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RESEARCH ARTICLE

Social forestry for a good life? The uneven well-being benefits of Indonesia's social forestry scheme

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Abstract

1. The Indonesian government has scaled up its devolution of forest management to local communities in the form of social forestry, with the aim of improving forest management while delivering nature-based well-being (including livelihood) benefits for local communities. We investigate the varied well-being impacts of social forestry management rights—an expression of human–nature relationships—and how these are distributed among different social groups in Indonesia.
2. In a study conducted in four different village locations with social forestry management right permits in Indonesia, we employed a mixed methods approach comprising interviews (semi-structured and life story) ($n = 80$), focus group discussions (in-person and online) ($n = 44$) and a survey of 100 households in each site ($n = 400$). We identified local conceptualizations of, and priorities for, well-being.
3. Our findings indicate that access to land and livelihood capitals that support productive and diverse livelihoods is central to well-being. Good social relations are crucial for securing and utilising land to sustain a livelihood, and in turn, to achieve a good life. Material and social elements underpin other interconnected well-being dimensions, including being able to perform religious pilgrimages, contribute to cultural and spiritual practices and provide security for one's children's future.

4. Further, we found that social forestry secured land access, improved access to agricultural inputs and information, and diversified livelihoods of those who knew they were involved in social forestry—aligning particularly with material well-being priorities valued locally. However, disparities in access to information meant that most villagers (67%) in areas granted social forestry permits knew little about the scheme. Active social forestry participants were from more well-off households, while many less privileged people faced exclusions to participation and benefits. Unclear institutional processes, exclusionary enrolment practices and limited access to information hindered social forestry's potential to contribute to well-being more broadly, risking increasing social inequalities locally.
5. *Policy implications*: Our findings suggest the need for measures to ensure well-being benefits from social forestry are distributed equitably. This is essential to avoid exacerbating social inequalities and to foster greater support for forest protection.

KEYWORDS
a good life, community forestry, community-based forest management, hutan desa, hutan kemasyarakatan, Indonesia, social forestry, well-being

1 | INTRODUCTION

Local communities in Indonesia have long had close connections with forests, relying on them for subsistence, income generation and cultural connection (Dove, 2011; Peluso, 1992). Over several decades, however, Indonesian government policies have restricted community access to forests through industrial land use and conservation enclosures (McCarthy et al., 2012). Recently, the government has also increased its devolution of forest management rights through social forestry (SF), or community-based forest management. SF engages Indigenous and rural households in the management and protection of their forests while allowing for some utilization of forest resources and land for cultivation (Putraditama et al., 2021; Rakatama & Pandit, 2020). In adopting SF, Indonesia's central government's aim is twofold: to enhance management to protect forest ecosystems and to improve local livelihoods and well-being (MoEF, 2016).[1] This aligns with common-pool resource management scholarship, which argues that granting people sufficient control over their local forests fosters sustainable management and livelihood improvements (Agrawal, 2001; Ostrom, 1990). However, outcomes depend on social–ecological contexts, such as forest conditions (De Royer et al., 2018; Li, 2002) and local gendered norms influencing resource access (Agarwal, 2001). For SF to succeed, benefits must align with local priorities and aspirations for a good life and their desired relationships with forests (Sheil et al., 2006; Wali et al., 2017). Despite its importance, little recent research in Indonesia has investigated how SF contributes to well-being in ways that align with local priorities and aspirations.

Recent studies on SF in Indonesia have explored community-level impacts, using global tools and indicators or village-level government socio-economic data to highlight SF's well-being impacts (Meijaard et al., 2021; Morgans et al., 2024; Santika et al., 2017, 2019). For example, research comparing village sites with and without SF permits in Kalimantan and Sumatera identified the socio–ecological and regulatory contexts where SF is most likely to have a broad beneficial outcome (Santika et al., 2017, 2019). While less is known about how benefits are distributed *within* village communities, women-headed households and marginalised groups often face exclusions to accessing benefits (Anugrah et al., 2022; Yuliati et al., 2023). Common tools for assessing well-being often focus on tangible, material metrics like income and assets (Rasolofoson et al., 2017), overlooking the complex, multidimensional relationships between forest-dependent communities and their environments. Also overlooked are broader understandings of a 'good life' that go beyond material fulfilment of basic needs—such as freedom and autonomy to adopt meaningful, diverse and resilient livelihoods, or connections to place, nature, community and culture (Beauchamp et al., 2018; Wali et al., 2017). To truly examine SF's impact, more nuanced analysis is needed in order to reflect local definitions of well-being and diverse experiences within communities (Woodhouse et al., 2015).

With this as context, we sought to address the following research questions:

1. What are local people's priorities and preferences for a good life in rural forested communities in Indonesia?
2. How does securing a social forestry permit contribute to local women's and men's ability to fulfil their priorities for a good life?

[1]This is the regulation detail: Ministry of Environment and Forestry (MoEF) regulation no. P.83/2016 about Social Forestry.

2 | CONCEPTUAL FRAMEWORK

Drawing on community-based forest management studies and work exploring multiple dimensions of well-being, we developed a conceptual framework for understanding the connections between social forestry and well-being in a rural context.

2.1 | Defining well-being in a social–ecological context

The Sustainable Livelihoods Framework (SLF) was originally developed to define how sustainable livelihoods are constituted in resource-dependent contexts (Ellis, 2000). It also offers insight into community-based forest management by illustrating how livelihoods are interconnected with ecosystem services, just as they are influenced by social relations (Agarwala et al., 2014), thereby impacting well-being outcomes. SLF underscores that a person's ability to sustain their livelihoods hinges on their access to five domains of capital: material, social, physical, natural and financial (Ellis, 2000; Scoones, 2010, 2015). Structural factors (e.g. institutions and policies) intertwine with social relations (e.g. a person's relative social power, based on factors such as their gender, age or ethnicity) to shape who can access and benefit from livelihood capitals (Ribot & Peluso, 2003; Scoones, 2015). Forest access restrictions compel resource-dependent communities to adapt and diversify their livelihoods. However, gendered social norms have limited poorer women's access to alternative income-generating strategies available to wealthier men (Sunderland et al., 2014; Toumbourou & Dressler, 2021).

While SLF helps to clarify the objective and relational dimensions of well-being, it arguably pays less explicit attention to how well-being is experienced subjectively (Diener et al., 1985). The Well-being in Developing Countries (WeD) project emphasises the importance of subjective evaluations of people's goals and the processes they engage in to constitute a good life (McGregor & Sumner, 2010). WeD outlines three interacting dimensions for assessing well-being: (1) material—what you have: the resources, assets or other material things necessary for fulfilling current and future needs and aspirations; (2) relational—what you can do with what you have: the social relationships that influence how well one can utilise material things (e.g. good social relations can facilitate access to reciprocated labour to clear and plant land); and (3) subjective—how you feel about what you have and can do: reflecting an individual's feelings about their life and circumstances (McGregor & Sumner, 2010; Woodhouse & McCabe, 2018). These three dimensions vary across power-laden social and environmental contexts, leading differently positioned people to have varying experiences of well-being over time and place (Betley et al., 2023).

To link well-being with ecosystem services, we also draw on Voices of the Poor (Naraya et al., 2000), a framework often used to understand well-being in rural resource-dependent contexts (e.g. Abunge et al., 2013; Beauchamp et al., 2018; Woodhouse et al., 2015). It identifies five domains of well-being: material assets, bodily well-being and health, good social relations, security (including secure access to natural and other resources) and freedom of choice and action. The Millennium Ecosystem Assessment (2005), a comprehensive, socio-ecological model of well-being, adds cultural and spiritual dimensions for a holistic view of well-being. We also consider the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services' (IPBES, 2022) Values Assessment typology, which builds from the MEA, linking people's diverse values and relations to nature and its associated benefits. It pushes for recognition, integration and prioritisation of diverse values of nature—beyond economic realms—to inform more inclusive sustainable development policies and practices. Following Beauchamp et al. (2018), we combine these into a framework of six well-being domains, which are experienced through three material, relational and subjective dimensions of well-being (Figure 1).

3 | CONTEXT

3.1 | Social forestry in Indonesia

While SF dates back to Indonesia's colonial era, it expanded in the post-1998 *reformasi* era, gaining momentum with the Joko Widodo administration's 2016 initiative to allocate 12.7 million hectares (10% of state forests) to local communities by 2030 (Moeliono et al., 2023). While Indonesia has five SF schemes, more than half of the permits issued by 2024 were for community forestry (*hutan kemasyarakatan*, HKm) and village forests (*hutan desa*, HD) (MoEF, 2024).[2] Given their predominance and similarity in structure, we focus on these two SF permits in this study.

