest resources for their livelihoods. Involving them in management aims to ensure that the use of forest resources continues to support their welfare. With the participation of various parties, the management of the KHDTK Mungku Baru is expected to be more inclusive and sustainable, and to be able to face challenges in managing forest ecosystems.

The involvement of various stakeholders, including government, forest managers, local communities, and the private sector, plays a crucial role in planning sustainable forest management strategies (Sukristiyono et al., 2021; Xu et al., 2023). The government has a role in community-based activities, for example, through planning, facility development, policies, and enforcement of regulations (Aprilani et al., 2021). Identification of stakeholders is necessary to understand the dynamics of the roles and interests of each party and ensure their involvement in the process of formulating forest management strategies. With this approach, forest governance can be more balanced and effective.

The results of stakeholder identification in the management of KHDTK Mungku Baru show that the parties involved come from elements of government, society, universities, and non-governmental organizations. These stakeholders can be categorized into three groups, namely key stakeholders, primary stakeholders, and supporting stakeholders. This grouping is based on the main tasks, functions, and contributions of each in the management of KHDTK Mungku Baru (Table 1).

Table 1. Classification of Stakeholders in the Management of KHDTK Mungku Baru

Stakeholders		Interest
Key Stakeholders		
1	Muhammadiyah University of Palangkaraya (UMPR)	Interested in carrying out educational and research activities, also as the manager of KHDTK Mungku Baru
2	Palangka Raya City Environmental Service	The agency representing the Palangka Raya City Government as the owner of the KHDTK Mungku Baru permit, recipient of reports on activities carried out at the KHDTK Mungku Baru through UMPR and BNF

