

Transforming social forestry through Forest Area with Special Management (KHDPK) in Garut, Indonesia

YAYAT NURKHOLID¹, DODIK RIDHO NURROCHMAT^{1,2,✉}, HANDIAN PURWAWANGSA^{1,2},
NUGRAHA AKBAR NURROCHMAT³

¹Master Program of Forest Management Science, Graduate School of Institut Pertanian Bogor. Jl. Raya Dramaga, Gedung Sekolah Pascasarjana IPB, IPB Campus, Bogor 16680, West Java, Indonesia

²Department of Forest Management, Faculty of Forestry and Environment, Institut Pertanian Bogor. Jl. Raya Dramaga, IPB Campus, Bogor 16680, West Java, Indonesia. Tel./fax.: +62-251-8621244, ✉email: dnurrochmat@apps.ipb.ac.id

³Department of Forest Management, Dendrometry and Forest Economics, Institute of Forest Sciences, Warsaw University of Life Sciences. Nowoursynowska, Warsaw 02-776, Poland

Manuscript received: 17 May 2025. Revision accepted: 6 August 2025.

Abstract. Nurkholid Y, Nurrochmat DR, Purwawangsa H, Nurrochmat NA. 2025. Transforming social forestry through Forest Area with Special Management (KHDPK) in Garut, Indonesia. *Asian J For* 9: 196-210. Social forestry on Java Island, previously implemented through the Social Forestry Forest Utilization Permit (IPHPS) and the Forestry Partnership Recognition and Protection scheme (Kulin KK), has been required to transform the establishment of the Forest Area with Special Management (KHDPK). In response, the Indonesian government enacted Minister of Environment and Forestry Regulation No. 4 of 2023. The transformation of social forestry under the permit and partnership schemes is administered by the Minister and implemented through the respective Technical Implementation Units. At the permit-holder level, numerous challenges persist, particularly regarding forest management capacity and readiness for change, which may hinder the effectiveness of the transformation process. This study aims to analyze the roles of stakeholders, the implementation of the social forestry transformation policy, and the organizational changes among social forestry permit holders. Fieldwork was conducted with the Girihurip Forest Farmers Group and within the Kulin KK Permit Area of the Giri Purnama Alam Forest Village Community Organization in Garut District, Indonesia. The findings indicate that primary, supporting, and key stakeholders possess differing levels of influence and interest. However, the implementation of the transformation policy in Garut has been suboptimal due to inefficient bureaucratic processes. Notably, organizational transformation among Kulin KK permit holders has shown greater progress compared to that among IPHPS permit holders.

Keywords: Garut District, KHDPK, policies, social forestry, transformation

INTRODUCTION

Forest areas in Indonesia are predominantly controlled by corporations, which often suffer damage due to widespread illegal logging and management practices. Communities living near forests are frequently considered responsible for forest degradation because they rely on the forest for their livelihoods, driven by a lack of land ownership and other economic factors (Rossita et al. 2021; Nurrochmat et al. 2023). As a result, forest resource management remains unsustainable and contributes to high deforestation rates (Nurrochmat et al. 2022).

Unsustainable natural resource management and deforestation have led to the concept of granting legal access to communities over forest areas, known as social forestry (Rahmani et al. 2021, 2022; Silalahi et al. 2025). Social forestry is one of the Indonesian government's programs under the national development agenda, aimed at increasing community access to forest management (Rahmani et al. 2024). This program has been incorporated into several policies introduced during President Jokowi's administration (Suryanto et al. 2024).

Social forestry aims to reduce poverty, support rural livelihoods, and conserve forests through sustainable

management practices by implementing agroforestry systems (Natsir et al. 2022; Willmott et al. 2023). Social forestry can also be categorized as a legal forest management strategy in which the rights and responsibilities for managing forest resources are granted to community groups living near forest areas (Fisher et al. 2018).

The Indonesian government is committed to granting local communities legal access rights to manage state forests through the Social Forestry (SF) program (Maryudi et al. 2021). The government encourages the formation of social forestry groups as a prerequisite for achieving a set of rights and responsibilities in forest management (Erbaugh 2019). Social forestry is regulated under the Indonesian Minister of Environment and Forestry Regulation No. 83 of 2016 on Social Forestry, which was later amended by Regulation No. 9 of 2021 on the Implementation of Social Forestry. Social forestry is governed by the Indonesian Ministerial Regulation No. 39 of 2017 concerning Social Forestry in the Working Areas of Perum Perhutani on the island of Java.

In 2022, through the Indonesian Ministry of Environment and Forestry, the government designated 1,103,941 hectares of forest area managed by Perum Perhutani as Forest Area with Special Management (*Kawasan Hutan dengan Pengelolaan Khusus*, KHDPK).

These areas are distributed across four provinces: 202,988 hectares in Central Java, 502,032 hectares in East Java, 338,944 hectares in West Java, and 59,978 hectares in Banten (Decree No. SK.287/Menlhk/Setjen/Pla. 2/4/2022). The total forest area in West Java previously managed by Perum Perhutani was 602,532.20 hectares (Perhutani 2023), of which 338,944 hectares have been designated for special area management. This means that Perum Perhutani no longer manages more than 50% of the forest area, and part of this area will be designated for social forestry. Meanwhile, the forest area managed by Perum Perhutani in Garut District is the largest among other districts in West Java, covering 81,145.79 hectares.

The designation of a special forest area management has impacted social forestry activities, such as the social forestry permit (IPHPS) and the partnership scheme (Kulin KK), which were previously issued. The government issued Regulation of the Minister of Environment and Forestry No. 4 of 2023 concerning the Management of Social Forestry in Forest Areas with Special Management (KHDPK) as the legal foundation for implementing the program. The policy stipulates transforming the existing social forestry permit and partnership scheme. Therefore, organizations holding social forestry permits and partnership schemes must transform to adapt to and comply with the new policy. Besides being necessary, the transformation presents challenges for organizations and individual license holders. Pragiwaksana (2021) stated that addressing such challenges requires the capacity to learn new work patterns, values, and strategies to bring about positive changes through transformation. Organizational transformation involves transitioning from the current state to the future (Abubakar 2021). Furthermore, transformation is the shift from one condition to another to achieve a better outcome.

Modern forest governance includes multi-level dimensions and the roles of various actors, narratives, and

scales in the policy arrangement approach (Arts and Visseren-Hamdkers 2012). According to Romanelli and Boschi (2020), local communities with the right institutional structures and external recognition can achieve more sustainable and inclusive forest management than authoritarian or pure market approaches. Based on this overview, this study aims to analyze the role of stakeholders, the implementation of social forestry transformation policies, and the organizational transformation of social forestry permit holders in the Garut District.

MATERIALS AND METHODS

Time and place

This research was carried out from June to December 2024 in two locations: the Forestry Partnership Recognition and Protection (Kulin KK) permit area of LMDH Giri Purnama Alam, Giriawas Village, Cikajang Sub-district, Garut District, and the social forestry permit area of the Girihurip Forest Farmers Group, Padahurip Village, Banjarwangi Sub-district, Garut District, West Java Province, Indonesia (Figure 1).

Data collection

Stakeholder identification is the first step to identifying relevant stakeholders (Thomas and Hubo 2024). This identification was conducted by collecting stakeholder data on the transformation of social forestry in the Garut District through in-depth interviews with informants selected purposively (Anshor et al. 2023). Next, in-depth interviews were conducted with other respondents using non-probability sampling with the snowball sampling method to obtain representative data.

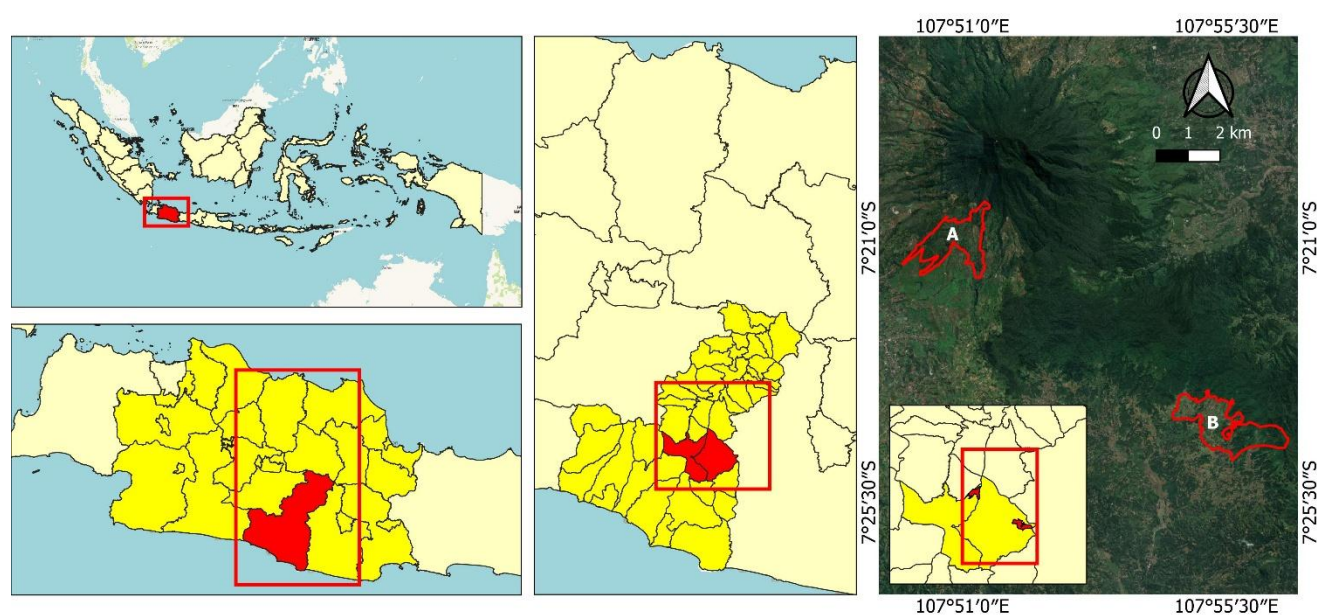


Figure 1. Research locations in the Forestry Partnership in Protection Permit Area (Kulin KK) of LMDH Giri Purnama Alam, and the Social Forestry Forest Utilization Permit (IPHPS) of KTH Girihurip in Garut District, West Java, Indonesia

This research uses primary and secondary data. Primary data was collected through observation, interviews, Focus Group Discussions (FGD), and systematic recording of the study. Secondary data was collected by reviewing documents, references, or other relevant data sourced from secondary sources.