HKm permits are issued to specific farmers or community groups that establish an institutional structure and forest management plan, while HD permits are rights held collectively by the village, granted to village management institutions under village government administrations (De Royer et al., 2018). Both are 35-year management rights (with a potential 35-year performance-based extension) granted for production and protection forests, but not conservation forests (Rakatama & Pandit, 2020). The state remains the landowner and controls local access and use through zoning (Myers et al., 2017). SF areas are zoned into two use types. The first type, utilisation areas (*zona pemanfaatan*), allows cultivation (excluding palm oil) on historically cultivated land.[3] The second type, protection areas (*zona perlindungan*), prohibits cultivation but allows the collection of some non-timber forest products (De Royer et al., 2018). Timber harvesting is permitted in production forests (with an additional permit).

[2]The Indonesian government's three other social forestry initiatives are community plantations (*hutan tanaman rakyat*, HTR), forestry partnerships (*kemitraan kehutanan*, HKL) and customary forests (*hutan adat*, HA). In September 2024, 8526 permits were allocated, including 1585 HD permits, 2870 HKm permits, 2829 HTR permits, 1111 HKL permits and 131 HA permits (MoEF data, 2024).

[3]See Ministry of Environment and Forestry regulation no. 8/2021: Article 5, Paragraph 6: Utilisation areas for social forestry management in protected forests; Article 5, Paragraph 10: Utilisation areas for social forestry management in production forests. Palm oil cultivation is prohibited in SF areas under Government Regulation no. 23/2021, article 243, paragraph 2.

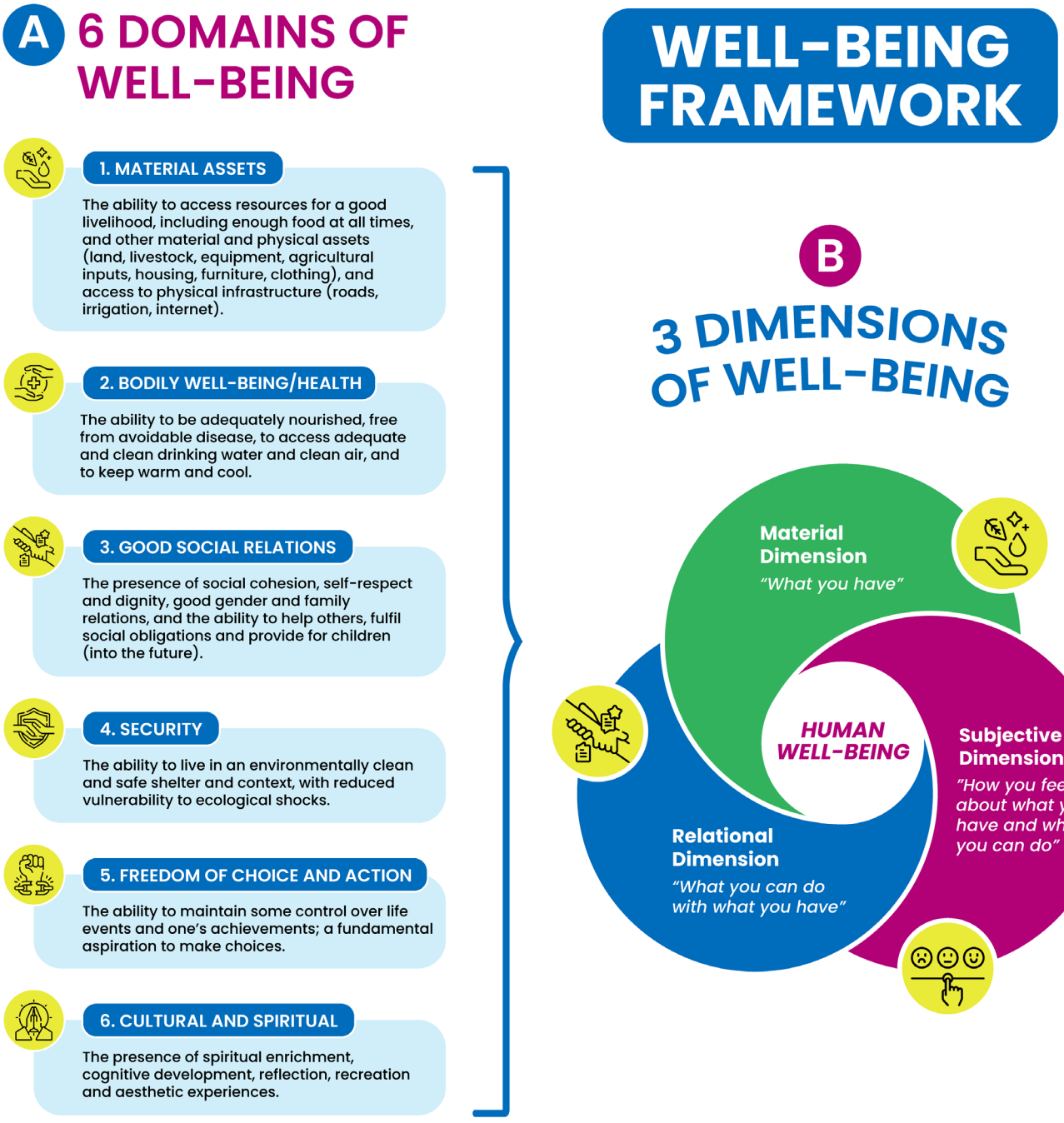

FIGURE 1 The compiled well-being framework guiding this study. It represents six domains of well-being (informed by Voices of the Poor and the Millennium Ecosystem Assessment) (section A), each experienced through three material, relational and subjective dimensions of well-being (section B).

In Indonesia, SF effectiveness faces myriad challenges. The complex permit process often forces communities to rely on external actors, like non-government organisations (NGOs) or governmental agencies, for technical assistance (De Royer et al., 2018; Sahide et al., 2020). Furthermore, SF management bodies are often dominated by well-connected village elites (often men), and there is limited funding for community engagement to support the inclusion of women and marginalised groups (Anugrah et al., 2022; De Royer et al., 2018; Yuliati et al., 2023). Forests granted with SF permits have in many places already been cleared or degraded by industrial activities, and local communities' traditional forest use practices and management knowledge have been severed by historical state access restrictions (De Royer et al., 2018; Li, 2002).[4] Technical assistance from government and NGOs mainly focuses on the permit application stage, with less community support

[4]The 1967 Basic Forestry Law (no. 5/1967) designated three quarters of Indonesia's forests as state-controlled forests, with the remaining area designated for conversion to industrial land use. The 1999 Forestry Law (no. 41/1999) and subsequent regulations divided state-controlled forests into zones for limited timber production, industrial logging, ecosystem protection and biodiversity conservation.

