Responsibilization and social forestry in Indonesia

James T. Erbaugh

Dartmouth College, 105A Fairchild Building, Hanover, NH 03755, United States of America

ABSTRACT

The current expansion of social forestry in Indonesia represents an unprecedented transfer of forest management responsibilities to user-groups across the archipelago. The Indonesian state aims to formalize co-management across 12.7 Mha of forest area to enhance community well-being and environmental as well as economic outcomes for the Indonesian public. Contemporary social forestry in Indonesia thus represents a form of natural resource responsibilization. Analyzing Indonesian social forestry as a process of responsibilization provides insight into how social forestry is performed, whether the alignment between community well-being and societal benefits is valid, and existing tensions that occur through the responsibilization of communities for forest management. Using responsibilization theory to examine social forestry policy, this research first identifies the activities that create social forestry in Indonesia and responsibilize new actors for forest management. The transfer of specific control rights to user-groups occurs through a constellation of administrative actors, bureaucratic activities, and virtual platforms. These activities reify user-groups and seek to unite community well-being objectives with environmental and economic benefits to the larger Indonesian public. However, the responsibilization of user-groups for forest management results in three important tensions. First, well-being and well-doing objectives are not always aligned and result in important trade-offs concerning community empowerment. Second, social forestry initiatives are seemingly optional, but they lack free-entry and formal channels for challenging state decisions. Third, at present there is an asymmetry between resources dedicated to approving social forestry permits versus capacity building, monitoring, and evaluating management outcomes. These three tensions provide insights for social forestry in one of the world's most significant tropical forest countries, and they point to promising future work in advancing scholarship on natural resource management and responsibilization.

1. Introduction

Global decentralization of forest management is one of the most significant trends in contemporary forest governance (Agrawal et al., 2008). Enabling more local managers to make decisions, implement policy, monitor, or evaluate outcomes related to forest management promises to empower citizens, officials, and organizations to conserve forest areas for collective environmental and economic benefits (Ostrom, 1990; Persha et al., 2011; Wollenberg et al., 2007). However, the passage of policy content neither guarantees its implementation nor the achievement of its objectives (Erbaugh and Nurrochmat, 2019). Community-based forest management (CBFM) is one form of decentralized forest management that can enable sustainable forest management over long time horizons. Successful CBFM is often predicated upon a set or sets of institutions and multilevel support (Cox et al., 2010; Ostrom, 1990). When governments implement CBFM as a formal governance strategy (i.e. a technology of the state), the institutions upon which successful commons management are predicated may not exist and new practices of multilevel support are often required (Berkes, 2009; Ostrom, 2005). CBFM becomes a technology of the state through the transfer of specific rights and responsibilities to individuals and groups (Anderson et al., 2015). The processes that transfer forest management rights and responsibilities shape the objectives, implementation, and outcomes of formal CBFM.

Responsibilization refers to the process of rendering individuals or groups responsible for certain aspects of their well-being previously considered the duty of the state. The transfer of responsibility extends governance beyond the state, into the habits of individuals and the function of communities (Lemke, 2001). As an element of governmentality, responsibilization occurs through specific administrative, bureaucratic, and technical activities that transfer responsibilities to actors in domains such as health, education, or environment (Foucault, 1978; Lemke, 2001). Through the collective pursuit of their own well-being, termed "well-doing," the free market-oriented rationale of responsibilization holds that agents contribute to larger societal benefits (Mustalahti and Agrawal, 2019). The empowerment of agents,

E-mail address: james.t.erbaugh@dartmouth.edu.

combined with the benefits from their well-doing, are often the primary justification used by state actors to pursue governance strategies that responsibilize individuals and groups (Rutherford, 2007; Shamir, 2008). The underlying logic of this shift in responsibility is thus predicated upon the ability of agents to pursue their own well-being and, in doing so, contribute to well-doing benefits.

Responsibilization is an adaptive strategy increasingly employed by states that recognize the limit of government sovereignty and seek to reduce the cost of operations (Argüelles et al., 2017). Examples of responsibilization occur within many different policy arenas, including education, healthcare, crime, and consumption. Authorities seeking to improve student career prospects while developing a more enlightened citizenry responsibilize students and teachers for educational gains (Rochford, 2008; Suspitsyna, 2010). Healthcare providers and state actors seeking to reduce costs associated with illness and providing care render patients responsible for their health (Chan, 2009; Gray, 2009). Administrations normalize crime as opportunistic behavior that citizens are responsible for reducing through personal vigilance (Garland, 1996). Consumers and global retailers are increasingly made responsible for a suite of social goods, ranging from environmental sustainability to fair labor policies, by means of marketing and information that aims to align consumption with production and labor standards (Ormond, 2014; Soneryd and Uggla, 2015). Through the identification and examination of responsibilization strategies, research examines the validity of devolving responsibilities to non-state actors and if the processes by which responsibilities are devolved adequately and equitably align well-being and well-doing. However, examples of research that examine the responsibilization of forest management are few, despite a long history of CBFM scholarship and the ongoing decentralization of forest management.

