

## Potential Criteria to Determine a Waqf-Based Forest Location Case Study: Bogor Waqf Forest, Bogor, Indonesia

Miftahul Jannah<sup>\*1,2</sup>, Azila Ahmad Sarkawi<sup>1</sup>, Jamilah Othman<sup>1</sup>

<sup>1</sup>Kulliyah of Architecture and Environmental Design, International Islamic University of Malaysia,  
Jalan Gombak, Kuala Lumpur, Selangor, Malaysia 53100

<sup>2</sup>Bogor Waqf Forest Foundation, Situgede, Kota Bogor, Indonesia 16115

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### Abstract

*Waqf-based forests can conserve the forest ecosystem by applying waqf principles. This initiative has been implemented in several places in Indonesia. The limited funds available for waqf-based forest development require nazhir to carefully choose the best location so that the asset can function optimally. However, no specific research has been conducted to guide the selection of the best location for this purpose. This study aimed to identify potential criteria to help determine the best site for developing a waqf-based forest. Several methods were used to collect the necessary data, including literature reviews, in-depth interviews, field observations, and focus group discussions. This study identifies four crucial criteria when selecting the best locations: a) legal, b) physical and biophysical, c) high conservation value and benefits, and d) management. In addition, each criterion has sub-criteria. Among all, legal issues receive the highest highlight as unresolved regulations can affect a forest's ownership and function. This study was the first to discuss these criteria. Future research should quantify the criteria suggested using GIS and conduct more field observations in existing waqf-based forests in Indonesia.*

*Keywords: waqf-based forest, forest ownership and ecosystem, legal issues, sustainability*

*\*Correspondence author, email: jannah.2719@gmail.com*

### Introduction

Environmental sustainability, particularly in forests, has become increasingly prominent. Despite efforts to preserve forests, ecosystems continue to be damaged. Indonesia has the world's third-largest tropical rainforest after Brazil and the Congo (Dwiyahreni et al., 2021). Forest damage has increased in recent years (Margono et al., 2016). Global Land Analysis and Discovery (GLAD) of the University of Maryland reported that forest clearance in Indonesia increased by 50% in the first 20 weeks of 2020 (Farand, 2020). There is a concern that the scenario can lead to ecological disturbances (Lawrence et al., 2022), economic disruption (Butler, 2019), and the spread of diseases (Garg, 2019), despite the cost of protecting forests in Indonesia being relatively inexpensive, costing around USD4 ha<sup>-1</sup> (Herman, 2018). Sustainable forest development in Indonesia has encountered challenges related to management uncertainty, limited capacity, and inadequate law enforcement (Handoko, 2014). Therefore, there is a need for novel approaches to effectively address the complex forestry issues in Indonesia.

According to data collected by PEW Research in 2019 and 2020, Indonesia has the largest Muslim population in the world (Diamant, 2019). In addition, Tamir et al. (2020) claim that Indonesians are highly religious and believe that religion significantly impacts the country (Poushter & Fetterolf, 2019). Based on this, Islamic faith has the potential to serve as

a powerful source of law in Indonesia when addressing environmental issues (Alghamdi, 2014).

**Waqf for forest conservation** Islam has a social finance instrument, waqf, designed to ensure beneficiaries' perpetual benefits. As Rasulullah SAW described, 'Hold the assets, give the results' (Kahf, 2008). Waqf is an equitable way of distributing the benefits of an asset. According to Budiman (2011), waqf is vital to environmental preservation. Waqf in the form of a planted plot of land is not unusual in Muslim practice (Yaakob et al., 2017). The first waqf in Rasulullah SAW, managed by Umar ibn Khattab RA, was a date palm garden in Khaibar (Kahf, 2003). Ali (2020b) also mentioned that a similar waqf is also practised by several other companions of the Prophet Muhammad SAW. One was Talhah ibn Ubaidillah, who donated a plot of his best date palms to Bairuha. Moreover, historical claims mention 'Evkaf Forests' in the Ottoman era (Dursun, 2007) and Bosnia Herzegovina, but without concrete evidence (Trakic, 2009).