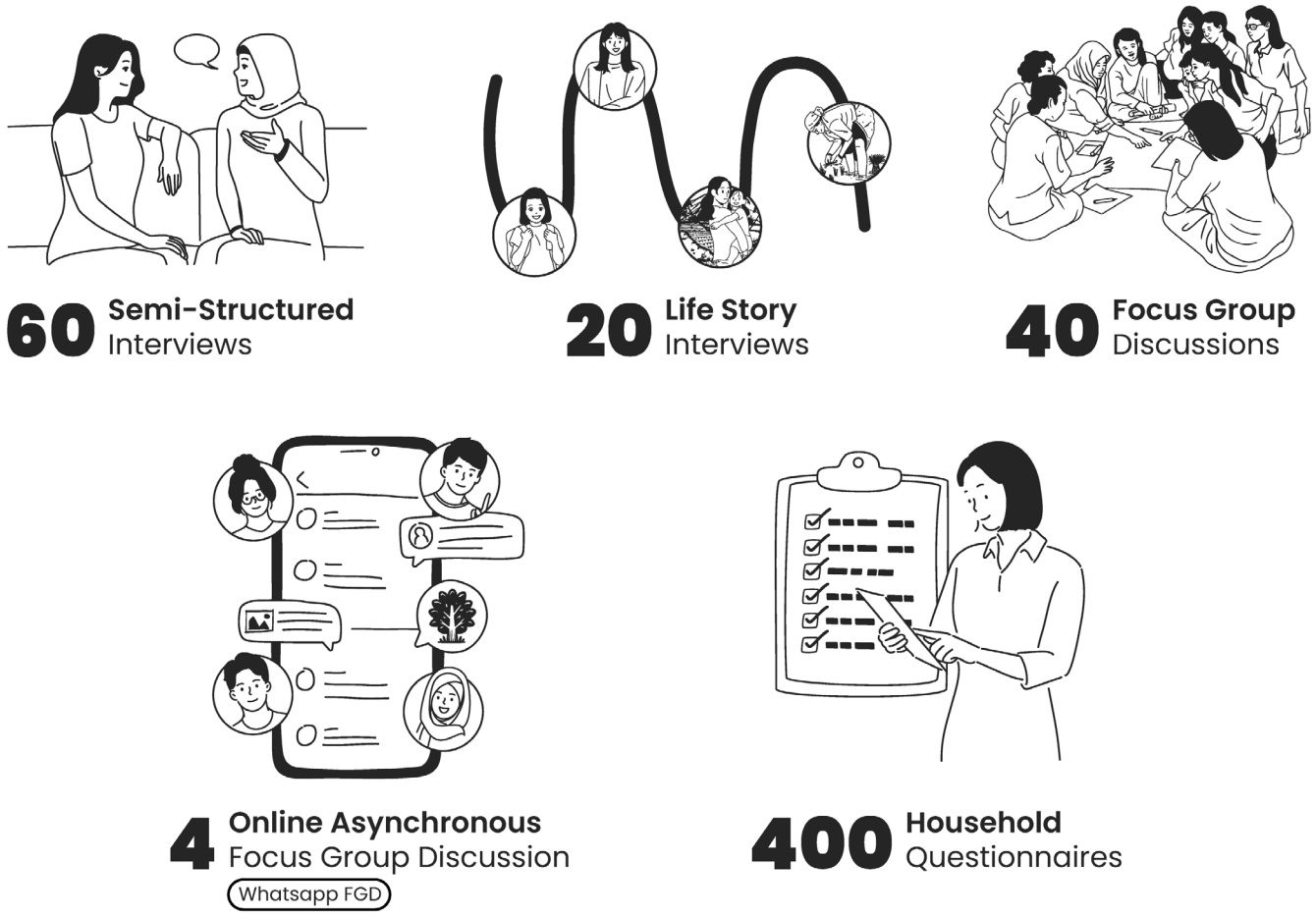

FIGURE 2 Illustration of the methods employed in this study.

post-permit (e.g. such as for social enterprise groups that process and sell forest products or for forest restoration activities) (Erbaugh, 2019; Galudra, 2019; Moeliono et al., 2023). It is thus critical to explore how SF contributes to local well-being, in what ways and for whom.

4 | METHODS

This study is guided by a mixed-method, community-based research design that values the diverse experiences and perspectives of local women and men (Clark & Creswell, 2008). To capture the multidimensional and context-specific understandings of well-being in forested areas and its linkages with forest ecosystem services and SF management rights, as advocated for by Carmenta et al. (2023), we utilised multiple research methods (illustrated in Figure 2). We disaggregated data to the lowest possible level by considering ethnicity, wealth and gender differences across households that did and did not participate in SF.

We conducted 15 semi-structured interviews in each village ($n=60$), targeting diverse social groups, including men and women of different ethnic and wealth groups, from SF participating and non-participating households. Interviews gathered insights on the village context; SF arrangements and participation; forest access and use; livelihood activities; and gender dynamics. An additional five life story interviews at each site ($n=20$) provided insight into how change was experienced by differently positioned women and men over time.

We held focus group discussions (FGDs) with three groups in each village: (1) all-women SF-participants, (2) all-men SF-participants and (3) a mixed group of non-participants. Each group participated in two sessions to first identify and then rank well-being priorities. Online asynchronous FGDs were also conducted via WhatsApp over 9 weeks, to discuss what constituted a good life in personal, familial, social, livelihood and forest contexts. Being familiar forms of communication, this provided high 'ecological validity' (Colom, 2022) and offered a strategy to include those unable to attend in person. These insights helped refine well-being priorities for the second face-to-face FGD, which were then added to the household survey. FGD and interview transcripts were analysed using a hybrid thematic approach, with initial inductive coding to identify codes followed by deductive categorisation based on our well-being framework (Clarke et al., 2015). All interviews and FGDs were largely conducted in Indonesian, with transcripts later translated into English for analysis. In cases where Indonesian lacks precise terms or nuance,

local languages were used to enhance meaning and clarity, particularly where respondents were more comfortable using their local language.

We administered 100 household questionnaires in each of the four villages ($n = 400$) (questionnaire provided at Supplementary Material S1). As the village population sizes varied significantly, this sampling size ensured sufficient representation, capturing substantial portions of smaller villages like Sungai Garong while reflecting the socio-economic diversity of larger ones like Banyusoco (for village household size see Table 1, column 2; Shively, 2011). As the number of households involved in SF is limited, we purposively surveyed all households participating in SF. For comparison households, we selected the closest neighbours to SF-participant households to survey as the non-SF participant group. This approach aligns with Schelling's (1969) model, which suggests that in rural areas, individuals tend to reside near others with shared characteristics, such as ethnicity, culture or socio-economic status, leading to social and spatial clusters. By selecting neighbours of SF households who were non-SF participants, we better ensured that comparison households shared similar demographic and socio-economic status with SF participants, enhancing the validity of the comparative analysis. Questionnaires were written and conducted in Indonesian. Data collected are presented as descriptive statistics.

We also analysed various publicly available government documents. This included *Potensi Desa* data—a socio-economic dataset completed by village administrations for Indonesia's Central Bureau of Statistics—providing an overview of village conditions and facilities, and decree letters formalising SF permits.

We obtained ethics approval from the University of Melbourne (Reference number: 2023-27637-44427-4) and Indonesia's National Research and Innovation Agency (BRIN) (Reference number: 547 /KE.01/SK/08/2023) before commencing fieldwork. We followed a 'nested' consent process that respected, and first sought consent from, local administrative and customary leaders in each village in alignment with local values. This preceded and facilitated individual consent (through written or verbal Plain Language Statements in Indonesian or a local language) from each participant.

5 | CASE STUDY SITES

Our study examines four villages (see Figure 3 map) across Indonesia that had obtained SF permits in the last 5–17 years. Two villages had HD permits (Sungai Garong, in West Kalimantan province and Tanjung Agung, in South Sumatra province) and two had HKm permits (Banyusoco, in the special region of Yogyakarta and Pundilemo, in South Sulawesi province). The four village sites were selected based on a criterion of sites where SF permits (HKm or HD) had been issued, SF management bodies formalised and SF enterprise groups (KUPS) established. Site selection also considered forest functions (production and protection), representation of four major islands with high deforestation rates and varying levels of women's SF

TABLE 1 Study village characteristics and predominant livelihoods.

Village	Number of households in village	Percentage (%) of households with land-and-forest livelihoods	Average combined landholding size (forest and non-forest) in hectares	Land-based livelihood activities	Percentage (%) of households with off-farm income	Off-farm income types	Dominant religion
Sungai Garong	157	79	9.86 (min 1, max 122)	Dry rice, rubber, oil palm smallholdings and edible birds' nest cultivation	21	Private sector and government employees, teachers and small shop owners	Catholic
Tanjung Agung	400	96	1.96 (min 0, max 8)	Wet rice, vegetables, chayote, pumpkin, beans, jicama, ginger, coffee, avocado and durian trees and fish aquaculture.	3	Government employees, teacher	Muslim
Pundilemo	416	88	1.72 (min 0.01, max 16.8)	Wet rice, cocoa, peanuts, white corn, cassava, avocado, sweet potato, chillies, goats and poultry	12	Teachers, private sector and government employees, tailors and entrepreneurs	Muslim
Banyusoco	1500	67	0.41 (min 0, max 2.07)	Dry rice, teak hardwood, soy, cassava, peanut, *secang* (a tree bark used as a traditional herb) and wild grass	32	Teachers, small shop owners, private sector and government employees.	Muslim

