

Assessing the Option of Devolution without Decentralization in Social Forestry Management: The Case Study of Java, Indonesia

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Received April 10, 2025; Revised July 16, 2025; Accepted July 23, 2025

Cite This Paper in the Following Citation Styles

(a): [1] Ary Widiyanto, Dodik Ridho Nurrochmat, Soni Trison, Subarudi, "Assessing the Option of Devolution without Decentralization in Social Forestry Management: The Case Study of Java, Indonesia," *Environment and Ecology Research*, Vol. 13, No. 4, pp. 509 - 520, 2025. DOI: 10.13189/eer.2025.130405.

(b): Ary Widiyanto, Dodik Ridho Nurrochmat, Soni Trison, Subarudi (2025). *Assessing the Option of Devolution without Decentralization in Social Forestry Management: The Case Study of Java, Indonesia*. *Environment and Ecology Research*, 13(4), 509 - 520. DOI: 10.13189/eer.2025.130405.

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Abstract Forest resource management involves the community and requires devolution to maximize management. Meanwhile, forest management in Java shows centralization by withdrawing the authority to manage 1.1 million hectares of the forest from Perhutani, a state-owned forestry company, to the Ministry of Forestry. This study examines devolution in the centralization of forest management in Java, primarily through the social forestry scheme. The methods used include Systematic Literature Review (SLR), stakeholder analysis, and Institutional Analysis and Development (IAD). The research respondents were 150 forest farmers, and the key informants were 16 stakeholders related to the implementation of SF in Java. The study results show that although SF management in Java has become more centralized, there is devolution on a larger scale than when Perhutani managed SF. This condition is supported by greater community authority, more open access, broader rights, more local actors, and supportive policies. This policy is considered to be able to eliminate the patron-client phenomenon that has been inherent in SF under Perhutani. However, there is potential for weak control with the unpreparedness of institutions at the site level.

Keywords Devolution, Social Forestry, Java, Access, Community

1. Introduction

Forest resources are one common pool resource, a combination of public and private goods that are jointly owned (non-rivalrous) but also rare in limited supply [1]. For this reason, regulations are needed so that the benefits received can be optimal. It will result in resource degradation if not appropriately regulated, while only a few parties utilize it. This forest nature applies generally to state forests, including those used in Social Forestry (SF) activities. In global developments, Social Forestry is also one of the government's strategic programs in achieving the SDGs and it increases community resilience in facing climate change and contributes to carbon absorption and low-carbon development.

The above conditions are influenced by the extent of access given to stakeholders, especially the community. Experiences of community-oriented forest management around the world show that decentralization and devolution policies benefit local communities [2]. On the other hand, forest management authority is also limited by a set of rights (bundles of rights) and transfer of rights [3].

Social forestry encompasses a governance strategy where the state delegates resource rights and management responsibilities to local communities, aiming to enhance local livelihoods while ensuring sustainable forest management [4]. This shift from a centralized, protectionist

model to one that promotes local participation has been a significant trend since the late 1980s when it was used to address rural poverty and environmental degradation [5].

All actors have essential roles in forest management, and their cooperation is needed for sustainable forest management. However, the state often plays the most dominant and influential role compared to other actors [6]. This is emphasized by Maryudi [7], who said that community forestry activities and results largely depend on the interests of powerful external actors. Only a few external actors have been proven to significantly influence the processes in community forests (social forestry), and as a consequence, their interests determine the results [8].

However, the effectiveness of such devolution policies is often contingent upon the capacity of local communities to manage these resources effectively, which can vary significantly across different contexts [8]. The discourse surrounding social forestry programs often oscillate between centralization and devolution, reflecting broader governance dynamics in forest management. Centralistic approaches typically emphasize state control over forest resources, while devolution seeks to empower local communities by transferring rights and responsibilities for forest management. This tension is evident in various case studies and analyses of social forestry initiatives across different regions, particularly in Southeast Asia.

In Indonesia, for instance, the government has made substantial commitments to social forestry, allocating millions of hectares of state forest land to local communities. This initiative is part of a broader strategy to balance economic development with conservation efforts [9]. However, implementing these policies has revealed a complex interplay between decentralization and centralization. While there is a push for greater local involvement, evidence suggests that decision-making powers are often redirected back to central authorities, undermining the intended benefits of devolution [10], [11], [12]. The phenomenon raises critical questions about the genuine empowerment of local communities and the extent to which they can influence forest management outcomes.

