

Social Forestry and the Food–Energy–Water Nexus: Strengthening Local Sovereignty to Support Asta Cita 2 Priorities

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Abstract

Asta Cita 2, as articulated in Presidential Regulation No. 12 of 2025 on the National Medium-Term Development Plan (RPJMN) 2025–2029, emphasizes the strengthening of defense resilience and the achievement of resource sovereignty in the food–water–energy sectors as core pillars of Indonesia’s national security agenda. Within this policy framework, this study examines the future prospects of Indonesia’s Social Forestry program as a strategic instrument to support these objectives. Using a systematic literature review (PRISMA) combined with policy analysis, the paper explores how community-based forest management contributes to ecological stability, economic diversification, and local empowerment. The findings indicate that Social Forestry enhances socio-economic resilience through livelihood expansion, strengthens landscape security by reducing land degradation, and supports non-military defense strategies through increased community capacities. These contributions are further reinforced by the alignment of Social Forestry with national development priorities under the RPJMN 2025–2029, particularly in promoting village-based economic transformation, green economy pathways, and non-military defense resilience. Despite this enabling regulatory environment, governance challenges persist, including limited institutional support, uneven market access, and regulatory inconsistencies. Nevertheless, Social Forestry holds substantial potential as a national strategic instrument for realizing Asta Cita 2 through the integration of forest-based enterprises, sustainable economic models, and village-level resilience initiatives. The paper concludes by proposing policy innovations to strengthen regulatory coherence and maximize the contribution of Social Forestry to Indonesia’s national security and resource sovereignty objectives.

Keywords: *Social Forestry, Non-Military Defense, Asta Cita 2, Ecological Security, Community Resilience.*

INTRODUCTION

Indonesia's national resilience enters a new era when threats evolve from traditional forms (military, invasion, territorial conflict) to non-traditional threats that are ecological, socio-economic, and multidimensional. Climate change, ecosystem damage, natural resource struggle, social inequality, and food–energy–water disruption have become factors that determine the stability of the country (Dalby, 2013; Rogozińska, 2021). In this context, the security paradigm is evolving towards non-military defense as understood in the 2002 State Defense Law and non-traditional security frameworks (Buzan et al., 1998; Caballero-Anthony, 2016).

On the other hand, the direction of national development through Asta Cita 2 emphasizes economic independence, food–energy–water security, strengthening strategic resources, and green development. To achieve this goal, the forestry sector is a strategic space because it provides ecosystem, economic, and social support for millions of forest village communities.

Social Forestry is present as a new paradigm by providing access to management to the community through HKm, Village Forests, HTR, Partnerships, and Customary Forests schemes. Empirical studies show that this scheme is able to improve welfare (Ramadhan et al., 2025; Santika et al., 2019), strengthening tenure status (Ramadhan et al., 2024), and maintaining forest cover (Putraditama et al., 2019). In addition, more inclusive tenure reform (Myers et al., 2022; Siscawati et al., 2017) and the increasing role of the community (Fay & De Foresta, 2000) are the foundations for ecological security.

From the perspective of moral and ethical philosophy, the success of Social Forestry is not only determined by policy, but also by a value framework: virtue ethics (Aristotle), duty ethics (Kant), ecological responsibility ethics (Jonas), Islamic values of the trust of nature (Basri et al., 2024), to the cosmic order principle of *Rta* in the Vedic tradition (Panda, 2025). This framework enriches the understanding that forest management is an ethical act to maintain the interconnectedness of life (Anālayo, 2021) while fulfilling responsibilities across generations.

However, various studies also point to significant challenges: access exclusion (Sahide et al., 2020), excessive burden of responsibility on communities (Erbaugh, 2019), policy overlap (Erbaugh & Nurrochmat, 2019), to the socio-economic dynamics of forest villages (Fujiwara et al., 2012). This challenge shows that Social Forestry does not necessarily produce resilience, but requires adaptive governance based on power, value, and ecological relationships.