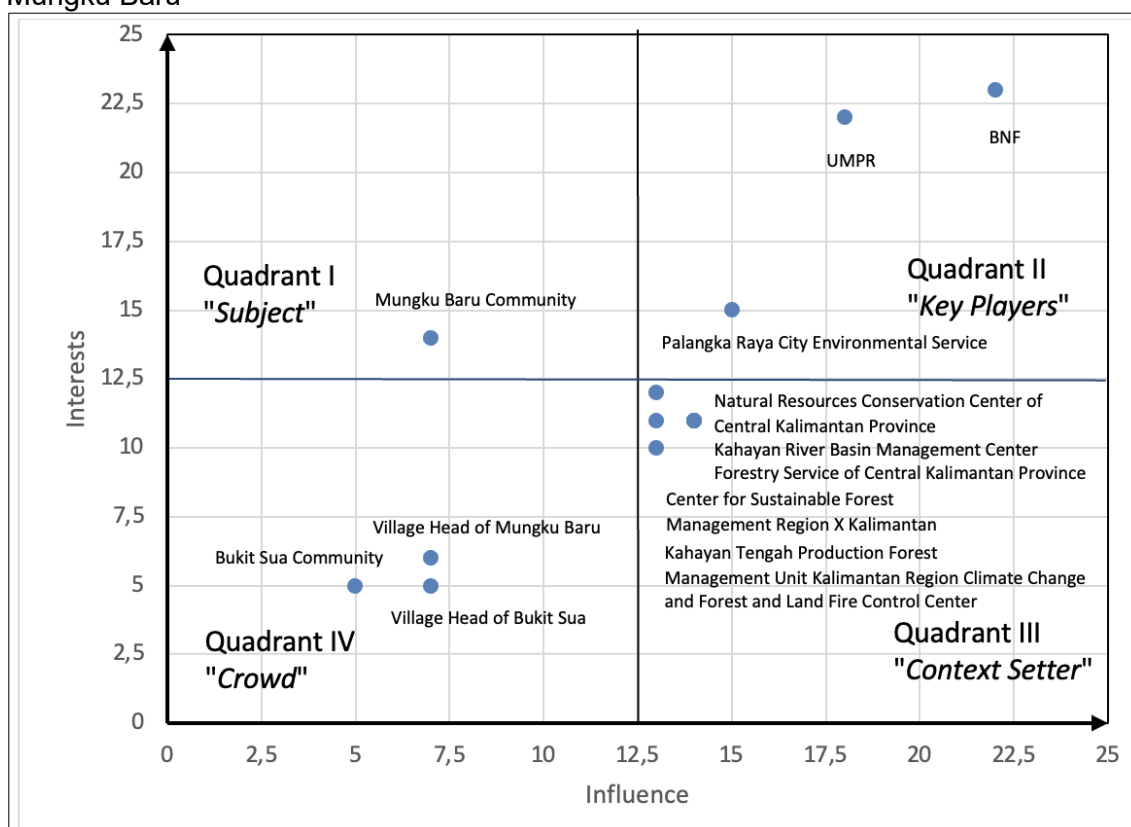
Stakeholders		Interest
3	Borneo Nature Foundation (BNF)	Interested as a UMPR partner in managing KHDTK Mungku Baru, facilitating camp construction, implementing educational activities, research, and empowering the community around KHDTK Mungku Baru
Primary Stakeholders		
4	Mungku Baru Communiy	Interested in the utilization of natural resources in the KHDTK Mungku Baru, for example: utilization of Non-Timber Forest Products, traditional medicinal plants, local food sources, game animals, and land for farming.
Supporting Stakeholders		
5	Natural Resources Conservation Center of Central Kalimantan Province	Indirectly interested in the management of the Mungku Baru KHDTK, due to the existence of rare and protected animals based on regulations, for example: Pongo pygmaeus, Helarctos malayanus and hornbills
6	Kahayan River Basin Management Center	Indirectly concerned, as a partner in providing forest plant seeds with the diversity of plant species in KHDTK Mungku Baru, and the opportunity for KHDTK Mungku Baru to be used as an Identified Seed Stand and seed garden.
7	Center for Sustainable Forest Management Region X Kalimantan	The KHDTK Mungku Baru area is a production forest area, which can be a partner in planning and managing activities in empowering the surrounding community.
8	Kalimantan Region Climate Change and Forest and Land Fire Control Center	Having an interest in controlling climate change and forest and land fires in Kalimantan, one of which is by increasing regional capacity in climate change adaptation and mitigation and preventing forest and land fires.
9	Forestry Service of Central Kalimantan Province	Have an interest in the success of forest management in Central Kalimantan Province
10	Kahayan Tengah Production Forest Management Unit	Has no direct interest. Has a management area that borders directly with KHDTK Mungku Baru, as a partner in managing forest areas and empowering communities around the forest.
11	Village Head of Mungku Baru	As the head of government in the administrative area of Mungku Baru, a partner in community empowerment activities in Mungku Baru
12	Village Head of Bukit Sua	As the head of government in the Bukit Sua administrative area, a partner in the Bukit Sua community empowerment activities
13	Bukit Sua Community	Having an indirect interest in the use of natural resources, for example hunting birds for sale.

Table 1 shows the interests of each different stakeholder, but efforts to maintain and safeguard the existence of KHDTK Mungku Baru and provide economic benefits to the surrounding community require alignment of the management objectives of KHDTK Mungku Baru. UMPR, as the manager of KHDTK Mungku Baru, must be able to facilitate various stakeholders' interests to achieve the same management objectives. The involvement of various stakeholders in the management of KHDTK is expected to reduce the potential for conflict with the community (Rifadi et al., 2019; Sumanto & Sujatmoko,

2008), through the sustainable use of non-timber forest products (Hanafi et al., 2017), which also supports improving the welfare of communities around the forest. KHDTK management aims to support research and development in the field of forestry, forestry education and training, and the preservation of local religious and cultural values (BPRI, 2021).

The preparation of the matrix of stakeholder influence and interest relationships in the management of KHDTK Mungku Baru was carried out using a questionnaire expressed in quantitative values and grouped according to influence criteria and interest criteria, and dividing the roles and interests of stakeholders into 4 quadrants (Figure 1).