Moreover, the governance frameworks surrounding social forestry are often characterized by a lack of clarity regarding property rights and responsibilities. Secure property rights are crucial for the success of community forestry initiatives, as they provide the necessary incentives

for local communities to invest in sustainable management practices [13], [14]. However, these rights remain ambiguous in many cases, leading to conflicts and uncertainty that can hinder effective management [15]. Therefore, clear legal frameworks and supportive policies ensure devolution efforts translate into meaningful outcomes for local communities.

The new policy in forest management in Indonesia is Forest Area with Special Management (KHDPK). This policy diverts approximately 1.1 million ha of forest management from Perum Perhutani, a state-owned forestry company, to the Ministry of Forestry. The research problem that emerged from the KHDPK policy is the non-linearity of decentralization and devolution in forest management in Indonesia. The phenomenon in social forestry in Java is centralization. The central government's withdrawal of forest management authority (Ministry of Forestry) indicates centralization. However, it needs to be tested whether devolution does not occur in the centralization of this policy.

This study aims to test one of the forestry policy theories related to decentralization and devolution of forest management after issuing the KHDPK policy. According to Larson and Ribot [2], the keys to success in forest management are decentralization and devolution of forestry. Social Forestry as a form of forest management should also be based on decentralization (managed at the local level) and devolution (transfer of authority to stakeholders at the local level). A key contribution of this research is the development of a new perspective on devolution and centralization that cannot consistently be implemented simultaneously.

2. Materials and Methods

2.1. Research Location

The study focused on the SF area in Java after issuing the KHDPK policy. This policy changed the central forest managers in Java into two, namely the Ministry of Environment and Forestry (in October 2024, it changed to the Ministry of Forestry) and Perum Perhutani. The KHDPK area can be seen in Figure 1.



Figure 1. Map of KHDPK area in Java Island (Source: [16])

2.2. Data Collection

Data were collected through in-depth interviews, participatory observation, and document review. In-depth interviews were conducted with all stakeholders related to the management of SF in KHDPK. The participatory observation was performed by closely observing the community, which had obtained a social forestry management permit in KHDPK. Documents related to the management of SF in KHDPK were reviewed.

In this study, interviews were conducted in two ways. First, interviews were conducted using purposive sampling with semi-structured questionnaires to the SF management community in KHDPK, village officials in all research locations, the Directorate of Social Forestry Area Preparation, the Directorate General of Social Forestry and Environmental Management (PSKL), the Directorate of Social Forestry Business Development, the Directorate General of Social Forestry and Environmental Management (PSKL), Forestry Regional Office (CDK) Branch VII (Ciamis, Banjar, and Pangandaran), Social Forestry Facilitators, Non-Governmental Organizations, and the Association of Village Forest Community Institutions (LMDH) of Ciamis Regency. Second, interviews were conducted using the snowball sampling method. The criteria for informants were those who were involved in SF activities. Three levels of key informants are based on the government hierarchy: the central government, provincial government, and local government, including district/city and village levels. The respondents are the Forest Farmer Group or LMDH members at the site level.

For the Systematic Literature Review (SLR), data were collected from publications related to social forestry and limited to publications in the last 10 years. The publications

were taken from Scopus and Google Scholar indexing. The keywords used for English language sources are “Social Forestry” and “Indonesia”. Meanwhile, for keywords to search for literature from local sources, use the keyword “Perhutanan Sosial”. Next, a screening is carried out using keywords. “*Hutan Desa/HD*” “*Hutan Kemasyarakatan/HKm*”, “*Hutan Tanaman Rakyat/HTR*”, “*Kemitraan Kehutanan*”, “*PHBM*”, “*Kulin KK*”, “*Hutan Rakyat/HR*” and “*Hutan Adat/HA*”.

2.3. Data Analysis

Various methods are used according to the study’s objectives to determine whether there is devolution and decentralization of forest management through social forestry. There are two main studies, namely 1) the development of SF policies, to find out how the SF management process in Java is carried out, including the laws and regulations used, and whether the policy has accommodated the principles of devolution and decentralization, and 2) SF institutions in Java which include SF Institutions, actors involved, access, and bundles & transfer of rights. In summary, the types of data, data collection methods, respondents, and analysis methods used are shown in Table 1.

The stages of data analysis in SLR include: 1) Search the literature, 2) Screen for inclusion (Review abstract), 3) Assess quality (Review full text), 4) Extract data, 5) Analyze and synthesize data, and 6) Report findings.

