

Rehabilitation of the Budheg Mountain Forest, Tulungagung, Indonesia

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ABSTRACT

This article examines the rehabilitation of the Mount Budheg forest in Tanggung Village between 2006 and 2015. The research aims to trace the history of forest degradation, explore the rehabilitation efforts, and assess the social and environmental impacts on the local community. Using an environmental sociology framework and David B. Tindall's social network theory, the study applies a historical method encompassing topic selection, heuristics, verification, interpretation, and historiography. The findings reveal that destructive activities such as firewood collection, wood theft, and edge fires significantly contributed to forest degradation. By 2005 and 2007, these practices led to severe environmental consequences, including soil erosion and flooding in nearby rice fields due to the Ancar River's overflow during the rainy season. In response, Agus Utomo founded the Wono Yoso Forest Village Community Institution (LMDH) in 2006, mobilizing collective efforts to rehabilitate the forest, primarily through reforestation. This initiative successfully restored the forest's role in regulating water management, as evidenced by the absence of flooding since 2012, thereby safeguarding agricultural productivity. Additionally, forest rehabilitation fostered the growth of eco-tourism in Mount Budheg, creating new employment opportunities for Tanggung Village residents by 2015.

Keywords: forest rehabilitation, Mount Budheg, LMDH Wono Yoso

INTRODUCTION

Forest rehabilitation efforts in Java can be traced back to the VOC era when it controlled the archipelago in 1603-1799. One of the efforts made was to close the exploited teak forests. The purpose of this closure was to provide an opportunity for the forest to restore its natural ecosystem (Boomgaard, 1992:9). Daendels established the Forestry Service (Dienst van het Boschwezen) in Java 1808. They asserted that all teak forests in Java were state-owned and managed by the Forestry Service and prohibited the trade in wood by private parties. However, this system was abolished when the British succeeded in capturing Java in 1811-1816 by Thomas Stamford Raffles. Raffles focused on forest management in Rembang, which had the largest teak forest area, by appointing a general supervisor or superintendent. Supervision of forests outside Rembang was handed over to the respective residents and regents (Maji, 2017:16).

The 1897 Java and Madura Forest Regulation was issued, becoming the forerunner to establishing Perum Perhutani. The regulation stipulated forest management in Java and Madura through houtsverterij or forest management units (Rumboko et al., 2008:14). When Japan occupied Java in March 1942, forest management in Java declined. Japan cut down all Teak Forests and Jungle Forests twice as much per year, exceeding the logging quota previously set by the Dutch East Indies government. Logging was carried out to meet the needs of the Pacific War (Barr, 2006:50). Forest damage in Java occurs due to violations committed by residents in rural areas directly bordering state forest areas. The most severe damage was caused by logging for firewood and local livestock grazing; regular forest fires during the dry season are also a factor in severe forest damage, causing the forest to no longer be covered in trees but grass (Barr, 2006:292). One of the forests in Java experiencing damage is the Budheg Mountain Forest, located in Tanggung Village, Campurdarat District, Tulungagung Regency.

Budheg Mountain is under the management of Perum Perhutani Resort Pemangkuan Hutan (RPH) Sanggrahan.

The characteristics of the soil and rocks of Mount Budheg were formed from an ancient volcanic eruption around 30 million years ago. As a result, this forest is minimally overgrown with trees (Putra, 2023); only certain types of trees, such as teak, mahogany, and clamps, can grow well on rocky soil (LMDH Wono Yoso Archive, 2006). This condition is further exacerbated by the activities of people living around the forest, who often look for firewood for their daily needs and pull out grass for livestock feed, such as goats and cows, which also damages young trees. Environmental problems on Mount Budheg cause economic problems for the people around it. This problem arises when the Ancar River, which is located south of Mount Budheg, experiences narrowing and shallowing caused by the accumulation of mud when it rains (Interview Utomo, 2021).