Based on this background, this study seeks to answer the question: How can Social Forestry be positioned as a non-military defense strategy? How does it contribute to ecological and economic security in the context of *Asta Cita 2*? What governance challenges need to be strengthened to maximize this strategic role?

With the literature review approach, this research provides a theoretical and empirical foundation that places Social Forestry not just as a forestry program, but as an instrument of state resilience based on community, values, and ecology.

RESEARCH METHODS

This study employed a qualitative–exploratory research design to analyze the strategic role of Social Forestry in strengthening the Food–Energy–Water (FEW) Nexus and its relevance to *Asta Cita* Priority 2. The materials examined included peer-reviewed scientific articles, international and national policy reports, regulatory documents, and conceptual studies on forest governance, tenure reform, socio-ecological resilience, and non-military defense (Banjade et al., 2016; Erbaugh & Nurrochmat, 2019; Myers et al., 2022; Ramadhan et al., 2025; Santika et al., 2019). This method was chosen because it is suitable for mapping broad conceptual and empirical developments regarding forest governance, tenure strengthening, conservation, and national resilience (Creswell & Creswell, 2018; Krippendorff, 2013).

The primary tools used in this research were systematic literature review procedures, thematic coding, and hermeneutic interpretation. Literature searching was conducted through major academic databases (Scopus, Web of Science, ScienceDirect, JSTOR, and Google Scholar) using keywords such as social forestry, forest tenure reform, community forestry, WEF/FEW nexus, food–energy–water security, and national resilience. The sampling technique used was purposive sampling, selecting sources based on relevance, methodological clarity, and contribution to the research objectives.

The conceptual variables studied include: (1) tenure and institutional aspects of Social Forestry, including community accountability (Erbaugh, 2019) and the dynamics of forest reform; (2) socio-economic and conservation impacts, as shown by various longitudinal studies in Java and Sumatra (Fujiwara et al., 2012; Putraditama et al., 2019); (3) the relationship between Social Forestry and P–E–A resilience based on global and national nexus literature (Hejnowicz et al., 2022; Nugroho, 2020; Mabhaudhi et al., 2024); and (4) its contribution to nonmilitary resilience in the framework of multidimensional threats and human security (Buzan et al., 1998; Caballero-Anthony, 2016).

Data processing techniques are carried out through thematic coding, namely identifying recurring categories such as institutional capacity strengthening, village economic innovation, community-based conservation, and increasing basic resilience. This analysis was then deepened through policy analysis to assess the alignment of the findings with national development

priorities and Asta Cita 2, as well as interpretive analysis to interpret the position of Social Forestry in the framework of ontology–epistemology–axiology of defense science (Supriyatno, 2014). Hermeneutic approaches are used to understand the conceptual relationship between forestry, resource management ethics (Basri et al., 2024; Jonas, 1984), and national resilience as interdependent systemic entities (Anālayo, 2021).

All of these methods produce an analytical framework that is able to explain holistically how Social Forestry not only affects well-being and conservation, but also strengthens local sovereignty, PEA resilience, and the state's ability to deal with non-military threats.

RESULT AND DISCUSSION

This chapter presents research findings based on the literature review approach that combined with ontology–epistemology–axiology philosophical analysis, as well as defense science perspectives to understand the strategic position of Social Forestry in supporting Asta Cita 2 in accordance with Presidential Regulation (Perpres) Number 12 of 2025 concerning the National Medium-Term Development Plan for 2025 - 2029. This discussion is arranged in five analytical structures: (1) policy and tenure dynamics; (2) socio-economic and ecological impacts; (3) Food–Energy–Water (FEW) Nexus connectivity; (4) implications for nonmilitary defense; and (5) the dimension of philosophy of science as a source of value and ethical legitimacy for Social Forestry policies.