Contemporary social forestry initiatives in Indonesia provide an opportunity to understand why and how communities are responsibilized for forest management. In Indonesia, social forestry reflects a set of initiatives that embed CBFM as a technology of the state. Indonesian social forestry is thus a formal governance strategy whereby resource rights and forest management responsibilities are transferred to forest proximate user-groups (Fisher et al., 2018). This contrasts with traditional forest management and CBFM in general, which can be practiced outside the aegis of the state.[1] Defined as a state technology, Indonesian social forestry includes a set of processes that are outlined in policy content and implemented through specific sets of actors and processes (Foucault, 1978; Rutherford, 2007). The actors and processes that implement social forestry make specific user-groups legible to the state in order to receive a specific set of responsibilities and resource rights (Scott, 1998). Responsibilization theory provides a framework to examine the actors, activities, well-being and well-doing objectives that characterize governance strategies (Mustalahti and Agrawal, 2019).Using the responsibilization framework and its attendant insights from governmentality studies, this research identifies the processes that create social forestry and illustrates tensions that occur through the formalization of CBFM in Indonesia. The following sections provide historical context to Indonesian social forestry (Section 2), interpret contemporary social forestry through responsibilization (Section 3), examine tensions that define Indonesian social forestry as a strategy of responsibilization and outline how future research on these tensions can advance understanding of responsibilization in natural resource management (Section 4).

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[1] The definition of social forestry in this text differs from some academic and country contexts. In other contexts, community forestry or community-based forest management refers to co-management of forest resources between the state and user-groups, and social forestry refers to management practices by user-groups outside the aegis of the state (Agrawal and Gibson, 1999; Brosius et al., 1998). The definition of social forestry in this article, however, aligns with terminology used in Indonesia.

2. Social forestry in Indonesia

In Indonesia, social forestry refers to the formalization of CBFM through government policy and administrative activities. In reference to land-use and property rights, this indicates that communities hold specific rights over forest areas, as granted by the Indonesian state. Social forestry, defined as such, does not include many traditional, customary, or community-based forest management arrangements that involve "bundles of powers" but are without recognition by the state (Ribot and Peluso, 2003). Defining social forestry as the formal allocation of some control rights to user-groups aims to differentiate between more general instances of traditional or community-based forest management and instances that are explicitly incorporated as state technologies. Although social forestry is defined by the formal devolution of control rights to communities, its implementation is often complex. Resource rights may not be perfectly clear or well understood in a particular location; they are often dynamic social rules negotiated and re-negotiated in place (Peluso, 1996; Ribot and Peluso, 2003; Sikor and Lund, 2009). Despite potential difficulties in practice, analyzing different periods of Indonesian social forestry based on the rights they provided communities aligns the definition of social forestry in this manuscript with that used by the Indonesian state, it clarifies historical differences among periods of social forestry implementation, and it complements other historical analyses that focus on the chronology and intended benefits of Indonesian social forestry (Fisher et al., 2019, 2018; Lindayati, 2002).

Throughout the history of Indonesian forest management, different rights have been provided to forest proximate user-groups at different times. Canonical schemas of resource rights often define exclusion, management, monitoring, and direct benefit rights (Schlager and Ostrom, 1992). However, an expanded set of resources rights (Table 1) provides several benefits for the consideration of social forestry (Sikor et al., 2017). First, the expanded set of resource rights differentiates between direct versus indirect use rights. Discerning between direct resource rights, which indicate the ability to harvest timber, and indirect resource rights, which does not, is becoming an increasingly important distinction as payments for ecosystem service and carbon credit programs provide alternative methods to benefit indirectly from forest resources (Angelsen, 2017; McGrath et al., 2018; Pirard et al., 2014). Second, the expanded set of resource rights enables the investigation of who holds transaction rights, an important distinction in forest management (He, 2016; Ribot et al., 2010). Finally, the expanded set adds a third tier of authoritative rights. In the expanded schema, authoritative rights determine control rights, and control rights determine use rights. In the context of social forestry, authoritative rights identify when a state retains the power to determine where, to whom, and by whom control rights are allocated (Peluso and Vandergeest, 2001).

Although forest management by communities has an extensive history in Indonesia, social forestry was rare before the 1990s. User-groups practiced de facto forest management widely across the Indonesian archipelago, as the extent of state forest lands far surpassed the ability of different ruling states to formalize control over it (Kelly and Peluso, 2015). When the Indonesian state claimed control over the national forest estate through the Basic Forest Law (5/1967), the livelihood activities of 40 to 60 million forest proximate people became illegal (Myers, 1996; Poffenberger, 1990). The Basic Forestry Law of 1967 claimed authoritative, control, and use rights over forest areas that were first asserted by the Dutch Colonial State (*Domein Verklaring* 1870), it remained in effect during Japanese occupation, and it was translated roughly verbatim when Indonesia transitioned to independence (Peluso, 1992). During this period that predates modern social forestry, some communities and individuals held private rights to forested land, but such examples existed outside the political designation of forest areas (Fox and Atok, 1997; Peluso and Vandergeest, 2001). Thus, individual and group livelihood activities that involved

Table 1
Resource rights.
(adapted from Sahide et al., 2016a,b).