Figure 1. Matrix of Influence and Interests of Stakeholders in the Management of KHDTK Mungku Baru



The results of the analysis indicate that key stakeholders have a high level of influence and interest in the management of KHDTK Mungku Baru. Meanwhile, the main stakeholders show a high level of interest, but with relatively low influence. As for supporting stakeholders, the level of influence and interest varies, from low to high.

DISCUSSION

The management of KHDTK Mungku Baru involves various stakeholders with different levels of interest and influence. Based on the stakeholder quadrant analysis, they can be grouped into four categories, each with different roles and contributions to the sustainability of this area.

Quadrant 1: Subject

The Mungku Baru Village community is included in the stakeholder quadrant with a high level of interest but low influence on the management of the KHDTK Mungku Baru. Their interests are mainly related to access to natural resources, the existence of fields that

they have long managed in the area, and the desire to be involved in various management activities. This shows that the community is highly dependent on the area, although its role in the decision-making process is still limited.

The farming system implemented by the community is shifting cultivation with a slash-and-burn method carried out in a controlled manner. This method is considered not to damage the environment because it is carried out with local knowledge that has been passed down from generation to generation. Land that is no longer used is usually not left empty, but is planted with fruit or rubber trees as a sign of ownership and a form of long-term investment. However, the existence of these fields in the KHDTK area is often a source of conflict with the management because it is considered to interfere with conservation goals.

The imbalance between high levels of community interest and low levels of influence can trigger tension and dissatisfaction. Therefore, it is important to increase community involvement in the management of the KHDTK Mungku Baru. Their active participation in decision-making, economic empowerment, and sustainability of conservation programs is essential. This inclusive approach not only helps maintain the sustainability of the area but also ensures the welfare of the community that depends on these resources.

Quadrant II: Key Player

Stakeholders in this quadrant have a high influence and interest in the management of KHDTK Mungku Baru. This group consists of the Palangka Raya City Environmental Agency, the Muhammadiyah University of Palangkaraya (UMPR) as the manager, and the BNF. They play a role in decision-making, policy development, the utilization of natural resources, and conflict resolution. However, differences in perspective between stakeholders can be a challenge, so a joint agreement is needed in a long-term management plan. As the owner of the area, the Palangka Raya City Environmental Agency is responsible for reporting the activities of the KHDTK Mungku Baru to the Ministry of Forestry of the Republic of Indonesia and the city government.

BNF is a non-profit NGO established in 2015 in Palangka Raya City, previously known as Outrop. In 2016, it established the Rungan program, which aims to support the protection of orangutan habitats. One of the activity locations is in KHDTK Mungku Baru. The existence of clouded leopards, leopards, and also orangutans in KHDTK Mungku Baru is a serious concern for the sustainability of wildlife habitat. In addition to providing assistance for the construction of camps in KHDTK Mungku Baru, BNF also recruits some people who care about the environment as contract workers in the KHDTK Mungku Baru camp. One of their tasks is to conduct patrols for security and protection, as well as survey orangutan nests and nurseries around the camp. It is hoped that activities around this camp can help maintain the security of KHDTK Mungku Baru.

UMPR plays an important role in implementing the functions of education, research, and community service based on sustainable natural resource management. As the manager of KHDTK Mungku Baru, UMPR utilizes this area as a natural laboratory to support the development of forestry, environmental science, and the empowerment of the surrounding community. In the field of research, UMPR lecturers and students are actively conducting various scientific studies at KHDTK Mungku Baru. Some of the topics that have been studied include carbon stock research, which aims to calculate the potential of forests to absorb carbon emissions and support climate change mitigation efforts. In addition, research is conducted on the population and distribution of orangutans as a key species in order to support conservation efforts for rare animals and their habitats. Other studies include the diversity of orchid species growing in the KHDTK

area, with the aim of identifying endemic and economically valuable species, as well as their conservation strategies. No less important, studies on the potential of medicinal plants are also conducted to explore local wisdom and sustainable biological use by the surrounding community.