This research was conducted using structured and open-ended or in-depth interviews. Structured interviews were conducted directly with respondents using questionnaires. Researchers prepared research instruments, such as questionnaires or written questions, when conducting interviews. Meanwhile, we also conducted an in-depth study as part of this research. This research employs purposive sampling, where the researcher selects and determines respondents based on specific criteria (Ahmed 2024). The qualitative data analysis in this study used a practical six-phase approach to thematic analysis (Braun and Clarke 2006). These respondents represent the institution or themselves and are connected to the transformation of social forestry in Garut District. Respondent information and qualitative data analysis in this study are presented in Table 1.

Data analysis

Stakeholder analysis

Stakeholder analysis aims to identify and map the actors involved (Morizon et al. 2023) and assess their roles and influence on the transformation of social forestry. Identification of the parties will be conducted by developing the characteristics of the parties according to as Zubayr et al. (2014), namely; (i) A Key player is a group that has strong influence and interest, and is usually a stakeholder that can make decisions, (ii) Subject is a group that has high interest but does not have enough influence in decision making, (iii) Context setter is a group that has high influence and interest

in decision making. Context setter is a group that has high influence but low importance, this group has the authority in decision making, but does not have a high interest to be actively involved, (iv) Crowd is a group with a low level of influence, and also a low level of interest, this group tends to be actively involved if there is a special request. Furthermore, grouping and distinguishing the parties to analyze the power (influence) and interest (interest) of each party into key players, subjects, context setters, and crowds (Figure 2) is acknowledged by Ackermann and Eden (2011).

Stakeholder analysis was carried out by interpreting a matrix of stakeholder interests and influences on the transformation of social forestry in Forest Areas with Special Management (KHDPK). The importance matrix is prepared based on the descriptions of respondents' questions, which are expressed in quantitative scores and grouped according to the influence and interests of stakeholders (Table 2). The stakeholder matrix can be seen in Figure 2.

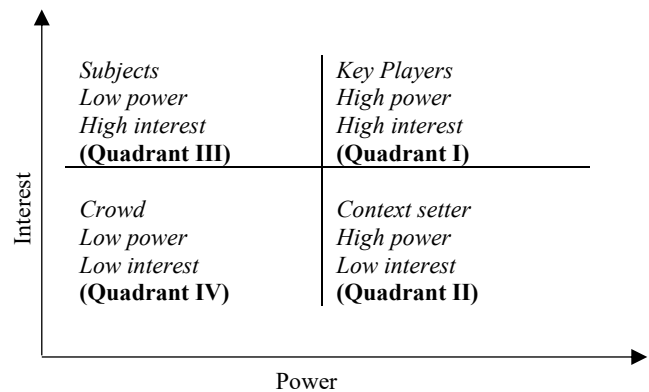


Figure 2. Matrix of the parties Ackermann and Eden (2011)

Table 1. Respondent information and qualitative data analysis

Respondent status/title	Institution of origin	Data collection	Analysis technique
Staff of the Directorate General of Social Forestry	Ministry of Environment and Forestry	Interview	Braun and Clarke's thematic analysis
Section Head of Region II of the Social Forestry and Environmental Partnership Centre for the Java Region	Social Forestry and Environmental Partnership Centre, Java Region	Interview	Braun and Clarke's thematic analysis
Head of Social Forestry Group Supervisor	Region V Forestry Service Branch	Interview	Braun and Clarke's thematic analysis
Member of Social Forestry Acceleration Working Group	Social Forestry Acceleration Working Group	Interview	Braun and Clarke's thematic analysis
Staff of the West Java Provincial Forestry Service	The West Java Provincial Forestry Service	Interview	Braun and Clarke's thematic analysis
Head of Partnership Section	KPH Perhutani Garut	Interview	Braun and Clarke's thematic analysis
Civil Servant Extension	Region V Forestry Service Branch	Interview	Braun and Clarke's thematic analysis
Community Self-Help Forestry Facilitator	Local Community	Interview	Braun and Clarke's thematic analysis
Management of Non-Governmental Organisations	Sarekat Hijau Indonesia	Interview	Braun and Clarke's thematic analysis
Chairman of LMDH Giri Purnama Alam	LMDH Giri Purnama Alam	Interview	Braun and Clarke's thematic analysis
Chairman of KTH Girihurip	KTH Girihurip	Interview	Braun and Clarke's thematic analysis

Table 2. Quantitative measures of the influence and interests of the parties

Score	Grade	Criteria	Explanation
Influence of the parties			
5	21-25	Very high	Strongly influence
4	16-20	High	Influence
3	11-15	Moderate	Moderately influence
2	6-10	Low	Less influence
1	0-5	Very low	Not influence
Interests of the parties			
5	21-25	Very high	Very interested
4	16-20	High	Interested
3	11-15	Moderate	Interested enough
2	6-10	Low	Less interested
1	0-5	Very low	Not interested

Source: Roslinda et al. (2012)

Policy analysis

Policy analysis can be conducted using various approaches, including process-based and consequence-based analysis (Nurrochmat et al. 2016). This research employs a policy analysis approach, grounded in the implications of a retrospective model, and examines policy implementation in depth. The analysis will be carried out by referring to the theory of Edwards III (1980). Implementing the policy studied is the Minister of Environment and Forestry Regulation Number 4 of 2023 concerning Social Forestry Management in Forest Areas with Special Management (KHDPK), specifically regarding the Transformation of the social forestry permit and partnership scheme, which is listed in Part IV of the regulation. Concepts and factors or variables that influence the process of implementing public policy, based on Edwards III (1980)'s theory, namely communication, resources, disposition, and bureaucratic structure.

Organizational transformation analysis

The analysis of organizational transformation in this research was carried out to describe the changes that will be carried out by the forest farmer group of Girihurip and LMDH Giri Purnama Alam in carrying out the transformation as intended in the Minister of Environment and Forestry Regulation Number 4 of 2023 concerning Social Forestry Management in Forest Areas with Special Management (KHDPK). An organizational transformation analysis was conducted using the Gouillart and Kelly (1995) approach, as outlined in Poerwanto (2018). According to Gouillart and Kelly (1995), the concept of organizational transformation uses the 4R dimension approach (Reframing, Restructuring, Revitalization, and Renewal).

RESULTS AND DISCUSSION

The role of stakeholders in social forestry transformation in the Garut District

Transformation process of social forestry

Based on the policy document analysis results, it is known that the transformation of social forestry is carried

out by a technical team formed by the Director General. The technical team then submits the consideration of changing the social forestry forest utilization permit scheme and the recognition and protection of forestry partnerships into a social forestry management agreement to the Director General. Based on the considerations submitted by the technical team, the Director General, on behalf of the Minister, then stipulates the changes to the social forestry approval permit scheme. The policy text does not provide a detailed explanation of the stakeholders appointed to the technical team, nor does it comprehensively outline the flow and process carried out by the Director General. However, based on in-depth interviews conducted, it is known that the technical team for facilitating permit application and the technical team for social forestry transformation come from the same agencies, namely the technical implementation unit of the forestry ministry (DG PSKL, Balai PSKL), provincial forestry service, forestry service branch, and Pokja PPS. The technical team facilitates the preparation of documents for consideration of changes to the licensing scheme that will be submitted to the Director General. Facilitation activities by the technical team include socializing social forestry transformation, selecting a social forestry management approval scheme, establishing or changing institutions, and preparing consideration documents.

Changes in social forestry transformation in the KHDPK

The results of the research conducted by collecting data through interviews and Focus Group Discussions (FGDs) found that the transformation of social forestry was not only carried out on the change of permit form from Kulin KK and IPHPS to Community Forest (HKm), but also changed some fundamental things, such as the area of social forestry management agreement. A description of changes in social forestry transformation in KHDPK in Garut District, especially in Giri Purnama Alam Community Forest and Girihurip Community Forest, is presented in Table 3.

Figures 3 and 4 show the changes in terms of area boundary shape and area in social forestry management in Giriawas Village, Cikajang Sub-district, Garut District. Figure 3 is a visual display based on the Decree of the Minister of Environment and Forestry of the Republic of Indonesia Number: SK.863/MENLHK-PSKL/PKPS/PSL.0/3/2021 concerning Recognition of Forestry Protection and Partnership (KULIN KK) between the Forest Village Community Institution (LMDH) Giri Purnama Alam and the Garut Forest Management Unit (KPH) covering an area of ±198.24 hectares. Meanwhile, Figure 4 is a visual display of the permit area of the Community Forest Management Agreement to the Forest Farmer Group (KTH) Giri Purnama Alam covering ±133 hectares.