Efforts to save the Mount Budheg Forest in 2006 were initiated by Agus Utomo and assisted by 11 other people, the majority of whom work as farmers. The forest rehabilitation process pioneered by Agus Utomo and 11 other people experienced organizational development so that the Wono Yoso Forest Village Community Institution (LMDH) was formed based on the results of a meeting of the Tanggung Village community consisting of 86 people on October 9, 2006 (LMDH Wono Yoso Archive, 2006). The purpose of establishing LMDH is to collect and empower potential resources in the form of Community-Based Forest Management (PHBM), which is not only ecologically preserved but also utilized for the welfare of the village community. LMDH Wono Yoso has played a role as the leading actor in the Gunung Budheg Forest rehabilitation efforts, which is legally recognized. Forest rehabilitation is explained in Government Regulation 35/202, which states that forest and land rehabilitation is an effort to restore, maintain, and improve the function of forests and land to increase carrying capacity, productivity, and its role in maintaining the life support system.

The research used historical method consisting of topic selection, heuristics, verification, interpretation, and finally, and historiography (Sasmita, 2012). The sources used in this study are written sources, oral sources, and several secondary sources. The written sources consist of document archives belonging to LMDH Wono Yoso, Perhutani BKPH Kalidawir, the Tanggung Village Government, meeting minutes, vouchers, and other documents. The oral sources used are the results of interviews with historical witnesses such as the former Head of Tanggung Village, the foreman of community assistance personnel, and members of LMDH Wono Yoso. The research questions to be dealt with here are: What was the condition of the Budheg Mountain Forest before 2006? How did the Tanggung Village community carry out the rehabilitation process of the Budheg Mountain Forest? What are the ecological and economic impacts of rehabilitating the Budheg Mountain Forest?

MOUNT BUDHEG FOREST BEFORE 2006

Mount Budheg is situated in Kendit Hamlet, Tanggung Village, Campurdarat District, Tulungagung Regency. Tanggung Village shares borders with Pucung Village (Boyolangu District) to the north, and within Campurdarat District, it is bordered by Pojok Village to the south, Wates Village to the west, and Sanggrahan Village to the east. Covering an area of 554.18 hectares, Tanggung Village is a lowland area divided into four hamlets, 16 community units (RW), and 41 neighborhood units (RT). The highest point of Mount Budheg reaches 470 meters above sea level. The mountain falls under the management of Perum Perhutani, specifically within the Sanggrahan Forest Management Resort (RPH), Kalidawir Forest Management Unit (BKPH), and Blitar Forest Management Unit (KPH). According to the BKPH Kalidawir work area map, Mount Budheg is divided into various plots with different areas and plant types. In 2005, Tanggung Village had an estimated population of 5,607, with most residents working as farmers. Approximately 923 villagers engaged in farming (BPS, 2006:49). Local farmers harvest three times a year—twice for rice and once for secondary crops. In 2005, the village produced around 15.8 tons of rice and 6.4 tons of corn. Jobs in trade and services represent the second-largest employment sector in Tanggung Village (BPS, 2006:63).

During the New Order (1967-1998), Perum Perhutani had control over Java's forests quite strictly because it had the authority to improve the national economy through the export of forest resources in the form of wood while maintaining the sustainability of forests and Rivers Basins (DAS). Rural communities accustomed to depending on the forests adjacent to their villages have considered the existence of Perum Perhutani as an obstacle to access to forest resources (Peluso, 1992:883). The community not only experiences a lack of access to forest resources but is also not included in forestry governance, so they do not have the opportunity to feel the benefits of the

forest. The marginalized condition of the community then has implications for wood theft, which results in forest damage. Forest damage in Java during the New Order era was caused by wood theft and firewood gathering activities. In 1985, around 1 million people lived in 6,153 villages that directly bordered or even entered the state forest area. These communities depended on the fuel needs of wood from the forests around them (Peluso, 1989:334). Excessive use of firewood has become one of the causes of the destruction of the Mount Budheg forest, so in the 1970s-1980s, the condition of Mount Budheg was quite concerning because only a few trees grew in each plot. Table 1: Condition of Mount Budheg Forest before 2006

Table 1: Condition of Mount Budheg Forest before 2006

RPH	Plot	Standard Area (Ha)	Types of Plants	Planting Year	Acreage/ Ha
Sanggrahan	1F	29.7	Ac. Mangium	1975	80
	1F	3.9	Teak	1989	100
	1G	9.7	Teak	1980	105
	1 h	42.0	Teak	1983	100
	5B	18.1	Mahogany	1975	120

Source: Attachment to the Sanggrahan RPH Cooperation 2006, Wono Yoso LMDH Archives

Based on the table above, Plots 1F and 1H have the largest forest areas with a small number of trees, so the forest's function as a water management regulator will not be optimal. If examined more clearly, each plot has an unbalanced number of plants; for example, plot 1f, with an area of 42 Ha, has a rare number of trees, namely only 80 / Ha, compared to plot 1g, which has 105 trees / Ha. Overall, the number of plants per hectare can be said to be quite rare. This caused environmental problems when the rainy season arrives in the form of flooding.

