

Implementation of Social Forestry in Nagari Gunung Selasih, Dharmasraya District, West Sumatra

¹Achmad Assahab, ²Elvawati, ³Zulfa

^{1,2,3} Department of Humanities, Graduate School, Universitas PGRI Sumatera Barat, Indonesia

Correspondence Authors: akmalassahab17@gmail.com¹, elvawatie@gmail.com², zulfaeva75@gmail.com³

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ABSTRACT

Indonesia's social forestry policy aims to reconcile forest conservation with community welfare through legal access and community-based forest management. This article analyses the implementation of the Minister of Environment and Forestry Regulation (Permen LHK) No. 9/2021 on Social Forestry in Nagari Gunung Selasih, Dharmasraya District, West Sumatra. This study focuses on the roles of key actors, the implementation of social forestry schemes, their contributions to local livelihoods, and the main constraints faced. Using a qualitative descriptive design within a constructivist paradigm, data were collected through document analysis and in-depth interviews with government officials, social forestry group leaders, and community members, as well as non-participant observations of four Social Forestry Business Groups (Kelompok Usaha Perhutanan Sosial): KUPS Kopi Sungai Lomak, KUPS Randang Paku Rangkito, KUPS Trigona Gunung Selasih, and KUPS Ekowisata Ngalau Sungai Suko. The findings show that the Forest Management Unit (KPHP) acts as a facilitator, regulator, and technical advisor, whereas KUPS operationalize livelihood diversification through non-timber forest products and environmental services. Social forestry generates supplementary income, strengthens local institutions, and reinforces cultural values but is constrained by limited capacity, capital, infrastructure, and latent conflicts. This article argues that sustained multi-actor collaboration is essential for transforming legal access into durable socio-ecological benefits.

Keywords: Social, Forestry, District, Conservation

I. INTRODUCTION

Forests are one of Indonesia's most valuable assets, providing ecological functions, biodiversity conservation, and livelihood for millions of rural residents. However, for decades, Indonesian forests have been subjected to unsustainable logging, rapid land-use change, plantation expansion, and recurrent conflicts over access and tenure. These dynamics undermine ecological integrity and exacerbate rural inequality. In response, successive governments have promoted community-based approaches to forest management, culminating in a comprehensive social forestry policy that aims to allocate 12.7 million hectares to community groups through various schemes (Kembo & Utete, 2025).

The central legal foundation of this policy is the Ministry of Environment and Forestry Regulation (Permen LHK) No. 9/2021 on Social Forestry. This regulation consolidates and updates earlier rules on Community Forests, Community Plantation Forests, Hutan Desa/Hutan Nagari, Customary Forests, and forestry partnerships. It provides a legal basis for communities to obtain long-term management rights—up to 35 years, extendable—within designated Social Forestry Areas (Peta Indikatif Areal Perhutanan Sosial—PIAPS). The regulation emphasizes both environmental sustainability and poverty reduction, mandating state agencies to provide facilitation, capacity-building, and oversight, while encouraging the formation of Social Forestry Business Groups (Kelompok Usaha Perhutanan Sosial—KUPS) as economic engines (Sinaga, 2025).

In West Sumatra, social forestry has taken on a distinctive form through the Hutan Nagari model, which links forest governance to nagari—a traditional village-level administrative and customary unit. Hutan Nagari schemes are spread across multiple districts and municipalities, including Agam, Dharmasraya, the Mentawai Islands, Padang Pariaman, Pasaman, Pasaman Barat, Pesisir Selatan, Sijunjung, Solok, Solok Selatan, Tanah Datar, Lima Puluh Kota, and several cities. These schemes combine customary institutions, such as Kerapatan Adat Nagari (KAN), with modern organizations, such as Forest Management Units (KPH/KPHP) and community forest management bodies (Nurwansyah et al., 2024).

Within this provincial landscape, Nagari Gunung Selasih, in Pulau Punjung Subdistrict, Dharmasraya District, represents a particularly interesting case. The nagari retains significant natural forest cover in the form of Hutan Nagari, while much of its surrounding landscape has been converted to oil palm and rubber plantations. Administratively, Nagari Gunung Selasih covers approximately 54.36 km², consists of eight jorong (hamlets), and is home to approximately 5,696 residents. The economy is dominated by plantation-based livelihoods, —especially oil palm and rubber, —supplemented by small-scale agriculture, trade, services, and formal employment in the private and public sectors. This socio-economic profile reflects the broader pattern of agrarian change in Dharmasraya, where plantation expansion has reshaped both landscapes and livelihoods (N'Dri et al., 2025).