Development of Social Forestry Policy and Tenure Reform

Over the past two decades, Social Forestry has evolved into a key instrument of forest tenure reform in Indonesia, responding to long-standing critiques of state-dominated forest governance that marginalized local communities and generated persistent structural conflicts (Peluso & Poffenberger, 2008). Decentralization policies marked an initial corrective phase by opening limited space for community participation in forest management (Fay & De Foresta, 2000). Subsequent studies demonstrate that tenure reform has progressed incrementally through regulatory restructuring and the gradual expansion of access rights (Banjade et al., 2016; Siscawati et al., 2017). However, reform outcomes remain constrained by weak cross-sectoral coordination and overlapping regulatory frameworks, a condition described as “policy layering,” which undermines consistent implementation at the local level (Erbaugh & Nurrochmat, 2019; Myers et al., 2022).

Within this context, Social Forestry has been redefined beyond a tenure arrangement into a broader policy instrument for community empowerment, equitable resource access, and the reconfiguration of social relations in forest governance. Regulation of the Minister of Forestry Number 18 of 2025 on the Strategic Plan of the Ministry of Forestry 2025–2029 notes that by 2024 Social Forestry covered millions of hectares nationwide, yet continued to face institutional, market, and policy synchronization challenges. These conditions align with the national development framework under Asta Cita 2, as stipulated in Presidential Regulation No. 12 of 2025 on the RPJMN 2025–2029, which prioritizes village-based economic transformation, green economy development, and the resolution of agrarian conflicts. In this framing, Social Forestry emerges as a strategic policy bridge linking tenure reform with broader objectives of national resilience and sustainable development.

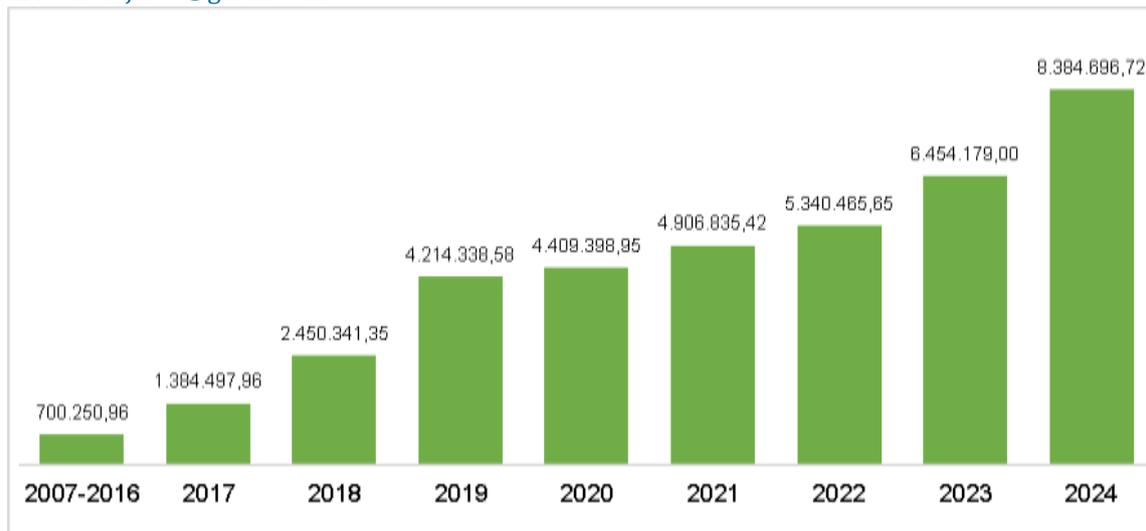


Figure 1. Cumulative Achievement of Social Forestry Area in Indonesia (Ha).