Indonesia has significant potential for waqf, with estimates suggesting that its value could reach IDR2,188 trillion (USD 146,931,310) due to the generosity of the people (CAF, 2018; Beik, 2020). Productive waqf programs in Indonesia are beginning to address environmental issues. For instance, there are various institutions that continuously launch waqf programs for environmental protection, such as

the Tree Waqf Program by Dompot Dhuafa Republika, Muhammadiyah Citizenship and Tree Planting Movement by PP Muhammadiyah, and the Qur'an Waqf Board's clean water well waqf (Yaakob et al., 2017). Furthermore, regarding forest conservation, a waqf movement has emerged as a community initiative to protect the land. Waqf-based forest refers to a forest developed on waqf land with the primary function being a forest (Ali, 2020a).

The waqf-based forest initiative in Indonesia evolved in 2012. The Waqf Forest Community initiated its first waqf-based forest in Jantho, Aceh Besar, Aceh Province. This approach involves collecting money to buy critical land (Wirdyaningsih et al., 2020). In addition, several IPB University academics in Cibunian Village, Bogor Regency, have managed other waqf-based forests. This occurred after a waqf was donated in 2018 (Ali, 2019). The Yassiru Foundation then became the Bogor Waqf Forest Foundation, which manages a three-zoned Bogor Waqf Forest with a total area of almost 1 ha (Ali & Kassim, 2020). Furthermore, the foundation collects waqf donations through contributions from waqif individuals and purchases land with its legal waqf status for development as a forest (Ali, 2020b).

Based on the examples provided, there are two ways to develop a waqf-based forest in Indonesia. Initially, a *nazhir* (waqf manager) determines a willing waqif (waqf donor). For information, a waqif can donate land or money to a waqf (Rusydia & Devi, 2018). If the waqif intends to donate money, the *nazhir* will buy forest land and develop it into waqf-based forest.

Generally speaking, the current waqf-based forest program is expanding and receiving increased attention and support from community and government regulators, including the Ministry of Religious Affairs. Waqf-based forests are regarded as an alternative solution for ensuring the sustainability of forests in Indonesia (Permana, 2020). Public attention and expectations for waqf-based forest initiatives must be balanced with research and development

on waqf-based forests. A significant research gap lies in understanding the crucial factors required for developing waqf-based forests, particularly when selecting suitable locations for establishing waqf-based forests.

As of 2023, research on waqf-based forests has continued to evolve. For example, Hasanah and Hakim (2017) highlighted that waqf, through money, can facilitate forest development in urban areas. Setyorini et al. (2020) explained that a waqf-based forest is an example of a sustainable environmental waqf application that upholds inter-generational justice. This means that future generations can utilize the same environmental and natural resources as previous generations through the program. From a financial perspective, Ali and Kassim (2020) agree that by developing a productive waqf-based forest, a country can preserve its forests and support sustainable development goals (SDGs). Research on waqf-based forests has also focused on several other aspects, including the legality of waqf-based forests (Jannah et al., 2020), optimization of utilization through agroforestry (Jannah et al., 2021), waqf-based forest development strategy (Ali & Kassim, 2021), and the relationship between waqf-based forests and deforestation.

Various research perspectives have been rigorously studied, in line with the development of literacy in waqf-based forests. Unfortunately, almost no studies have considered the criteria among *nazhirs* (waqf managers) to determine the best location for waqf-based forest development. This study intends to address this gap. It aimed to describe the potential criteria that influence site selection. This study is believed to be the first to discuss the criteria for selecting the best waqf-based forest site.

This study consists of four parts. The first section discusses the background to the problems raised. It then describes the research methodology, including data collection and analysis. The third section covers the results and discussion. Finally, it concludes with some suggestions.