In-depth interviews were conducted with seven key stakeholders in forest management in KHDPK (Table 1). Interviews used the snowball sampling method and a maximum of three people were taken for each category.

Table 1. Data types, data collection methods, respondents, and analysis methods

No	Data type	Data collection method	Respondent & key informant	Data analysis method	Analysis output
1	Social forestry policy development	Literature Review		Systematic Literature Review (SLR)	Development of Social Forestry Policy in Java
2	SF institution	In-depth interview with snowball sampling with quota control method	<ol style="list-style-type: none"> 1. Ministry of Forestry (all sections related to SF in KHDPK) 2. Perhutani (all sections related to SF) 3. Head/Manager of forest farmer groups (LMDH/KTH) 4. NGOs 5. Village Government 6. Academics/Universities/Researchers 7. Private sector holders of PS permits 	<ol style="list-style-type: none"> 1. Stakeholder analysis 2. Institutional Analysis and Development (IAD) 3. Akses theory [17] 4. Bundles & Transfer of Rights [3] 	<ol style="list-style-type: none"> 1. Actors in social forestry in KHDPK 2. Area and business management 3. Community access to forest resources in KHDPK 4. Transfer of Right in Social Forestry in KHDPK

3. Result and Discussion

The dynamics of centralization and devolution in social forestry programs are critical to understanding how forest management can be effectively implemented at local levels. Centralized approaches often impose uniform regulations that may not consider local contexts, leading to an implementation gap where the outcomes of social forestry policies vary significantly among different communities. For instance, Budi et al. [8] highlight that while national regulations are uniformly applied, the capacity of local communities to manage these resources effectively can differ, necessitating the involvement of various stakeholders to support local capacities [8]. This underscores the importance of a decentralized approach that empowers local communities to engage in forest management actively.

Devolution, defined as the transfer of authority and rights from central to local governments or communities, is seen to enhance local governance and improve forest management outcomes. Moeliono et al. [18] argue that community forestry initiatives may remain ineffective without significant changes in governance frameworks, including devoting rights to local users [18]. The literature suggests that when local communities are granted rights and responsibilities over forest resources, they are more likely to engage in sustainable management practices, as seen in various case studies across developing countries [19].

However, the transition from centralized to decentralized forest management is challenging. For instance, Dang [20] notes that forestry reforms aimed at devolution have often been hindered by the persistence of centralized control and the lack of genuine representation of local interests. Similarly, Magessa et al. [21] highlight that decentralized policies are designed to enhance community involvement, but their implementation often

falls short of genuine devolution [20]. This discrepancy can lead to a situation in which local authorities continue to exert control rather than empower communities, undermining devolution's potential benefits [21].

3.1. Development of Social Forestry Policy in Java

Forest management in Java is a legacy of forest management by the Dutch. After independence, the government changed the *Nederlandsch-Indische Boschexploitatie Maatschappij/ NIBM* to the Establishment of the State Forest Company (PHN) in 1957, which was the forerunner of Perum Perhutani. This state-owned enterprise manages forests on the island of Java. The development of forest management in Java can be seen in Figure 2.

SF in Java officially began in 1972, when Perhutani issued a prosperity approach, accommodating village communities living around forest areas. Although there have been various changes in the scheme, in addition to success, many parties have stated that SF in Java has not been successful.

With various weaknesses, the government changed Java's social forestry management scheme and issued Government Regulation No. 23 of 2022 concerning Forestry Management [22] and Ministry of Environment and Forestry (MoEF) Regulation No. 287 of 2022 concerning Forest Areas with Special Areas (KHDPK) [23]. In 2023, Minister of Environment and Forestry Regulation no. 4 of 2023 concerning Social Forestry Management at KHDPK was issued [24]. Minister of Environment and Forestry Regulations No. 287 of 2022 and No. 4 of 2023 transferred around 1.1 million ha (of a total of 2.4 million ha) of forest management in Java are previously managed by Perhutani, to the Ministry of Environment and Forestry.

