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Political Ecology of Agrarian Change in Social Forestry among the Tana Ai Community in Sikka Regency, East Nusa Tenggara

Desmiwati[1,2*)], Surati[2]

[1]Doctoral student in Department of Anthropology, Universitas Indonesia, FISIP UI Campus, Depok, West Java, 16424, Indonesia
[2]Research Center for Society and Culture, National Research and Innovation Agency (BRIN), Jl. Gatot Subroto No. 10, South Jakarta, 12710, Indonesia
[*)]*Correspondence e-mail: desmiwati@brin.go.id*

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ABSTRACT

This paper examines how the dynamics of Social Forestry, which serves as a means of establishing new spaces/territories, trigger agrarian, social, economic, and ecological changes in communities, and even give rise to socio-territorial conflicts between the state and local communities. Building on the political ecology perspective, this article addresses two interrelated questions. First, how have successive processes of state territorialization reshaped agrarian relations, resource access, and Indigenous control over forest landscapes in Tana Ai? Second, how do competing actors—including the state, a religious non-state actor, and the Tana Ai Indigenous community—contest territorial authority, and how does the community mobilize counter-territorialization through customary institutions and ritual practices?. The research location is Sikka Regency, East Nusa Tenggara Province (NTT). Data collection methods include: literature review, participant observation, in-depth interviews, and ethnography. Informants were selected because they have knowledge, positions, and roles, and they were also developed using the snowball method. Data analysis uses qualitative descriptive methods. This study found that the Tana 'Ai ethnic community in Sikka Regency has experienced pressure and injustice related to land (agrarian) management from ancient times to the present, from the highlands (forest areas) to the coastal areas (ex-HGU). Currently, they are trying to maintain the symbol of cultural pride amid agrarian changes related to the management of their living areas, which they are still fighting for.

Keywords: political ecology, agrarian change, social forestry, re-territorialization, Sikka

INTRODUCTION

Sikka, a regency in East Nusa Tenggara Province, has witnessed complex agrarian changes in social forestry (Desmiwati et al., 2025). The issue of agrarian change in the dynamics of social forestry in Sikka Regency cannot be separated from the political ecology context, which emphasize the interactions between agrarian subjects and objects. The agrarian subjects include communities (individuals and households), private enterprises, and the state, while the agrarian objects encompass all physical environments including relief, climate, soil, water, air, and vegetation, in this definition, land both above and below the surface are included (Kian et al., 2018).

Du'a ata nulung Jata kiok manu koko
Tawang du'a baimuring
Hogor matang kokong bowo
Hebatnya wanita zaman dulu
Menggiatkan jantra kala ayam berkokok
Menyesalkan wanita zaman kini bangun tidur mata membengkat

The above poem praises the skill and dedication of women weavers in making a piece of woven fabric through a long process starting from *namit kapa*, *ngeung kapa*, *wera kapa/tutu kapa*, *po'ok kapa*, *lepet*

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kapa, *ogor kapa*, *jata kapa*, *plihur kapa/wolot kapa*, *go'ang perung*, *pete perung*, *koja gelo*, *hewor bur loba*, *ebor tarung*, *la'a waler*, *wiha perung*, *sipe perung*, *gahi ara/gahi mage*, ending with the weaving process to produce a woven fabric using a set of traditional tools. Oral traditions and traditional poetry serve as a medium to keep collective memories alive and strengthen the socio-cultural identity of the community, which is perpetuated through rituals and ceremonies. Traditional poetry reveals history and struggles, as well as a form of respect for the surrounding environment, which is believed to have supernatural powers and influence the creation of human behaviour to respect and protect nature (Kami, 2023; Kian et al., 2018; Maria, 2018; Olivia et al., 2022).

Weaving is a process of introspection, imagination, and recording everyday events that manifest as woven motifs, serving as a medium for nurturing life and fostering encounters and closeness between humans and the Supreme Being, humans and themselves and each other, and human with their natural environment, which is ritualized and passed down from generation to generation (Sudarmanto, 2022). Weaving and weaving are not only activities that have economic value, but also have cultural and philosophical meanings as a symbol of collective identity and the struggle to maintain self and community identities.

The cotton tree or 'ai kapa', a basic material for weaving, has a long history among the Tana Ai ethnic groups. In its early development, cotton was a large-scale plantation commodity for export by the Dutch East Indies colonial government. Meanwhile, for the local community, cotton was initially grown for subsistence purposes, and became, in its development, a basic material for weaving that has socio-cultural value as well as being a marker of the community's socioeconomic status (de Porres, 2021; van Nederveen Meerkerk, 2018).

The introduction and commercialization of cotton by the colonial government deprived indigenous communities of their customary land ownership and livelihoods. The process systematically ignored the socio-cultural value of the land and natural resources, which were integral to the community's identity and subsistence. Consequently, these cotton plantations become a historical site of struggle, marked by the loss of land ownership and the forced conversion of subsistence agricultural land (de Porres, 2021).

Efforts by the colonial government to seize community land for commercial plantation interests resulted in restricted access and benefits for the local population. This was accompanied by coercive measures, including the burning and unilateral removal of cotton plantations, which were subsequently replaced with corps promising higher yields, such as coconut and cocoa. Such actions were part of a broader pattern of repression that deprived people of their rights to life and livelihood (de Porres, 2021).

These historical events have created lasting trauma and suffering for the Tana Ai ethnic community in Sikka Regency. The power relations among the Dutch East Indies colonial government, trading companies, and local actors facilitated the commercialization of the land and plantations. This process not only impacted the existence of indigenous communities but also shaped the mechanism of capital accumulation which excluded local residents, causing them to lose their land and homes and fail to enter the workforce, instead serving the feudal elite and the Dutch government (de Porres, 2021).