The results of this research not only enrich the academic treasury but also provide real contributions to forest management based on science and local participation. In addition to research, student field practice activities are routinely carried out at KHDTK Mungku Baru. Students from the forestry study program conduct observations, flora-fauna inventories, and simulations of conservation-based forest management. These activities not only improve academic competence but also foster concern and responsibility for the sustainability of forest resources. Thus, UMPR, through the management of KHDTK Mungku Baru, has carried out its role actively and strategically in supporting sustainable, innovative, and relevant educational forest management with today's forestry challenges.

Quadrant III: Context Setter

Stakeholders in this quadrant have a large influence on the management of KHDTK Mungku Baru, but their level of importance is relatively low. This group includes the Natural Resources Conservation Center of Central Kalimantan Province, Kahayan River Basin Management Center, Center for Sustainable Forest Management Region X Kalimantan, Kalimantan Region Climate Change and Forest and Land Fire Control Center, Forestry Service of Central Kalimantan Province, and Kahayan Tengah Production Forest Management Unit. They play a role in determining the direction of forest management policies, although they do not have direct involvement in the specific interests of the KHDTK Mungku Baru.

The Natural Resources Conservation Agency of Central Kalimantan Province is one of the stakeholders that has a strong influence on the management of the Mungku Baru KHDTK. Although its level of interest in this area is relatively low, its role and authority in decision-making, especially those related to wildlife conservation, make this institution a party with significant influence. The strength of this influence is especially visible in the determination of technical policies and the protection of habitats that are home to various rare and protected species. This role makes the Natural Resources Conservation Agency of Central Kalimantan Province the vanguard in efforts to conserve biodiversity, although administratively and operationally, they are not directly involved in the daily management of the area like the main management institution. They play a more active role as technical partners and conservation supervisors who provide direction and recommendations based on ecological studies. Given the low level of direct interest in the utilization of resources in this area, collaboration with other stakeholders is very important to achieve balanced management goals. Technical interventions carried out by the Natural Resources Conservation Agency of Central Kalimantan Province need to be aligned with the needs and aspirations of local communities and management institutions, so that the influence they have not only strengthens the conservation aspect but also encourages the social and economic sustainability of the area as a whole.

Based on the results of interviews with sources from the Kahayan River Basin Management Center, KHDTK Mungku Baru is not only used as a location for research and education, but also has important potential in preserving germplasm. This area is a strategic place to develop identified seed sources and seed stands. This is in line with efforts to conserve plant genetic resources, especially local species that have high ecological and economic value. Utilization of germplasm in KHDTK Mungku Baru is carried out with the provision that in the landscape, there must be at least 25 parent trees of the target species. This provision is an important requirement in the process of identifying and forming seed sources, in order to ensure genetic diversity and the quality

of the seedlings produced. With this approach, the KHDTK Mungku Baru area can contribute directly to the provision of superior seeds that are in accordance with local ecosystem conditions. Seedlings from these seed stands can then be used for land rehabilitation activities, especially in abandoned or degraded areas within KHDTK Mungku Baru. Thus, the utilization of germplasm not only supports biodiversity conservation but also becomes part of a sustainable ecosystem restoration strategy. This approach strengthens the role of KHDTK as a multifunctional area that supports conservation, research, and environmental restoration.

The Central Kalimantan Provincial Forestry Service has demonstrated its commitment to supporting the national target of FOLU Net Sink 2030. One of the concrete steps taken is to encourage efforts to preserve and increase forest cover in various areas, including the KHDTK Mungku Baru. This step is part of a major strategy to reduce carbon emissions from the forestry sector while maintaining ecosystem stability. In addition, the Forestry Service is also active in rehabilitation activities for the Watershed Area in the KHDTK Mungku Baru area. Watershed rehabilitation not only aims to restore environmental quality, but also supports the hydrological function of the area so that it is maintained. Not only that, the Forestry Service also plays a role in the preparation of the KHDTK Mungku Baru management plan. This involvement is important to ensure that the direction of area management policies is in line with sustainable development goals and climate change mitigation targets. The synergy between forest conservation, land rehabilitation, and integrated management planning is the key to success in making KHDTK Mungku Baru an area that contributes to the 2030 FOLU Net Sink.