According to Syamsuridzal (2022), the former Head of Tanggung Village, since 1970, the condition of the Mount Budheg forest has been bare. Community activities caused this by looking for firewood for daily kitchen needs. At that time, there had been no conversion of firewood use to LPG gas for cooking, so it is unsurprising that village people still depended on dry wood. Other activities, such as grazing livestock, especially goats on the slopes of Mount Budheg, were also the cause of the destruction of the Mount Budheg forest; in addition to grazing, local people also usually look for grass for their livestock feed on the slopes of Mount Budheg. Testimony regarding searching for firewood in the Mount Budheg forest was also told by Suparlan (Interview 2023), a member of the Wono Yoso LMDH. Syamsuridzal and Suparlan further said that the impact of the destruction of the Mount Budheg forest was that there were several rock landslides from the slopes of Mount Budheg.

In the reform era 1998, rural communities carried out large-scale looting and takeover of forest land in East Java. The land was previously controlled by plantation companies, both those that were still being used and those that had been abandoned. Sources collected from various legal aid institutions found around 50 land takeovers carried out by local farmers, such as what happened in Jenggawah when forest farmers succeeded in taking over more than 3,000 ha of forest that a state-owned tobacco plantation company previously managed under the Right to Cultivate scheme from former plantations during the Dutch East Indies (Lucas & Warren, 2003:88).

In East Java, looting of forest areas or plantations is often accompanied by protests. The takeover action is carried out by cutting down trees or replanting rice and corn on the land the state or plantation companies have seized. Forest areas that have problems between local communities and plantation companies are generally forest areas for which the government has issued a Forest Concession Right (HPH) to provide permits for entrepreneurs to carry out timber exploitation. Other permits, such as Industrial Plantation Forests (HTI), are also issued for timber plantations based on Law No. 5 of 1967 (Lucas & Warren, 2003:88).

Gus Dur's statement also caused massive looting during the Reformation era, stating that the forest belonged to

the people. The community misinterpreted the statement by legitimizing large-scale logging activities that were carried out in protected forests. Gus Dur's statement emphasized that tycoons should not control the forest. However, the surrounding community should receive welfare in accessing forest resources (Krisnadi, 2018:55). The logging activity took place on Mount Budheg until 2001 and targeted the remaining trees suitable enough to be cut down. The most thefts occurred in plot 1F.

Table 2: Timber Theft Figures in the Sanggrahan RPH Area

DATE	MAP	EVIDENCE OF THEFT	LOSS
March 14, 2001	1F	4 tree poles	Rp. 276,000,-
May 23, 2001	1F	21 tree stumps	Rp. 2,472,000,-
June 25, 2001	1F	31 tree stumps	Rp. 2,379,000,-
August 23, 2001	1F	15 tree stumps	Rp. 236,000,-

Source: Register A BKPH Kalidawir 2001-20010. Archive. BKPH Kalidawir.

According to the data on the area and function of the forest in the LMDH "Wono Yoso" cooperation area, there are two different 1f plots in terms of area and classification. It will be divided into plots 1F (a) and 1F (b) to make it easier. Plot 1F (a), with an area of 29.7 Ha, is classified as Other Timber Plants (TKL) with tree types that are not company class. This differs from plot 1F (b), which has an area of 3.9 Ha and is classified as Age Interval Class (KUI). KUI is a forest plot planted with productive plants, which, of course, have economic value (Interview Suyanto & Asyari, 2022:51). The difference in forest classification certainly created different impacts of losses, which is why there are differences in the number of losses that are not balanced even though they are still in the same plot.