Land use in Nagari Gunung Selasih includes corporate plantations, smallholder estates, Hutan Nagari, and settlement areas. Oil palm plantations occupy the largest share of land and are divided among corporate concessions, smallholder plantations, and plasma schemes. Rubber plantations constitute another large segment, followed by Hutan Nagari proper, agricultural land, settlements and public facilities, and residual open or unused areas. These patterns illustrate the competing claims on land and the co-existence of commercial, subsistence, and conservation-oriented land use (Fitri et al., 2023).

The legal foundation for Hutan Nagari management in Gunung Selasih is the Ministerial Decree SK. 3749/Menlhk-PSKL/PKPS/PSL.0/6/2017, which grants the Lubuk-Simantuang Village/Nagari Forest Management Institution (Lembaga Pengelola Hutan Nagari—LPHN) management rights over approximately 4,332 hectares. Based on this decree, the LPHN was established and several KUPS were formed to develop economic activities under the social forestry umbrella. These include KUPS Randang Paku Rangkitito (processing wild fern into packaged rendang), KUPS Trigona Gunung Selasih (stingless bee honey), KUPS Ekowisata Ngalau Sungai Suko (ecotourism), and KUPS Kopi Sungai Lomak (coffee agroforestry) (Rahman et al., 2024).

Despite this promising institutional set-up, the implementation of social forestry in Nagari Gunung Selasih faces multiple challenges. These include conflicts of interest among groups, ambiguous boundaries, limited understanding of social forestry procedures, uneven participation, and constraints on human and financial resources. For example, inter-group conflict has emerged around the Ngalau Sungai Suko ecotourism site, although this study focuses on implementation processes rather than conflict dynamics. Moreover, the burden of infrastructure development, —such as access to roads to ecotourism sites, —has often fallen on individual entrepreneurs rather than being collectively or institutionally supported (Ragandhi et al., 2025).

From a policy perspective, understanding how Permen LHK No. 9/2021 has been translated into concrete practices at the national level is crucial for assessing the effectiveness of social forestry. The regulation assumes that granting legal access, combined with technical facilitation and economic support, will enable communities to become responsible forest managers and improve their well-being. However, as implementation studies have shown, policy outcomes depend on the interplay between legal frameworks, administrative capacity, street-level implementers, and target groups (Pressman & Wildavsky, 1973; Edwards III, 1980). In the context of social forestry, actors such as KPHP, LPHN, KUPS, local government, and community members all hold partial authority and resources that shape outcomes (Rasji & Vera Tua Tobing, 2024).

Therefore, this study investigates the implementation of social forestry in Nagari Gunung Selasih with three main questions: (1) How do key actors, particularly KPHP and KUPS, perform their roles in the management of Hutan Nagari? (2) How is social forestry implemented in practice and how does it contribute to community welfare? (3) What are the main obstacles encountered in the implementation of social forestry in this context? Addressing these questions requires attention not only to formal rules and organizational structures, but also to everyday practices, local narratives, and socio-ecological conditions.

The significance of this study is threefold: Academically, it enriches the literature on social forestry in Indonesia by combining structuration theory, implementation theory, and socio-ecological perspectives in analyzing the contemporary Hutan Nagari case. Conceptually, it contributes to the debate on how legal access, local capacity, and multi-actor governance interact to produce sustainable outcomes. Practically, it provides grounded insights for policymakers, KPHP officials, and community leaders seeking to strengthen social forestry programmes in West Sumatra and beyond. By documenting both achievements and constraints in Nagari Gunung Selasih, this article offers lessons that may inform the replication and scaling of successful elements, as well as corrective measures for identified weaknesses.

II. METHODS

This study employed a qualitative descriptive approach designed to capture and interpret the social realities surrounding the implementation of social forestry in Nagari Gunung Selasih. Qualitative research is appropriate for exploring complex social phenomena in which meanings, perceptions, and interactions are central (Creswell, 2021). The descriptive orientation aims to produce rich, contextualized accounts rather than testing hypotheses or generating statistical generalizations (Sugiyono, 2019). This research is grounded in a constructivist paradigm, recognizing that social reality is co-constructed by actors through their practices and interpretations (Moleong, 2022).