Source: <https://gokups.hutsos.kehutan.go.id/>

Socio-Economic, Governance, and Conservation Impacts

The results show that Social Forestry has a highly variable socio-economic impact depending on the social context, organizational capacity, and ecological conditions. The following studies show such a pattern:

- Social Forestry can increase household income while improving forest cover in several provinces (Santika et al., 2019).
- The groups that have strong institutions (KTH Bhakti Alam Lestari) are able to develop superior commodities and access the market more effectively (Ramadhan et al., 2025).
- Social Forestry can also function as a solution to conflicts between communities and large corporations (Halomoan et al., 2025).
- The success of community management models is highly dependent on the consistency of assistance and economic incentives (Putraditama et al., 2019).

From the overall study, it can be seen that Social Forestry plays a role as a mechanism to strengthen the basic economy at the village level, but requires market governance support, product innovation, and institutional capacity strengthening in order to be able to improve welfare in a sustainable manner.

Reveal the phenomenon of the policy–practice gap: policies continue to develop, but implementation in the field does not always result in active managed areas (Sahide et al., 2020). Meanwhile, (Erbaugh, 2019) shows that the responsabilization paradigm in Social Forestry requires the community to bear the burden of management without adequate support from the state.

In contrast, studies such as (Fujiwara et al., 2012; Gunawan et al., 2022) show that collaborative systems that strengthen participation, transparency, and benefit-sharing can improve conservation effectiveness as well as social justice. The experience of Krui (Michon et al., 2007) also shows that the traditional agroforestry model can be a reference for modern policies because it is proven to maintain ecological and economic value in the long term.

Social Forestry in the Food–Energy–Water (FEW) Nexus Framework

The results show that social forestry has a strategic contribution to strengthening food–energy–water security (Nexus P–E–A) through three main pathways: increasing landscape productivity, providing alternative renewable energy at the village level, and stabilizing the hydrological function of forest areas. This integration is important because all components of the Nexus are the main pillars of Asta Cita 2, which places food sovereignty, sustainable energy, and

water security as the foundation of national resilience and the welfare of forest village communities.

Most of the international literature emphasizes that food, energy, and water security are interrelated and multidimensional (Hejnowicz et al., 2022; Hogeboom et al., 2021; Mabhaudhi et al., 2024). In Indonesia, this linkage is the focus of national development (H. Nugroho, 2020).

The results of the Social Forestry contributes to three aspects:

1) *Food: Agroforestry increases the diversification of village food and reduces dependence on external food.*

In the food aspect, the research findings highlight that agroforestry schemes that develop in social forestry play a significant role in diversifying local food sources and strengthening village resilience. MPTS crops, agroforestry systems, and bottom-stand farming models have been proven to increase food supply, reduce vulnerability to market fluctuations, and strengthen household economies through a combination of timber, non-timber, and agricultural commodity products. Empirical evidence from various policy studies also confirms that the certainty of tenure and institutions of forest farmer groups is the main prerequisite for the success of increasing forest-based food productivity.

2) *Energy: Biomass, microhydro energy, and wood waste utilization can support local energy security.*

In terms of energy, social forestry offers great opportunities for the development of biomass energy, village-scale microhydro, and bioenergy based on forest product waste. Studies show that the potential of renewable energy in social forestry areas has not been optimized, but it has a real contribution to reducing fossil energy dependence, especially in remote areas. The use of biomass residues, energy wood, and small-scale waterfall management shows a double effect: reducing energy costs for the community while increasing village independence in meeting energy needs independently and environmentally friendly.

3) *Water: Forest cover is increasing so that the quality and quantity of water are maintained, according to the findings of many hydrological studies.*

In terms of water, social forests function as important water management controllers, especially in land cover conservation, watershed stability, and protection of village spring water sources. The findings show a strong correlation between the success of social forestry and improved vegetation cover quality and reduced risk of erosion and flooding. Thus, social forestry not only maintains the sustainability of the hydrological cycle, but also provides direct benefits for the needs of clean water, irrigation, and ecosystem resilience that sustain the lives of rural communities.