The change in the form and area of the social forestry licence is stated in the Decree of the Minister of Environment and Forestry of the Republic of Indonesia Number: SK.9442/MENLHK-PSKL/PKPS/PSL.0/9/2023 that the transformation of Protection Recognition and Forestry Partnership (KULIN KK) between Forest Village Community Institution (LMDH) Giri Purnama Alam and Forest Management Unit (KPH) Garut covering ±198.24 hectares in protected forest area in Giriawas Village,

Cikajang Sub-district, Garut District, West Java Province into a Community Forest Management Agreement to the Giri Purnama Alam Forest Farmer Group (KTH) covering ± 133 hectares in a Protected Forest Area in a Forest Area with Special Management (KHDPK) in Giriawas Village, Cikajang Sub-district, Garut District, West Java Province.

As a result of the transformation and changes in the form and extent of the KTH Giri Purnama Alam community forest permit, there were several negative impacts on social forestry management. These negative impacts include; (i) some cultivators have cultivated areas outside the permit boundary which causes the status of the cultivation to be illegal, (ii) the permit area boundary does not follow the natural boundary or artificial boundary, instead it cuts the community's cultivated land which causes some of the cultivation to enter the permit and some of it is outside the permit boundary, (iii) there is a withdrawal of sharing by LMDH to cultivators who have cultivated outside the permit and the withdrawal of sharing has no legal basis, (iv) there is land clearing for agricultural areas without considering the balance of plant species (agricultural, plantation and forestry plants).

Figures 5 and 6 do not show any differences or changes in terms of the shape of the area boundaries. However, based on the Ministerial Decree related to the transformation, there is a change in the area, which was previously ± 212 hectares to ± 318 hectares. Changes in the area of social forestry

management permits in Padahurip Village are outlined in the Decree of the Minister of Environment and Forestry of the Republic of Indonesia Number: SK.9460/MENLHK-PSKL/PKPS/PSL.0/9/2023 that the transformation of the Social Forestry Forest Utilisation Permit (IPHPS) of the Girihurip Forest Farmer Group (KTH) covering ± 212 hectares of protected forest area in the Working Area of the State Forestry General Company (Perum Perhutani) in RPH Banjarwangi, BKPH Cikajang, KPH Garut, located in Padahurip Village, Banjarwangi Sub-district, Garut District, West Java Province into a Community Forest Management Agreement to the Girihurip Forest Farmers Group (KTH) covering ± 318.43 hectares in a Protected Forest Area in a Forest Area with Special Management (KHDPK) in Padahurip Village, Banjarwangi Sub-district, Garut.

The transformation of social forestry in KTH Girihurip's permit area did not cause significant changes (Figures 5 and 6). This is because the KTH Girihurip permit area did not receive an addition, but rather a correction of a data processing error during the granting of the permit. As a result of the analysis conducted by the researchers, there was an error in the mention of the permit area in 2018. The permit area has an area of 318.43 ha, not 212 ha. This was also reinforced by the results of an interview with the head of the Java Region BPSKL section, who said that the change was due to a calculation error in the SHP data.

Table 3. Description of changes in social forestry transformation in KHDPK in Garut District, West Java, Indonesia

Village	Sub-district	District	KPS before transformation	KPS after transformation	No SK before transformation	No SK transformation	Area before transformation	Transformation area
Giriawas	Cikajang	Garut	LMDH Giri Purnama Alam	KTH Giri Purnama Alam	SK.836/MENLHK-PSKL/PKPS/PSL.0/3/2021	SK.9442/MENLHK-PSKL/PKPS/PSL.0/9/2023	$\pm 198,24$ Ha	± 133 Ha
Padahurip	Banjarwangi	Garut	KTH Girihurip	KTH Girihurip	SK.4984/MENLHK-PSKL/PKPS/PSL.0/7/2018	SK.9460/MENLHK-PSKL/PKPS/PSL.0/9/2023	± 212 Ha	± 318 Ha

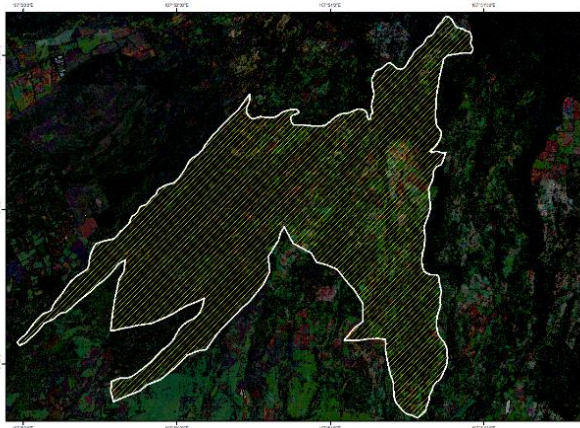


Figure 3. Map of social forestry management approval area Kulin KK LMDH Giri Purnama Alam in KHDPK, Garut District, West Java, Indonesia, before transformation of ± 189.24 Ha

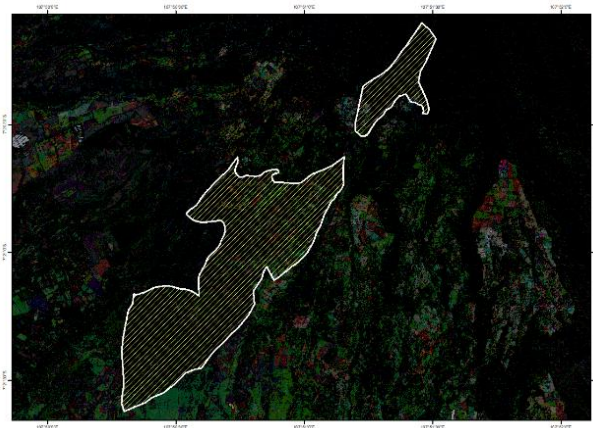


Figure 4. Map of social forestry management agreement area of HKM KTH Giri Purnama Alam in KHDPK, Garut District, West Java, Indonesia, after transformation covering ± 133 Ha

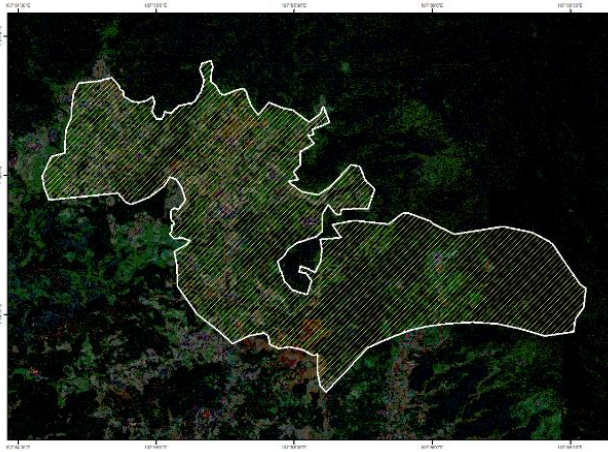


Figure 5. Map of social forestry management agreement area of KTH Girihurip IPHPS in KHDPK, Garut District, West Java, Indonesia, before transformation of ± 212 Ha

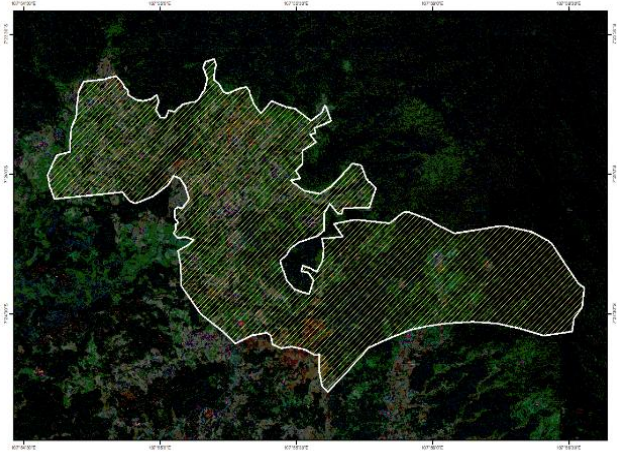


Figure 6. Map of social forestry management agreement area of HKm KTH Girihurip in KHDPK, Garut District, West Java, Indonesia, after transformation of ± 318 Ha

Identification of stakeholders' level of influence and importance

The results of stakeholder identification of social forestry transformation in the Forest Areas with Special Management (KHDPK) in Garut District are presented in Table 4. Table 4 shows that the transformation of social forestry in the Garut District has 11 stakeholders consisting of key stakeholders, supporting stakeholders, and primary stakeholders starting from the village level or forest farmer groups, up to the central level, namely the Ministry of Environment and Forestry of the Republic of Indonesia. Stakeholders with a high or very high level of influence are DG PSKL and BPSKL Java Region. DG PSKL is the central government with the authority to issue decrees related to the determination of social forestry transformation. As an extension of DG PSKL's handling of social forestry transformation in several provinces, the BPSKL Java Region can assess and validate social forestry permits for transformation. DG PSKL and BPSKL Java Region are key stakeholders because they have a decisive role and have the capacity to make decisions on the transformation of social forestry permits and partnership schemes into Community Forest (HKm), Village Forest (HD), or Community Plantation Forest (HTR), in accordance with applicable laws and regulations. The two key actors in the environmental management of forest areas in Java are those acting as regulators and operators (Hupe et al. 2014; Porro et al. 2015). In this case, the government functions as a regulator in forest area management, with leadership under the Ministry of Environment and Forestry (KHLK) sector (Adib et al. 2024).