According to Supriyanto (Interview 2023), the model of wood theft in the Mount Budheg area and its surroundings is carried out openly by logging in forest areas and deceiving forest security officers. The method is first to burn the area adjacent to the tree to be stolen; this condition causes the lower part of the tree to be damaged and dry. The thief immediately extinguishes the fire if it is deemed sufficient and then waits a few more days until the tree is completely dead so that it can be cut down. This method is carried out so that the thieves have an excuse that they only take dead trees, not cut down living trees. The wood thieves in the Mount Budheg forest have a poor economic background; they also have a low level of education, with an average of only elementary school graduates, so it is not easy to provide an understanding of the importance of maintaining forest sustainability. Over time, from year to year, these thieves no longer carry out their activities in the forest because they are too old, and their children can meet their needs for life so that forest damage in Mount Budheg can be suppressed.

Forest Rehabilitation Process

LMDH Wono Yoso had a vital role in the rehabilitation process of the Gunung Budheg Forest. This establishment is closely related to the PHBM program initiated by Perum Perhutani. LMDH Wono Yoso was founded by Agus Utomo, a resident of Tanggung village who works as a Civil Servant (PNS) at the Bhayangkara Hospital, Tulungagung. The people of Tanggung Village have known Agus Utomo since 2001-2006 as the chairman of the Village Representative Body (BPD) of Tanggung Village. He also serves as a health officer who opens medical services for the community.

In 2003, Agus Utomo managed to gather 20 volunteers who became the forerunners of the formation of LMDH in Tanggung Village. They were all residents of Krajan Hamlet who lived not far from the slopes of Mount Budheg and were the first to actively initiate forest rehabilitation until 2015 (Fikri, 2024). Residents who voluntarily helped with forest rehabilitation were called forest rescue volunteers. Mount Budheg Forest was rehabilitated by replanting or reforestation in the bare Mount Budheg Forest area. The first step was to determine the type of tree suitable for planting (Yoso, 2007). The thin soil conditions in Mount Budheg Forest dom, initiated

by rocks, made residents look for tree seedlings that could grow in such soil conditions and survive well in the dry season. Based on the deliberations by Agus Utomo and the residents, it was decided to plant teak trees. This choice was deemed appropriate because teak plants are practical. After all, the seeds are easy to find and plant. Teak seedlings were procured independently with the first search in the Sokolimo area in Campurdarat District. In addition, teak seedlings were also obtained from BKPH Kalidawir and RPH Sanggrahan (Interview Syamsurizal, 2022).

Rehabilitating forests demands not only considerable labor but also substantial financial resources. As a protected forest managed by Perum Perhutani, Mount Budheg forest has no dedicated budget for rehabilitation, as Perum Perhutani prioritizes revenue from production forests rather than protected areas. Similarly, local government budget plans do not include Mount Budheg forest rehabilitation due to Perum Perhutani's management status (Interview Utomo, 2021). To meet funding needs for Mount Budheg's rehabilitation, Agus Utomo personally allocated a portion of his salary from his nursing job. These funds were directed toward procuring seeds and covering field expenses, including occasionally compensating volunteers who sacrificed time to assist with reforestation. The compensation often provided animal feed for residents who helped, recognizing the time and labor they contributed. Most of the rehabilitation funding, therefore, came from Agus Utomo's personal income (Interview Syamsurizal, 2022). Despite some community support, others mocked his efforts, seeing them as futile since he was planting trees on land he did not own (Perkasa, 2013:39).

In 2006, Mount Budheg's forest rehabilitation saw organizational development. Agus Utomo, alongside local volunteers, established the Forest Village Community Institution (LMDH), an organization under Perhutani's Joint Forest Empowerment Program (PHBM). LMDH was designed for villages bordering Perhutani-managed forests, like Tanggung Village, which became a focal point of the rehabilitation efforts. In June 2006, Agus Utomo and the active volunteers formally notified the Head of Blitar Forest Management Unit (KPH) of their rehabilitation activities and achievements from 2003 to 2006, reporting the successful planting of 10,000 teak trees. Additional trees included sono, acacia, dadap, and walikukun, totaling 5,000 with an average height of 10 meters. By 2006, these reforestation efforts had greened 40 hectares of critical land on Mount Budheg, accomplished without government funding. This reforestation also helped protect the cultural heritage site Goa Tritis from erosion on Mount Budheg's slopes (Interview Relawan, 2006).