Category	Name	Description
Authoritative Rights	Definition	The right to determine the extent and location of where control rights are recognized
	Allocation	The right to determine who receives control rights
Control rights	Exclusion	The right to determine who can receive benefits (direct or indirect) from a resource
	Management	The right to transform the resource and regulate use (i.e. management plans, harvesting schedules)
	Monitoring	The right to monitor benefits as well as the resource itself
	Transaction	The right to determine who performs the activities related to resource benefits (i.e. collecting NTFPs, selling timber)
Use rights	Direct benefit	The right to obtain a resource for direct benefit (i.e. timber or NTFP harvest)
	Indirect benefit	The right to indirectly benefit from a resource (i.e. clean water provision, erosion protection, cash payments for carbon)

receiving direct benefits from forest areas remained largely illegal, as those activities often required use and control rights held exclusively by the state. Before the 1990s, CBFM initiatives began that would later turn into modern social forestry. Most notably, the Indonesian state fostered partnerships between forest proximate user-groups and *Perum Perhutani*, the State Forestry Company, that operated on Java (Maryudi and Krott, 2012; Peluso and Poffenberger, 1989). During certain years in the 1980s, the State Forestry Company allocated approximately 5% of its net earnings to community development activities (Peluso, 1992).

Starting in the 1990s and lasting until the mid-2000s, growing support for the formal recognition of CBFM translated into a limited set of social forestry initiatives. The Ministry of Forestry established village and community forestry offices, and a national NGO network provided continued support and advocacy for community-based forest management (Fisher et al., 2018). After the fall of the New Order in 1998, there was an opportunity to incorporate community-based forest management into state management activities. The revised Basic Forestry Law (Law 41/1999) contains language that references the importance of community empowerment, resilience, and the distribution of direct forest benefits. However, there was little additional policy guidance for the implementation of initiatives to realize these goals. Continued partnerships with the State Forestry Company provided Javanese communities some formal management rights; Lampung Province formalized exclusion rights for some farmer groups (Fisher et al., 2019); and a program that sought to increase the area of community plantations by 5.4 Mha achieved roughly 3% of its goal (Obidzinski and Dermawan, 2010). Thus, until the early 2010s, Indonesian forestry remained limited to scattered and often experimental projects.

From the mid-2000s to the present, there has been a drastic increase in the formalization of CBFM. This formalization occurred through greater advocacy and political attention; it has translated into comparatively rapid expansion of control and use rights formally allocated to user-groups. First, the Constitutional Court ruled in favor of the Indigenous People's Alliance of the Archipelago (*Aliansi Masyarakat Adat Nusantara* – AMAN) and customary leaders. Three court rulings in favor of local forest management determined that the rights of communities must be maintained in the management of forest areas held by the state, recognized *adat* forests as a new form of forest rights, and limited forest areas held by the state to include only areas that are established by official forest boundaries (Kelly and Peluso, 2015; Myers et al., 2017). In 2016, a Ministry of Environment and Forestry (MEF) regulation (83/2016) clarified the five social forestry initiatives that now compose social forestry in Indonesia (Table 2). After 2016, the amount of land allocated to social forestry increased across the five different social forestry initiatives (Fig. 1), though 2018 totals indicate that approximately 19.5% of the total pledge has been fulfilled (DJPSKL, 2019a). Village Forests (*Hutan Desa – HD),* Community Forests (*Hutan Kemasyarakatan – HKm*), Community Plantations (*Hutan Tanaman Rakyat – HTR*), Forestry Partnerships (*Kemitraan Kehutanan – KK*), and *Adat* Forests[2] (*Hutan Adat – HA*) are distinguished by their

relative abundance, by the resource rights they entail, as well as by the actors, activities, well-being, and well-doing that define them. They are similar in that they remain the only alternatives for Indonesian user-groups to directly and formally participate in the design and management of forest areas.

There are three major differences between the sets of rights provided by contemporary social forestry initiatives. First, whether the forest area over which communities receive rights is within or outside the government forest area (*Kawasan Hutan*) determines who maintains allocation and exclusion rights (Table 1). *dat*A forests are no longer part of the national government's forest estate when granted, and they provide exclusion and allocation rights to communties. This differentiates *adat* forests from the other types of social forestry. Within the four initiatives that take place on the government forest estate, only forest partnerships lack the provision of substantial management rights. In forest partnerships, proximate communities work with concession rights owners and receive either indirect or direct use rights, but concession owners retain the right to manage forests. Third, only community plantations are defined such that communities must have direct use rights (i.e. the right to harvest timber). Village and community forests can extend direct use rights. Should the village or community forest be granted on non-production forest land, as determined by MEF land-use planning, user-groups do not receive the direct use right to harvest timber; however, village and community forests that are on production forest lands include both indirect and direct use rights.

Contemporary social forestry in Indonesia marks a departure from previous periods in form and magnitude. Social forestry initiatives are now defined by clearer policies and processes than previous iterations. Further, the extent to which these initiatives have increased and are planned to increase marks a departure from previous periods. Analyzing modern social forestry in Indonesia as a process of responsibilization clarifies why and how the Indonesian state renders user-groups responsible for forest management.