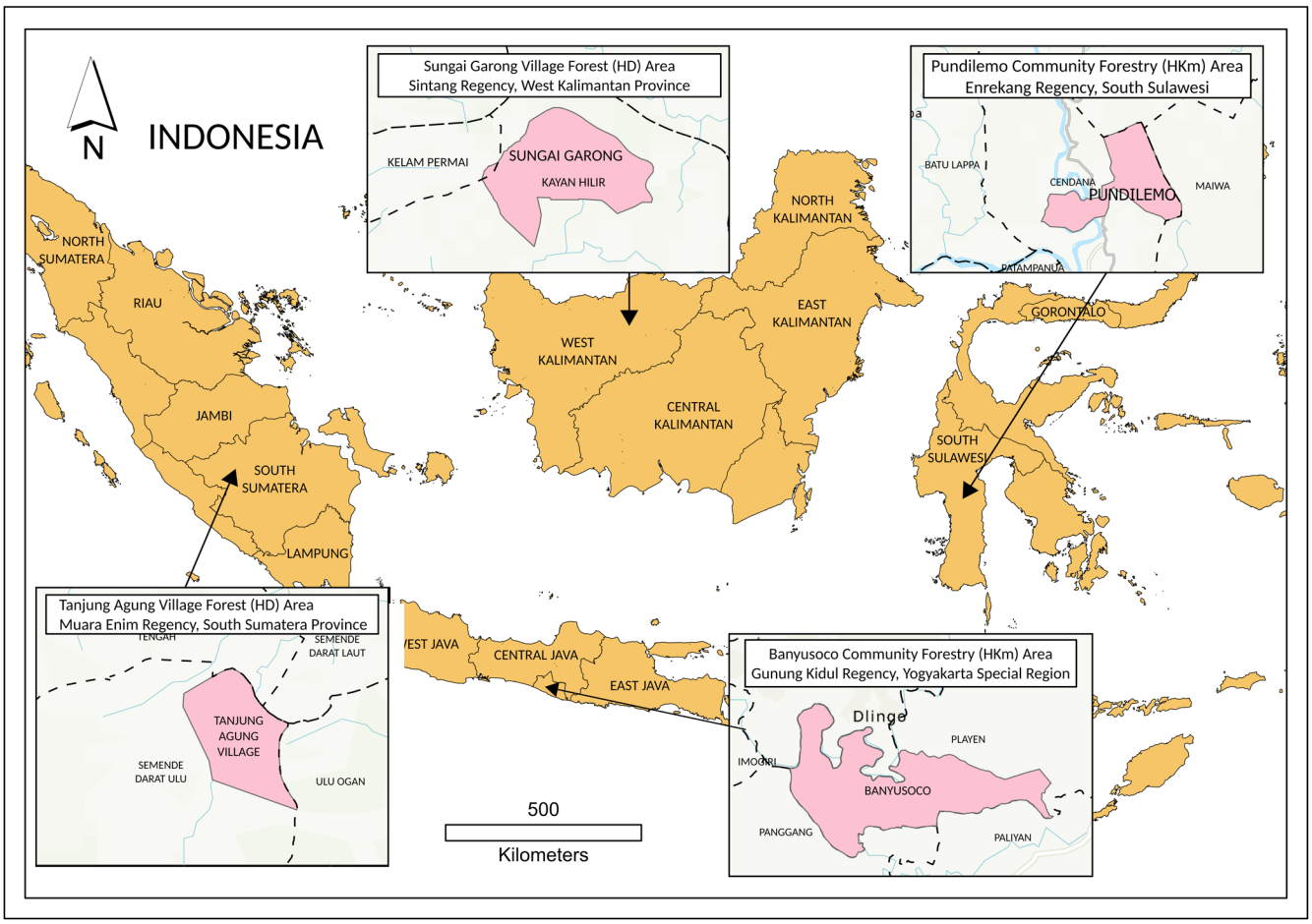

FIGURE 3 Map of four village locations in Indonesia.

participation. Table 1 outlines the characteristics and predominant livelihoods of each village.

5.1 | Village 1. Sungai Garong

In Sungai Garong, the Dayak Inggar Silat people's livelihoods tend to combine dry swidden rice farming, intercropped with vegetables and fruit trees, with rubber cultivation (and other activities: see Table 1), and fishing, with the use of communal agroforestry (*Tembawang*) gardens, which provide fruits, vegetables, honey and other resources as well as timber for house construction (with customary leaders' permission).

5.2 | Village 2. Tanjung Agung

In Tanjung Agung, the Indigenous Semendo people have ancestral claims to the region. Livelihoods centre on wet irrigated rice (*sawah*) mostly for consumption, and coffee as a cash crop alongside other commodities (see Table 1). Semendo culture follows a matrilineal inheritance system, where the eldest married daughter (*tunggu tubang*) has the responsibility to manage but not sell household assets and land (Arifin et al., 2023).

5.3 | Village 3. Pundilemo

In Pundilemo, the dominant Massenrempulu ethnic group has historical claims to land dating back 400 years (Lampe, 2022). Traditionally, land inheritance was matrilineal but is now passed equally to male and female children. Rainfed paddy rice is the predominant form of subsistence, with cocoa as a predominant form of cash crop alongside other commodities (see Table 1). The (all-male) forest farmers' group distributed land in the HKm utilisation area based on Massenrempulu families' historical claims to mountainous forest areas first cultivated by their ancestors, who sought refuge there from political conflicts in the mid-1900s (Lampe, 2022). However, due to its remote, mountainous terrain, cultivation in the HKm is limited.

5.4 | Village 4. Banyusoco

In Banyusoco, the dominant Javanese ethnic group has resided in the area for generations, though state ownership of forests since Dutch colonial times (from 1816) meant that government permissions had to be obtained to cultivate small areas. In 1998, widespread timber looting resulted in widespread forest degradation. Dry-land rice,

corn, soy, peanuts, wild grass (for cattle feed), herbs, teak cultivation and cattle are the main forms of land-based livelihood (see Table 1). Several forest farmers' groups were formed in the village in 2000 and officially recognised in 2007, with Sedyo Rukun being the most active and the focus of this study.

6 | RESULTS

6.1 | Local well-being priorities

The results are presented in two parts. The first outlines well-being priorities across six domains for the four village sites (summarised in Table 2). The second examines how SF has impacted these domains. The material and relational dimensions of well-being (see Figure 1) are addressed as overlapping with two well-being domains, while the final sub-section focuses on subjective well-being—reflecting the interconnections between well-being domains.

6.2 | Material assets

Land access and ownership—the foundation of a productive and diverse agricultural livelihood—are the most significant aspects of well-being across all four sites (Table 2, column 2). In Sungai Garong, large landholdings are key to well-being, supporting a diversified livelihood portfolio (which links to food and income security). In Tanjung Agung, land ownership similarly supports diverse agricultural activities for food and income security. Coffee gardens and *sawah* plots meet daily needs and long-term goals (e.g. funding children's education and religious pilgrimages). Access to resources like fertilisers, roads and coffee processing infrastructure is also key for productive yields. In Pundilemo, where land holdings are smaller, less emphasis is placed on formal land ownership, with practical land use of greater importance. Here, agriculture sustains livelihoods, and prosperity is tied to successful farming and stable prices; however, declining landholding sizes are raising concerns about future farming prospects, especially among youth. In Banyusoco, farmers rely on dry rice fields and long-term teak harvests for income. While agricultural diversification contributes to well-being, land ownership has less significance than in other villages, possibly due to state control over forest land (therefore, farmers focus on other aspects of well-being). Whether through ownership or access, land is essential for securing productive subsistence and income-generating activities, which in turn supports the attainment of other well-being dimensions.

Other material elements of well-being include roads to access markets and jobs (Sungai Garong, Pundilemo and Tanjung Agung); internet signal and a phone to maintain social and familial connections and access information; owning a 'permanent' home (with a concrete slab foundation), having furnishings and owning a car or motorbike (Tanjung Agung); waste disposal facilities, public water supply, street lighting and electricity; and savings in the form of gold or livestock (Banyusoco).

6.3 | Good social relations

Respondents at all sites consider good social relations, particularly those that enabled access to and the ability to benefit from land, to be essential for well-being (Table 2, column 3). In Tanjung Agung, harmony within the family is highly valued, with respondents emphasising the importance of reciprocal labour to support farming and other community activities, and sharing their yield with family and community, as well as social activities like karaoke. Remaining on good terms with family shapes access to family assets, including land.

In Sungai Garong, community social relations are similarly tied to secure land access and reciprocal labour for farming and other aspects of life (e.g. collectively preparing for weddings and funerals). In Pundilemo, reciprocal labour is important for farming activities and community-focused activities, such as housebuilding, weddings and *aqiqah* (celebrating newborn babies). A harmonious social life depends on sharing resources like vegetables, fruits, or other food, and following the advice and practices of elders. In Banyusoco, living well is summarised by the phrase 'titi toto tentrem yen ayem' (organised, sufficient, and peaceful living). Regular work, a secure income, no debt and good relations within the family and community create a sense of fulfilment and peacefulness.

6.4 | Bodily well-being and health

Good physical health is an important dimension of well-being across all sites (Table 2, column 4). In Pundilemo, many link this to adequate sleep and good mental health maintained by social gatherings and leisure activities. In Sungai Garong and Tanjung Agung, people prioritise good health facilities and sufficient income to cover health needs. In Banyusoco, maintaining health into old age to continue supporting one's family is emphasised, with sport playing a role in maintaining bodily and mental health.

Bodily well-being is often associated with time spent in forests and waterways, which provide recreational, aesthetic and nutritional benefits. In Sungai Garong, women travel together to forage for leafy vegetables in nearby forests and river edges and fish in the streams. In Pundilemo, group activities in forests like camping, hunting and foraging offer physical, nutritional and mental health as well as material and social benefits. Older women focus on collecting firewood and forest products like coconut leaves, fruits, turmeric, candlenuts and honey, while younger women emphasise the forest's aesthetic value and gathered food like *gadung* (tubers), leafy vegetables, and mushrooms.

6.5 | Security

Safety from landslides and erosion is a well-being priority in mountainous landscapes (Tanjung Agung, Sungai Garong and Pundilemo) (Table 2, column 5). Respondents at all four sites also emphasise

TABLE 2 Well-being priorities at study sites across six dimensions of well-being.