Thus, DG PSKL and BPSKL Java Region have a very high level of influence. DG PSKL and BPSKL Java Region have the interest to determine and have the capacity to make decisions on the transformation of IPHPS and Kulin KK social forestry into social forestry schemes of Community

Forest (HKm), Village Forest (HD), or Community Plantation Forest (HTR), in accordance with applicable laws and regulations. The two key actors in the environmental management of forest areas in Java are those acting as regulators and operators (Hupe et al. 2014; Porro et al. 2015). In this case, the government functions as a regulator in forest area management, with leadership under the Ministry of Environment and Forestry (KHLK) sector (Adib et al. 2024).

The West Java Provincial Forestry Service plays a crucial role in transforming social forestry, encompassing policy formulation, facilitation, guidance, and supervision of social forestry management. The West Java Provincial Forestry Service also plays a role in improving the welfare of forest communities through social forestry programs. The West Java PPS Working Group's primary task is to support the transformation of social forestry areas by facilitating the application, verification, conflict resolution, and the provision of rights and obligations under the social forestry agreement. CDK V West Java has the task of transforming social forestry in various aspects, including facilitating access to forest management for communities, preparing management plans, and assisting in sustainable forest management. Therefore, the West Java Provincial Forestry Service, West Java PPS Working Group, and CDK V West Java have a high level of influence and importance in transforming social forestry in the Garut District.

Social forestry facilitators in Garut District serve as an extension of the government, under the coordination of CDK V West Java, and interact directly at the site level with permit-holding groups and communities. The facilitator's role is to provide assistance that improves welfare and ensures the continuity of the program. Therefore, in the transformation of social forestry, the facilitator has a low level of influence but a high level of importance.

Table 4. Identification of social forestry transformation stakeholders in the Forest Areas with Special Management (KHDPK) in the Garut District, West Java, Indonesia

Stakeholders	Level of influence	Level of importance
Ministry of Environment and Forestry (MoEF)/(DG PSKL)	Very High	Very High
Social Forestry and Environmental Partnership Centre (BPSKL) Java Region	Very High	High
West Java Provincial Forestry Service	Moderately High	Moderately High
West Java PPS Working Group	Moderately High	Moderately High
Forestry Service Branch (CDK) V West Java	Moderately High	Moderately High
Social Forestry Facilitators	Low	Moderately High
Forestry Extension Workers	Low	Low
Non-Governmental Organisations (NGOs)	Low	Low
KPH Perhutani Garut	Very Low	High
Social Forestry Group (KTH Girihurip) and (LMDH Giri Purnama Alam)	Low	High

Forestry extension workers and non-governmental organizations are stakeholders with low importance and influence in social forestry transformation in the Garut District. Forestry extension officers assist in the planning and implementation of social forestry programs at the agreement holder level. Meanwhile, NGOs serve as community assistance agencies, facilitators, and participatory partners in social forestry management. Therefore, facilitators and NGOs become parties with low influence and importance in social forestry transformation.

KPH Perhutani Garut is a party that held a management license for forests in the Garut District before the Ministry of Forestry established the exceptional forest area management. However, after the forest area it manages is designated as an impressive forest area, Perhutani KPH Garut no longer has the legality to manage the forest. However, if Perhutani still has assets, such as plant stands, in the area, then Perhutani still has the right to manage these assets until the harvest cycle is complete. Perhutani is a party that does not influence the transformation of social forestry, but Perhutani is interested in saving its assets. This goal is achieved through area, institutional, and business management strategies (Raharjo and Ulifah 2014; Tajuddin et al. 2019). Therefore, KPH Perhutani Garut is a party with a low level of influence but high importance.

Forest Village Community Institution (Lembaga Masyarakat Desa Hutan, LMDH) and Forest Farmer Group (Kelompok Tani Hutan, KTH) are platforms for forest village communities to manage and utilize forest areas under the Social Forestry program to improve community welfare (Nihayah et al. 2023). KTH and LMDH act as social forestry management agreement holders and are responsible for the sustainable management of social forestry. KTH is responsible for the community's overall forest management planning and implementation. However, KTH and LMDH do not influence the transformation of social forestry. KTH only prepares transformation requests with specific schemes based on the preferences and deliberations with members. KTH has members who are forest cultivators with a very high dependence on legal access to forest management. Although communities managed forests long before establishing protected forest areas (Stacey et al. 2013), Perhutani's CBFM program, and social forestry, legal

certainty is essential for communities in managing forests. Therefore, in the transformation of social forestry, KTH, KHDPK, and LMDH become parties with low influence but high importance.

Role of stakeholders

Tables 5 and 6 present the calculation of stakeholders' level of influence and importance related to social forestry transformation in the Garut District. The assessment of stakeholders' level of influence and importance related to social forestry transformation in the Garut District is based on the criteria described in the method. The level of influence is assessed based on stakeholders' ability to determine social forestry transformation, stakeholders' contribution to facilities and infrastructure in social forestry transformation, stakeholders' institutional capacity/small staff related to social forestry transformation, stakeholders' budget support used in social forestry transformation, and stakeholders' ability to determine the timing of social forestry transformation implementation. The results of the stakeholder influence level calculation are presented in Table 5.

DG PSKL is the key stakeholder with a very high level of influence, followed by BPSKL Java Region. DG PSKL has a very high level of influence, from determining the social forestry transformation to determining the timing of its implementation. This influence stems from DG PSKL's status as a stakeholder with full authority to approve social forestry approvals. BPSKL Java, with a very high level of influence, is also a stakeholder with authority in forming verification and validation teams and can influence the determination of the social forestry scheme. The West Java Provincial Forestry Service, Pokja PPS West Java, and CDK V West Java are stakeholders with a high level of influence because they influence the institutions/smallholders involved in social forestry transformation, where the facilitation, verification, and validation processes of some of the technical teams come from the West Java Provincial Forestry Service, Pokja PPS West Java, and CDK V West Java. The Pokja PPS plays a role in the entire process of SF territorialization at both local and provincial levels, including facilitating permit applications, providing verification support, and conducting administrative and

biophysical monitoring, as well as reporting to the governor (MoEF 2018; Resosudarmo et al. 2019).

The importance level was assessed based on several key factors: stakeholder involvement in social forestry transformation, stakeholder authority related to social forestry transformation, stakeholder programs in social forestry transformation, benefits of social forestry transformation for stakeholders, and stakeholder dependency level on social forestry transformation. The results of the stakeholder importance level calculation are presented in Table 6.

DG PSKL is a stakeholder of high importance, based on its significant stakeholder involvement and authority. DG PSKL must implement the policy obligation of social forestry transformation. Therefore, DG PSKL must ensure that social forestry transformation can be implemented effectively, efficiently, and on time. Next, BPSKL Java

Region, KTH/LMDH, and KPH Perhutani are key stakeholders. BPSKL Java Region is essential based on its level of involvement, authority, and program. As an extension of the ministry, it has significant duties and responsibilities towards the social forestry transformation process and the sustainability of the social forestry program.

KTH/LMD is also a key stakeholder. This can be observed at the program level, in benefits, and in stakeholder dependency on social forestry transformation. KTH/LMDH, as consent holders, is highly dependent on the legality of utilizing and managing the forest. Meanwhile, KPH Perhutani is a stakeholder with a high level of interest because it is interested in managing existing assets. Before special forest management policies were enacted, FMUs managed certain areas to balance economic, ecological, and social functions (Hardjana 2010).

Table 5. Influence level of social forestry transformation stakeholders in the Forest Areas with Special Management (KHDPK) in Garut District, West Java, Indonesia

Stakeholders	Score					Total
	P1	P2	P3	P4	P5	
Ministry of Environment and Forestry (MoEF)/(DG PSKL)	5	4	5	5	5	24
Social Forestry and Environmental Partnership Centre (BPSKL) Java Region	4	4	5	4	5	22
West Java Provincial Forestry Service	3	3	3	3	2	14
West Java PPS Working Group	3	3	4	2	3	15
Forestry Service Branch (CDK) V West Java	2	3	3	3	2	13
Social Forestry Facilitator	1	1	2	1	1	6
Forestry Extension Worker	1	1	2	1	1	6
KPH Perhutani Garut	1	1	1	1	1	5
Non-Governmental Organisations (NGOs)	1	1	2	1	1	6
KTH/LMDH	1	2	3	1	1	8

Note: P1: Stakeholders' ability to determine social forestry transformation; P2: Stakeholders' contribution to facilities and infrastructure in social forestry transformation; P3: Stakeholders' institutional/military capacity related to social forestry transformation; P4: Stakeholders' budget support used in social forestry transformation; P5: Stakeholders' ability to determine the timing of social forestry transformation implementation. Source: Primary data (2024)

Table 6. Stakeholders' level of interest in social forestry transformation in Forest Areas with Special Management (KHDPK) in Garut District, West Java, Indonesia

Stakeholders	Score					Total
	K1	K2	K3	K4	K5	
Ministry of Environment and Forestry (MoEF)/(DG PSKL)	5	5	4	4	3	21
Social Forestry and Environmental Partnership Centre (BPSKL) Java Region	5	4	4	3	3	19
West Java Provincial Forestry Service	3	2	3	3	2	13
West Java PPS Working Group	4	2	2	3	2	13
Forestry Service Branch (CDK) V West Java	4	2	3	3	1	13
Social Forestry Facilitator	3	1	2	2	3	11
Forestry Extension Worker	3	1	1	2	2	9
KPH Perhutani Garut	1	4	4	3	5	17
Non-Governmental Organisations (NGOs)	2	1	2	2	3	10
KTH/LMDH	3	1	5	5	5	19