FEW Nexus is one of the conceptual paths that connects Social Forestry with the goals of Asta Cita 2, namely green development, rural productivity, and local resilience. The interconnection of the three pillars shows that social forestry not only produces sectoral benefits, but also builds a holistic P–E–A synergy that strengthens local sovereignty and overall village resilience. This synergy is even stronger when combined with participatory governance, certainty of access to governance, cross-actor collaboration, and green economic innovation. Thus, social forestry can be positioned as a strategic instrument in achieving the Asta Cita 2 target, especially in strengthening sustainable food systems, renewable energy transitions, and protecting water sources that are the main pillars of community life and national defense.

Implications for Nonmilitary Defense and National Security

In the modern security literature, threats are no longer purely militaristic, but multidimensional (Caballero-Anthony, 2016; Rogozińska, 2021). Indonesia also places ecological threats, disasters, economic inequality, and resource conflicts as strategic threats (Ministry of Defense of the Republic of Indonesia, 2014). The results show three key contributions of Social Forestry to national security:

Increasing Community Economic Resilience; Strong local economic institutions minimize social vulnerability and reduce the potential for horizontal conflict.

The result shows that when communities obtain tenure security, the impact is immediately seen in improving welfare, business sustainability, and reducing agrarian conflicts (Banjade et al., 2016; Myers et al., 2022; H. Y. Nugroho et al., 2023). Forest-based economic institutions such as resin agroforestry, ecotourism, or non-timber forest products will encourage a more equitable redistribution of benefits (Michon et al., 2007; Santika et al., 2019). This condition strengthens the foundation of non-military resilience because prosperous societies are more resistant to instability, conflict provocations, and socio-economic vulnerability (Kennedy, 2024). Thus, Social Forestry is not only about the economy, but part of the country's resilience strategy through community resilience building.

Strategic Ecosystem Protection; Social Forestry maintains landscapes that are essential for ecological stability and the provision of ecosystem services.

Various studies show that Social Forestry contributes to forest cover restoration, biodiversity conservation, and landscape sustainability (Gunawan et al., 2022; Ministry of Environment and Forestry Republic of Indonesia, 2024; Putraditama et al., 2019). Strengthening ecosystems means strengthening ecological security, because the stability of water, energy, food, and human living space is highly dependent on the health of landscapes (Hejnowicz et al., 2022; Mabhaudhi et al., 2024; H. Nugroho, 2020; H. Y. S. H. Nugroho et al., 2022). Within the framework of the water–energy–food nexus, the integration of Social Forestry is an important instrument to prevent ecological disasters, resource degradation, and instability that can trigger security crises (Dalby, 2013). A directly maintained ecosystem underpins the value of non-military defense through the provision of strategic ecosystem services that maintain national sustainability.

Strengthening Regional Resilience; Land control by the community reduces space for encroachment, resource crime, and agrarian tensions.

Social Forestry has been shown to improve social control over space, reduce illegal encroachment, resource criminality, and agrarian conflicts (Halomoan et al., 2025; Peluso & Poffenberger, 2008; Sahide et al., 2020). Land control by the community acts as a non-military territorial defense mechanism that suppresses the operating space of destructive actors. Local wisdom, such as the nagari system in West Sumatra (Nurwansyah et al., 2024), strengthens social cohesion and communal identity as the basis for regional defense. This condition is in line with the total defence thinking of countries such as Singapore which places community resilience as the first bastion of national security (Matthews & Timur, 2023). Thus, Social Forestry not only solves the tenure problem, but strengthens the people-based territorial control structure, making it relevant to Indonesia's non-military defense.