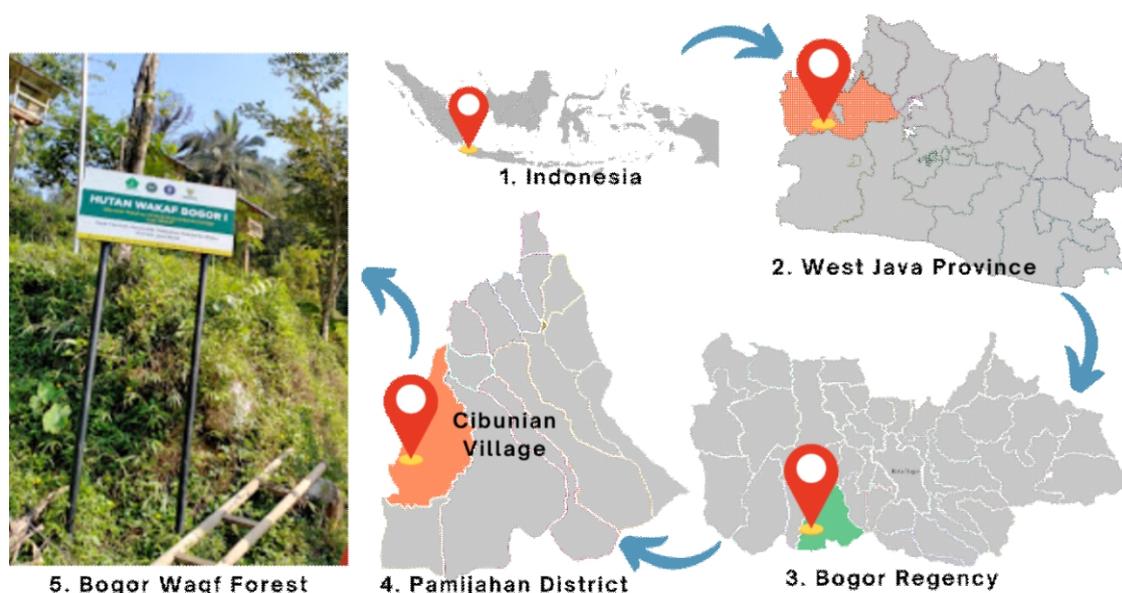


Figure 1 Case study location in Bogor Waqf Forest.

Table 1 Experts lists for an in-depth interview

Code	Expertise	Institution
ACH	Practitioner	Bogor Waqf Forest Foundation and IPB University
KMA	Practitioner	Bogor Waqf Forest Foundation
MFN	Regulator	Ministry of Religious Affairs
HT	Regulator	Indonesian Waqf Board
AK	Regulator	Ministry of Environment and Forestry
BN	Regulator	National Land Agency (BPN)
ISB	Academics	National Zakat Board (BAZNAS) and Department of Islamic Economics IPB University
NH	Academics	Department of Islamic Economics, University of Indonesia
HSA	Academics	Department of Landscape Architecture, IPB University

Table 2 Experts lists for results validation

Code	Expertise	Institution	Method
KMA	Academics	IPB University and Bogor Waqf Forest Foundation	FGD
EDH	Local people/ Practitioners	Zakat Community Development, BAZNAS Indonesia	FGD
SHR	Local people/ <i>Nazhir</i>	Bogor Waqf Forest Foundation	FGD
FMM	Academics, Islamic Environmentalists	Universitas Nasional	In-depth interview
SYN	Regulator	Association of Indonesia Forest Concession Holders and Indonesian Ulema Council	In-depth interview
AFA	Local people/ <i>Nazhir</i>	Aceh Waqf Forest	In-depth interview

## Methods

This study was conducted over three years, from October 2019 to May 2022. The case study was conducted at Bogor Waqf Forest in Cibunian Village, Pamijahan District, Bogor Regency, West Java (Figure 1). Several factors influenced the choice of site location. First, the author was part of *nazhir's* team managing Bogor Waqf Forest, which made information more accessible. Bogor Regency is the largest regency in Indonesia, and is located very close to DKI Jakarta, the capital city of Indonesia. This proximity makes Bogor Waqf Forest convenient for study. Finally, although it is not the oldest or largest waqf-based forest, it is the leading administration and legalization of all waqf-based forests in Indonesia.

This study employed a qualitative research approach utilizing multiple data collection and validation methods, including literature review, in-depth interviews, field observations, and focus group discussion. Conducting a literature review is crucial for gaining fundamental knowledge and establishing a theoretical research framework (Snyder, 2019). The literature review served as the foundation of this study and provided relevant information on the applicable laws and waqf-based forest sites in Indonesia.

Following the literature review, the researcher conducted in-depth interviews with nine experts (Table 1) to obtain detailed insights (Boyce & Neale, 2006). Field observations were conducted between February 2020 and October 2021 to corroborate the findings of in-depth expert interviews. Descriptive analysis was used to analyze the data collected from the observations, and the results were validated through a Focus Group Discussion (FGD) held in March 2022 and an in-depth interview in May 2023. The method used and the

experts who validated the research results are listed in Table 2.