There are seven reasons for issuing the KHDPK policy: 1) as a correction to Perhutani's business management so

that they only focus on managing forest areas for wood production; 2) redistribution of control over land and forest areas to those in need; 3) opportunities for resolving agrarian conflicts between communities living in or around forest areas in Java; 4) the development of new centers of economic productivity in forest areas which have been held hostage due the monopolistic control of forest areas in Java by Perhutani; 5) restoration of ecological damage in Javanese forest areas can be carried out in a more planned and integrated manner; and 6) realizing agrarian justice in rural Java after decades of experiencing chronic injustice in the ownership and control of land and forest areas. The SF managed by the Ministry of Environment and Forestry consists of the Village Forest (HD), Community Forest (HKm), and Community Plantation Forest (HTR) schemes. Meanwhile, Perhutani has Partnership (KKP) and Productive Perhutani Forestry Partnership (KKPP)

schemes. All of the above schemes, whether managed by Perhutani or MoEF, aim to increase socio-economic benefits for the community while still paying attention to forest sustainability. However, some differences in management principles may cause differences in acceptance by the community in the field (Table 2).

Although both are SF schemes, Table 2 shows some significant differences, for example, in the period of granting permits and the area of management. This condition causes social jealousy in the field. Several forest farmer groups under the SF scheme under the management of Perum Perhutani want to change to be under the management of KHDPK. They consider that long-term permits (1 tree cycle) make farmers more convenient in cultivating, without worrying about leaving the land when the permit period expires in, for example, 5 years.

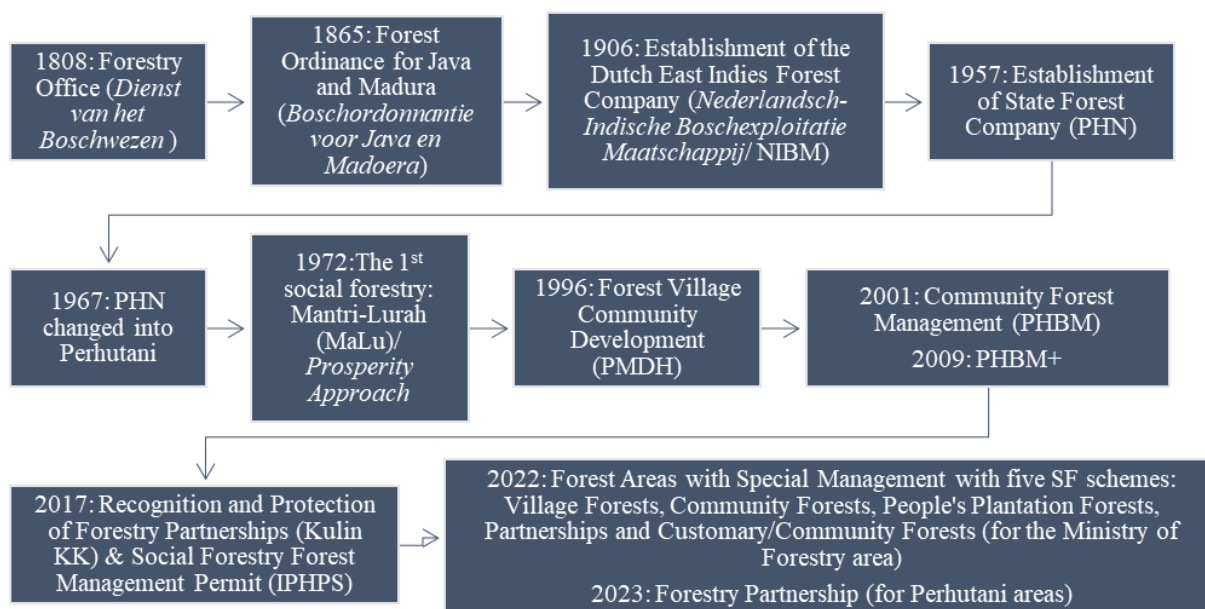


Figure 2. Development of forest management and social forestry on Java Island

Table 2. Differences in FS Schemes under the management of Perum Perhutani and the Ministry of Environment and Forestry

Aspect of Social Forestry	Perum Perhutani	Ministry of Environment and Forestry
Scheme	Perhutani Forestry Partnership (KKP) and Perhutani Productive Forestry Partnership (KKPP)	Village Forest (HD), Community Forest (HKm), and Community Plantation Forest (HTR)
Authorized by	Director for KKP and Supervisory Board for KKPP	Minister of Environment and Forestry
Cooperation/permit duration	2 years for KKP and 5 years for KKPP	35 years
Profit sharing	Farmer: 80-90%	Proportional profit sharing system based on agreement
Managed area	A maximum of 2 (two) hectares per head of a family	<ul style="list-style-type: none"> • HD: A maximum of 5,000 (five thousand) hectares per management unit • HKm and HTR: A maximum of 5,000 (five thousand) hectares per management unit and a maximum of 15 (fifteen) hectares per head of family