Four months after sending the letter, the rehabilitation effort advanced with the official formation of the Wono Yoso Forest Village Community Institution (LMDH), decided during a meeting of 86 attendees at Tanggung Village Hall (LMDH Wono Yoso Archive, 2006). LMDH implements the PHBM model, a collaborative forest management approach involving Perhutani, the community, and other stakeholders to achieve sustainable forest conservation and community prosperity (Djanad et al., 2010:3). The LMDH Wono Yoso organization in Tanggung Village follows a management structure with key responsibilities such as planning, nurseries, planting, maintenance, thinning, security, logging, monitoring, and evaluation. Planning typically focuses on planting trees in barren areas annually. LMDH Wono Yoso also promotes economic and social initiatives, such as community counseling and training, which often coincide with forest reforestation activities.

LMDH Wono Yoso quickly became a key partner for Perhutani in managing Mount Budheg forest. The day after its establishment, Agus Utomo proposed a collaboration with the Perhutani KPH Blitar Administrator to oversee forest resources in Tanggung Village, particularly Mount Budheg. Since then, LMDH Wono Yoso has coordinated closely with Perhutani, especially with RPH Sanggrahan and BPK Kalidawir. Under a PHBM agreement with Perum Perhutani KPH Blitar, Mount Budheg's management covers plots 5B, 1K, 1F, 1G, 1H, and 1I, spanning 104 hectares (LMDH Wono Yoso Archive, 2013).

Table 3: Objects and Locations of the Wono Yoso LMDH Agreement with Perhutani in 2006

No.	Plot	Acreage	Type
1.	1F	29.7	Acacia
2.	1F	3.9	Teak

No.	Plot	Acreage	Type
3.	1G	9.7	Teak
4.	1H	42.0	Teak
5.	1I	0.4	
6	1K	0.2	
7	5B	18.1	Teak

Source: LMDH Wono Yoso Archive.

Forest rehabilitation at Mount Budheg has primarily focused on Plots 1H, 1F, and 5B, the most prominent areas in need of restoration. Plots 1F and 1H are accessible from the western slope, while Plot 5B is located on the southern slope, and Plot 1G on the northern slope. Prior to rehabilitation, these plots suffered from critical land conditions with minimal tree cover. The 104-hectare Mount Budheg forest is known locally as the Village Lap Forest (HPD), a state forest area that is administratively part of the village. Rehabilitation efforts, including tree planting in bare areas, typically commence at the start of the rainy season, locally known as the “trap season.” Planting activities generally run from 8:00 a.m. until midday. To support these efforts, a semi-permanent hut (measuring 2.5 m x 2 m) was constructed on the northern slope in 2006, providing a resting place for volunteers during midday breaks before resuming planting or descending the mountain (Yoso, 2007).



Figure 1: Wono Yoso LMDH Post in 2006

Source: LMDH Wono Yoso Archives

The cooperation agreement between Perum Perhutani KPH Blitar and LMDH Wono Yoso has significantly advanced the rehabilitation of the Mount Budheg forest. This development is evident in the growing participation from communities outside Tanggung Village, who have increasingly contributed to reforestation activities. LMDH Wono Yoso has since expanded reforestation efforts to include the broader public. Before its establishment, reforestation activities were limited solely to LMDH Wono Yoso members.

Perum Perhutani continues to refine its forest management strategy in Java, fostering collaboration among

stakeholders through ongoing policy development. A key outcome of these efforts was the 2009 establishment of the Community Forest Resource Management Communication Forum (PHBM) Plus in Tanggung Village. This initiative stemmed from Perhutani's evaluation of the PHBM program, which had been in place since 2001. A critical finding in this evaluation highlighted the need for stronger synergy between village governments and stakeholders, particularly between LMDH and the local government (Perhutani, 2010:2).

Although LMDH Wono Yoso had been active since 2006, there was no formal partnership with the Tanggung Village government until the formation of PHBM Plus. This new framework empowered the Tanggung Village Head to collaborate with Perum Perhutani KPH Blitar and the community, enhancing forest management programs, particularly for Mount Budheg. The establishment of PHBM Plus was formalized by the issuance of Tanggung Village Head Decree No. 07 of 2009.