Note: K1: Stakeholders' involvement in social forestry transformation; K2: Stakeholders' authority related to social forestry transformation; K3: Stakeholders' program towards social forestry transformation; K4: Benefits of social forestry transformation for stakeholders; K5: Stakeholders' dependency level towards social forestry transformation. Source: Primary data (2024)

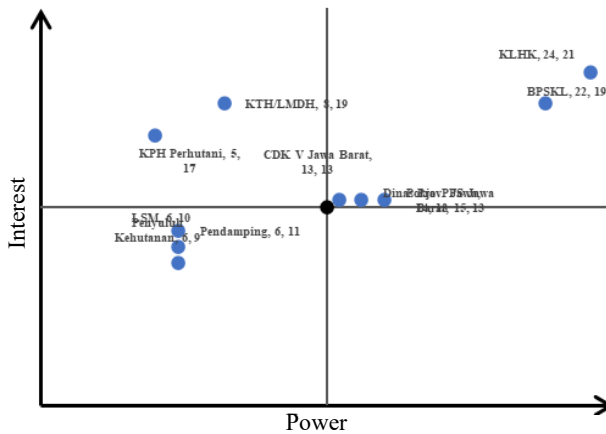


Figure 7. Stakeholders' influence and interest quadrant related to social forestry transformation in the Garut District, West Java, Indonesia

In addition, FMUs also have technical functions, such as preparing forest management and utilization plans, as well as managerial functions that include planning, monitoring, evaluation, and implementation of forestry policies. However, after the government officially stipulated the special forest area management policy, Perhutani's FMUs encouraged investment as part of their business function (Ekawati 2014). In the field, there are still pine stand assets in the social forestry approval area of LMDH Giri Purnama Alam and KTH Girihurip. Suppose Kulin KK, LMDH, Giri Purnama Alam, and the social forestry permit Girihurip have been transformed. In that case, KPH Perhutani can enter a cooperation agreement to manage existing stand assets. KPH Perhutani can collaborate with Forest Farmer Groups (KTH) with a business-to-business (B2B) scheme.

This study shows that the stakeholders involved in social forestry transformation in the Garut District comprise government agencies, non-governmental organizations, and forest farmer groups (Figure 7). Government agencies are the most dominant among these stakeholders (Sabar et al. 2023). This is because the authority to transform social forestry is entirely under the government's authority. However, stakeholders other than the government still have an essential role in supporting social forestry transformation in the Garut District. Where the success of protected forest area management is often influenced by the participation and support of local stakeholders (Anshor et al. 2023), it requires the support and involvement of wider stakeholders, especially local governments and communities (Wiratno et al. 2022).

The transformation of social forestry is not only related to changes in the form of licenses and social forestry schemes, but also closely related to the objectives of the social forestry program, namely improving welfare, sustainability, and resolving various social issues at the site level related to forest areas. Therefore, supporting stakeholders, such as social forestry facilitators, extension workers, and non-governmental organizations, must maximize their support by increasing participation through intensive and structured extension activities, training, and mentoring (Wulandari et al. 2021). This is because the

success of sustainable forest management in protected forest areas is strongly influenced by the level of participation, clarity of roles, and responsibilities of relevant stakeholders (Sobhani et al. 2022; Anshor et al. 2023).

The stakeholder category mapping can be used to develop a strategy for social forestry transformation by considering the role and position of each stakeholder. Quadrant I groups are generally owners and other officials authorized to make decisions. DG PSKL is the party that has the authority and responsibility to issue decision letters related to social forestry transformation. BPSKL Java Region is also a quadrant I group stakeholder, with duties and obligations to conduct assessments through verification and validation activities related to the submission and transformation of social forestry. From the local government side, the West Java Provincial Forestry Service, the West Java PPS Working Group, and the West Java Forestry Service Branch V directly have roles and responsibilities and ensure that the transformation of social forestry in their administrative areas runs well, besides that these parties also must ensure that social forestry management carried out by forest farmer groups runs sustainably, and can improve the economy of communities around the forest.

Quadrant II groups generally have a low influence on a decision, but they have a high level of interest and willingness to be actively involved. In this case, Girihurip Forest Farmers Group (KTH), Giri Purnama Alam Forest Village Community Organisation (LMDH), and KPH Perhutani Garut are stakeholders with high interest but not enough influence to determine the transformation of social forestry in their area. LMDH or KTH are farmer groups that will have social forestry management approval letters and are dependent on the forest areas. Meanwhile, KPH Perhutani is the previous management permit holder. KPH Perhutani remains interested in the assets within the social forestry approval area of KTH Girihurip and LMDH Giri Purnama Alam.

The quadrant III group generally comprises stakeholders with authority in decision-making but no interest in actively participating in social forestry transformation. In this study, no stakeholders were found in quadrant group III. Stakeholders related to social forestry transformation in the Garut District belong to Quadrant I, Quadrant II, and Quadrant IV. The Quadrant IV group comprises stakeholders who do not influence decision-making and have no interest in being actively involved in social forestry transformation. The stakeholders in this quadrant of the study included forestry extension workers, social forestry assistants, and non-governmental organizations. Based on the interviews, it is evident that these three organizations are more actively involved in planning and managing social forestry. However, they are unfamiliar with the flow and process of the transformation of the social forestry agreement. Based on interviews with forest farmer groups, it was mentioned that facilitators, extension workers, and NGOs were not actively involved in the management assistance process. Some groups are unaware of or do not recognize the personnel responsible for training extension workers and facilitators in their areas.

Implementation of the social forestry transformation policy in the Garut District

Research on social forestry transformation in the Garut District is a policy implementation-related study. Therefore, it is essential to analyze policy implementation using appropriate methods. Nurrochmat et al. (2016) policy analysis can be carried out using several approaches, including analysis based on processes and consequences. This research employs a policy analysis approach, grounded in the implications of a retrospective model, and examines policy implementation in depth. The analysis in this research was carried out by referring to the theory of Edwards III (1980). Implementing the policy studied is the Minister of Environment and Forestry Regulation Number 4 of 2023 concerning Social Forestry Management in Forest Areas with Special Management (KHDPK), specifically regarding the transformation of the social forestry permit and partnership scheme, as outlined in Part IV of the regulation. Concepts and factors or variables that influence the process of implementing public policy, based on Edwards III (1980)'s theory, namely, communication, resources, disposition, and bureaucratic structure. The results of the analysis of policy implementation based on Edwards III (1980)'s theory are presented in Table 7.

The successful implementation of social transformation policies depends on effective communication. The lack of communication between the West Java PPS Working Group (Pokja PPS), Forestry Extension Officers, and social forestry companions with forest farmer groups (KTH) leads to confusion over roles and responsibilities, resulting in a slow transformation of social forestry permits. Communication and coordination are essential in building the foundation for implementing policy (Nihayah et al. 2023). Communication between parties can be built with high trust. Lack of communication and understanding in the PS policy context can be anticipated by strengthening communication, organizing training and workshops, and developing practical guidelines for stakeholders (Adib et al. 2024).

Human and financial resources greatly determine the effectiveness of policy implementation. Apart from that, the district-level Pokja PPS has not yet been formed, and the lack of coordination with CDK is further slowing down the transformation process. Budget limitations, low salaries, and incentives also weaken the motivation of policy implementers. According to Nihayah et al. (2023), one obstacle KTH faces is budget limitations. Apart from that, institutional effectiveness also enables institutions to enhance the capacity of their human resources by providing various training and counseling services (Wulandari and Kurniasih 2019).

Stakeholder commitment is an essential factor in ensuring policy success. However, the lack of responsibility and seriousness in carrying out tasks in the field means that policy implementation is merely a formality, resulting in suboptimal outcomes. This result aligns with Nasution et al. (2024), which states that the successful implementation of social forestry policies occurs if it follows the cooperative commitment of the community and policy stakeholders.

A clear bureaucratic structure is needed to provide certainty in policy implementation. However, Pokja PPS has

only been established at the provincial level and does not yet exist at the district level, resulting in a lack of understanding regarding social forestry transformation. As a result, the permit transformation process is slow, and achievements in the Garut District are still low. According to Resosudarmo et al. (2019), the PPS Working Group supports the fast-track implementation of the PS scheme in the field. Therefore, in its implementation, the PPS Working Group must engage with local government institutions (Wong et al. 2020).

Implementing social forestry transformation policies still faces various obstacles, including weak communication, limited resources, low stakeholder commitment, and suboptimal bureaucracy. Improvements in coordination, increased human resource capacity, and bureaucratic structuring are needed so that this policy can run more effectively.

Organizational transformation of social forestry permit holders in the Forest Areas with Special Management (KHDPK)

The research stage to obtain data related to the organizational transformation of social forestry was carried out using a qualitative descriptive method through in-depth interviews with key respondents, namely heads of forest farmer groups (KTH), heads of social forestry business groups (KUPS), and forest farmer group administrators who understand the transformations carried out to implement established policies.

The analysis of organizational transformation in this research aimed to describe the changes implemented by KTH Girihurip and LMDH Giri Purnama Alam following the Minister of Environment and Forestry Regulation Number 4 of 2023, which concerns Social Forestry Management in Forest Areas with Special Management (KHDPK). An organizational transformation analysis was conducted using the Gouillart and Kelly (1995) approach, as outlined in Poerwanto (2018). According to Gouillart and Kelly (1995), the concept of organizational transformation uses the 4R dimension approach (Reframing, Restructuring, Revitalization, and Renewal).