Source: document study

3.2. Actors in Social Forestry in KHDPK

A total of 16 actors were identified as stakeholders in SF in KHDPK, which included 1) Ministry of Environment and Forestry (Directorate General of Social Forestry and Environmental Partnerships), 2) Perum Perhutani, 3) Social Forestry Groups (KTH and LPHD), 4) Social Forestry Assistant/Facilitator, 5) Social Forestry Acceleration Working Group (Pokja PPS), 6) Forestry Service Branch (CDK) and Forestry Extension Officer, 7) Non-governmental organization, 8) Investors and financial institutions, 9) Village Government, 10) Village-Owned Enterprises, 11) University, 12) Research organization/institute, 13) Province Government, 14) District/regency Government, 15) Agricultural extension worker, and 16) Conservation cadres & Environmental volunteers.

The presence of SF in KHDPK, which is ex-Perum Perhutani land, adds to the presence of many new actors in SF management, especially in Java. Before KHDPK, only farmer groups and Perum Perhutani were the main stakeholders. Still, there are many new stakeholders in SF management, such as KLHK, CDK, investors or financial institutions, and provincial, regency, and village governments. These conditions make SF management in KHDPK very diverse, with various interests in each. The influence and interests of the actors are analyzed with stakeholder analysis according to Reed et al. [25]. The greater the influence and interests of stakeholders, the more significant the role of SF in KHDPK.

MoEF, SF Facilitator, FS acceleration working group, and NGO are the most dominant actors in SF management. Two reasons at least influence the existence of NGOs as key stakeholders: 1) They are active as companions and facilitators during the process of submitting SF management permits, and 2) NGOs are active after the issuance of management permits as companions as well, in several places, as investors. SF Facilitator, an official SF companion from the Government, is hampered by the Government bureaucracy, one of which is related to a companion decree. In addition, the number of SF facilitators is also inadequate. Many of them are concurrently accompanying more than one social forestry group.

The characteristics of stakeholders in SF management after the issuance of the KHDPK policy have undergone

several changes (Table 3).

Before the KHDPK policy was issued, the relationship between Perhutani and the community was often referred to as a patron-client relationship. Patron-client relationships in rural Indonesia are characterized by unequal power dynamics between patrons with resources and clients seeking support. These relationships occur in various agricultural contexts. Patrons provide clients capital, market access, and job opportunities, while clients offer labor and agricultural products. The relationships are often long-lasting but can be exploitative, with patrons maintaining client dependence [26]. However, patrons also play a crucial role in rural economic development by providing resources and opportunities [27]. The strength of these relationships varies, with some being more susceptible to change as clients seek self-sufficiency [27].

Social forestry in KHDPK changes this relationship pattern. The community does not need to feel like a client and consider the landowner as a patron. The existing parallelism is manifested in the community's great opportunity to design and manage their land and types of plants, very different from the previous SF, under Perhutani, where the type of cultivation space and type of plant were minimal.

3.3. Area Management

With the existence of KHDPK, forests in Java are managed by the Ministry of Forestry and Perhutani. When this policy is established, several provisions regarding assets and authority to manage the area are included in the management of SF (Table 4).

With the provisions above, there are areas managed by two parties (Community and Ministry of Forestry), and there are areas managed by three parties (Community, Ministry of Forestry, and Perhutani). In areas managed by three parties, there is a separate problem, namely the community's dilemma in land management. This condition is caused by the community's limitations in land management with the existence of Perhutani's tree stands. If the existing trees are approaching the age of being cut, this is not too much of a problem. Young trees can potentially be disturbed by the community that needs space for farming. For this reason, a good understanding of all parties' respective rights and obligations is important.

Table 3. Characteristics of stakeholders in social forestry in Java

Stakeholder Characteristic	Before KHDPK	After KHDPK
Number of Actors	Limited generally has only two actors, namely Perhutani and farmer groups.	The number of stakeholders is more significant because the private sector, individuals, and local governments may be involved.
Nature of the relationship	Closed (patron-client)	More open
Dominant actor	Perhutani	Ministry of Forestry, SF facilitators, NGOs

Source: Interview result

Table 4. Provisions for asset and area management

Area/Asset	Management
Farmer group	Changes according to the established SF scheme (HD, HKm, HTR, Partnership, or HA) with permission from the Minister of Forestry
Land without a tree stand	The community can directly plant wood (specifically, the HTR scheme), fruit, and food crops. The proportion of each type is regulated.
Land with tree stand	Trees remain Perhutani assets until they are felled. Communities can only manage land under annual plant stands if possible.