PHBM Plus aims to enhance Perhutani's accountability toward forest village communities (MDH) and other stakeholders, prioritizing the sustainability of forest functions and benefits. This collaboration enables forest management activities to align with local community and village development goals (Yoso, 2009). However, despite these policy efforts, Mount Budheg's rehabilitation has progressed primarily due to widespread community participation, particularly in reforestation activities led by schools in Tulungagung Regency, rather than through formal policy support.

Since LMDH Wono Yoso's founding in 2006, it has provided a structured platform for forest rehabilitation led by Agus Utomo and other committed volunteers. LMDH Wono Yoso meticulously organized the reforestation process on Mount Budheg, despite receiving no direct financial support from Perhutani KPH Blitar. Forest rehabilitation has been conducted independently, from procuring seedlings to planting in barren areas. Meanwhile, Mount Budheg continued to face threats of damage from wood theft and forest fires throughout 2007 and 2008.

The first meeting of LMDH Wono Yoso was held on January 12, 2007, at Agus Utomo's house. 64 people attended the meeting. The agenda of the meeting was the preparation of the LMDH Wono Yoso Activity Plan 2007. The activity plan was in the form of reforestation activities at the beginning of the rainy season in plot 1H with an area of 6 Ha. Several trees were prepared, including jati, sono, and Kleresede. In November of the same year, the second planting was carried out in plot 1H with a planting area of 9 Ha. In the meeting, all LMDH members agreed to work independently in every proposed activity. This indicates that although there was an increase in organization, the costs used for all rehabilitation activities remained independent and cooperative (LMDH Wono Yoso Archive, 2007)

The initial process of forest rehabilitation of Mount Budheg was still accompanied by various problems, especially forest fires and theft. The forest fire occurred on September 16, 2007, on the western slope of Mount Budheg, especially in block 1F, with a fire area of 1.5 Ha. According to calculations by Perhutani BKPH Kalidawir, the losses caused by the fire were estimated to reach Rp 5,000,000. According to Agus Utomo, the forest fire was caused by human actions, especially by individuals unhappy with the forest rehabilitation activities carried out by LMDH Wono Yoso. In addition to forest fires, theft often occurred in 2007, targeting block 1H. The total number of cases of wood theft that year was three times, with losses reaching Rp 1,725,500 (Kalidawir, 2007).

Forest security was still the main focus in 2008 due to the high number of logging thefts, especially in plots 1H and 1F. That year, there were two logging thefts with evidence of 9 felled trees with losses estimated at around Rp 6,000,000. In addition to logging thefts, fires occurred in plot 1 H, with an area of 4.2 Ha. Although there were many losses and continuous forest damage, the number of logging thefts and forest fires in Mount Budheg continued to decrease during its development. Logging thefts and forest fires still occur in the Sanggrahan RPH area, but since 2009, the cases have only occurred outside the Mount Budheg forest area (Kalidawir, 2008).

To protect the Mount Budheg forest, especially in plots 1H and 1F, where planting had previously been attempted, Agus Utomo admitted that he had never had a dialogue with several residents suspected of causing forest damage because they would reject it and not admit it. He often received insults from several people who were responsible for destroying the Mount Budheg forest. Together with other volunteers, he prefers to directly

plant trees in empty forest areas (Interview Utomo, 2021). To ensure that the newly planted trees at the beginning of each rainy season in November and December are not damaged by other people, he gives a sign by sticking a piece of bamboo called acir. Acir is a sign that the plant is not a wild plant but a plant that is cared for by its owner. Several volunteers are sometimes also assigned to check whether the newly planted trees are intact.

Despite various obstacles, forest rescue efforts continued in the years afterward. Meanwhile, the people living around the forest continued to carry out activities that affected the condition of the forest, such as looking for grass to feed their livestock, especially on the slopes to the north and west, where the Kendit Hamlet settlements are located below. Owning livestock, especially goats, is commonplace for villagers who still live traditionally, especially those who work as farmers.