## Results and Discussion

Choosing the best location can be an initial and crucial step in establishing a flourishing waqf-based forest. This process is closely linked to forest sustainability. Four criteria were identified after conducting the literature review, field observations, and expert confirmation. These are crucial for determining the best location for a waqf-based forest. These criteria include a) legal aspects, b) physical and biophysical considerations, c) high conservation value and benefits, and d) management. Each criterion has sub-criteria, as outlined in Table 3.

**Legal** The legal aspect pertains to the legal status of land ownership rights based on applicable laws and regulations. Based on expert interviews, the foremost concern in establishing a waqf-based forest is to address the legal aspect of forestland. It comprises three sub-criteria: a) land ownership, b) land administration, and c) spatial planning.

Here, the waqf-based forest practice involves transferring forest land into a waqf asset from the previous owner to Allah SWT, and it cannot be classified as a customary forest, as any particular customary group does not own it. Consequently, a waqf-based forest became private land with waqf ownership status and was managed by a *nazhir*. The *nazhir* was appointed by the local religious affairs office. Regarding land ownership, AK and B highlight the importance of selecting a donated site located outside the forest area (APL) that is not owned by the state. If the land is state-owned, issuing a waqf-based forestland certificate is

Table 3 Potential criteria in determining a waqf-based forest location

Sub-criteria	Priority	Indicator	Expert judgement	Sub-criteria	Priority	Indicator	Expert judgement
<b>A. LEGAL</b>							
1. Land ownership	High	(1) Located outside forest area (2) Owned by the private sector (3) Not a disputed land	Based on the prevailing laws and regulations of the Republic of Indonesia, waqf-based forests can only be developed on APL (other used areas outside the designated forest area) on land not controlled by the state (privately owned).  It is preferable to choose land with complete administrative documents to facilitate waqf documents (waqf pledge deed and waqf certificate).	1. Soil capability	High	(1) Slope < 40% (2) Land with few inhibiting factors	<i>Nazhir</i> must strive for waqf assets with the best strength and capabilities in the land. The higher its strength and capability point, the better it will be because developing a waqf-based forest in that location will be easier. However, if there is no choice, <i>nazhir</i> must strive for optimal waqf-based forest land utilization based on its current land strength and capability. A waqf-based forest can be developed under all land cover conditions, such as primary forest, secondary forest, plantation forest, urban forest, degraded forest, or even critical land. However, the development objectives and benefits prioritized from a waqf-based forest will affect the chosen land cover condition. Areas prone to natural disasters and vulnerable to land conversion are the main priority for development and security protection through a waqf-based forest.
	Low	(1) Located outside forest area (2) Owned by the private sector (3) It might be a disputed land			Low	(1) Slope > 40% (2) Land with a lot of inhibiting factors	
2. Land administration	High	(1) Have a complete land ownership document (at least letter C, recorded in the village) (2) Have a complete and recorded land history .	The selection of the waqf-based forest location needs to pay attention to the regional spatial plan so that it is under the regional development plan by the local government. Then, it is easy to process the waqf documents.	2. Land cover and land use	High	(1) It might be currently forested or non-forested (2) Current land use includes forests, gardens, green open spaces, fields, and many more.	
	Low	(1) The land ownership document is not complete (2) The land history is not recorded, possibly miss-ownership			Low	(1) Currently non-forested (2) Current land use as built-up land, housing, or mining	
3. Spatial planning	High	(1) Suitable with current regional spatial planning (2) Located in the protected area or agricultural cultivation area (3) Planned as a green open space or potential to be developed as it		3. Vulnerability	High	(1) Vulnerable to any natural disasters, such as flooding, erosion, or earthquake, significantly if the land cover changes into non-forest (2) Vulnerable to land-use change into built-up land, housing, or mining	
	Low	(1) Not suitable with current regional spatial planning (2) Located in the non-agricultural cultivation area (3) Not potential to be developed as a green open space area			Low	(1) Not vulnerable to any natural disasters (2) Not vulnerable to land-use change into built-up land, housing, or mining	
				4. Water resources	High	(1) There is a water source at the location, or (2) It does not have a water source, but it is close to any water source	Water sources are vital in preparing and maintaining waqf-based forests, mainly to irrigate forest plants. Therefore, areas that already have a water source or are close to a water source are the top priority to be selected.
					Low	(1) It has no water source and is far from the water source location.	