Village	Material assets	Good social relations	Bodily well-being and health	Security	Freedom of choice and action	Cultural and spiritual
Sungai Garong	Land (access) for farming food and rubber Diverse income sources Infrastructure: passable roads connecting farms to markets, phone reception Stable rubber prices Fishing in rivers, foraging leafy vegetables, fruit and rattan, harvesting timber for housebuilding Owning a good knife and machete; and mobile phone	Reciprocal labour: farming, housebuilding, processing local commodities and other shared village activities	Good health, and good health facilities for one's family Sufficient income to cover health-related needs Health and bodily benefits of forest and waterways—aesthetic and recreational enjoyment	Safe from landslides and erosion Diverse livelihood sources for food and income security	Having flexibility and autonomy to choose livelihood activities	Customary and religious strength and belief Participating in Church congregation gatherings
Tanjung Agung	Land (access and ownership) for farming food and coffee Diverse income sources Agricultural inputs: fertilisers and pesticides Infrastructure: irrigation, quality roads that connect farms to markets and internet access Extension information and support Coffee processing infrastructure Stable or improved coffee prices Owning a furnished home with concrete slab foundations Possessing a car or motorbike Foraging and hunting wild boar in forests	Reciprocal labour: farming, housebuilding and processing local commodities Harmony within the family, shared food, reciprocal shared labour and social activities like karaoke	Good health, and good health facilities for one's family Sufficient income to cover health-related needs Access to clean water from forest springs	Safe from landslides and erosion Diverse livelihood sources for food and income security	Having flexibility and autonomy to choose livelihood activities Participation in leisure activities	Having a local mosque for worship and contributing to its renovation To be able to go on *hajji* (religious pilgrimage) Cultural traditions such as the Semendo *'Namat'* wedding ritual Cultural expression involving playing music and gathering with family, friends and community
Pundilemo	Land (access) for farming Stable prices for cash commodities Having a good house Infrastructure: roads connecting farms to markets and internet access Owning a machete and a mobile phone Foraging in forests, gardens and around waterways (i.e. firewood, coconut leaves, fruits, herbs, candlenut, honey, vegetables and mushrooms)	Reciprocal labour: farming, housebuilding, preparations for weddings and other cultural festivities Helping family and neighbours, sharing vegetables, fruits or cooking Shared meals enjoyed in the forest Following the advice and practices of elders	Good health, adequate sleep, and daily activities Mental health maintained through social relations Health and bodily benefits of forest and waterways—communal activities Serenity of forest landscapes	Safe from landslides and erosion Diverse livelihood sources for food and income security	Having flexibility and autonomy to choose livelihood activities Participation in leisure activities	Being grateful and being close to God Cultural traditions centre forests and water ecosystems, and involve the use of foraged forest products Water resources are of particular significance; an annual ritual (*mindio saluran tellu*) gives thanks for the continuous flow of water provided by the forests

(Continues)

TABLE 2 (Continued)

Village	Material assets	Good social relations	Bodily well-being and health	Security	Freedom of choice and action	Cultural and spiritual
Banyusoco	Land was less emphasised Regular work and stability of income Savings—gold, jewellery, cattle and goats Sufficient food stores Having no debt	Living in an organised, sufficient and peaceful condition Harmony; supporting children or family members, and peaceful co-existence within the family and the community	Maintaining health and the ability to work and support one's family into old age	Shared food rituals support food security	Participation in leisure activities	Gathering the family during Eid holidays '*Labuhan merti wono*' ceremony to give thanks for produce from the forest

food security and the need for diverse livelihood sources to buffer against ecological shocks.

6.6 | Freedom of choice and action

Freedom and choice are less prominent themes, though across each site there was mention of having time to enjoy leisure: to play sports (volleyball and soccer), play and listen to music, and relax with friends and family over food and coffee (Table 2, column 6). Another emergent theme was a preference for labour autonomy and flexibility in planting preferred crops to allow greater diversity and thus more resilient food security and income generation. Freedom and choice are more limited for those with smaller plots (Banyusoco and Pundilemo) who have to migrate away for work to save enough money to buy land or while waiting to inherit land to enter into farming.

6.7 | Cultural and spiritual well-being

Spiritual and cultural well-being in all four sites encompass the importance of maintaining places of worship, religious practices and cultural traditions (Table 2, column 7). These elements intertwine with social relations and material well-being. In Tanjung Agung, contributing to the maintenance of the local mosque is considered important for well-being. Many aspire to go on *hajji* (religious pilgrimage) and value cultural traditions like the *Namat* wedding ritual, with income generated from land-based livelihoods crucial for achieving such goals. A good life was described by a Semendo man in Tanjung Agung as 'hidup yang ribang'—one rich in meaning and cultural expression, music, family, friends and community.

Religious and customary practices are also important in Sungai Garong, where people attend weekly church services to socialise. In Pundilemo, a key aspect of well-being is gratitude, often expressed by incorporating religious practices in cultural events such as in weddings (*mabacca-bacca*) or celebration after childbirth (*mattuana marassi*). Many of these cultural-religious traditions are connected with forests and water ecosystems. For example, annual traditional rituals in Pundilemo give thanks to the continuous flow of clean water provided by the forests, and other ceremonies incorporate forest-foraged food and materials. Similarly, the *Labuhan merti wono* cultural practice and ceremony in Banyusoco honours forests' contribution to livelihoods, and families also gather during Eid and the Labuhan ceremony to give thanks for agricultural produce. These elements highlight the multifaceted nature of well-being and its interconnected material, social, cultural and spiritual dimensions.

6.8 | Well-being impacts of social forestry

Having outlined the well-being priorities and preferences across the four village sites, here we explore the well-being benefits realised from SF permits (see Table 3 for each site's SF permit characteristics).

TABLE 3 Social forestry permit characteristics.

Village	SF scheme	Year SF permit was formalised	SF permit area hectares	State forest zoning (hectares) overlaying SF area	Members of SF management body and gender balance	Percentage (%) of SF enterprise groups (KUPS) women members	Percentage (%) of households who reported knowing they had with at least one SF participant	Percentage (%) of households with land within SF area (actual SF participant)	Basis of SF land access for users in the SF utilisation area (%)
Sungai Garong	Hutan Desa	9 May 2019	433	165.7 protection forest, including Watershed Protection Zone 267.3 utilisation area	21 (12 women, 9 men), head is a man	80 women	40 (60 not involved)	59	96.5 customary tenure; 3.5 distributed by farmers' groups
Tanjung Agung	Hutan Desa	16 March 2016	1400	789 protected forests, including Watershed Protection Zone 611 utilisation area	9 (all men)	100 women	9 (91 not involved)	38	82 purchased (management rights); 14 inherited; 4 rented
Pundilemo	HKm	29 March 2019	52	52 limited production forest with hardwood harvesting restrictions; including Watershed Protection Zone 18 utilisation area	27 (all men)	54 women	37 (68 not involved)	41	82.4 distributed by farmers' groups (all male); 17.6 inherited
Banyusoco	HKm	12 December 2007	17	17 utilisation area	48 (13 women, 35 men), head is a woman	63 women	46 (54 not involved)	46	93.3 distributed by farmers' groups; 2.2 inherited; 4.5 purchased (management rights)

TABLE 4 Well-being benefits from social forestry permits.

	Material					
Village	Commodities cultivated on SF land	Average SF land area (hectares)	Income generated from SF land (past year) in Indonesian Rupiah	Assistance provided to SF members	Livelihood products from forests	Income generated from SF forests (past year) in Indonesian rupiah
Sungai Garong	Paddy rice Rubber, avocado, coffee and durian Foxtail millet Yellow mangosteen	3.10	7,422,262 (USD 477)	Seedlings: timber and cash crop trees Training	Hardwood timber, fruit and materials for handicrafts	618,000 (USD 38)
Tanjung Agung	Avocado, durian, timber and coffee Pepper Clove	1.05	3,919,600 (USD 252)	Seedlings: fruit and timber trees Cattle Payments for planting trees Training Coffee processing equipment	Game (wild boar) Fruit, resin and edible leaves	326,000 (USD 20)
Pundilemo	Fruit and timber trees: jengkol (*Archidendron jiringa*), teakwood, candlenut, avocado, mahogany, durian and nutmeg trees	1.31	1,428,044 (USD 92)	Seedlings: fruit and timber trees Cattle Training Palm sugar processing equipment	Hardwood timber, tuberous plants, candlenut, sugar palm, fruit, spices, mushroom and hone Game (wild boar)	120,000 (USD 11)
Banyusoco	Cajuputi (*Melaleuca cajuputi*) Corn Traditional herbs	0.28	2,024,131 (USD 130)	Seedlings: teakwood and fruit trees Borehole and pump Training	Hardwood timber, wild grass for cattle fodder and herbs	180,000 (USD 17)

6.9 | Social forestry's impacts on material well-being

The main direct benefit of social forestry emphasised by respondents was improved tenurial access for customary or historical land claimants. In three sites (Sungai Garong, Tanjung Agung and Pundilemo), the SF management body distributed land in SF utilisation areas to households with historical (including customary-based) land claims in these areas for cultivation. SF in this way legalised historical tenurial claims to shared village or customary land and transformed them into (temporary) management rights. For individuals who knew about SF, this offered them an improvement to access that had been ruptured by state land zoning restrictions introduced between the 1970s and 1980s by Indonesia's authoritarian New Order regime's land zoning restrictions, and many have begun cultivating income-generating crops in their SF land plots (commodities cultivated on SF land at Table 4, column 2). In Pundilemo, however, the steep, hard-to-access topography of the HKm area makes transporting inputs and harvests difficult, so few have been able to cultivate. Income from cultivation in Pundilemo's HKm plots was the lowest of all four sites, despite having the second largest average SF plot size (SF plot size in Table 4, column 3).