Source: Interview result

3.4. Business Management

The community manages businesses through the Social Forestry Business Group (KUPS). KUPS is made per product from the farmer group’s business activities, such as durian KUPS, coffee KUPS, tourism KUPS, honeybee KUPS, cardamom KUPS, etc. Because of its product-specific nature, the type of KUPS is determined by the superior products in a region. The success of business management by farmer groups is determined mainly by the existence of supporting factors and actors. The main factors are the market and the main actors in SF in KHDPK business development: investors, financial institutions, and business entities. Village-owned enterprises (BUMDES) are expected to be the main driving force in business development in SF.

The management of the institutions, areas, and businesses becomes an arena of action [28] or an action situation [29] in SF in KHDPK. The action situation is determined by the interaction (cooperation, conflict) and participation of stakeholders and decision-making from each party, especially as the leading actor of SF in KHDPK, where participation and decision-making become fundamental to solid institutions. This fact follows Nijnik et al. [30] who stated that social innovation initiatives have emerged to address forestry challenges. By applying Ostrom’s action arena framework, stakeholders are encouraged to reshape practices and engage in decision-making, fostering sustainable development in forestry. Moreover, the interaction between governance levels and local socio-economic contexts demonstrates Ostrom’s principles’ effectiveness in promoting self-organization and environmental awareness among villagers [31], [34].

3.5. Community Access to Forest Resources in KHDPK

The community manages businesses through the Social Forestry Business Group (KUPS). KUPS is made per product from the farmer group’s business activities, such as durian SF has increased access to resources in KHDPK. Utilization of NTFPs is now permitted, including planting and utilizing NTFPs of previously prohibited tree species. In addition, wood cultivation is also allowed using the SF KTR scheme. This condition shows that the community has more freedom in determining the plants they like, with

more diverse types, from undergrowth fruit plants to wood types.

From a policy perspective, the community is involved in forest management through the PHBM program based on the Cooperation Agreement (PKS) with Perhutani, which only has 1-5 years of cooperation. In comparison, SF in KHDPK, which the Ministry of Forestry manages, has a cooperation period of up to 35 years. This duration certainly gives the community a greater sense of security regarding long-term income from the forest. Moreover, the descendants of the utilization permit holder can also inherit the area’s management. Another difference is also related to the profit-sharing method. SF profit sharing in KHDPK is paid through KTH, while PHBM is paid through the Perhutani supervisor.

SF in KHDPK opens wider access for the community to obtain assistance, financing, and marketing due to the involvement of new actors such as forest farmer group (KTH/LMDH), NGOs, SF Acceleration Working Group, MoEF through the Directorate General of Social Forestry and Environmental Partnerships (PSKL), specifically, access to technology, access to capital, access to market, access to labor and labor opportunity, access to Knowledge, and access to authority. An overview of these accesses at the research location can be seen in Table 5.

SF in KHDPK provides greater access to authority to the community. Previously, social forestry management under Perhutani was more of an unequal relationship. Community activities were minimal, starting from the short duration of cooperation, between 1-5 years, a profit-sharing system that was considered unfair, and the limitations of forest farmers in determining the types of plants because many types were not allowed, for example, types of wood and fruit NTFPs such as *durian* (*Durio* sp.), *petai* (*Parkia speciosa*) and *jengkol* (*Pithecellobium jiringa*). SF in KHDPK allows farmers to plant these types of crops.

3.6. Transfer of Right in Social Forestry in KHDPK

The concept of property as a “bundle of rights” has significantly influenced legal and economic thought, particularly in the United States [32]. This approach, rooted in legal realism and institutionalist economics, challenges the traditional view of property as absolute dominion over things [32]. Schlager and Ostrom [3] developed a

conceptual framework that distinguishes various property rights regimes from authorized user to owner and has become widely used in natural resource analysis. Schlager and Ostrom [3] divide rights bundles into four categories: access and withdrawal, management, exclusion, and alienation. The bundle of rights owned by the community changed after issuing the KHDPK policy (Table 6).

Although the collection of rights owned by the community before and after KHDPK was still the same as that of a proprietor, namely the right of exclusion, KHDPK offers more flexibility for the community. The advantages are in the type of products that are more flexible and varied, and management patterns that have many alternatives (five SF schemes), more independent decision-making, and more open opportunities for cooperation, for example, with business entities, village governments, and investors.