Impact of Mount Budheg Forest Rehabilitation

Some positive impacts of the rehabilitation efforts of the Gunung Budheg Forest pioneered by LMDH Wono Yoso are the increasing participation of people from outside Tanggung Village who are also involved in protecting the forest, especially students. Cases of logging and forest fires in Gunung Budheg have also decreased. This proves that the involvement of the Tanggung Village community in rehabilitating the forest fosters environmental awareness. The rehabilitation of the Gunung Budheg Forest has been running for eight years and has improved the condition of the forest.

Table 4: Inventory of LMDH Wono Yoso Plants in 2014

RPH	Plot	Standard Area (Ha)	Types of Plants	Planting Year	Amount / Ha
Sanggrahan	1F	29.7	Ac. Mangium	2008	300
	1F	3.9	Teak		220
	1G	9.7	Teak		
	1 H	42.0	Teak	2009	225
	5b	18.1	Mahogany	2006	295

Source: LMDH Wono Yoso Activity Report 2014.

There was a significant increase in the number of trees compared to before in 1980. This inventory was the first after the formation of LMDH Wono Yoso. The inventory process was carried out independently by LMDH Wono Yoso and Perhutani BKPH Kalidawir members. Routine patrols carried out by Perhutani supervisors approximately once a month have ensured that no loss or damage to tree seedlings had been planted in each forest reforestation activity (LMDH Wono Yoso Archive, 2014).

The rehabilitation process of the Budheg Mountain Forest pioneered by LMDH Wono Yoso also positively impacts the people of Tanggung Village. The impact is divided into two aspects: ecological and economic. The ecological impact resulting from rehabilitating the Budheg Mountain Forest is the availability of clean water during the dry season. Budheg Mountain has two natural springs. The springs have never been used at all by the villagers. The springs are located in plot 5B, which is close to the tomb area of Tumenggung Surontani. Since 2011, this spring has maintained its water availability when entering the dry season. That year, the Tanggung Village Government also began to develop springs to distribute to the community (LMDH Wono Yoso Archive, 2011). In 2011, the Tanggung Village government built a clean water reservoir sourced from the Mount Budheg spring. The construction based on the suggestion of the Village Head to maximize the use of the Mount Budheg spring. The reservoir was built with a length of 5 M and a width of 3 M and can hold 35 M cubic of water. To build the reservoir, the village government asked for financial assistance from the Tulungagung Regent for Rp 21,825,900. The construction took about three months before the community could finally use it.



Figure 2: Mount Budheg Spring Water Storage Tank in 2011, Source: LMDH Wono Yoso.

Various reforestation activities carried out by students from schools in Tulungagung have indirectly introduced them to the increasingly sustainable natural beauty of Mount Budheg. This is what caused 2015 the activities of students on Mount Budheg to no longer be just reforestation but more diverse, such as organizational activities and camping in the open air to learn about nature conservation (Yoso, 2015). Without preserving the Mount Budheg forest, there will be no attraction for students to carry out activities on Mount Budheg. As stated in the minutes of the formation of the Wono Yoso LMDH, one of the main tasks of the Wono Yoso LMDH is to provide guidance and education regarding the importance of maintaining the Mount Budheg forest for sustainable community life (LMDH Wono Yoso Archive, 2006). Therefore, since 2015, Mount Budheg has begun to develop into a tourist attraction based on environmental conservation. This development results from the high intensity of student activities in the Mount Budheg area. According to Agus Utomo (2021), Mount Budheg is not unique in the impact of the rehabilitation of the Mount Budheg forest, which has indirectly influenced the increase in environmental awareness among people outside Tanggung Village, especially students.

In its development, Mount Budheg became increasingly known by young people who began climbing Mount Budheg. Climbing Mount Budheg began to be crowded among people from outside Tanggung Village in 2015, especially among young people, even though at that time, LMDH Wonoyoso had not officially opened Mount Budheg as a tourist spot. LMDH Wono Yoso took the initiative to record data on every visitor who wanted to climb Mount Budheg. From this data, it can be estimated that every week, around 30-50 visitors climb the peak of Mount Budheg (LMDH Wono Yoso Archive, 2015). Mount Budheg has also attracted the attention of tourists from Tulungagung Regency and private television media to publicize Mount Budheg through one of its programs. The first television media to come to publicize the beauty of Mount Budheg was Trans TV. In 2015, a team from Trans TV conducted a location survey for one of its programs entitled My Trip My Adventure, or MTMA. MTMA is a television program that broadcasts the story of a journalist's journey or adventure in visiting interesting objects with an open nature and history. The MTMA broadcast is also essential in always appealing to viewers to maintain environmental sustainability during every tourist visit (Nuraisah et al., 2018: 115).