3. Responsibilization in the forest

The current phase of social forestry in Indonesia embodies several important rationalities of responsibilization. The Indonesian state faces significant limitations in managing the 120.6 Mha government forest estate (MEF, 2018). Limits to sovereignty, common across contemporary states, are often met with strategies that move beyond "confrontational and adversarial" approaches to "a new commitment to cooperation and partnership in the relationship between central and local government" (Vincent-Jones, 2002). Co-management of government forest areas seeks to align the economic and environmental objectives of communities with the state (Berkes, 2009). The rhetorical, political, and technical transfer of management responsibilities is

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(*footnote continued*)
than "customary," its often-used English translation, to emphasize the geographically specific context of history, law, resource management, and tradition that *adat* represents.

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[2] Following Myers et al. (2017), this research employs the term *adat* rather

Table 2
Contemporary social forestry type and rights within allotted forest area.

	Use rights		Control rights				Authoritative rights	
	Indirect	Direct	Transaction	Monitoring	Management	Exclusion	Allocation	Definition
Village forest	Yes	Yes[a]	Yes	Shared	Shared	Yes	No	No
Community forest	Yes	Yes[a]	Yes	Shared	Shared	Yes	No	No
Community plantation	Yes	Yes	Yes	Shared	Shared	Yes	No	No
Forest partnerships	Yes	Yes[a]	No	No	No	Yes	No	No
Adat forests	Yes	Yes	Yes	Yes	Yes	Yes	Yes[b]	No

[a] Direct use rights are only allocated to social forestry initiatives on production forest land or, in the case of Forest Partnerships, when the partnership explicitly stipulates such use rights.
[b] This refers to the ability to allocate control rights after the social forestry permit has been issued.

central to the co-management of forest areas (Sahide and Giessen, 2015; Sahide et al., 2016a,b). Transferring some of the responsibility for planning, managing, and monitoring forests provides an opportunity to "contract with communities," potentially reducing planning and management costs, imparting the importance of sustainable forest management to citizens, and satisfying growing international and domestic demands for community empowerment (Argüelles et al., 2017; Brosius et al., 1998; Fisher et al., 2019). Thus social forestry, as an instance of responsibilization that weds user-group well-being to collective goods, provides a fitting and potentially cost-effective solution to forest governance (Garland, 1996). This section draws upon responsibilization theory to understand who receives responsibilities for social forest management and how responsibilities are transferred. Using a responsibilization framework finds that social forestry demands the reification of CBFM through formal practices that identify actors, outlines administrative activities, and aligns well-being and well-doing objectives (Mustalahti and Agrawal, 2019).

A set of prescribed activities and tools create different social forestry initiatives that are distinguished by the rights they provide, the actors they identify, and the responsibilities they entail. Table 3 contains information on the processes that reify CBFM, transforming it into social forestry. The constellation of positions, activities, and instruments in Table 3 seek to formalize of actors, management strategies, and social benefits contained in Table 4. As with the implementation of other governance strategies, the rhetoric of justification, actors, and activities co-constitute social forestry. By pursuing goals related to economic improvement, environmental conservation, and political empowerment through social forestry, the Indonesian state is tasked with the identification of user-groups that are able to bear such responsibility (Ilcan and Phillips, 2010). However, groups are not necessarily found "out there." Similar to how aid projects and technocrats create the actors responsible for their own development, application for a social forestry permit creates the user-groups that seek to conduct social forestry (Ilcan and Phillips, 2010). Imagining these groups as "communities" that exist beyond formal processes can be misleading (Agrawal and Gibson, 1999); suser-groups responsible for social forestry are defined and legitimized by the process of applying for permits.

The activities that transfer forest management responsibilities to user-groups are predicated upon co-management and community empowerment. The formal justification of new administrative positions, tasks, and instruments is a foundational element of responsibilization (Suspitsyna, 2010). The Indonesian state justifies social forestry by promoting the improvement of community livelihoods through benefits from forest areas, the conservation forest areas for the sustainable use and enjoyment of Indonesian citizens, and community empowerment (MR P.83/2016). Here, as with strategies of responsibilization in other domains, language such as "empowerment," "improvement," and "community" are crucial in legitimizing the shift of responsibility from the state to individuals and groups (Garland, 1996). The administrative positions, bureaucratic tasks, and government instruments that converge to create different social forestry initiatives follow similar paths with some differences stipulated by initiative. Two of the most notable
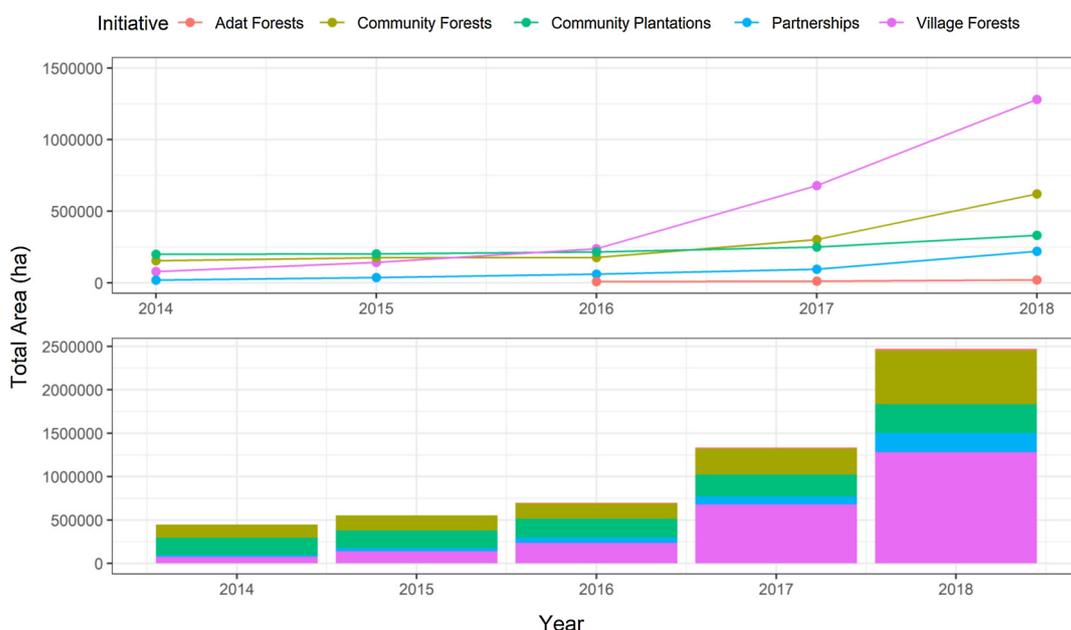