A. Research Site

The research was conducted in Nagari Gunung Selasih, Pulau Punjung Subdistrict, Dharmasraya District, and West Sumatra. The nagari is administratively composed of eight jorongs and is characterized by a mixed land-use system. Plantation crops, notably oil palm and rubber, dominate the economy, while Hutan Nagari Lubuk Simantuang is an important ecological and cultural asset. The nagari is located approximately 6 km from both the sub-district and district capitals, facilitating interaction with government institutions.

Land-use data indicate that Nagari Gunung Selasih's territory is allocated to corporate and smallholder plantations, Hutan Nagari, agricultural lands, settlements and public facilities, and open or unused areas. Table 1 summarizes the main land-use categories and their approximate areas as reported by official statistics and environmental reports.

Table 1. Land Use in Nagari Gunung Selasih

No	Land-use type	Area (ha)	Description
1	Oil palm plantations	4,377	2,807 ha corporate concession; 1,250 ha smallholder; 320 ha plasma schemes
2	Rubber plantations	1,500	Smallholder-managed rubber gardens
3	<i>Hutan Nagari</i>	4,332	Managed by LPHN Lubuk Simantuang and KUPS
4	Agricultural land	122	Mainly irrigated fields
5	Settlements & public facilities	350	Village centre and social infrastructure
6	Open land/other	200	Shrubland and idle land
	Total	10,881	

Demographically, the population is approximately 5,696 people, with 2,920 males and 2,776 females. Most working residents have plantation-related livelihoods. Table 2 provides an overview of the main occupational categories.

Table 2. Main Livelihoods in Nagari Gunung Selasih

No	Occupation category	Number of people	Description
1	Plantation farmers (oil palm/rubber)	1,260	Landowners and managers of customary and private estates
2	Plantation labourers	168	Daily workers in estates and corporate plantations
3	Traders and micro-entrepreneurs	84	Shopkeepers, middlemen, and small-scale service providers
4	Transport sector	67	Drivers in fresh fruit bunch and logistics transport
5	Private sector employees	50	Office staff in plantation companies and processing plants
6	Civil servants (ASN/PNS)	34	Teachers, health workers, local government staff
7	Military/Police (TNI/POLRI)	17	Security personnel residing in the <i>nagari</i>
	Total employed population	1,680	

B. Informants and Sampling

Informants were selected using purposive sampling, which allows the researcher to intentionally choose individuals with relevant knowledge and experience regarding the research topic (Afrizal, 2008). The criteria included direct involvement in social forestry implementation, responsibility within government or community institutions, and experience as a user or beneficiary of social forestry enterprises.

In total, ten key informants were interviewed, representing the government, social forestry managers, and ordinary community members. Table 3 summarizes the informants and the main information sought from each.

Table 3. Research Informants

No	Category	Position/role	Main information explored
1	Government	Head of Conservation & Community Empowerment (KPHP)	Programme design, implementation, and constraints
2	Government	Extension facilitator	Facilitation processes, roles, and obstacles
3	KUPS	Secretary, KUPS Kopi Sungai Lomak	Management practices, benefits, challenges
4	KUPS	Member, KUPS Kopi Sungai Lomak	Daily operations, livelihood impacts, constraints
5	KUPS	Member, KUPS Kopi Sungai Lomak	As above
6	KUPS	Chair, KUPS Randang Paku Rangkitu	Enterprise development, market access, ecological awareness
7	KUPS	Chair, KUPS Trigona Gunung Selasih	Honey production, technical support, economic returns
8	KUPS	Representative, KUPS Ekowisata Ngalau Sungai Suko	Ecotourism development, investments, and institutional support
9	Community	Visitor, Ngalau Sungai Suko	Visitor experience and perceptions of ecotourism
10	Community	Visitor, Ngalau Sungai Suko	As above

C. Data Collection

Three primary data collection methods were used: document analysis, in-depth interviews, and non-participant observation.

C.1. Document analysis

Document analysis involved collecting and reviewing relevant documents, such as policy and legal texts (including Permen LHK No. 9/2021 and SK 3749/Menlhk-PSKL/PKPS/PSL.0/6/2017), KPHP planning documents (notably the 2024 Annual Work Plan, RKT), reports on KUPS, local statistical publications, environmental reports, and previous research on social forestry and Hutan Nagari. These documents provided background information on legal frameworks, institutional arrangements, land-use patterns, and official narratives about program objectives and achievements.