Dimensions of Philosophy: Ontology, Epistemology, and the Axiology of Social Forestry in the Framework of Defense Science

The placement of Social Forestry in the perspective of defense science demands a deeper understanding of the philosophical foundations that underpin the relationship between humans, forests, and national security. At the ontological level, community-based forest management represents the view that humans and nature form a single system that is mutually determined. This view is in line with Eastern ecological traditions, including the concept of cosmic balance *rta* that affirms the order of nature as a prerequisite for social harmony (Anālayo, 2021; Panda, 2025), and Islamic environmental ethics that emphasize trust and balance (Acikgenc, 1994; Basri et al., 2024). This ontology shows that ecological resilience is human resilience itself—in line with the Aristotelian ethical idea of the good life (*eudaimonia*) that can only be achieved through harmony with the environment (Aristotle, 2000) and Hans Jonas' Imperative of Responsibility in 1984 which emphasizes the obligation to maintain the sustainability of future generations.

A number of ethno-ecological studies in Indonesia, as shown by (Michon et al., 2007) through the Krui resin system, show that local practices have long combined economic utilization and ecological protection simultaneously. Thus, the ontology of Social Forestry rests on the reciprocal relationship between people, living space, and sustainability, which is also a natural basis for the country's resilience.

At the epistemological level, Social Forestry utilizes the type of knowledge that grows from the ecological experience of the community. Such knowledge-values are not born from laboratory experiments, but from management practices that are passed down across generations, in line with the idea of knowledge through practice in Gadamer's hermeneutics (1989) and Heidegger's existential philosophy that places human understanding in the world and experience (Wrathall, 2010). In the context of forestry policy, the epistemology interacts with modern scientific frameworks, such as land cover studies (Santika et al., 2019), multi-level governance (Sahide et al., 2020), and evidence-based policy analysis (Erbaugh & Nurrochmat, 2019).

In other words, Social Forestry Policies are built on empirical knowledge, both ethnographic, ecological, and administrative, which affirms that forest stewardship by local communities can improve governance, restore landscapes, and prevent structural exclusion (Fay & De Foresta, 2000; Myers et al., 2022; Siscawati et al., 2017). This combination of local and scientific knowledge creates a co-production model of knowledge, strengthening the capacity of Social Forestry groups to protect forests while developing local economies. This shows that the epistemology of Social Forestry is hybrid, combining community wisdom, modern science, and state governance.

In addition, through the analytical approaches used in this study, including literature review and thematic analysis (Creswell & Creswell, 2018; Krippendorff, 2013), suggests that the security stability of countries depends on adequate knowledge of the relationship between community well-being, access to ownership, and ecosystem health (Banjade et al., 2016; Erbaugh, 2019; Halomoan et al., 2025).

Axiologically, Social Forestry contains moral values and social goals that are in line with the non-military defense paradigm. This dimension of values includes public benefit (Bentham, 1996), intergenerational responsibility for the environment as emphasized by (Jonas, 1984), and collective virtue in building community harmony as described in Aristotelian ethics. These values show that strengthening people's welfare, protecting strategic resources, and social stability is not only technocratic achievements, but moral actions relevant to national security.

In the context of multidimensional non-military threats, such as environmental vulnerability, economic inequality, land conflicts, and disruptions to the food–energy–water chain (Caballero-Anthony, 2016) (Hejnowicz et al., 2022; Hogeboom et al., 2021), axiology of Social Forestry is an important foundation for the universal defense strategy. Through forest-based economic empowerment, community capacity building, and inclusive governance, Social Forestry functions as a risk mitigation and regional stabilization mechanism (Halomoan et al., 2025).

Thus, the ontology–epistemology–axiology review provides a more complete understanding that Social Forestry is not just a forestry program, but a philosophical construct that strengthens the relationship between resource sustainability, community welfare, and national resilience. This approach affirms the position of Social Forestry as one of the strategic instruments to achieve Asta Cita 2 in the 2025–2029 RPJMN, especially in people's economic transformation, strengthening socio-ecological resilience, and developing community-friendly non-military defense.