The survey visit from the MTMA team was considered to have an impact on increasing tourists to Mount Budheg after one of the presenters, Dion Wiyoko, uploaded a photo of climbing Mount Budheg. Through the upload, Dion Wiyoko publicized the beauty of Mount Budheg to the broader community (Interview Wiyoko, 2015), which made many tourists start visiting Mount Budheg. The following is a table of the climbers on Mount Budheg, which has increased from the beginning to the middle of 2015.

Table 5: Number of Mount Budheg Climbers in 2014-2015

No.	Month	Year	Number of Climbers
1.	November	2014	30
2.	December	2014	37
3.	January	2015	100
4.	February	2015	200
5.	March	2015	201
6.	April	2015	237
7.	May	2015	258
8.	June	2015	380
Total number			1,443

Source: Wono Yoso LMDH Archives.

Since Mount Budheg was opened as a tourist spot, the people of Tanggung Village automatically saw an opportunity to take advantage by selling food and drinks under the LMDH Wono Yoso secretariat post, which is also the Mount Budheg climbing post (LMDH Wono Yoso Archive, 2015). The residents of Tanggung Village who open stalls around Mount Budheg usually sell various kinds of breakfast, packaged food and drinks, cigarettes, and even some climber needs such as batteries and mosquito repellent. Every Saturday night, the stalls were crowded with climbers preparing to climb. They usually bought additional logistics for climbing supplies. Meanwhile, in the morning, climbers returned to crowd the stalls to buy breakfast. There were around 10 small stalls established by the residents of Tanggung Village since early 2015 (LMDH Wono Yoso Archive, 2015). The stalls were established to meet the needs of the climbers of Mount Budheg. In addition to stalls, there were also vehicle storage or parking businesses opened by residents around Mount Budheg to support tourists.

The small businesses around Mount Budheg have improved the people's economic level of Tanggung Village. In addition to providing jobs for several residents of Tanggung Village who have returned from their travels, Mount Budheg tourism has also provided an opportunity for residents to earn additional income. Mount Budheg climbing tourism not only provides jobs for people living around Mount Budheg but has also employed several young people in the area to actively participate in maintaining Mount Budheg regarding sustainability and tourism interests. These young people are called Rangers and also receive wages for their work. This is evidenced by several young people assigned to monitor Mount Budheg's climbing activities so that there is no forest damage. In addition to plastic waste, the risk of forest damage caused by climbers is the cutting of branches to make campfires, which could cause forest fires if not used wisely.

CONCLUSION

Before 2006, the condition of the Mount Budheg forest was critically degraded, impacted by both natural and human factors. From a geological perspective, Mount Budheg's soil, primarily rocky due to the remnants of an ancient volcanic eruption, limits vegetation growth as few tree species can thrive naturally in such conditions. Human activities further compounded the problem, with local communities harvesting firewood and grass for livestock, leading to significant forest cover loss. Additionally, frequent wood theft and seasonal fires during the dry season intensified the damage.

In response to this degradation, a comprehensive forest rehabilitation effort began after mud floods devastated the rice fields at the base of Mount Budheg. Initiated by LMDH Wono Yoso in 2006, this community-led effort included seedling preparation, reforestation, fertilization, and establishing a local secretariat for ongoing forest

management. Since 2011, these rehabilitation activities have had profound positive effects on Tanggung Village, both environmentally and economically. Environmentally, the reforestation has preserved Mount Budheg's water source, which the local community now uses more effectively. Increased tree cover has improved rainwater absorption, reducing muddy flood risks and helping stabilize the productivity of nearby rice fields. Economically, the revitalized forest has opened opportunities for eco-tourism at Mount Budheg, creating jobs and contributing to the economic well-being of the surrounding communities.

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