C.2. In-depth interviews

Semi-structured, in-depth interviews were conducted face-to-face with the ten informants using an interview guide aligned with the research questions. The guide covered topics such as the process of obtaining social forestry permits, the roles and activities of the KPHP and KUPS, perceived benefits and challenges, and perceptions of community participation and institutional support. Interviews were conducted between October and early December, primarily at KPHP offices, KUPS locations (coffee plots, honey sites, randang paku production site), and the Ngalau Sungai Suko ecotourism area. Interviews were recorded in field notes, and where possible, audio-recorded with consent.

C.3. Non-participant observation

Non-participant observation was undertaken to document real-time practices and spatial conditions, without the researcher directly participating in activities (Hasanah, 2017). Observations focused on (a) conditions of Hutan Nagari and KUPS sites (coffee under rubber, honey stup arrangements, ecotourism infrastructure); (b)

patterns of interaction among KUPS members and between KUPS and visitors; and (c) implementation of conservation and protection activities, such as planting and patrols. Observational data were recorded through notes and photographs, which later aided in contextualizing and verifying the interview statements.

D. Data Analysis

The data analysis followed Miles and Huberman's interactive model, consisting of four interrelated stages: data collection, data reduction, data display, and conclusion drawing/verification.

Data collection was ongoing and iterative, with emerging insights informing the subsequent interviews and observations.

Data reduction involves selecting, focusing, simplifying, and transforming raw data from field notes, interview transcripts, and documents into analytically meaningful units. Data were coded into thematic categories reflecting the research questions, such as "roles of actors," "implementation processes," "economic benefits," "ecological practices," and "constraints."

Data display was carried out through descriptive narratives, matrices, and tables that facilitated comparisons across actors and KUPS, as well as across different dimensions of implementation. Tables on land use, livelihoods, KUPS characteristics, and KPHP activities were constructed from official and field data.

Conclusion drawings and verifications were performed throughout the analysis. Provisional conclusions about, for example, the nature of the KUPS collaboration and the significance of KUPS for livelihoods were continuously checked against additional data, alternative explanations, and theoretical expectations. This iterative process helped strengthen the internal validity.

Although formal quantitative generalization is not an aim of qualitative research, the study sought analytical generalization by relating the case findings to broader theories of implementation, structuration, and socio-ecological systems. Triangulation across data sources (documents, interviews, observations) and informants (government, KUPS members, community) enhances the credibility of the findings. Attention was given to capturing diverse perspectives, including those of frontline implementers and ordinary community members who experienced the impacts of social forestry in their daily lives.

III. RESULTS AND DISCUSSION

A. Roles of Key Actors in Hutan Nagari Management

The implementation of social forestry in Nagari Gunung Selasih revolves around the interactions between the KPHP Dharmasraya, LPHN Lubuk Simantuang, and the four KUPS. The KPHP holds formal authority and technical expertise, while the LPHN and KUPS embody local agency and entrepreneurial initiatives.

KPHP Dharmasraya, as a Forest Management Unit at the operational level, mandated sustainable management of forest resources and facilitates social forestry schemes. Interviews and document analysis reveal that the KPHP's roles in Gunung Selasih can be grouped into (a) conservation, protection, and land security, (b) facilitation of forest utilization, and (c) support for livelihood enterprises.

In conservation and rehabilitation, the KPHP collaborates with LPHN and KUPS to implement planting programs for multi-purpose tree species (MPTS) and other ecologically and economically valuable species within Hutan Nagari and adjacent lands. The 2024 Annual Work Plan lists a variety of species, including jengkol, pinang, durian, mahogany, cinnamon, jernang, mangosteen, matoa, petai, rotan manau, coffee and jabon. These species were chosen to restore ecological functions (soil and water conservation and biodiversity), while generating non-timber forest products for communities.

The KPHP also coordinates forest patrols with LPHN members and forest police (Polhut) to prevent encroachment, illegal logging, and boundary disputes. Patrols are conducted on a regular basis, with small teams and basic equipment supported by the RKT. In addition, the KPHP assisted in installing boundary and information signboards to strengthen the legal visibility of the Hutan Nagari area.

Table 4. Selected Conservation and Protection Activities.