Table 3 Potential criteria in determining a waqf-based forest location (continued)

Sub-criteria	Priority	Indicator	Expert judgement
<b>C. HIGH CONSERVATION VALUE AND BENEFITS</b>			
1. Biodiversity and ecosystem values	High	(1) Areas with high species-richness value	The primary function of forests is as a place with rich biodiversity and ecosystem values, such as waters, minerals, biota, and other factors that support native life forms. Thus, the greater the value of this biodiversity and ecosystem, the higher the obligation to protect an area with the waqf-based forest principle.
		(2) Areas that become a habitat for endangered/threatened/protected species	
		(3) Landscapes important for ecosystem dynamics	
	Low	(1) Areas with low species-richness value	
		(2) Areas that are not essential as a habitat for endangered/threatened/protected species	
		(3) Landscapes that are not important for ecosystem dynamics	
2. Ecosystem services	High	(1) Areas that play an essential role as a water source and flood control	The primary function of forests is their ecosystem function, namely land use planning, water management, and air management. Thus, the greater the value of this ecosystem function, the higher the obligation to protect an area with the principle of a waqf-based forest.
		(2) Areas important for erosion and sedimentation control	
		(3) Areas that become a natural barrier preventing the spread of forest/land fires	
	Low	(1) Areas without a vital function, a source of water/springs, and flood control	
		(2) Areas without an essential function for erosion and sedimentation control	
		(3) Areas that do not function as a natural barrier for forest/land fires	
3. Community values	High	(1) An area that becomes a source of fulfillment of the basic needs of local communities, including food, water, clothing, household materials and tools, firewood, medicines, and animal feed	The benefit of the area for the community, especially those related to meeting their daily needs under Islamic and conservation principles, must be maintained and accommodated. If their needs are met through the existence of a waqf-based forest, the community will feel they own and maintain the sustainability of the waqf-based forest.
		(2) The fulfillment of these basic needs is in line with Islamic and forest conservation efforts.	
	Low	(1) An area that has no benefits in the local community's basic needs fulfillment or	
		(2) An area that becomes a source of the local community's basic needs fulfillment, which is the opposite of the Islamic and forest conservation efforts	
4. Cultural values	High	(1) An area that has an essential function for preserving the traditional cultural identity	Cultural factors and local wisdom that do not contradict Islamic and forest conservation principles must be considered and maintained because they will benefit waqf-based forests. Likewise with community values, if these cultural values deemed essential and beneficial are maintained, local people will feel valued and involved, so they will be motivated to maintain the sustainability of the waqf-based forest.
		(2) The traditional cultural identity aligns with the Islamic and forest conservation efforts.	
	Low	(1) An area without any traditional cultural identity or	
		(2) An area with any traditional cultural identity which is opposite to the Islamic and forest conservation efforts	

impossible because the land does not belong to the waqif. This issue was comprehensively explained by Jannah et al. (2020).

This waqf-based forest is in the second group of land (private forest), so it can not be in the state forest area; that is the point... Governors do not have the authority to change forest boundaries because if each could, the forest could be gone. So you can lose if it turns out to be in a forest area. (AK, 2020).

The second sub-criterion pertains to land administration, which is crucial for ensuring the long-term protection of waqf assets, particularly in land disputes involving the third generation of waqif and *nazhir* (Jannah et al., 2020). All experts unanimously agree that verifying the completeness of land administration documents, regardless of land status, is imperative. KMA, the *nazhir* of the Bogor Waqf Forest, shared his experience administering a waqf-based forest pledge deed. He highlighted that the incompleteness of

official land documents could cause complications in handling the waqf pledge.

The final sub-criterion that must be considered pertains to spatial planning. Agung (2011) contends that it is crucial to consider access to natural resource management and benefit distribution when planning or revising the regional spatial planning of forests. Therefore, aligning forest development with the regional spatial plan is essential for selecting waqf-based forest locations. ISB, one of the experts, emphasized that this is vital as it may impact the development permits, site accessibility, and allocation of benefits from the waqf-based forest.