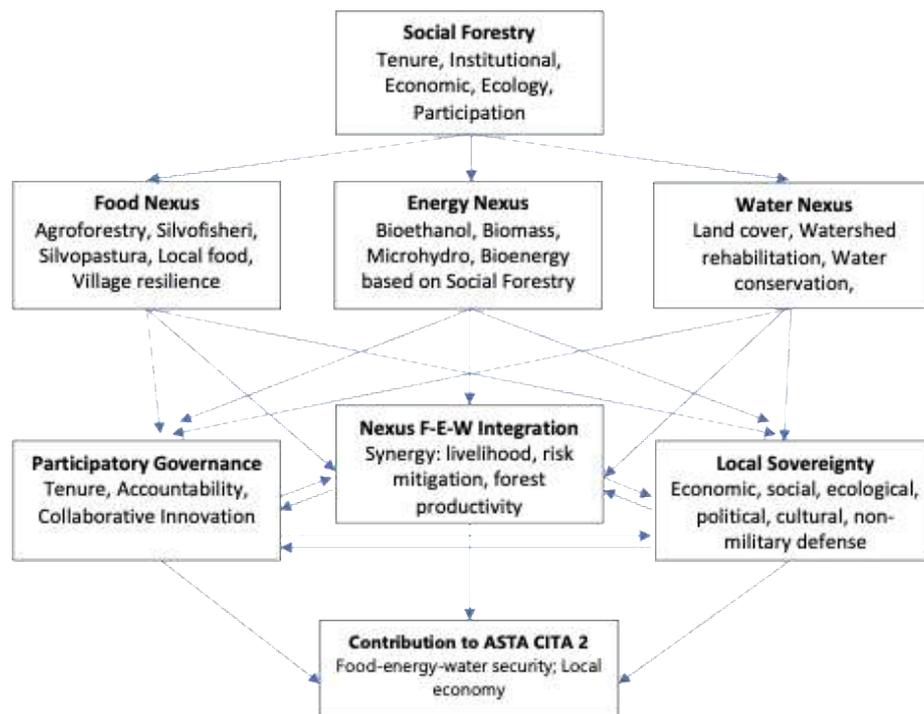
Social Forestry Prospects to Support Asta Cita 2 RPJMN 2025–2029

Figure 2. Social Forestry Scheme and Nexus F-E-W in support of ASTA CITA 2

The analysis of the results shows that Social Forestry has a strategic position in supporting the achievement of Asta Cita 2 RPJMN 2025–2029, which emphasizes people's economic transformation and strengthening welfare through the use of village-based resources. Various studies show that Social Forestry can be a motor for accelerating village development because of its ability to unite economic, ecological, and social interests in one sustainable management practice. The studies by (Putraditama et al., 2019; Ramadhan et al., 2025; Santika et al., 2019) prove that Social Forestry groups that have tenure certainty, mentoring support, and market access are able to increase household income and maintain forest cover at the same time. These findings reinforce the argument that Social Forestry can serve as an effective instrument to accelerate the equitable distribution of rural economies.

From the perspective of Food–Energy–Water (FEW Nexus) security, Social Forestry also offers benefits that are in line with national development needs. The importance of ecological–economic integration in maintaining resource systems (Hejnowicz et al., 2022; Hogeboom et al., 2021). Through agroforestry patterns, biomass utilization, landscape-based water management, and community economic diversification, PS groups can strengthen much-needed local resilience in the face of climate change pressures and disaster threats. At this level, Social Forestry plays a role not only as an economic program, but also as an environmental stabilization strategy that supports sustainable development.

Social Forestry also has great relevance in resolving agrarian conflicts. A number of literature (Banjade et al., 2016; Erbaugh & Nurrochmat, 2019; Sahide et al., 2020) show that land tenure conflicts have become a chronic obstacle to economic development in many forest areas. By providing legality of access and institutional management to the community, Social Forestry acts as a de-escalation mechanism for conflict and a means of strengthening the country's social legitimacy. Within the framework of nonmilitary security policies, successfully resolving agrarian conflicts can prevent social fragmentation, improve community cohesion, and strengthen regional stability. This is in line with multidimensional threat studies that place social inequality and ecological vulnerability as part of potential national security disruptions (Caballero-Anthony, 2016).