No	Activity	Period	Main content	Implementers	Location
1	Multi-species planting	Nov–Dec (annual cycle)	Planting MPTS and timber species (e.g. jengkol, durian, coffee, rotan, jabon)	LPHN & KUPS with KPHP support	Nagari and Hutan Nagari
2	Forest patrols	Monthly	Boundary checks, monitoring of illegal activities	LPHN patrol team & Polhut	Hutan Nagari

No	Activity	Period	Main content	Implementers	Location
3	Provision of patrol gear	As needed	Uniforms, shoes, basic camping equipment	KPHP	Hutan Nagari
4	Installation of signboards	Nov–Dec	Boundary and information boards	KPHP & LPHN	Hutan Nagari

From the perspective of implementation theory, the KPHP's role illustrates the importance of adequate communication, resources, and bureaucratic structures (Edwards III, 1980). Continuous interaction with the LPHN and KUPS enhances mutual understanding of policy objectives and constraints. However, resource limitations, —especially in staff time and operational budgets, —constrain the frequency and scope of facilitation.

LPHN and KUPS as local agents and entrepreneurs

Lubuk Simantuang functions as an umbrella institution representing nagari-level interest in forest management. Under its auspices, four KUPS have been formalized through local decrees:

- KUPS Randang Paku Rangkito (2019)
- KUPS Trigona Gunung Selasih (2020)
- KUPS Ekowisata Ngalau Sungai Suko (2022)
- KUPS Kopi Sungai Lomak (2022)

These KUPS operationalize social forestry by transforming forest resources into marketable products and services. Table 5 provides an overview of these four KUPS.

Table 5. Overview of KUPS in LPHN Lubuk Simantuang

KUPS name	Year formalised	Main activity type	Key products/services	Notable features
Randang Paku Rangkito	2019	Non-timber forest product	Packaged <i>randang paku</i> (wild fern <i>rendang</i>)	Gold-rated KUPS; recognised as creative and cultural product
Trigona Gunung Selasih	2020	Non-timber forest product	Stingless bee (<i>Trigona</i>) honey	Uses distributed stup system; training-supported
Ekowisata Ngalau Sungai Suko	2022	Environmental services	Cave and river-based ecotourism	Substantial self-funded infrastructure improvements
Kopi Sungai Lomak	2022	Agroforestry	Robusta coffee	Coffee intercropped under rubber and in open plots

Each KUPS reflects a distinct but complementary pathway through which social forestry contributes to livelihoods and local development: the value-added processing of wild edible plants, honey production, tourism services, and agroforestry.

From a structural perspective, KUPS members draw on newly available legal rights, training, and networks (structures) to enact innovative livelihood practices (agencies). At the same time, their practices—such as branding *randang paku* as a regional specialty and intangible cultural heritage—feed back into broader institutional recognition and policy attention.

B. Implementation of Social Forestry and Livelihood Contributions

Social forestry implementation in Nagari Gunung Selasih can be observed most concretely through the activities and trajectories of the four KUPS.

KUPS Kopi Sungai Lomak emerged from an initiative by forestry extension agents who identified local interests and suitable land for coffee cultivation. One key plot involved interplanting approximately 3,000 robusta coffee trees on approximately two hectares of existing rubber plantations. Coffee is grown both under the shade of rubber trees and in open areas, depending on site conditions.

Interviews with KUPS members indicated that coffee harvesting is irregular, typically every two weeks or more, depending on the fruiting patterns. Post-harvest processes include pulping, drying, and grinding using a small milling machine obtained through a program support. While precise income figures were not

systematically recorded, members reported that coffee provides an additional income stream that complements their main earnings from rubber or oil palm. Ecologically, agroforestry systems diversify vegetation structure, potentially enhancing microclimate regulation, soil cover, and habitat complexity compared to monocultures. This case illustrates how social forestry programs can nudge farmers towards more diversified land-use practices aligned with conservation goals. However, challenges include fluctuating yields, limited access to premium markets, and a dependence on external support for processing equipment and training.

KUPS Randang Paku Rangkito represents the successful transformation of a home-based business into a formally recognized social forestry enterprise. Initially, the business processed wild fern (paku/pakis) harvested from forested areas into rendang paku, a local delicacy. With encouragement from a conservation NGO and subsequent integration into the social forestry program, the business obtained legal permits, joined LPHN Lubuk Simantuang, and became a flagship KUPS.

Over time, the product achieved significant recognition: it attained a “Gold” rating within the social forestry scheme, was listed as an intangible cultural heritage item, and became a finalist in a national creative economy competition. The product is marketed at multiple package sizes and prices, as shown in Table 6.