Table 8 shows the results of the Organizational Transformation Analysis in this research. The organizational transformation of social forestry permit holders reflects changes in institutional governance and land management strategies. LMDH Giripurnama Alam, which later became KTH Giripurnama Alam, underwent a reframing process that shifted the orientation of land management from individualistic to community-based, thereby reflecting the spirit of cooperation in farming. Such actions are institutional adaptations that not only reduce the workload but also minimize the cost of land management, making it more efficient even without additional financial support from other parties (Smialek et al. 2025). In addition, this organization carried out institutional restructuring to increase productivity and competitiveness. Revitalization occurs through increased collaboration between members in land management and a greater awareness of the balance between the economy and the environment. Renewal efforts are also carried out by improving the quality and capacity of human resources to create superior group products.

Transformation, in a broader context, is an essential form of change that encompasses a shift in an organization's beliefs, attitudes, values, or behaviors (Hesse 2025).

The organizational transformation carried out by KTH Giri Purnama Alam was successful, thanks to the support of other parties. This is because the experience and low level of education of KTH members are significant obstacles in adapting to various changes (Musafiri et al. 2022). The success of the organizational transformation in form and

orientation was due to the support of Institut Pertanian Bogor, which facilitated the single commodity agroforestry system planting program through a partnership cooperation scheme with KTH and the Al-Bayyinah Cooperative, a local producer cooperative. The program not only provides seeds for superior commodities and long-term crops but also offers continuous assistance, ranging from budgeting and planting activities to capacity building for local farmers.

Table 7. Edwards III Policy Implementation Parameters (Edwards III 1980)

Variables	Facts	Implications
Communication		
<i>Transmission</i>		
The social forestry transformation policy must be conveyed to all policy target groups.	Lack of communication and outreach between the West Java PPS Working Group (Pokja PPS), Forestry Extension Officers, and social forestry companions to forest farmer groups (KTH) holding social forestry permits.	There is a lack of understanding and knowledge regarding the processes and mechanisms of social forestry transformation.
<i>Clarity</i>		
Increasing clear communication between stakeholders so as not to make mistakes when implementing the rules in social forestry transformation.	Lack of communication in the field.	Several relevant stakeholders remain unclear about their duties and obligations in transforming social forestry, resulting in a slow transformation of social forestry permits.
<i>Resources</i>		
The human resources of working group members, extension workers, and assistants are the ideal resources for implementing policies at the grassroots level, particularly in transferring knowledge related to social forestry transformation to forest farmer groups and communities.	The number of human resources, capabilities, and competence in the forestry sector is low.	The minimal role of working groups, instructors, and assistants in the field has delayed the transformation process.
The certainty of authority based on an agency hierarchy makes it easier for stakeholders to implement policies.	The district-level social forestry working group in Garut has not yet been formed. Forestry service branches are minimally involved in transforming social forestry. CDK is only engaged in facilitating permit applications and transformation based on requests.	The Forest Service Branch (CDK) has limited knowledge of the permit application process and social forestry transformation.
Sufficient budget to ensure stakeholders play a role in the field.	Budget limitations, small salaries, and incentives for the PPS working group, assistants, and extension workers.	Roles and tasks in implementing policies are not a daily priority because salaries cannot cover all the needs of relevant stakeholders.
<i>Disposition</i>		
Relevant parties have a high commitment to supporting and ensuring the successful implementation of social forestry transformation.	Lack of commitment and responsibility in acting as a policy implementer in the field.	Carrying out responsibilities is merely a discharge of obligations, but it overlooks the outcomes of the process.
<i>Bureaucracy</i>		
The transformation of the bureaucratic structure has been formed, and clear SOPs (Standard Operating Procedures) are used to provide certainty of tasks and functions.	The West Java PPS Working Group (Pokja PPS) has just been formed at the provincial level, but not at the Garut district level. Working group members, extension workers, and assistants also lack an understanding of social forestry transformation.	Implementing the social forestry permit and partnership scheme into a community forest scheme is slow, so achieving social forestry transformation in the Garut district is still low.

Table 8. Organizational transformation of Social Forestry permit holders based on Gouillart and Kelly (1995)

LMDH Giripurnama Alam became KTH Giripurnama Alam (Kulin KK – HKm)	KTH Girihurip remains KTH Girihurip (IPHPS – HKm)
<p><i>Reframing</i> There are organizational efforts to reconstruct the objectives of land management, which were previously individualistic, into a collective approach, one of which is success together, success in farming together.</p>	<p><i>Reframing</i> There are no changes related to efforts to change the orientation of land management.</p>
<p><i>Restructuring</i> Making changes to organizational and institutional forms to carry out policy obligations and efforts to become a productive and competitive organization.</p>	<p><i>Restructuring</i> There are no organizational changes or directions for institutional improvement.</p>
<p><i>Revitalization</i> The spirit of cooperation increases, enabling all KTH members to manage social forestry land more easily. The desire to balance the economy and the environment is also growing.</p>	<p><i>Revitalization</i> There are efforts to improve land management by paying attention to environmental balance.</p>
<p><i>Renewal</i> Forest farmer groups are slowly making efforts to improve the quality and capacity of human resources to achieve production results that are characteristic of the group.</p>	<p><i>Renewal</i> The farmer group has a reasonably good cluster, but it has not made maximum efforts to increase the quantity and added value of the product.</p>

In contrast, KTH Girihurip did not experience significant changes in its land management structure and orientation. The absence of reframing and restructuring efforts suggests that this organization continues to adhere to the traditional approach to managing social forestry, facing several challenges that hinder its ability to adapt to policy changes. As a result, social forestry farmers/cultivators face various challenges, including low agricultural production and inadequate infrastructure (Karienyne and Macharia 2020). Individualistic-based management, a lack of togetherness and cooperation, ineffective governance, and minimal regional planning persist. Thus, the threat of sustainability is still a significant problem in its management. This is due to the lack of institutional support from the KTH board, community leaders, and community initiatives. Social forestry requires community involvement and authority because participatory management is inseparable from social forest management (Friedman et al. 2020; Kailola et al. 2023).

Therefore, institutional support is necessary to organize and mobilize for effective management that aligns with sustainable management goals (Roslinda et al. 2017). Such conditions require encouragement from KTH administrators or community leaders with strong communication and coordination skills to motivate and encourage all forest administrators and cultivators to participate actively in changes that improve management (Setiawan et al. 2024). Institutional support can be carried out by developing institutions through problem mapping and considering existing potential (Nurrochmat et al. 2021), including the potential for partnership support so that the transformation of social forestry schemes is not seen as a formal policy process but must be a process that can support changes in managing social forestry, and social forestry management is not only seen as a space to fulfill economic needs alone. Still, it is also seen as a means of realizing economic, environmental, and social balance.

Although revitalization efforts include more sustainable land management, renewal efforts remain limited due to the

lack of a comprehensive initiative to enhance product value. Therefore, changes are needed to foster sustainable organizational performance of forest farmer groups. Sustainable performance refers to an organization's ability to produce products through an agroforestry system in social forestry permit areas, without harming the environment, and ensuring the business's long-term sustainability (Huynh et al. 2024). This is important because study results show that organizations play a crucial role in achieving sustainable forest management goals (Yusliza et al. 2020). This confirms that the success of organizational transformation is greatly influenced by internal group initiatives and policy support that encourage innovation in social forestry governance. With the advancement of transformation, the means in organisations are continuously increasing (Tian et al. 2025).

Model of the relationship between KHDPK institutions, actors, and sustainable transformation

KHDPK Institutions Act as the primary trigger (prompt) that influences how actors and factors interact in the context of forest management (Figure 8). Factors refer to external or internal conditions that affect the success of KHDPK management. Actors directly involved in KHDPK management include local communities/land users, local and central government, Environmental NGOs, and the private sector or forestry business partners. The ultimate goal of the entire interaction, namely the transformation of KHDPK management into an ecologically, socially, and economically sustainable entity, is achieved through the combined influence of actors, factors, and the institutional design of KHDPK.

Forest governance in Indonesia has transformed social forestry programs, promoting collaboration among the government, local communities, and NGOs through the IPHPS and Kulin-KK policies. This study is highly relevant because it describes changes in actors and institutional influences on the transformation of social forest governance (Kusuma et al. 2023).

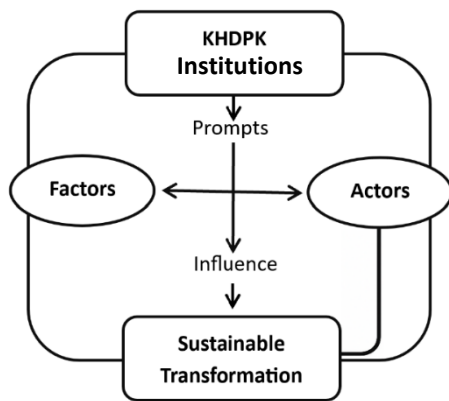


Figure 8. Institutional relations between KHDTK, actors, and sustainable transformation

Social innovation in the forestry sector arises from collaboration among actors and institutional change, including community participation, new governance structures, and multi-actor coalitions, aimed at achieving social welfare and sustainability (Ludvig et al. 2020). Although not specific to KHDPK, this study integrates exogenous and endogenous institutional frameworks that shape institutional adaptation in landscape restoration, aligning with institutional triggers for actors and ecological outcomes (Owusu et al. 2024).