**Physical and biophysical** The physical and biophysical aspects of the land include soil capability, land cover and use, vulnerability, and water resources. All the experts agreed on their importance. According to the MFN, Indonesia has considerable potential for land waqf, given its status as an agricultural country. However, to maximize benefits, land,

Table 3 Potential criteria in determining a waqf-based forest location (continued)

Sub-criteria	Priority	Indicator	Expert judgement
<b>D. MANAGEMENT</b>			
1. Accessibility	High	(1) Close to any residential areas (less than 1 km) (2) Close to any national parks (state forest)	Ease of access to and within the location is an essential determining factor. Easy access will make it easier for <i>nazhir</i> to manage the waqf forest. For waqif, an accessible location will increase the potential for waqf because it is accessible. For <i>mauquf'alaihi</i> , an accessible location will make it easier to benefit from these waqf assets.  The forest location, which is relatively close to the center of community activity, will have great potential for development, so it becomes more important to be managed through the waqf-based forest principles.  In managing waqf-based forest land, the presence of influential local figures in charge of daily activities is significant. Moreover, local communities implement daily activities in the waqf-based forest area. So, a figure coordinating community groups' activities and representing the <i>nazhir</i> is much needed.  The lower the land price, the wider the waqf-based forest area that a <i>nazhir</i> can freely manage.
	Low	(1) Far from any residential areas (more than 1 km) (2) Far from any national parks (state forest)	
2. Potential area development	High	(1) Located in a strategic location so that the development potential is high	
	Low	(1) Located in a remote location, so the development potential is low.	
3. Trustworthy local people	High	(1) There are trustworthy local people as a field team (2) The local people influence the surrounding community	
	Low	(1) There are no trustworthy local people on a field team or (2) There are trustworthy local people, but he is not influential in the surrounding community	
4. Land price	High	(1) Has a rational or lower price according to the market (2) The price is equal to the land potential	
	Low	(1) It has a higher price according to the market (2) The price is too high compared with the land potential	

including waqf-based forests, must be chosen based on the nation's land characteristics and cover.

Soil capability refers to the ability of the soil to be used for specific purposes, and is influenced by factors such as soil composition, slope, and obstacles (Arsyad, 2010). The *nazhir* must understand the land's ability to effectively manage a waqf-based forest. This can help determine the role and management approach for forests. For instance, *nazhir* can decide which trees to plant in the Bogor Waqf Forest based on the land capacity class, especially since the area still lacks forest cover. Therefore, according to ACH and HT, a *nazhir* should focus on working with land in the highest-ability class. However, if this is not possible, the land capacity class becomes essential for choosing the appropriate waqf forest optimization method. Additionally, the ISB notes that, regardless of the land's condition, the *nazhir* must still maximize waqf asset management.

All land conditions can be utilized as waqf-based forests. However, ideally, we, like *nazhir*, would want to choose the best land so that the benefits can be optimal. Therefore, if you can choose, what should be pursued as waqf-based forest land is land with the best quality (ACH, 2020).

The second sub-criterion pertains to land cover and land use. The National Standardization Agency (BSN) of Indonesia (2010) classifies land cover into vegetated and nonvegetated areas. Vegetated areas include agricultural and non-agricultural regions, such as forests, whereas non-vegetated areas encompass open terrain, settlements, non-

agricultural land, and water bodies. The selection of the location for a waqf-based forest may depend on the condition of the land cover, such as whether it is intended to rehabilitate critical land or to preserve existing forest resources. ACH and ISB emphasize that the choice of land cover as the location for a waqf-based forest is linked to the key benefits that can maximize forest creation. In the short term, waqf can be used to preserve existing forests. However, in the long run, efforts should focus on establishing waqf-based forests in vital land areas to restore lost forests.

The next sub-criterion is vulnerability, which encompasses two types of land and forest vulnerability in this study: a) natural disasters such as floods, landslides, or earthquakes (Phys.org, 2013), and b) land use changes such as agriculture and mining (van der Laan et al., 2018). All experts agreed that vulnerability should be considered when selecting a location for a waqf-based forest. Fragile land is susceptible to environmental disasters or is at risk of land conversion and must be conserved through waqf-based forest programs. In Indonesia, *nazhirs* consider the vulnerability of various waqf-based forests. For instance, Muara Village in Bogor Waqf Forest was selected because the area is prone to landslides. The hope is that reforestation through waqf-based forests will help reduce landslide risk (Ali & Kassim, 2020). Similarly, the Aceh Waqf Forest is situated next to the palm oil plantations. Therefore, *nazhir* chooses this location to prevent the conversion of forest land into palm oil plantations (Azhar, 2020).