Fig. 1. Year by area licensed for social forests by social forest initiative (Source: DJPSKL, 2019a).

Table 3

Activities that generate social forestry in Indonesia.

Initiative	Policy basis	Application requirements	State practices and policy tools
Village Forest (*Hutan Desa*)	• MR P.53/2011 • MR P.89/2014 • MR P.83/2016	• Village regulation for the organization for forest management • Village decree for the organization of the group, cooperative, and/or village enterprise • Description of facilities (socio-economy, and potential area map)	• Facilitator trainings and collaboration • MOEF/province/district and TIU approval • Map of Social Forestry Areas (PIAPS) • Online Navigation System (SINAV) • Ministry evaluation every 5 years
Community Forest (*Hutan Kemasyarakatan*)	• MR P.52/2011 • MR P.88/2014 • MR P.83/2016	• Names of potential Community Forest members • Description of physical facilities (socio-economy, and potential area map)	• Facilitator trainings and database • MOEF/province/district and TIU approval • Map of Social Forestry Areas (PIAPS) • Online Navigation System (SINAV) • Ministry evaluation every 5 years
Community Plantations (*Hutan Tanaman Rakyat*)	• MR P.55/2011 • MD No. 13/2016 • MR P.83/2016	• Potential member names, ID card, residence info. • Description of facilities (socio-economy, and potential area map)	• Facilitator trainings and database • MOEF/province/district and TIU approval • Map of Social Forestry Areas (PIAPS) • Online Navigation System (SINAV) • Evaluation by FMU/Working Group every 5 years • Evaluation reports (manual or online)
Forest Partnerships (*Kemitraan Kehutanan*)	• MR P.83/2016 • MR P.39/2017	• ID card and address for village head • Evidence of cultivated area • Dependence on forest products • Evidence of potential for labor • Evidence of timber license supplier • Partnership area in accordance with MR P.83/2016	• Facilitator trainings and database • MOEF/province/district and TIU approval • Map of Social Forestry Areas (PIAPS) • Online Navigation System (SINAV) • Evaluation by FMU or Working Group • Evaluation reports (manual or online)
Adat Forests (*Hutan Adat*)	• CCD 35/PPU-X/2012	• Regulation about *adat* forest[a] • Spatial data of the forest area (place, boundaries, area, borders, evidence of rights, and map) • Map signed by political authority[b] • Statement from the *adat* community • Name/address of *adat* community and *adat* leader • *Adat* community profile (history, genealogy, customs/law, socioeconomic background, culture)	• Facilitator trainings and database • MOEF/province/district and TIU approval • Map of Social Forestry Areas (PIAPS) • Online Navigation System (SINAV) • Evaluation by FMU or Working Group • Evaluation reports (manual or online)

[a] If the forest is within the government forest estate or a legal document if the forest area is outside the government forest estate.

[b] If the forest is within one district or city, a map that is signed by the district leader. If the forest is across districts or cities, a map signed by the province leader. If the forest is across provinces, a map signed by the director general.

Table 4

Table of actors, community objectives, and societal benefits.