In conclusion, this study identified 11 stakeholders related to social forestry transformation in the Garut District. Among the relevant stakeholders, the MoEF Directorate General of PSKL and BPSKL Java Region are the key stakeholders responsible for and authorized to issue decisions related to social forestry transformation. In this study, it is also noted that KTH, as the social forestry agreement holder, is the primary stakeholder, as it is responsible for managing the social forest. On the other hand, the successful implementation of policies related to social forestry transformation is constrained by ineffective communication, limited human resources, budget, and suboptimal bureaucracy. Improved coordination, human resource capacity building, budget allocation, and bureaucratic restructuring are necessary to enhance the effectiveness of policy implementation. In addition, the organizational transformation in Giripurnama Alam Forest Farmer Association has shown successful changes, whereas KTH Girihurip has not experienced significant changes. The success of this transformation is strongly influenced by the group's internal initiative and policy support that encourages innovation. The collaboration of all relevant stakeholders strongly influences the success of social forestry transformation in KHDPK in Garut District; the lack of supporting stakeholder roles can cause post-transformation social forestry management to experience management stagnation. Therefore, it requires a more intensive role of supporting stakeholders in assisting social forestry agreement holders so that groups can carry out social forestry management in a sustainable manner. This research focuses on the transformation process of social forestry conducted by the government and groups of social forestry

management agreement holders, so it has not been able to describe the post-transformation management of social forests comprehensively.

ACKNOWLEDGEMENTS

We acknowledge the Directorate of Agromaritime Community Development (DPMA) of Institut Pertanian Bogor, Indonesia that provided funding support to this research.

REFERENCES

- Abubakar H. 2021. Transformasi Bisnis dan Kinerja Usaha. Pena Persada Redaksi, Purwokerto. [Indonesian]
- Ackermann F, Eden C. 2011. Strategic management of stakeholders: Theory and Practice. *J Long Range Planning* 44: 179-196. DOI: 10.1016/j.lrp.2010.08.001.
- Adib M, Abdullah I, Artaria MD, Rustinsyah, Asmorowati S, Wardhani B, Rosnon MR, Mashud M. 2024. The controversy of social forestry policy: Public reaction on the Ministry of Environment and Forestry Decree No. 287/2022/KHDPK in Java, Indonesia. *For Sci Technol* 20 (4): 383-400. DOI: 10.1080/21580103.2024.2409212.
- Ahmed SK. 2024. How to choose a sampling technique and determine sample size for research: A simplified guide for researchers. *Oral Oncol Rep* 12: 100662. DOI: 10.1016/j.oor.2024.100662.
- Anshor M, Basuni S, Arief H, Sunarminto T. 2023. Stakeholders and network analyses in Tambora National Park, Sumbawa Island, Indonesia. *Biodiversitas* 24 (10): 5446-5463. DOI: 10.13057/biodiv/d241027.
- Arts B, Visseren-Hamdkers I. 2012. Forest governance: A state of the art review. In: Arts B, van Bommel S, Ros-Tonen M, Verschoor G (eds). *Forest-people interfaces*. Wagen Acadie Publish, Wageningen. DOI: 10.3920/978-90-8686-749-3_15.
- Braun V, Clarke V. 2006. Using thematic analysis in psychology. *Qual Res Psychol* 3 (2): 77-101. DOI: 10.1191/1478088706qp0630a.
- Divisi Regional Jawa Barat dan Banten (Perhutani). 2023. Beranda. <https://www.perhutani.co.id/struktur-organisasi/divisi-regional/janten/>. [Indonesian]
- Edwards III GC. 1980. *Implementing Public Policy*. Congressional Quarterly Press, Washington DC.
- Ekawati S. 2014. Apakah yang dimaksud dengan Kesatuan Pengelolaan Hutan (KPH). In: Hernowo B, Ekawati S (eds). *Operasionalisasi Kesatuan Pengelolaan Hutan (KPH): Langkah Awal Menuju Kemandirian*. PT Kanisius, Yogyakarta. [Indonesian]
- Erbaugh JT. 2019. Responsibilization and social forestry in Indonesia. *J For Policy Econ* 109: 102019. DOI: 10.1016/j.forpol.2019.102019.
- Fisher MR, Moeliono M, Mulyana A, Yuliani EL, Adriadi A, Kamaluddin, Sahide MAK. 2018. Assessing the new social forestry project in Indonesia: recognition, livelihood and conservation? *Intl For Rev* 20 (3): 346-361. DOI: 10.1505/146554818824063014.
- Friedman RS, Guerrero AM, McAllister RRJ, Rhodes JR, Santika T, Budiharta S, Indrawan T, Hutabarat, J A, Kusworo A, Yogaswara H, Meijaard E, St. John FAV, Struebig MJ, Wilson KA. 2020. Beyond the community in participatory forest management: A governance network perspective. *Land Use Policy* 97: 104738. DOI: 10.1016/j.landusepol.2020.104738.
- Gouillart FJ, Kelly JN. 1995. *Transforming the Organization*. McGraw-Hill, Inc, New York.
- Hardjana AK. 2010. Potensi biomassa dan karbon pada hutan tanaman acacia mangium di HTI PT. Surya Hutani Jaya, Kalimantan Timur. *Jurnal Penelitian Sosial dan Ekonomi Kehutanan* 7 (1): 237-249. DOI: 10.20886/jsek.2010.7.4.237-249. [Indonesian]
- Hesse L. 2025. Using machine learning to understand and manage the transformation of peer donors to organizational donors. *Nonprofit Manag Leadersh* 0: 1-22. DOI: 10.1002/nml.21652.
- Hupe P, Hill M, Nangia M. 2014. Studying implementation beyond deficit analysis: The top-down view reconsidered. *Public Policy Adm* 29 (2): 145-163. DOI: 10.1177/0952076713517520.