The final sub-criterion is water resources, which are crucial for forests, as trees require water to grow and thrive (Somvichian-clausen, 2016). Regarding ownership, based

on the Law of the Republic of Indonesia number 17 of 2019 regarding Water Resources Article 7, water resources cannot be owned or controlled by individuals, community groups, or business entities. Therefore, the selection of a waqf-based forest location with a water source is under law. Once the land is converted into waqf, the water source belongs to the Allah SWT and can be used for the community's benefit. Water is also essential for waqf-based forest activities, as it facilitates everyday tasks such as drinking, washing, and bathing for residents and tourists in waqf-based forest areas. Water springs are another natural attraction that attracts tourists to waqf-based forests. Additionally, observations in the Bogor Waqf Forest show that areas with water resources (zones 1 and 2) are growing more rapidly than those further from the water source (zone 3).

**High conservation value and benefits** After conducting literature reviews, expert interviews, and field observations, four factors were identified as significant contributors to high conservation value and benefits: biodiversity, ecosystem services, community, and cultural values. Although these criteria were not discussed in detail in the expert interviews, all experts agreed that the more benefits and values a forest possesses, the more critical it is to develop it into a waqf-based forest.

Thus, the importance of biodiversity in forests cannot be overstated. Conservation efforts for the ecological richness of Indonesian forests have been ongoing for decades (Alisjahbana & Busch, 2017). Forests and trees have numerous environmental benefits, such as improving air quality, reducing pollutants in the vegetation canopy, lowering mid-summer air temperatures, and limiting UV radiation (Marusakova & Sallmannshofer, 2019). All experts agreed that preserving biodiversity and environmental value is crucial. The ACH believes that a waqf-based forest's *mauquf'alaihi* (beneficiaries) includes all life forms. Thus, selecting a location with high biodiversity value is essential to preserve this resource. HSA emphasizes the ecological benefits of waqf-based forests, such as water management, land management, air cooling, and biodiversity; the *mauquf'alaihi* can enjoy that as a waqf asset in the form of forest.

The benefits of conservation are related to ecosystem services, including carbon storage and climate change mitigation. Sustainable forests can potentially increase carbon storage and managed forests can provide more carbon mitigation benefits than managed forests (Bowyer et al., 2011; Gregersen et al., 2018). All experts agreed that the potential for high ecological services is crucial in selecting a site for a waqf-based forest. HT emphasizes that waqf should function effectively to benefit *mauquf'alaihi*. Although ecosystem services are intangible, they can be valued using specialized methods. Therefore, the more significant the environmental value of a piece of land is, the more crucial it is to protect it through waqf-based forest management.

The third criterion for conservation value and benefits is community value. It refers to the social benefits that waqf-based forests can provide, especially for local and Islamic communities. Therefore, it is essential to consider community value when developing productive and

sustainable waqf-based forests. One example is the use of forest areas for educational and Islamic activities, which can enhance local educational levels and religious practices (BAZNAS, 2017; Ali & Kassim, 2020). The *nazhir* of the Bogor Waqf Forest, KMA, also emphasizes the importance of community values, as the surrounding community interacts with the area of the waqf-based forest more often. Furthermore, involving the local community in the development of the forest can increase their sense of belonging to waqf-based forests. For instance, the *nazhir* has helped the local community to build a 'Waqf Forest Coffee' in the 1st zone of the Bogor Waqf Forest, which has generated profits and provided for their daily needs.

Based on Central Bureau of Statistics (BPS) data and research results, one in three poor people live in and around forests. This is one of the important reasons why we focused on ecology, economics, and education in Bogor Waqf Forest. We preserve the flora and fauna in the forest and educate the people in and around it to live alongside nature, enjoying the benefits without destroying them. If the forest does not benefit the surrounding community, it can be the first to be destroyed. However, if the community is involved, waqf-based forests have meaning and are closely related to their lives; of course, they will be at the forefront of protecting them (KMA, 2022).

The fourth and final sub-criteria for conservation value and benefits were cultural values. Cultural values are part of ecosystem services, but they refer more specifically to traditional values that the surrounding community holds as natives of an area (Collins & Larry, 2008). HSA emphasizes the importance of accommodating the local community's traditional wisdom in developing waqf-based forests, as long as it aligns with Islamic and conservation principles. Other experts concur with this. In the case of Bogor Waqf Forest, local wisdom was a crucial factor in selecting the land and developing it as a waqf-based forest. In addition, the local community's practices of managing the environment through cooperation without destroying it were considered during forest development.