Initiative	Actors	Community objectives (Well-being)	Societal benefits (Well-doing)
Village Forest (*Hutan Desa*)	• Village • Village Forest Group	• Community livelihoods benefit from timber and/or NTFPs • Forest conservation for sustainable forest use and/or protection	• Improved overall well-being • Low-cost sustainable forest management • Empowered communities and local political institutions • Conflict reduction
Community Managed Forest (*Hutan Kemasyarakatan*)	• Farmer Group • Collective Farmer Group • Cooperative	• Community livelihoods benefit from timber and/or NTFPs • Forest conservation for sustainable forest use and/or protection	• Low-cost sustainable forest management • Empowered communities and farmer groups/cooperatives • Conflict reduction
Community Plantations (*Hutan Tanaman Rakyat*)	• Individuals • Groups	• Community livelihoods benefit from timber and/or NTFPs	• Improved overall well-being • Low-cost sustainable forest management • Empowered communities and local political institutions • Conflict reduction
Forest Partnerships (*Kemitraan Kehutanan*)	• Village-based groups	• Community livelihoods benefit from NTFPs	• Improved overall well-being • Conflict resolution
Adat Forests (*Hutan Adat*)	• Customary Group • Customary Representative Council	• Community livelihoods benefit from timber and/or NTFPs on non-state land • Forest conservation for sustainable forest use and/or protection	• Improved overall well-being • Empowered communities and local political institutions • Conflict reduction

changes in the approach of the Indonesian state to implementing and pursuing social forestry are the formation of the Directorate General of Social Forestry and Environmental Partnerships (*Direktorat Jenderal Perhutanan Sosial dan Kemitraan Lingkungan*) within the MEF and the introduction of new online platforms.

The Directorate General of Social Forestry and Environmental Partnership and online social forestry platforms represent significant administrative changes to formally transfer resource rights and responsibilities to user groups around the country. Established through Presidential Regulation (16/2015), the directorate general that oversees the implementation of social forestry within MEF is comprised of four sub-directorates that manage the preparation of social forestry areas, tenure and *adat* forest conflicts, business development, and forestry partnerships (DJPSKL, 2018). In addition to these sub-directorates, the general directorate oversees five offices that manage social forestry implementation in specific regions across Indonesia (DJPSKL, 2019a). Although the budget for these processes and this general directorate are comparatively small despite their large mandate (Resosudarmo et al., 2019), it represents anincrease in the amount of financial resources dedicated to social forestry, as compared to previous periods. In addition to the human and monetary resources dedicated to social forestry within MEF, there are two virtual instruments that facilitate the allocation and application of social forestry areas. These include the indicative map of social forestry area (*Peta Indikatif Areal Perhutanan Sosial* – PIAPS), and the social forestry navigation system (*Sistem Informasi dan Navagasi Perhutanan Sosial* – SINAV). PIAPS provides information on area that has been allocated for social forestry across Indonesia, and it is updated every six months through coordination with the General Directorate of Planning (DJPSKL, 2019b). Although still in a production phase, SINAV provides an online platform for user-groups to submit applications, check progress, report economic outcomes, and provide information about their social forestry initiative (DJPSKL, 2019c). Both online systems seek to improve the transparency, reduce transaction costs associated with the responsibilization of user-groups, and provide timely information. In this way, these new platforms embody tenets of "good governance" and government by contract (Hammett, 2018; Vincent-Jones, 2002). By providing transparent and timely information, the state enables responsibilized user-groups, effectively contractees, the ability to successfully fulfil their responsibilities.

The well-being responsibilities and related well-doing benefits vary little between different social forestry initiatives. As in the primary policy content, the foundation of justification for each of the different initiatives is the same. Certain initiatives seek to empower user-groups through different forest management strategies. For example, some initiatives allocate social forestry m production forest or conservation lands, the well-doing benefits that accrue vary (Table 4). It is important to note the emphasis environmental conflict mitigation has received within the social forestry space. A combination of regional government and MEF activities seek to enumerate and address environmental conflicts related to forest and land tenure (Sahide and Giessen, 2015). Effective responsibilization for forest management requires clear resource rights and demarcation (Resosudarmo et al., 2014). The social forestry application process aims to provide clear and transparent information about where, and with what rights, actors can manage their forests. In a similar manner, responsibilizing citizens to file complaints and seek remediation through formal government processes aims to reduce the risk of environmental conflict and crime (Garland, 1996).

4. Learning from tensions in social forestry: future directions for the study of responsibilization in natural resource management

Interpreting Indonesian social forestry as a process of responsibilization highlights tensions between promoting the well-being of user-groups and societal benefits from well-doing. As is common among states recognizing the limitation of sovereignty (Garland, 1996),

the Indonesian state has started incorporating governance strategies that shift practice from "command-and-control" to collaborative management and control. Through the responsibilization of forest management, the Indonesian state seeks to promote user-group well-being and empowerment, environmental conservation, and the reduction of community-state conflicts (Fisher et al., 2018; Resosudarmo et al., 2019) while reducing management costs and incorporating good governance strategies for the benefit of the general public. Although these multiple objectives are justified together, examining how user-groups formally receive forest management responsibilities reveals essential tensions between objectives. These tensions include trade-offs in professionalization and empowerment of communities within the state, the conflicted notion of "opting in," and asymmetries in the power and responsibilities associated with social forestry management.