In 2000, in Banyusoco, two neighbourhood groups secured land from the state forest agency to establish an early form of community forest scheme, where they planted teak trees. In 2007, the group received a formal HKm management permit, providing more secure

Good social relations	Bodily well-being and health	Security	Freedom of choice and action	Cultural and spiritual
Strengthened social connections through KUPS participation Increased involvement of men in domestic tasks as women take on more income-generating roles through KUPS	Health and bodily benefits of forest and waterways Nutritional benefit from increased access to forage leafy vegetables and medicinal plants	Enhanced protection from landslides and erosion due to reduced land clearing Increased access to land and forest resources, enhancing food and income security Enabled community to prevent an artisanal gold mine opening in a local river tributary	Greater flexibility to choose/diversify crops	Cultural traditions centring forests and water ecosystems, and involving forest products
Strengthened social connections and confidence through KUPS participation	Health and bodily benefits of forest and waterways—particularly access to clean water from forest springs	Increased access to land and forest resources, enhancing food and income security Increased forest protection, reducing environmental disasters	Greater flexibility to choose/diversify crops	Cultural traditions centring forests and water ecosystems, and involving forest products
Strengthened social connections and confidence through KUPS participation	Health and bodily benefits of forest and waterways Serenity of forest landscapes	Less emphasised due to the SF's distance from the settlement and confusion about SF Security over water source—provided by forest ecosystem services	Some flexibility to choose/diversify crops	Cultural traditions centring forests and water ecosystems, and involving forest products
Strengthened social connections and confidence through KUPS participation Reduced water-related conflicts due to bore construction	River water quality improvement following waste separation activities conducted by KUPS participants Improved access to clean drinking water and increased food production (bore-water) Women in the KUPS now play volleyball together, with improved mental and physical health	Increased access to land, enhancing food and income security Increased forest resource protection, enhancing income security Reduced water related conflict due to increased water access (bore-water)	Greater flexibility to choose/diversify land-based crops	Cultural traditions centring forests and water ecosystems, and involving forest products

access to forest land, reducing fears of being indicted as illegal trespassers or loggers, and further fostering forest stewardship. In 2019—nearly 20 years after planting teak trees—a cooperative was established to support HKm members to sell their first teak timber harvest for a higher price than selling individually. They also intercropped herbs and root crops and produced traditional drinks and snacks from these for sale. Grasses for cattle feed are also grown on SF plots.

SF members at all four sites received agricultural inputs distributed by sub-national government agencies and NGOs (e.g. fruit and timber tree seedlings, equipment) and extension training and information (Table 4, column 5). In Banyusoco, HKm members and some non-members also received a borehole for irrigation, which delivered clean water for drinking and irrigation to many in the village, with cross-cutting benefits to health and agricultural yield.

Financial benefits also resulted from participation in social forestry enterprise groups called KUPS (*Kelompok Usaha Perhutanan Sosial*), which process and sell products collected from or produced in SF areas. Women in KUPS groups reported gaining benefits such as improving their skills in financial management, commodity processing and marketing skills. A woman KUPS participant from Pundilemo explained the financial benefits of participating in occasional paid work through KUPS where they processed and sold granulated palm sugar: 'Now when someone comes to buy liquid [palm] sugar, we're happy. There's a separate income in addition to what my husband provides'.

TABLE 5 Household wealth index.

	SF participant	Non-participant	Difference (SF participant-non participant)	*t*-stat	*p*-value
Before social forestry					
Housing wealth index	0.725	0.683	0.042**	2.098	0.018
Amenities wealth index	0.636	0.548	0.088***	2.615	0.005
Assets wealth index	0.551	0.484	0.067***	2.930	0.002
Overall wealth index	0.637	0.572	0.066***	3.316	0.001
After social forestry					
Housing wealth index	0.805	0.743	0.062***	3.239	0.001
Amenities wealth index	0.907	0.869	0.038**	2.136	0.017
Assets wealth index	0.591	0.551	0.040**	2.022	0.022
Overall wealth index	0.768	0.721	0.047***	3.790	0.000

Note: This table shows household wealth assessed with a mean difference test. The household wealth index ranges from 0 to 1, where 0 indicates low wealth (e.g. no assets, poor quality housing and limited basic amenities) and 1 indicates high wealth (e.g. ownership of durable assets, good quality housing and full access to amenities). Further detail of each wealth component is available at Supplementary Material. The index aggregates indicators of non-land-based assets, housing quality and amenities. Expenditure is used as a proxy for income, capturing stable transactions and self-produced goods including forest collected commodities or subsistence cultivation. *** and ** represent statistical significance at 1% and 5% level of significance.

Our analysis of household wealth (Table 5) indicates that SF participant households were already more well-off than non-participants, based on household material wealth (housing, amenities and assets excluding land). Before SF permits were obtained, SF participant households had consistently higher scores across all wealth indices—housing, amenities, assets and overall wealth—compared to non-participant households, with the differences being statistically significant at either the 1% or 5% level. After obtaining SF permits, differences not only persisted but also grew more pronounced in some wealth indices, particularly the housing wealth index, demonstrating the largest improvement for SF-participant households. SF participation thus enabled greater economic gains compared to not participating.

6.10 | Social forestry's impacts on good social relations

SF participants indicated various ways that participation had strengthened social relations within their groups (Table 4, column 8). Participation in KUPS has enhanced social relations particularly for women's groups, evident, for example, through the actions of the Banyusoco women's KUPS who successfully advocated for funding for sports equipment, enabling regular gatherings that participants noted improved their health. Women's participation in KUPS has indirectly prompted gender equality, with women reporting increased income-generation opportunities, granting them greater financial independence and social power within their households. In Sungai Garong, some men have also taken up more of a role in domestic tasks as women play a greater role in income-generation through the KUPS.

6.11 | Social forestry's impacts on bodily health and well-being

Health benefits of SF include more security over clean water provided by forest hydrological services (particularly in Pundilemo and Tanjung Agung; Table 4, column 9). Improved nutrition from greater access to foraged and hunted food, along with health benefits of recreational and cultural activities in forests, was also mentioned across all sites (Table 4, column 9).

6.12 | Social forestry's impacts on security

SF has strengthened access rights to forests, which has increased some groups' ability to control forest use, helping to ensure cleaner water sources and reduce environmental disasters (Table 4, column 10). For example, in Sungai Garong, SF permits strengthened members' ability to prevent artisanal gold mining in the SF area, preventing harmful impacts to drinking water and reducing erosion and landslide incidences. The Banyusoco SF group established a community forest patrol to deter illegal logging, enhancing security over forest resources. The SF groups' construction of a borehole in Banyusoco also improved water access, reducing conflicts and strengthening social and water security. In three sites (excluding Pundilemo), increased land access in SF cultivation areas supports diversified livelihoods, boosting food and income security. This is less evident, however, in Pundilemo, where the forest's greater distance from the settlement makes monitoring forest use challenging, limiting perceived security benefits.

6.13 | Social forestry's impacts on freedom of choice and action

Freedom was less emphasised as a well-being priority and emerged as less significant in terms of SF's well-being impacts. However, one related theme for SF participants was through a desire for increased access to cultivable land which allows greater opportunity to plant diverse crops—an important aspect of well-being across all sites (Table 4, column 11). Having diverse crops provides more resilient and stable food and income generation.

6.14 | Social forestry's impacts on cultural and spiritual well-being

Increased forest access allows those who were aware of SF to safely continue cultural traditions that involve access to and collecting resources from forests and waterways. Increased income through SF also supports religious aspirations, such as being able to accrue savings to afford religious pilgrimages or to contribute to the maintenance of local mosque or church facilities (Table 4, column 12).

6.15 | Subjective well-being before and after social forestry

Figure 4 reveals that individuals from SF-participant households reported greater improvements to their happiness after SF permits had been issued compared to non-SF participants. SF-participant households reported fewer declines and more improvements in happiness, while non-participant households tended to experience more stagnation, with a majority reporting no change in happiness and a larger portion reporting slight declines after SF (Figure 4). Participation in both HD and HKm has increased happiness levels, with notable increases in the highest score (extreme happiness), suggesting that SF enhances subjective well-being. This effect was particularly strong in the HD villages (Sungai Garong and Tanjung Agung) where individual happiness was slightly more pronounced.