Table 6. Product Sizes and Prices of Randang Paku Rangkito

Package size	Retail price (IDR)
100 g	40,000
150 g	50,000
250 g	80,000

Marketing strategies rely heavily on e-commerce platforms (e.g. Instagram and Shopee) and participation in bazaars facilitated by government and partner organizations. Production typically occurs once a week or when stock is low, with shelf life estimated at up to three months without preservatives, flavor enhancers, or artificial coloring.

From a socio-ecological standpoint, Randang paku exemplifies how wild-collected non-timber forest products can be turned into high-value goods, while reinforcing local culinary heritage. At the same time, scaling up production raises questions regarding resource sustainability. The KUPS Chair has expressed aspirations to develop fern cultivation plots to reduce pressure on wild populations—an example of locally driven anticipation of ecological limits.

C. Discussion

KUPS Trigona Gunung Selasih started in 2021, when a KPHP facilitator identified a farmer’s land, already planted with flowering coffee, as suitable for stingless bee (*Trigona*) cultivation. A total of 139 stups (bee boxes) were distributed across the three sites, with one main farmer receiving 51 stups in three phases.

Honey harvesting is irregular and often demand-driven, with local consumers ordering directly from the producers. At one point, after three months without harvesting. At an IDR of 300,000 per litre, this single harvest generated an IDR of 1,200,000. The same farmer also sells honey in 600 ml bottles at approximately IDR 100,000, making the product accessible to local consumers.

KUPS has benefited from at least three training sessions, with some members attending more. Nevertheless, the farmer has had to self-finance key infrastructure, such as 25 sturdy metal stands for stup placement, due to limited program funds. This indicates that, while social forestry can catalyze new livelihood options, the financial burden of consolidating production often remains with individual actors (Ari Devianto et al., 2025). The Trigona case exemplifies the “dialectic of control” in structuration theory: less powerful actors (local farmers) strategically use limited resources and external support to gain some control over livelihood opportunities, even as they remain constrained by broader resource and market structures.

Ngalau Sungai Suko is a cave and river landscape that has become an informal tourist destination before its formal inclusion in the social forestry program in 2022. A local entrepreneur, who now also serves as a KUPS manager, invested heavily in opening access by hiring heavy equipment three times, purchasing coral stones, and repeatedly applying herbicides to clear vegetation. The total cost for improving the access road alone reached approximately IDR 12,000,000, excluding ongoing maintenance and operational costs (Caesario et al., 2024).

KPHP support includes the provision of an all-terrain vehicle (ATV) and glamping tents, which enhance the attractiveness of the site for visitors. However, daily income remained variable. On ordinary days, earnings from on-site stalls and services are modest and unpredictable, whereas weekend revenues can reach approximately IDR 500,000 per day.

This case demonstrates the opportunities and risks of ecotourism in social forestry. While ecotourism can generate income and foster environmental awareness, it is highly sensitive to infrastructure, marketing, and visitor flow. Moreover, heavy reliance on individual capital and initiative raises equity concerns: benefits may accrue disproportionately to those who can afford initial investments, while public support mechanisms remain limited.

From an implementation perspective, the Ngalau case highlights the partial and uneven nature of resource provision under the social forestry policy. While legal recognition and equipment are provided, critical infrastructure costs may fall outside program coverage, creating gaps between policy ambitions and on-the-ground realities.

Across the four KUPS and the broader Hutan Nagari management system, several recurring obstacles emerged. First, the resource constraints are evident. Budgets for facilitation, training, and equipment are limited, and many investments (e.g., road improvements and stump stands) are self-financed by local actors. This aligns with Edwards III's observation that insufficient financial and human resources can severely hamper implementation regardless of policy quality (Edwards III, 1980).

Second, the capacity gaps persist. While the KPHP and partner organizations have provided training, many KUPS members still lack advanced skills in business management, quality control, branding, and market expansion. This limits their ability to move beyond local or niche markets and to build resilient enterprises, especially under volatile economic conditions.

Third, institutional and coordination challenges arise both horizontally (between KUPS and within the community) and vertically (between LPHN, KPHP, and other government agencies). The potential for conflict, —such as that reported around Ngalau Sungai Suko, —reveals tensions in defining the rights, responsibilities, and benefit-sharing among community members and groups. Without clear and widely accepted rules and effective conflict-resolution mechanisms, such tensions can undermine the legitimacy and sustainability of social forestry.