Formalizing CBFM as a technology of the state creates fundamental trade-offs between well-being and well-doing objectives (Schusser et al., 2014). In the social forestry context, user-group well-being is predicated upon the sustainable management of forest areas. To sustainably manage resources for human use, user-groups require knowledge of natural resource management and/or conservation (traditional or professional), as well as the human and capital resources for implementation (Agrawal and Gibson, 1999). Forest management, as it has been practiced through formal state and market actors, is marked by technical skills and competencies that generate realms of expertise (Lund, 2015). Indonesian social forestry demands the combination of user-group expertise and participation with technical and professional expertise for the design and submission of applications and management plans. Thus, it is mandatory for user-group actors responsible for social forestry management to work with a range of facilitators, forest management unit (FMU) professionals, and political actors. Despite the significant demand such responsibilization entails, the Indonesian state has not yet provided comprehensive training for those who assist communities in applying for social forestry permits and drafting management plans; even fewer resources are spent on providing training and information to the communities themselves (Erbaugh et al., 2016; Galudra, 2019; Watts et al., 2019). There is an implicit trade-off between the provision of professional training or services that assist user-groups in managing forests for their well-being and the reduction of forest management costs that the cost benefits the larger population of Indonesian citizens. As social forestry is currently implemented, Indonesian user-groups bear the responsibility of collaborating within the technocratic forest management enterprise of NGOs and the state to achieve well-doing goals, despite a dearth of resources for technical training and collaboration.

There is also a trade-off between the empowerment of communities and maintaining state control over land claimed by the national government. An analysis of social forestry using the responsibilization framework demonstrates that groups share forest management rights in areas over which the Indonesian state retains authoritative rights (Table 3). In this way, the empowerment of user-groups is limited. The ultimate power to approve or deny permits, to revoke control rights, and to decide the type of forest use suitable on community-managed lands remains the purview of the Indonesian state. The only initiative where the state formally cedes these rights—*adat* forests—has witnessed significantly less expansion (Fig. 1). Thus, although most social forestry initiatives empower user-groups to co-manage forest areas, the Indonesian state retains ultimate authority (Maryudi et al., 2012). This is most apparent in the use of 5-year audits and 35-year social forestry licenses. Further, the more area allocated to social forestry, the less area remains under standard management by the MEF. Through 2018, less than 20% of the 12.7 Mha pledged for social forestry had been allocated to user-groups (DJPSKL, 2019a). The total area pledged for social forestry represents approximately 10% of the government forest estate (MEF, 2018). This proportion of the government forest estate, combined with the small size of individual social forestry allocations when compared to the forest management units they are often within (Fisher

et al., 2017; Sahide et al., 2016a,b), may serve political interests, but it challenges the ability for social forestry initiatives to substantially change Indonesian forest management.

Interpreting social forestry as a responsibilization strategy uncovers how a rhetoric of justification unites user-group well-being and empowerment with societal benefits; however, responsibilization theory provides less insight into how tensions between well-being and well-doing objectives are navigated in a specific location. Some research indicates that welding individual or community well-being with societal benefits leads to a "contract-state," as governments seek to align with market and civil-society actors (Vincent-Jones, 2002). At level of policy creation, coalitions advocate for specific settings and networks of state and community actors to implement management policy and gain from "winning contracts" (John, 2003; Sabatier and Jenkins-Smith, 1993). How specific social forestry "contracts" are written, implemented, and followed determine the outcomes from this governance strategy. Thus, interpreting social forestry policy using responsibilization theory provides insight into tensions among stated objectives, but it does not provide insight into how these tensions manifest in local institutions or generate outcomes in arenas where administrators, field agents, and user-groups interact with one another and forest areas. Research on environmental NGOs in Indonesia suggests that they compete with one another for funding and collaboration, seeking to carry-out management activities that advance their different organizational missions (Ramdani, 2019). Complementing policy and theory-based studies of responsibilization with work on policy coalitions and additional empirical work on how social forestry affects the formation of user-groups and social structures, impacts forest cover, and contributes to local livelihoods and well-being promises to enhance understanding of how responsibilization strategies are framed and implemented.

The extent to which actors are free to co-manage forests represents a second tension within social forestry initiatives. Per the application process, user-groups "opt-in" to social forestry in order to receive increased management responsibilities and well-being benefits. However, procedures for entry, exit, and promoting change remain unclear (Hirschman, 1970). The state retains the ability to select or deny resource rights in all social forestry initiatives as well as the right to revoke resource rights in four of five initiatives (Table 3). Through the acceptance or denial of social forestry permits, the Indonesian state creates and legitimizes user-groups that manage village, community, and *adat* forests, as well as community plantations and forest partnerships. Further, the state bears no responsibility to user-groups in justifying denial of social forestry permit. This tension reflects power asymmetries identified in trade-offs between community empowerment and state control (Krott et al., 2014; Schusser et al., 2014). Additionally, this research did not find formal procedures for user-groups to exit, should they want to terminate a social forestry permit, nor did it find a formal process for challenging the denial, revocation, or management mandates of a social forestry permit (MR 83/2016). Thus, while social forestry resembles free market-oriented governance strategies that wed the pursuit of self-interest with providing societal benefits, it does not seem to promote basic principles, such as free entry and exit, that enable a competitive market to achieve efficient outcomes.