3.7. KHDPK Devolution and Decentralization in Social Forestry in KHDPK

The dynamics of centralism and devolution in social forestry programs are complex and multifaceted. While there is a clear trend toward promoting local participation in forest management, the realities of implementation often reveal significant challenges. The effectiveness of social forestry initiatives hinges on the capacity of local communities, the clarity of governance frameworks, and the willingness of both central and local authorities to support genuine devolution. As the discourse on social forestry continues to evolve, it is essential to critically assess the implications of these governance dynamics for sustainable forest management and community development.

Table 5. Change in Forest Resource Utilization after KHDPK implementation

No	Form of utilization	Changes in access to forest resources
1.	Cultivation of annual plants	Do not change
2.	Utilization of grass for animal feed	Do not change
3.	Utilization of firewood	Do not change
4.	Extraction of Non-Timber Forest Products (NTFPs) (honeybee, fruit, latex, rattan, bamboo, etc.)	Not allowed to Allow
5.	Planting of NTFPs.	In previous SF: Allowed: coffee, cardamom. Not allowed: types of fruit trees. SF in KHDPK: Planting all types of NTFPs is permitted.
6.	Wood planting	Now permitted in Community Plantation Forest (HTR) SF scheme.
7.	Utilization of unprotected animals	Utilization of unprotected animals is permitted.
8.	Utilization of state-owned wood	Do not change
9.	Transfer/inheritance of cultivated land	The cultivated land can continue to be managed by descendants.

Source: Interview result

Table 6. Bundles of rights with position in social forestry in KHDPK

Right	Assessment		Change
	Before KHDPK	After KHDPK	
Access and Withdrawal	Have the right	Have the right	The new SF allows the cultivation and use of a wider variety of plants and products, including previously prohibited ones such as trees and wood.
Management	Have the right	Have the right	The new SF increases the right to regulate internal use patterns and transform the resource by making improvements.
Exclusion	Have the right	Have the right	The new SF opens up more opportunities for collaboration with external parties, including providing access and transfer in management (for example, cooperation with investors)
Alienation	Have no rights	Have no rights	

Source: Interview result

Remarks:

Access: The right to enter a defined physical property.

Withdrawal: The right to obtain the "products" of a resource (e.g., catch fish, appropriate water, etc.).

Management: The right to regulate internal use patterns and transform the resource by making improvements.

Exclusion: The right to determine who will have access rights and how those rights may be transferred.

Alienation: The right to sell or ease either or both of the above collective choice rights.

Local governments’ support of social forestry initiatives is also critical. Local authorities can play a pivotal role in facilitating community engagement and ensuring that the benefits of social forestry are equitably distributed [33]. However, the effectiveness of local governance structures varies widely, and in some instances, local governments may lack the capacity or willingness to adequately support community forestry efforts [18]. This inconsistency can further complicate the relationship between central and local authorities and the communities they serve.

Decentralization in forestry refers to transferring some authority from the central government to local governments or institutions in forest management. The goal is to increase efficiency, community participation, and more responsive forest management to local needs. Three characteristics of decentralization in forestry are listed below [34], [35]:

1. Administrative decentralization → Delegating tasks to regional institutions but still under central control.
2. Fiscal decentralization → Regional governments have the authority to manage revenues from the forestry sector.
3. Political decentralization → Decision-making related to forestry can be carried out by regional governments or local legislatures.

Meanwhile, devolution is a deeper form of decentralization, where forest management authority is given to local governments, communities, or indigenous groups. Devolution aims to improve justice in distributing forest benefits and strengthen community ownership rights to natural resources. Three characteristics of devolution in forestry are included [36], [37].

1. Ownership rights of resources are given to local communities or communities.
2. Communities have control over forest management decisions and utilization.
3. Improving community welfare through social forestry.

Devolution of forest management in Indonesia aims to promote sustainable forestry, equity, and efficiency [38]. While policies allow families to manage community forests for up to 35 years, implementation has been limited, covering less than 400 hectares of state forest area [38]. Agrarian reform in forestry, guided by Indonesian socialism, is seen as a path to sustainable forest management and social justice [12]. A study of 10 village forest licenses showed that devolution policies could

effectively reduce deforestation rates, particularly after the first year of implementation [15]. Social capital plays a crucial role in community forest management, encompassing economic, social, cultural, and symbolic aspects that influence forest governance and community interactions [39].