- Huynh HTN, Nguyen NTT, Vo NNY. 2024. The influence of knowledge management, green transformational leadership, green organizational culture on green innovation and sustainable performance: The case of Vietnam. *J Open Innov: Technol Mark Complex* 10 (4): 100436. DOI: 10.1016/j.joitmc.2024.100436.
- Kailola J, Purwanto RH, Sumardi, Faida LRW. 2023. Assessing social capital in community forest management in the Mount Hamding Protection Forest, North Halmahera District, North Maluku, Indonesia. *Biodiversitas* 24 (1): 431-440. DOI: 10.13057/biodiv/d240150.
- Karieny D, Macharia J. 2020. Adaptive Capacity to Mitigate Climate Variability and Food Insecurity of Rural Communities Along River Tana Basin, Kenya. *African Handbook of Climate Change Adaptation*. Springer Nature. DOI: 10.1007/978-3-030-42091-8_57-1.
- Kusuma AF, Sahide MAK, Purwanto RH, Ismariana E, Santoso WB, Wulandari E, Maryudi A. 2023. Emergent institutional issues from new tenure reforms and social-forestry initiatives in Indonesia: Notes from the field. *For Soc* 7 (2): 450-466. DOI: 10.24259/fs.v7i2.28319.
- Ludvig A, Rogelja T, Asamer-Handler M, Weiss G, Wilding M, Zivojinovic I. 2020. Governance of social innovation in forestry. *Sustainability* 12 (3): 1065. DOI: 10.3390/su12031065.
- Maryudi A, Sahide MAK, Daulay MH, Yuniati D, Syafitri W, Sadiyo S, Fisher MR. 2021. Holding sosial forestry hostage In Indonesia: Consteded bureaucracy mandate and potential escape pathyways. *Environ Sci Policy* 128: 142-153. DOI: 10.1016/j.envsci.2021.11.013.
- Ministry of Environment and Forestry Republic of Indonesia (MeEF). 2018. The state of Indonesia's Forests 2018. Jakarta: Ministry of Environment and Forestry, Republic of Indonesia.
- Morizon, Nurrochmat DR, Maharjaya A, Putra PB. 2023. Developing a sustainable community forest management strategy in the mountainous areas of Tanggamus, Lampung, Indonesia. *Biodiversitas* 24 (8): 4503-4513. DOI: 10.13057/biodiv/d240831.
- Musafiri CM, Kiboi M, Macharia J, Ng'Etich OK, Kosgei DK, Mulianga B, Okoti M, Ngetich FK. 2022. Smallholders' adaptation to climate change in Western Kenya: Considering socioeconomic, institutional and biophysical determinants. *Environ Chall* 7: 100489. DOI: 10.1016/j.envc.2022.100489.
- Nasution MS, Tua H, Zulkamaini. 2024. Implementation of social forestry policy – Can it reduce economic inequality in sustainable management of forest areas? *E3S Web Conf* 506: 05005. DOI: 10.1051/e3sconf/202450605005.
- Natsir M, Ulya Z, Fitriani R. 2022. Mangrove forest utilization policies reconceptualized with a view to improving the regional economy in Aceh Tamiang District, Indonesia. *Biodiversitas* 23 (12): 6570-6578. DOI: 10.13057/biodiv/d231256.
- Nihayah AN, Kistanti NR, Putri PI, Ayuntavia. 2023. The Impact of Social Forestry Utilization Permit (IPHPS) towards the community income. *Efficient: Indones J Dev Econ* 6 (1): 33-45. DOI: 10.15294/efficient.v6i1.65706.
- Nurrochmat DR, Darusman D, Ekayani M. 2016. Kebijakan Pembangunan Kehutanan dan Lingkungan. IPB Press, Bogor. [Indonesian]
- Nurrochmat DR, Pribadi R, Siregar H, Justianto A, Park MS. 2021. Transformation of agro-forest management policy under the dynamic circumstances of a two-decade regional autonomy in Indonesia. *Forests* 12 (4): 419. DOI: 10.3390/f12040419.
- Nurrochmat DR, Sahide MAK, Fisher MR. 2022. Making sustainable forest development work: Formulating an idea for a more appropriate green policy paradigm. *Front Environ Sci* 10: 783718. DOI: 10.3389/fenvs.2022.783718.
- Nurrochmat DR, Suryanto, Nurrochmat NA, Tarigan S, Siregar IZ, Rizki D, Radjawali I, Sulistio H. 2023. Indonesia's options in becoming a high-income country: Accelerating the turning point in deforestation? *For Policy Econ* 148: 102905. DOI: 10.1016/j.forpol.2022.102905.
- Owusu R, Kimengi JN, Giessen L. 2024. Institutional change and compliance in forest landscape restoration governance: Insights from the western highlands of Cameroon. *J Land Use Sci* 19 (1): 36-58. DOI: 10.1080/1747423X.2024.2322602.
- Poerwanto. 2018. Transformasi dan performa organisasi dalam membangun daya saing industri pariwisata. *J Tour Creat* 2 (2): 120-139. DOI: 10.19184/jtc.v2i2.13845. [Indonesian]
- Porro R, Lopez-Feldman A, Vela-Alvarado JW. 2015. Forest use and agriculture in Ucayali, Peru: Livelihood strategies, poverty and wealth in an Amazon frontier. *For Policy Econ* 51: 47-56. DOI: 10.1016/j.forpol.2014.12.001.
- Pragiwaksana M. 2021. Transformasi Model Bisnis Pada PT Pupuk Indonesia Logistik Menjadi Perusahaan *third-party logistics*. [Tesis]. Institut Pertanian Bogor, Bogor. [Indonesian]
- Raharjo KD, Ulifah CN. 2014. Struktur organisasi dan sumberdaya manusia pada KPHP: Pembelajaran dari Perum Perhutani. In: Ekawati S, Hernowo B (eds). *Operasionalisasi Kesatuan Pengelolaan Hutan (KPH): Langkah Awal Menuju Kemandirian*. PT. Kanisius, Sleman. [Indonesian]
- Rahmani TA, Nurrochmat DR, Hero Y, Park MS, Boer R, Satria A. 2021. Evaluating the feasibility of oil palm agroforestry in Harapan Rainforest, Jambi, Indonesia. *For Soc* 5 (2): 458-477. DOI: 10.24259/fs.v5i2.10375.
- Rahmani TA, Nurrochmat DR, Park MS, Boer R, Ekayani M, Satria A. 2022. Reconciling conflict of interest in the management of forest restoration ecosystem: A strategy to incorporate different interests of stakeholders in the utilization of the Harapan Rainforest, Jambi, Indonesia. *Sustainability* 14 (21): 13924. DOI: 10.3390/su142113924.
- Rahmani TA, Nurrochmat DR, Park MS, Boer R, Ekayani M. 2024. The potential ecological impact of oil palm agroforestry as term of improvement for restoring Harapan Rainforest. *Jurnal Manajemen Hutan Tropika* 30 (3): 376-389. DOI: 10.7226/jtfm.30.3.376.
- Resosudarmo IAP, Tacconi L, Sloan S, Hamdani FAU, Subarudi, Alviya I, Muttaqin MZ. 2019. Indonesia's land reform: Implications for local livelihoods and climate change. *For Policy Econ* 108: 101903. DOI: 10.1016/j.forpol.2019.04.007.
- Romanelli JP, Boschi RS. 2020. The legacy of Elinor Ostrom on common forests research assessed through bibliometric analysis. *Cerne* 25 (4): 332-346. DOI: 10.1590/01047760201925042658.
- Roslinda E, Darusman D, Suharjito D, Nurrochmat DR. 2012. Analisis pemangku kepentingan dalam pengelolaan Taman Nasional Danau Sentarum Kabupaten Kapuas Hulu, Kalimantan Barat. *Jurnal Manajemen Hutan Tropika* 18 (2): 78-85. DOI: 10.7226/jtfm.18.2.78. [Indonesian]
- Roslinda E, Ekyastuti W, Kartikawati SM. 2017. Social capital of community forest management on Nusapati Village, Mempawah District, West Kalimantan, Indonesia. *Biodiversitas* 18 (2): 548-554. DOI: 10.13057/biodiv/d180215.
- Rossita A, Nurrochmat DR, Boer R, Hein L, Riqqi A. 2021. Assessing the monetary value of ecosystem services provided by Gaung-Batang Tuaka Peat Hydrological Unit (KHG), Riau Province. *Heliyon* 7: e08208. DOI: 10.1016/j.heliyon.2021.e08208.
- Sabar A, Maulany RI, Yusran, Kurniawan A, Rahmatullah RA, Syam MA, Syawal MA, Halis A, Rafiadi MT. 2023. Stakeholder and social networks analysis of conservation partnership in Bantimurung Bulusaraung National Park, South Sulawesi, Indonesia. *Biodiversitas* 24 (2): 1017-1024. DOI: 10.13057/biodiv/d240242.
- Setiawan MR, Nurrochmat DR, Purwawangsa H. 2024. Strengthening village forest management strategies in East Kolaka, Southeast Sulawesi, Indonesia. *Biodiversitas* 25 (7): 2945-2959. DOI: 10.13057/biodiv/d250716.
- Silalahi M, Nurrochmat DR, Harrison RD, Mansur I, Walsh TA, Habibi. 2025. Reconciling different interests in the Hutan Harapan rainforest ecosystem restoration management in Sumatra. *Trees For People* 20: 100823. DOI: 10.1016/j.tfp.2025.100823.
- Smialek A, Albrecht TR, Milman A. 2025. Institutional dependencies shape adaptation pathways for local service providers: A study of US water utilities responding to climatic stressors. *Environ Sci Policy* 164: 103982. DOI: 10.1016/j.envsci.2024.103982.
- Sobhani P, Esmailzadeh H, Sadeghi SMM, Wolf ID, Deljouei A. 2022. Relationship analysis of local community participation in sustainable ecotourism development in protected areas, Iran. *Land* 11 (10): 1871. DOI: 10.3390/land11101871.
- Stacey N, Izurieta A, Garnett ST. 2013. Collaborative measurement of performance of jointly managed protected areas in northern Australia. *Ecol Soc* 18 (1): 19. DOI: 10.5751/ES-05273-180119.
- Suryanto, Nurrochmat DR, Tarigan SD, Siregar IZ, Yassir I, Silalahi M, Mansur I, Harisson RD, Wahyudi A, Abdulah L. 2024. Why is multi-business forestry needed to overcome the low performance of forestry governance and food security in Indonesia? *For Soc* 8 (2): 464-483. DOI: 10.24259/fs.v8i2.32529.
- Tajuddin T, Supratman, Salman D, Yusran. 2019. Bridging social forestry and forest management units: Juxtaposing policy imaginaries with implementation practices in a case from Sulawesi. *For Soc* 3 (1): 97-113. DOI: 10.24259/fs.v3i1.6049.
- Thomas A, Hubo C. 2024. Multiple crises as a policy window for forest and nature a power-analysis from Germany. *For Policy Econ* 169: 103349. DOI: 10.1016/j.forpol.2024.103349.
- Tian G, Yang Y, Zhang X, Zhao M, Tian Y. 2025. From defensive reasoning to innovation: How digital tools foster positive emotions in

- organizations. *BMC Psychol* 13: 146. DOI: 10.1186/s40359-025-02486-6.
- Willmott A, Willmott M, Grass I, Luciana B, Cotter M. 2023. Harnessing the socio-ecological benefits of agroforestry diversification in social forestry with functional and phylogenetic tools. *Environ Dev* 47: 100881. DOI: 10.1016/j.envdev.2023.100881.
- Wiratno W, Withaningsih S, Gunawan B, Iskandar J. 2022. Ecotourism as a resource sharing strategy: Case study of community-based ecotourism at the Tangkahan Buffer Zone of Leuser National Park, Langkat District, North Sumatra, Indonesia. *Sustainability* 14 (6): 3399. DOI: 10.3390/su14063399.
- Wong GY, Moelino M, Bong IW, Pham TT, Sahide MAK, Naito D, Brockhaus M. 2020. Social forestry in Southeast Asia: Evolving interests, discourses and the many notions of equity. *Geoforum* 117: 246-258. DOI: 10.1016/j.geoforum.2020.10.010.
- Wulandari C, Kurniasih H. 2019. Community preferences for social forestry facilitation programming in Lampung, Indonesia. *For Soc* 3 (1): 114-132. DOI: 10.24259/fs.v3i1.6026.
- Wulandari C, Novriyanti N, Iswandari D. 2021. Integrating ecological, social and policy aspects to develop peatland restoration strategies in Orang Kayo Hitam Forest Park, Jambi, Indonesia. *Biodiversitas* 22 (10): 4158-4168. DOI: 10.13057/biodiv/d221005.
- Yusliza MY, Yong JY, Tanveer MI, Ramayah T, Noor FJ, Muhammad Z. 2020. A structural model of the impact of green intellectual capital on sustainable performance. *J Clean Prod* 249: 119334. DOI: 10.1016/j.jclepro.2019.119334
- Zubayr M, Darusman D, Nugroho B, Nurrohmat DR. 2014. Peranan para pihak dalam kebijakan implementasi penggunaan kawasan hutan untuk pertambangan. *Analisis Kebijakan Kehutanan* 11 (3): 239-259. DOI: 10.20886/jakk.2014.11.3.239-259. [Indonesian]