Furthermore, the prospects of Social Forestry are supported by the strength of the values contained in community-based management practices. The value of environmental use, local wisdom, and inter-generational responsibility affirmed by (Anālayo, 2021; Jonas, 1984; Panda, 2025) make Social Forestry an ethical platform that is in line with the sustainable development approach. On the other hand, the integration of local and scientific knowledge creates a hybrid epistemology that enriches the capacity of communities to make decisions, as discussed through the hermeneutic framework of Gilpin, Gadamer, and the study of community-based forestry practices (Michon et al., 2007; Wrathall, 2010).

From a policy perspective, the study identifies three forms of innovation that are needed to maximize this contribution. First, the establishment of cross-sectoral collaborative governance in the form of co-governance to bridge policy fragmentation that has been hampering the effectiveness of social forestry implementation (Erbaugh & Nurrochmat, 2019; Myers et al., 2022). Second, strengthening community institutions through ecological performance-based incentives, including agroforestry-based social forestry, PHBM, and tenure reform schemes, which have been proven to increase socio-economic resilience (Banjade et al., 2016; Fay & De Foresta, 2000; Fujiwara et al., 2012). Third, the integration of PS in the country's defense strategy through non-traditional security approaches, which recognize that national stability is highly dependent on the resilience of rural communities and the sustainability of basic resources (Kennedy, 2024).

With these philosophical, empirical, and policy foundations, Social Forestry has a very wide opportunity to become the main driver of Asta Cita 2. Its contribution is not only to improving the village economy, but also to strengthening local identity, sustainable ecosystem management, social development, and regional stability. However, this great prospect can be realized if there are consistent institutional reforms, strengthening of mentoring capacity, economic incentives, cross-sector integration (including defense, environment, and regional development), and more accurate data-driven monitoring systems. Thus, Social Forestry can develop as a pillar of national development transformation that not only improves people's welfare but also strengthens the country's resilience in a broader sense.

CONCLUSION

This study concludes that Social Forestry has a strategic role in strengthening local sovereignty through the integration of forest management with the Food–Energy–Water Nexus (FEW). The study shows that community-based management models not only improve welfare and management rights, but also strengthen social stability, ensure ecosystem sustainability, and create a resilient green economy foundation at the village and forest level levels. These findings are fully in line with Asta Cita 2's priorities, which emphasize improving people's welfare, poverty reduction, and inclusive and equitable regional development.

Based on the overall findings of the research, integrative strengthening is needed that unites social forestry policies with the development of the Food–Energy–Water Nexus at the village level through agroforestry optimization, the use of biomass as a renewable energy source, and the protection of water catchment areas as the foundation of ecological sustainability. This effort must be accompanied by institutional capacity building and tenure guarantees so that communities have legal certainty and institutional strength to develop various forest-based economic initiatives in a sustainable manner. In addition, closer cooperation between government agencies, research institutions, the business sector, and local community organizations is needed to accelerate green innovation, map potential resources, and expand market networks for environmental products and services.

The entire process requires transparent, accountable, and participatory governance so that the distribution of economic, social, and ecological benefits can be felt fairly by the forest management community. To ensure long-term sustainability, it is also necessary to develop multidisciplinary research that combines ecological studies, political economics of natural resources, and non-military defense perspectives, in order to produce a forest area management model that is adaptive, resilient, and in line with the direction of national development 2025–2029.

Overall, this study confirms that Social Forestry, when combined with the Food–Energy–Water Nexus approach, is an effective non-military development and defense instrument. It strengthens local sovereignty, improves welfare, maintains ecological sustainability, and fully supports the achievement of Asta Cita Priority 2 for the realization of inclusive and sustainable national resilience.

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