The Center for Sustainable Forest Management Region X Kalimantan emphasizes the utilization of non-timber forest products with community involvement related to the function of the KHDTK Mungku Baru as an educational forest. Seeing the potential for tenurial conflicts between the managers of the KHDTK and the community that owns the fields, it is recommended to manage agroforestry patterns, as well as security patrols, so that the sustainability of the KHDTK Mungku Baru remains maintained.

Based on the results of interviews with sources from the Kahayan Tengah Production Forest Management Unit, it is known that they do not have a direct interest in the management of the KHDTK Mungku Baru. However, they still have quite a strong influence, especially in the process of preparing the area management plan. This influence is closely related to the technical experience they have in implementing various community empowerment programs in their work areas. Experience in empowering communities is a source of relevant knowledge and practices to be used as technical considerations in KHDTK management planning. They have a deep understanding of the social and economic dynamics of communities around the forest, which is very important in designing programs that not only support conservation but also pay attention to the welfare of local communities. Thus, although not directly involved, the technical contribution of the Kahayan Tengah Production Forest Management Unit can strengthen the social aspect of the management of the KHDTK Mungku Baru. In addition, it also has the potential to become a strategic partner in efforts to empower communities around the KHDTK Mungku Baru. This collaboration is important so that the empowerment activities carried out do not overlap, but complement each other and synergize with the programs run by the KHDTK manager.

The Kalimantan Center for Climate Change and Forest and Land Fire Control places forest protection and security as the main priority in managing Forest Areas. Their main focus is on efforts to prevent and control forest and land fires, considering the major impacts they have on the environment, biodiversity, and public health. This activity is an important part of maintaining the sustainability of the ecological function of the forest and

supporting the commitment to climate change mitigation. To achieve this goal, the involvement of various elements is a key strategy, with the community as the main actor. This approach is carried out by strengthening the capacity of local communities in early detection, early extinguishing, and education related to the dangers of forest and land fires. Communities are considered to have a strategic role because of their proximity to forest areas and the local knowledge they have in recognizing signs of potential fires and how to prevent them. By actively involving the community, the Center for Climate Change and Forest and Land Fire Control seeks to create a responsive and collaboration-based forest security system. This participatory approach not only strengthens the effectiveness of fire control but also builds collective awareness and shared responsibility in maintaining the sustainability of KHDTK.

Quadrant IV: Crowd

Stakeholders in this quadrant have little influence or interest in the management of the KHDTK Mungku Baru. However, their existence still needs to be considered because they have certain needs related to this area. This group includes the Bukit Sua community, the Mungku Baru Village Head, and the Bukit Sua Village Head. The Mungku Baru and Bukit Sua Village Heads have the potential to become facilitators in community empowerment activities around the KHDTK Mungku Baru. Meanwhile, although the agricultural and economic activities of the Bukit Sua community are not directly related to the KHDTK Mungku Baru, a small number of its residents are known to catch birds in the KHDTK area. Therefore, their involvement still needs to be considered in efforts to manage the area to reduce potential impacts on the ecosystem.

CONCLUSION

Based on stakeholder analysis, the management of KHDTK Mungku Baru requires a collaborative approach involving all parties according to their roles and influence. Local communities need to be more empowered to reduce potential conflicts, while key stakeholders must ensure coordination in policy and program implementation. In addition, stakeholders with high influence but low interest must still be invited to participate in long-term planning. With the involvement of all parties, it is hoped that the management of KHDTK Mungku Baru can run more effectively, maintaining a balance between conservation and community welfare.

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DECLARATION OF CONFLICTING INTERESTS

The authors have declared no potential conflicts of interest concerning the study, authorship, and/or publication of this article.

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