6.16 | Barriers, confusion and the limits of social forestry

We have shown the various ways that SF permits contribute to well-being for SF participants. However, significant disparities exist between the benefits gained by SF participants as compared to non-participants. Much misunderstanding and confusion about SF and access rights was evident across the three non-Java sites—in Tanjung Agung, Sungai Garong and Pundilemo. In all sites except Banyusoco in Java, discrepancies were apparent between households aware of their participation in SF (Table 3, column 8) and those with land in SF areas (Table 3, column 9). Many in the three non-Java villages were unaware their land was in SF permit areas. This confusion was largely attributed to a lack of access to detailed information about SF, with information about SF almost exclusively provided to select village attendees at often one-off *sosialisasi* meetings (a one-way transfer of information) held by sub-national state forest agencies. These select attendees were often invited household heads, commonly men, leaving many others unclear about why, where and how SF would be implemented.

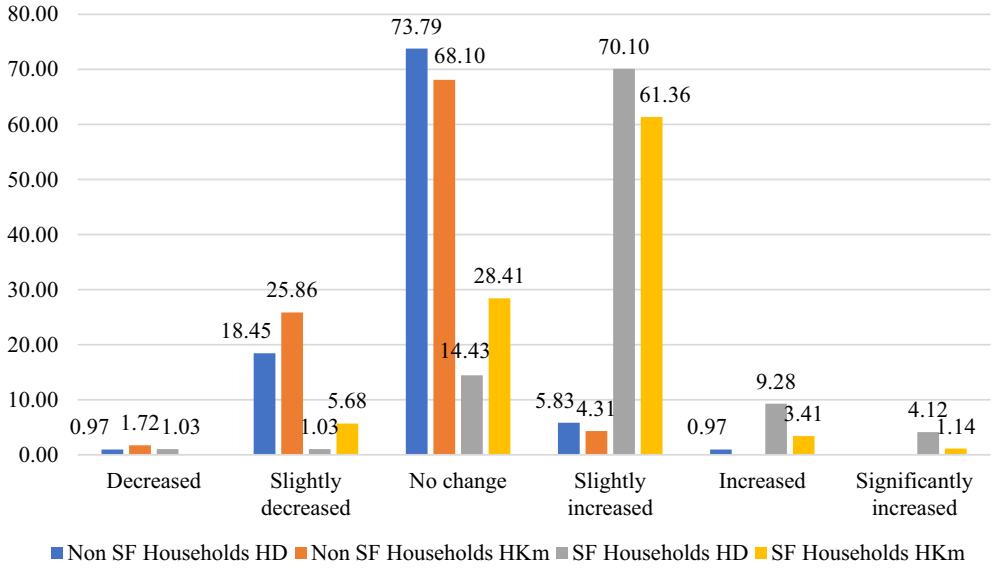

FIGURE 4 Comparison of changes in happiness levels of individuals from SF-participant and non-participant households across the two schemes: HD and HKm. Questionnaire respondents were asked to rate their level of happiness on a scale of 1–5, both before SF to establish a baseline (retrospective level of happiness) and after SF (in the present). Change in individual happiness was calculated by subtracting the baseline score from the current score, providing a measure of happiness levels following SF implementation.

Even village governments seem unsure—only the Pundilemo village government reported having a SF permit in the 2021 national village census (*Potensi Desa*).[5]

Confusion and conflict around SF were most evident in Tanjung Agung, where only the nine male forest management body members knew about HD. In Tanjung Agung, 38% of villagers had customary land in the HD site but no knowledge of the HD permit. One man explained that the district government forestry service who supported the formalisation of HD failed to communicate to the community: 'With the government, there was a lack of socialisation to the members [of HD] here, so people are confused [about SF]'.

There was also confusion in Sungai Garong, with 59% of households holding land within the HD, but only 40% reporting participation. While knowledge of the HD extended beyond the forest management body, some respondents were unsure what the HD meant; some were concerned the village administration was selling off land or would restrict forest access and use. These misunderstandings meant some villagers were scared to enter SF areas for fear of violating such restrictions, limiting their ability to benefit from the HD permit.

In Pundilemo, 43% of households held land in the SF area, but only 37% reported being involved. While there was somewhat less confusion about social forestry, many believed that HKm was simply protection forest land that restricted timber harvesting—a perception that limited their access to and use of forests and forest products.

Banyusoco has had a longer history with SF, and all households with land in the SF area (46% of all villagers) were aware of their inclusion and accessed the forest without concern. This marks a change from the past prior to the SF permit, when forest access was greatly restricted by the state.

7 | DISCUSSION

In this study, we respond to calls for holistic, locally-grounded assessments of social forestry (SF) that reflect local people's differentiated well-being experiences, preferences and priorities in their engagements with forests (Woodhouse et al., 2015), and that simultaneously capture objective, subjective and relational aspects of well-being (McGregor & Sumner, 2010; Woodhouse & McCabe, 2018). We go beyond the important community-level analysis that has been the focus of recent work on SF's well-being impacts in Indonesia (e.g. Santika et al., 2017, 2019 and others) to examine intra-community differences, first identifying local well-being priorities and preferences and then assessing how SF contributes to these.

By first identifying local well-being priorities, we reveal that land and social relations are at the centre, most highly valued across all sites and that these interact to shape access to and the ability to benefit from each other—and from other domains of well-being. For instance, strong social relations can enhance relational *access* to and benefits from material resources like land (e.g. good relations with family or community improve the likelihood of inheriting land or calling on reciprocal labour for farming). Material assets, including but not limited to land, accessed through and benefitted as a result of good social relations help to generate a diverse and resilient livelihood, allowing farmers to maintain autonomy over their time and labour. Diversified and resilient livelihoods also support material assets (a measure of wealth) to build, enabling a person to pursue their cultural or spiritual well-being aspirations and to ensure children's future security, helping to achieve higher levels of subjective well-being.

Through these localised findings, we offer empirical insights that build on understandings of well-being in the context of human–nature relations. We show that well-being dimensions are co-constituted, with material and relational dimensions interconnected with, and crucial for achieving positive subjective experiences of well-being in other dimensions (McGregor & Sumner, 2010). Material dimensions are central to well-being, but accessing and benefiting from material assets requires good social relations. Thus, both these dimensions are necessary to fulfil other well-being domains important for a positive subjective experience of well-being (the interconnections between material, relational and subjective aspects of well-being are represented in Figure 5). Our findings also show how these other domains of well-being connect most closely with positive outcomes for nature. For example, cultural practices (such as rituals to give thanks for forest springs in Pundilemo and Banyusoco) help transmit intergenerational knowledge about the forest's hydrological ecosystem services and may help to inform and support forest preservation.

7.1 | Well-being domains are deeply interconnected

Our findings build on prior applications of the Voices of the Poor and MEA framework, which emphasise mapping the flows of human well-being benefits derived from forest ecosystem services onto corresponding domains of human well-being (Abunge et al., 2013; Beauchamp et al., 2018). Representing well-being benefits from ecosystem services as one-directional flows—where each service maps directly onto isolated well-being domains (such as just to material domains)—risks portraying well-being as static and uni-dimensional. Rather, our findings reveal that well-being is deeply interconnected, with relationships to people and to nature underpinning material and relational dimensions of well-being that are dynamic (represented in Figure 5).

Our findings corroborate emerging scholarship emphasising well-being's plurality and interconnectedness, that each well-being dimension must connect with others (though the relative importance of specific dimensions may vary across contexts and time) to achieve

[5]Based on the question, 'Was there a Social Forestry program in 2020?'