Decentralization and devolution are often associated with Community-Based Forest Management (CBFM), which emphasizes the active role of communities in preserving forests while gaining economic benefits. Both terms have differences (Table 7). Decentralization refers to power and policy-making, while devolution refers to the management of such authority and is related to utilization.

Local government is built around careful and illuminating case studies of the effects of devolution policies on the management of forests in several Asian countries. The studies demonstrate that devolution policies - contrary to the claims of governments - have increased governmental control over the management of local resources and a lower cost to the state. The controversial findings show that if local forest users are to exercise genuine control over forest management, they must be better represented in forming, implementing, and evaluating devolution policies. In addition, the guiding principle for policy discussions should be to create sustainable livelihoods for local resource users, especially the poorest among them, rather than reducing the cost of government forest administration [37].

Politically, there is centralization in the management of social forestry in Java, where higher institutions (ministries) are more dominant than state-owned forestry companies (Perhutani)—likewise, related to financial and administrative authority, which is currently under the Ministry of Forestry. However, devolution practices were found in its management collaboration with the community (Table 8). The findings in the previous chapter are summarized to measure whether devolution has occurred in forest management in Java.

An important factor in SF in KHDPK is the community’s authority in determining the type of plants and land management. Because of Perhutani’s dominance, the community did not own these two things before KHDPK. The community also has a longer management duration (35 years) than SF in Perhutani (2-5 years). However, the existing devolution will not be utilized optimally if there is no increase in community capacity to maximize the management rights of the resources they obtain.

Table 7. Differences between decentralization and devolution in forest management

Aspect	Decentralization	Devolution
Level of Authority	Authority is given to local government or lower levels	Authority is given to local communities
Central Government Control	There is still central supervision and control	Less central government control
The main purpose	Administrative and governance efficiency	Equity of access and ownership of resources

Source: Interview result

Table 8. Devolution in social forestry management in Java

Aspect	Devolution	
	Yes/No	Finding
Regulation	Yes	The new PS regulations, for example, MoEF Regulation No 9 of 2023, allow communities to become land managers with broader authority than when it was under Perum Perhutani.
Actor	Yes	The number of actors at the regional or site level has increased compared to the previous PS under Perum Perhutani.
Authority and Access	Yes	There is a transfer of more extensive authority to the local community
Resource ownership rights	No	Despite having alternative management systems and more diverse product types, the community remains the proprietor.

Source: Interview result

The effectiveness of devolution in achieving sustainable forest management is contingent upon establishing clear property rights and the capacity of local institutions. Research by Zhang [40] indicates that while forest devolution can incentivize sustainable management, its impacts can be mixed, depending on local conditions and governance structures [2], [41]. Community forestry initiatives' success often hinges on local governance structures' ability to manage resources equitably and sustainably, as demonstrated in various African and Asian studies [42].

In examining the evolution of community forestry in various contexts, it becomes evident that successful devolution requires not only the transfer of rights but also the establishment of robust institutional frameworks that support local governance [43], [44], involving community, and strong cooperation between stakeholder [45]. For instance, participatory forest management approaches in South Asia have demonstrated that empowering local communities through decentralized governance can lead to more sustainable forest management practices [43]. However, these successes are often tempered by the realities of local governance challenges and the need for ongoing support from higher levels of government.

4. Conclusions

This study found that devolution is not always accompanied by decentralization in forest management. Java's latest Social Forestry (SF) regulation has created two conditions simultaneously. On the one hand, there is centralization by withdrawing some authority for forest management to the central government. On the other hand, this regulation supports devolution in more outstanding forest management by the community. Forest farmers also receive more expansive access to SF areas, with flexibility in management types and types of wood and plants. Local actors, such as village governments and NGOs, also receive an abundance of political influence that Perhutani previously controlled. Another positive side is that the community feels free from the patron-client phenomenon

that has supported the relationship between Perhutani and the community in forest management through social forestry. The community remains a proprietor who cannot sell the land they manage, although they have more freedom in management. This has the potential to increase the economic contribution of forest areas. However, regulations on the composition of agricultural trees and plants must also be implemented and monitored so that environmental degradation does not occur. Special attention is needed in areas still managed by three parties so that there is no disruption to Perhutani's tree assets.

Acknowledgements

We thank the Directorate General of Social Forestry and Environmental Partnership, the Ministry of Environment and Forestry, and Perum Perhutani Ciamis FMU for being permitted to collect data.

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