Many governance strategies that rely on responsibilization presuppose the ability to "opt-in"; this optionality should be investigated. In certain realms, the ability to "opt-in" to strategies of responsibilization are key to the rhetoric of justification (Shamir, 2008). Green consumerism and voluntary carbon pledges represent two such strategies (Ormond, 2014; Soneryd and Uggla, 2015). In other realms and strategies, optionality is less clear. For user-groups that want to formally acquire rights to forest management, social forestry represents the only option: there exists no substitute. This murky optionality is mirrored in crime studies, where citizens are implored to reduce their risk related to crime (Garland, 1996). Further, the amount of political capital and attention social forestry has received raises the question:

would license application remain voluntary if user-groups stopped opting-in? Understanding the extent to which individuals and groups can choose to be responsibilized is an important aspect of extending responsibilization theory into natural resource management. Beyond applications to natural resource management, recognizing a modicum of optionality within other responsibilizing activities promises to provide insight into differences between rhetorics of justification and the implementation of responsibilization strategies.

The final tension in Indonesian social forestry concerns asymmetries in responsibilities for co-management. Established as a collaborative agreement, the provision of a social forestry permit formally identifies groups responsible for forest management. These groups include village forest groups, multiple village forest groups, farmer groups, multiple farmer groups, cooperatives, multiple cooperatives, village-corporate partnerships, and *adat* groups. However, more individuals and organizations are responsible for social forestry than these groups alone (Table 3). Facilitators are responsible for assisting user-groups with the application and management of forest areas; actors employed by regional Forest Management Units, with monitoring management plans and their implementation; actors employed by national or provincial MEF offices or Provincial governments, with allocating land for certain social forestry initiatives and reviewing permits; social forestry working groups, with overseeing application and implementation; and a range of NGOs, multilateral organizations, and corporations are further involved in the different steps of social forestry permitting, implementation, and monitoring (Fisher et al., 2019, 2018; Resosudarmo et al., 2019; Sahide and Giessen, 2015). The way in which professional resource management training, power, money, political and social capital circulate among these networks to generate social forestry is not captured within the definition of "user-group." However, it is the user-group, as identified within the social forestry permit, that bears the responsibility for sustainable forest management and its own community well-being. There have been many recent advances in responsibilizing user-groups for forest management. Ensuring these recently responsibilized groups receive the resources and training necessary to provide well-being and well-doing should now become a central concern (Bong et al., 2019; Maryudi et al., 2012). With many actors involved in the licensing process, and few currently involved in monitoring and evaluation, it remains unclear if responsibilizing communities for their own outcomes is just or equitable.

Extending the tension of asymmetrical responsibilization to assess how it affects individuals provides a third avenue for advancing responsibilization theory. The formal designation of a user-group or a forest area for social forestry management can change who and what an individual considers their responsibility, and how that individual practices and conceives of their role in relation to what they deem (ethically) important. Technologies of the self refer to the practices and concepts individuals use to realize their ethical self-understanding (Foucault, 1978). Formal designation of a forest area for which a group of individuals is responsible may, in effect, "relieve them" of their responsibility to sustainably manage other areas or contribute to other communities' well-being, thus altering technologies of self. Formal designation also serves to exclude individuals and groups and, in so doing, may reduce an individual's sense of responsibility to sustainably manage a forest area or contribute to community well-being from which they are excluded. This process of environmental subject making (Agrawal, 2005) provides an important avenue for investigating how individuals react to strategies of responsibilization. Analyzing how social forestry alters individual behavior is important for understanding if societal benefits accrue as a result of well-doing. Investigating how social forestry changes an individual's or a group's practice and conception of responsibility can bring to the fore why such outcomes occur.

5. Conclusions

Contemporary social forestry in Indonesia responsibilizes user-

groups for the sustainable management of forest areas. This trend represents an important shift in governance strategy, the allocation of land use rights, and the implementation of forest management in Indonesia. Indonesian social forestry promises to improve community well-being, promote sustainable forest management, and reduce environmental conflicts.

The current research uses responsibilization theory to examine these recent political and ideological shifts, as embodied within social forestry policy. First, it examines the resource rights that different stages of Indonesian social forestry have provided. The current phase of social forestry is unique in the formality with which it extends resource rights to user-groups and the extent of state forest area allocated to social forestry initiatives. Second, this research uses responsibilization theory to identify how the Indonesian state identifies actors, activities, well-being and well-doing objectives through an analysis of social forestry policy. It finds that user-groups defined by administrative activities receive responsibilities for forest management that seek to unite community well-being with environmental and economic benefits for the greater population. This process of responsibilizing user-groups results in important tensions between providing benefits to communities and the greater population. These tensions include tradeoffs between community empowerment and state control, the uncertain optionality of social forestry initiatives, and an asymmetry between the interests of actors driving implementation of social forestry initiatives as compared with the interests of actors responsible for the resulting outcomes. Augmenting these findings with empirical studies of how such tensions are perceived and addressed can enhance scholarship Indonesian social forestry and the co-management of forestresources in different geographical contexts.

Examining other cases of responsibilization in natural resource management for the tensions identified in this research can extend scholarship on responsibilization more generally. Analyzing how tradeoffs in well-being and well-doing objectives are negotiated on the ground, the optionality of responsibilization, and how transferring responsibilities in one domain affects individual or group behavior provide new directions for understanding the responsibilization of natural resource management. As states continue to formally devolve responsibilities for natural resource management to user-groups, research that examines how such responsibilities are transferred will become increasingly important.

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