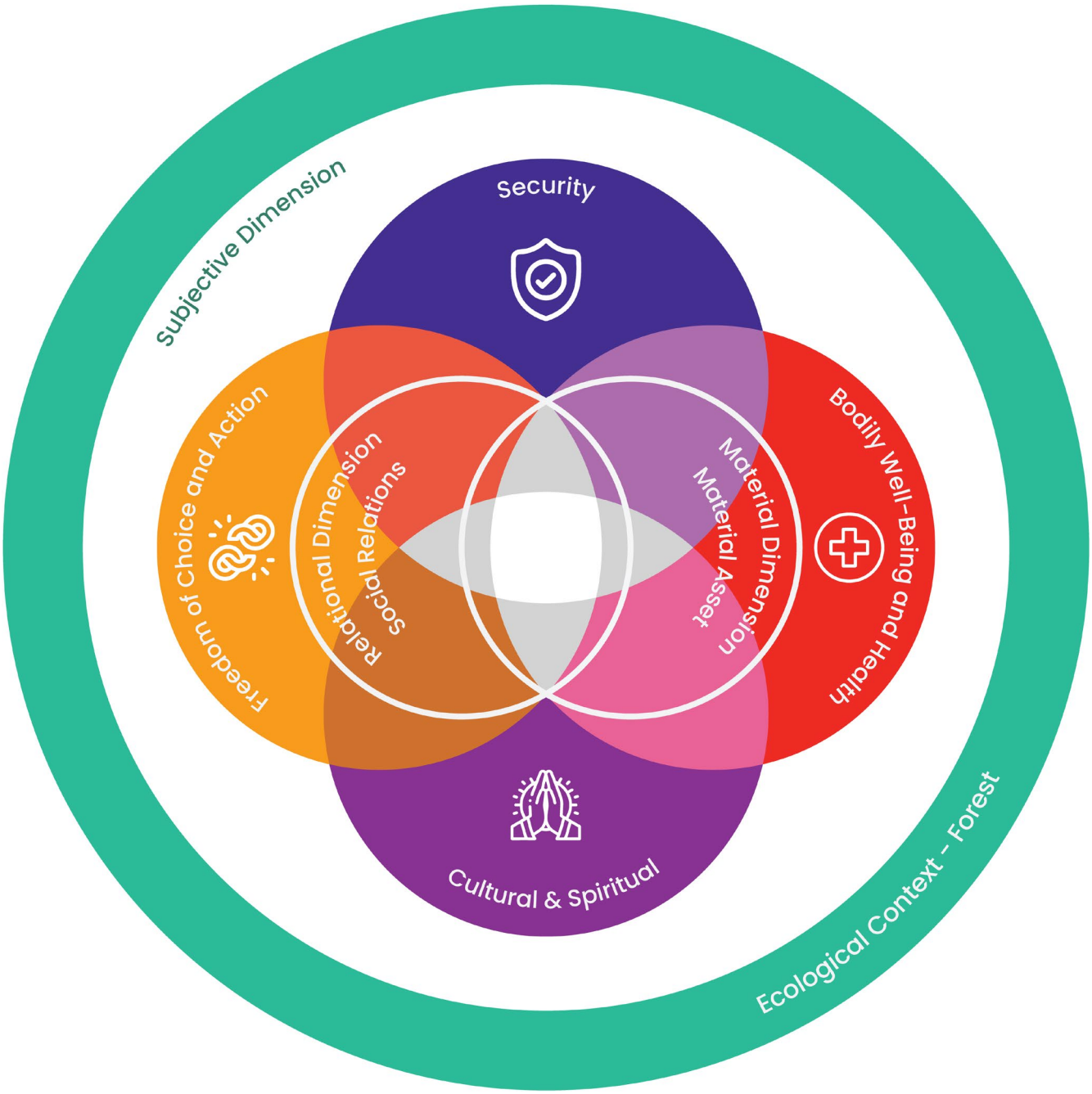

FIGURE 5 Six well-being domains are interconnected together and with material, subjective and relational well-being dimensions. At the centre is good social relations, through which material assets can be accessed and benefits derived from. This foundation allows for the achievement of other aspects of well-being: Bodily well-being/health, security, freedom of choice and action and cultural and spiritual. The fulfilment of these well-being domains is foundational to achieving positive subjective dimensions of well-being. All these interactions are embedded within, and shaped by, the ecological context.

a good life (Carmenta et al., 2023; Dawson et al., 2023). Our work underscores the need to move beyond narrow assessments of just the economic benefits of forest ecosystem services (Rasolofoson et al., 2017). Instead, a holistic assessment capturing the connection and interplay among all dimensions of well-being is essential. Strong positive interconnections between well-being domains are crucial for positive well-being outcomes across all three well-being dimensions—material, relational and subjective.

7.2 | Social forestry's most important value is as a land distribution mechanism

Our analysis of locally grounded conceptualisations of well-being highlights SF's contributions across six interconnected well-being domains. We show that benefits derived by SF participants broadly align with many local well-being preferences and priorities, particularly its role as a land distribution mechanism for the cultivation of

food and income-generating crops. Our finding that SF aligns with local preferences for secure land access—rather than forest conservation—supports findings from a recent global synthesis study (Tseng et al., 2021), which links land tenure security to positive human and environmental outcomes. We found that enhanced land access through SF facilitated positive, interconnected well-being outcomes, such as greater crop diversity and enhanced household food and income security, which in turn support cultural and religious practices, all of which contributed to higher subjective well-being for SF participants.

7.3 | Uneven participation and benefit distribution in social forestry

By attending to difference within communities, we observed that SF participation was highly uneven; SF participants come from already wealthier households, and a greater number are male, corroborating other scholarship (De Royer et al., 2018; Sahide et al., 2020), and their participation allowed them to gain greater benefit than non-SF participants. Although women were less represented on forest management bodies, they play more significant roles in the KUPS, providing them with some (albeit small) income-earning opportunities, contributing to their financial independence, and strengthening social relations and status across the community. These findings contribute to literature focused on the conditions and power dynamics that shape different groups' access, participation and benefit distribution from community-based forest management (Adhikari et al., 2004; Friedman et al., 2020). Access to SF benefits is shaped by localised power dynamics (e.g. norms that determine gendered roles in forest management bodies; Agarwal, 2015; Sunderland et al., 2014), as well as government policies (e.g. government land zoning policies) and institutional practices (e.g. recruitment criteria and practices for enrolling SF members; Ribot & Peluso, 2003).

Our findings suggest that, without greater effort to promote greater inclusivity and address power dynamics in SF schemes, SF may continue to exacerbate local social inequalities by allowing already socially privileged individuals (often wealthy men) to accrue greater material and other well-being benefits, demonstrating the advantages of inclusive participation and clear access rights. Addressing this requires extended and inclusive communication and outreach between state forestry agencies and/or NGOs that support the formation and implementation of SF and all social groups—including those most marginalised—within a community. A key step is securing free, prior and informed consent from all members of a community before obtaining a SF permit, involving multiple formal and informal meetings held at times that suit both women's and men's schedules, conducted in local languages, to explain the details of SF schemes (Basnett et al., 2017). Once consent is secured, ongoing support is required to establish equitable and representative governance structures, and post-SF permit issuance to help ensure transparent and effective governance and establish ecologically sustainable income from forest commodities (Friedman et al., 2020). NGOs experienced and skilled in addressing gender differences and navigating complex gender norms can empower women and marginalised men with the skills and confidence needed to engage in decision-making bodies, to enhance women's and marginalised groups' participation (Gupte, 2004). Regulatory mandates, such as participation quotas for women and marginalised groups in forest management bodies and farmer groups, can promote equitable representation. Evidence suggests that at least 30% female representation is needed for meaningful participation and effective decision-making (Agarwal, 2015). Ensuring meaningful participation and benefit-sharing arrangements is vital to support well-being benefits reach all social groups, including women and less affluent households (Loveridge et al., 2022; Mahanty et al., 2009). Given the diverse settlement histories and limited available land in rural Indonesia, it may not be feasible to more equitably distribute cultivable land to all individuals in a village through SF schemes. However, the significant and diverse benefits gained through the KUPS—particularly for women—indicate the potential of this as a promising strategy for distributing SF benefits where equitable land distribution is not feasible.

8 | CONCLUSION

For interventions intended to have environmental protection outcomes—like social forestry—to succeed, they must align with local well-being priorities (Carmenta et al., 2023; Woodhouse et al., 2015). Our study underscores the need for a holistic, inclusive approach that recognises how various well-being domains interconnect to shape positive material, relational and subjective well-being outcomes, and we propose a framework to conceptualise this. By foregrounding local well-being priorities and highlighting intra-community differences, we demonstrate how SF can improve well-being outcomes, particularly through enhanced land access and strengthened social relations. However, we also reveal persistent inequalities in SF participation and benefit distribution. This underscores the need for policies and practices that address power dynamics and ensure equitable participation of marginalised groups, including women and less affluent households, in SF decision-making management bodies, as well as their fair access to its benefits. Adapting SF policies to local contexts and fostering equitable access to land, forest and/or income-generating alternatives are essential to achieve resilient livelihoods and meaningful well-being outcomes for all community members whose land and forests are permitted for SF.

AUTHOR CONTRIBUTIONS

T.D.T., L.M., I.A., R., G.B.A. and A.R. conceived the ideas and designed the methodology, and conducted data analysis, writing and

revision; M.B.D. and A.S.H. were involved in data analysis, mentoring of field researchers and writing and revision; N.A.A., Y.Y., F.A.F., P.A.Y., A.A., M. and D.T. conducted field research and supported analysis; R.S.F. contributed to research design and manuscript revision. All authors contributed critically to the drafts and gave final approval for publication.

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CONFLICT OF INTEREST STATEMENT

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DATA AVAILABILITY STATEMENT

Data identifying specific individuals or households will not be made available, to protect participants privacy as per the University of Melbourne's institutional ethics requirements. However, data may be granted by request to the corresponding author, and with permission of all parties involved with the research.

STATEMENT ON INCLUSION

The long authorship list acknowledges all the various contributions to this study. Authors 1 to 8, and 17 and 18, were engaged early on with the research and study design to ensure that the diverse sets of perspectives, experience and disciplinary training they represent were considered from the onset. Authors 9 to 16 were recruited to support field data collection, and their work, insights and observations have been incorporated into this paper. The majority of the authors are Indonesian, and the majority are also early-career academics. Whenever relevant, literature published by Indonesian and global south scientists was cited.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

Supplementary Material S1. Household questionnaire.

Supplementary Material S2. Notes on household wealth.

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