**Management** In selecting a location for a productive waqf-based forest, four management aspects are crucial: accessibility, land development potential, trustworthy local people, and land price. All the experts agreed on the importance of considering these aspects.

The first sub-criteria is accessibility, defined by Ribot and Peluso (2003) as "the ability to derive benefits from things." Hörnsten (2000) noted that proximity to a forest is more important than its quality for increasing the number of forest visits. In Sweden, for instance, people prefer living no more than 0.7 kilometers away from the closest forest. A shorter distance to the forest enables *nazhir*, *waqif*, and *mauquf'alaihi* to access the productive waqf-based forest more easily. Additionally, a close distance to the forest can increase the waqif's interest in endowing their land and money to develop a productive waqf-based forest. KMA, as the *nazhir* of the Bogor Waqf Forest, stresses the importance

of proximity to the community. The closer the forest is to the community, the easier it is to perceive the benefits. However, a close distance also makes forests more vulnerable to damage. Therefore, forests should be conserved using the waqf principle.

The second aspect is the potential for land development. Various studies have explored the development of waqf assets based on their strategic location. For instance, Almuin and Fauzia (2021) argued that waqf land in Jakarta is highly likely to develop into a productive waqf center for business and economic transactions because of its location in the capital city of Indonesia. Location, distance, and accessibility are crucial in determining the potential for land development. The closer the land is to the city center, the greater the potential for development. It is worth noting that the development of the surrounding area can also impact the development of waqf-based forests, as highlighted by HT and KMA.

So, of the three examples of waqf-based forests in Indonesia, I think the Bogor Waqf Forest has a tremendous opportunity to become the most developed waqf-based forest because its location is relatively close to everywhere and close to the source of crowds (the capital city of Indonesia). Jakarta; thus, the growth potential is vast (HT, 2020).

The third sub-criterion is the trustworthiness of local people. It is crucial to have local communities as the primary managers of productive waqf-based forestlands. Locals who live in the forest and consider the essential part of their lives would know the unique characteristics of the local ecosystem and how to manage it. Tovmasyan (2017) stated that a trustworthy leader is crucial in all management aspects. They should set goals, plan, and manage activities, motivate people, and track what is happening. They must also hold themselves and the other staff members accountable. The KMA emphasizes the importance of trustworthy local people with good leadership skills in managing daily operations of waqf-based forests. The success of Bogor Waqf Forest was due to KMA forming a team with EDH and SHR, who are trustworthy residents of Bogor Waqf Forest, and the daily operational team.

The final sub-criterion is land price, which could significantly influence *nazhir's* decision to purchase waqf land according to Ibrahim (2014). The land price is critical because the endowment funds collected are expected to acquire as much land (or forest) as possible at the lowest possible price. Furthermore, HT and KMA suggested that the size of a waqf-based forest asset is one way to measure its success, making it crucial to acquire land at the lowest price to develop a waqf-based forest. Additionally, *nazhir* must ensure that the land's owner sells it at a price that aligns with the local price for development as a waqf-based forest.

## Conclusion

Selecting a location for a productive waqf-based forest requires the consideration of several criteria, each with its sub-criteria. The first legal criterion includes land ownership, land administration, and spatial planning. This is critical,

because unresolved legal issues can change a forest's function or ownership. Next, the physical and biophysical criteria encompass soil capability, land cover and use, vulnerability, and water resources. These aspects are vital as they determine the direction of forest development. The third criterion is high conservation value and benefits, which includes biodiversity, ecosystem value, ecosystem services, community values, and cultural values. This criterion is essential for optimizing all values during forest development. Finally, the management aspect includes accessibility, potential for land development, trustworthy locals, and land prices. Ensuring that waqf assets are managed productively and generate consistent benefits is crucial.

## Recommendation

This article provides recommendations for future research. Firstly, the criteria for selecting a forest location based on waqf, as compiled in this study, could be made more precise using quantification to determine the significance of each criterion. Additionally, the use of GIS to map potential locations for waqf-based forests should be undertaken as a follow-up.

Secondly, the current study examines only one location as a case study. Conducting more field observations in future studies of various waqf-based forest locations in Indonesia, such as Aceh and Bandung, would be advantageous. By increasing the number of case studies and consulting experts from diverse fields, the findings can more accurately depict the developmental dynamics of productive waqf-based forests, particularly in Indonesia.

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