Fourth, tenurial and boundary issues remain latent concerns. Although Hutan Nagari boundaries have been legally established, overlapping claims and proximity of corporate concessions and smallholder plantations can create ambiguity and contestation. This is consistent with broader national experiences, where tenure insecurity constrains community investment in long-term forest management.

These obstacles can be interpreted through the dual lens of the implementation theory and socio-ecological systems. From an implementation standpoint, ambiguous communication, partial resource provision, and complex, multi-level bureaucratic structures create a high-risk environment for policy distortion (Nel et al., 2022). From a socio-ecological perspective, the interplay of plantation expansion, forest conservation, and diversified livelihoods requires adaptive governance, which is still emerging in Nagari Gunung Selasih.

Despite these obstacles, the case of Nagari Gunung Selasih demonstrates meaningful progress towards the core objectives of social forestry: legal empowerment, livelihood enhancement, and ecological stewardship. Legal access through SK 3749 and Permen LHK No. 9/2021 enabled the formation of LPHN and KUPS, which, in turn, created space for local innovation. KUPS activities have diversified household incomes, valorised local knowledge and cultural products, and supported more complex, potentially more sustainable land-use systems (e.g., coffee–rubber agroforestry).

However, the findings suggest that legal access is a necessary, but insufficient, condition for success. Effective social forestry depends on ongoing, well-resourced facilitation, robust local institutions, and negotiated, context-specific arrangements that align the interests of diverse actors. Structuration theory helps highlight that communities are neither passive beneficiaries nor fully autonomous agents; they operate within and upon structural conditions shaped by state policy, market forces, and ecological constraints. Strengthening social forestry, therefore, requires strategies that enhance community capacity and bargaining power while also reforming institutional structures to be more responsive and accountable.

IV. CONCLUSIONS

This study examined the implementation of social forestry in Nagari Gunung Selasih, Dharmasraya District, with particular attention to the roles of the KPHP, LPHN, and four KUPS, the concrete practices through which social forestry contributes to livelihoods, and the obstacles encountered. The findings show that the KPHP plays a crucial role as a facilitator, regulator, and ecological guardian, while LPHN and KUPS act as local

agents that operationalize social forestry through diversified enterprises based on non-timber forest products, agroforestry, and ecotourism. KUPS Kopi Sungai Lomak demonstrates how agroforestry can integrate conservation and income generation; KUPS Randang Paku Rangkitito illustrates the potential of culturally embedded products to achieve high value and national recognition; KUPS Trigona Gunung Selasih shows the promise and fragility of honey-based livelihoods; and KUPS Ekowisata Ngalau Sungai Suko highlights both the opportunities and risks of community-based ecotourism. Collectively, these initiatives contribute to supplementary income, strengthen local identity, and foster more complex socio-ecological relations. At the same time, significant constraints—limited financial and human resources, capacity gaps, uneven institutional support, potential conflicts, and tenure-related ambiguities—hamper the full realization of social forestry goals. These challenges underscore that granting legal access must be complemented by sustained, collaborative investment in capacity-building, infrastructure, governance, and conflict resolution.

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Ethical Compliance

All procedures performed in this study involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Data Access Statement

A Data Access Statement is a section in a scientific publication or research report that explains how the data used or generated in a study can be accessed by readers or other researchers. This statement aims to promote transparency, support research reproducibility, and comply with open-access policies, where applicable.

Common Elements in a Data Access Statement:

1. Data Location: Specifies where the data are stored, such as in online repositories (e.g., Zenodo, Dryad, or institutional repositories).
2. Access Instructions: Provides information on how to access the data, such as direct links, digital object identifiers (DOI), or contact details.
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2. Restricted Data:
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 - "No datasets were generated or analyzed during the current study."
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 - "The data supporting this study are available under restricted access and can be obtained upon reasonable request to the corresponding author and with the permission of the ethics committee."

Purpose of a Data Access Statement:

- Reproducibility: Enables other researchers to replicate or verify the findings.
- Collaboration: Encourages further collaboration by sharing data.
- Compliance: Adheres to the policies of funding agencies or journals that require open access to data.

Conflict of Interest Declaration

The authors declare that they have no affiliations with or involvement in any organization or entity with any financial interest in the subject matter or materials discussed in this manuscript.

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