The above narrative illustrates that there is always ambivalence towards all aspects of the rapidly changing lifestyle of the Sikka people. On the one hand, the 'modernization' of agriculture promises prosperity, but at the same time, property rights, the fulfilment of basic needs, and the community collectivity once found in activities such as cotton planting and weaving with traditional tools are increasingly losing their socio-cultural significance. The Tana Ai community no longer cultivates cotton fields specifically, but only plants cotton among their other crops. Cotton is also not a priority crop for the government.

This ongoing ambivalence causes people to feel disconnected from the present moment and unable to fully embrace their own power. Their attitude toward the changes brought about by "modernization" occupies a space "between longing and despair." (Secor, 2007), in wihich it is unclear whether there is any guarantee of a better life that would compensate for the loss of so many things they have known and loved from their old lives.

This ambivalent experience at the community level is essentially a manifestation of the broader issues of forest and land governance. Normatively promising sustainability and poverty alleviation, but in practice, it leaves behind ecological and social contradictions. Sustainable forest land management plays an important role in improving community economies, alleviating poverty, and sustaining forest and land resources.

The strategic role of Indonesia's forest area, which covers 125.9 million hectares (ha) or 3.1% of the world's forest area, is considered crucial in addressing global climate change as it contributes to global carbon absorption. However, the opposite is true; the condition of forests and forest land shows an increasing rate of deforestation, leading to the assumption of a failure in sustainable economic, social, and ecological forest management. Indeed, the latest data from the Ministry of Environment and Forestry indicate that deforestation in Indonesia decreased by 8.4% in 2021–2022 compared to the previous year's monitoring (KLHK, 2023), but the fact is that deforestation continues to occur in the field.

Although the contribution to deforestation rates is low, small farmers and subsistence shifting cultivators are viewed as the main contributors (Liniger et al., 2011; Rudel et al., 2010; Shearman et al., 2009), and this activity is often carried out in state-owned forest areas. In Sikka, the number of small farmers and shifting cultivators entering Indonesia's state forest areas has increased. The complex forest ownership system, unclear legal status of customary land ownership, and high interest from the government and private sectors have hindered efforts to curb the high rate of deforestation (Brockhaus et al., 2012).

Agrarian change in Indonesia's forest landscapes cannot be understood apart from the evolution of national forestry policies**.** Since the enactment of the Basic Forestry Law (Law No. 5 of 1967), the state has asserted its authority over vast forest areas by designing, demarcating, and formal establishing state forest zones. This policy framework positioned the state as the primary authority in forest governance, while customary systems of forest tenure and management were largely excluded from formal legal recognition. Following the political reforms of 1998, Indonesia's forestry governance underwent significant institutional changes, including the promulgation of Forestry Law No. 41 of 1999, the Constitutional Court Decision No. 35/PUU-X/2012, which recognized customary forests as distinct from state forests, and the expansion of the Social Forestry program, particularly under President Joko Widodo's administration.

Normatively, these reforms were intended to broaden community access to forest resources while promoting sustainable forest management. However, a growing body of scholarship argues that the implementation of Social Forestry has continued to operate within a framework of state territorial control through forest designation, licensing procedures, zoning regulations, and bureaucratic oversight, leaving underlying power relations between the state and local communities largely intact. From a political ecology perspective, these policy transformations are therefore understood not merely as administrative reforms in forest governance, but as mechanisms that continuously reshape territorial space, regulate access to natural resources, and reproduce power relations over forest landscapes.

This broader trajectory of Indonesia's forestry policies provides the historical and political contexts for understanding agrarian change in Sikka. Rather than representing an isolated local conflict, the transformation experienced by the Tana Ai Indigenous community reflects the cumulative effects of successive state forestry interventions, including forest boundary demarcation, reforestation programs, and the implementation of Social Forestry. It is within this broader policy context that the political ecology of agrarian change in Sikka should be understood.

A minor narrative emerges regarding the change in status of customary forests to state forests, in which indigenous communities who have lived in those forests for generations are accused of encroachment (Sukirno & Adhim, 2021). The increasing need for land is one of the reasons that drives forest-edge farming communities to enter state-owned forest areas. The illegal conversion of forest land for agriculture often leads to land conflicts between the community and the state forest management authorities. Efforts to evict or oppress communities related to the occupation of forest land for subsistence and small-scale agricultural livelihoods often occur.

Social Forestry was introduced as a new forest management system designed to reduce the rate of environmental degradation by positioning local communities as the main actors. The narrative of Social Forestry continues to be promoted as an alternative to centralized management by the state and private sectors, while simultaneously supporting the transition from a top-down paradigm to a community-based sustainable management model. This approach is widely regarded as a progressive step toward reconciling ecological conservation with local livelihood needs.

However, Social Forestry, despite being considered sustainable forest management, also functions as a tool for strengthening state control over forests, reflecting what scholars have termed a hegemonic concept (Chatterjee, 2017; Grove, 2017; Küçük, 2025). This is evidenced by the persistence of "spatial restrictions" on access and control over forest resources, policies that remain fundamentally top-down, and the continued involvement of external actors in overall management. Consequently, the tension

between the state's efforts to expand forest land and its restrictions on community control and access also manifests in Sikka, where similar contradictions occur.

In this context, the local community is not the main actor in the development of Social Forestry; rather, the policy reinforces their status as objects or outsiders. The formation of new spaces (zones, types of crops, etc.), creates new socio-territorial conflicts between the community and management authorities. This occurs because the Sikka community possesses "local knowledge" that governs their socio-ecological relations, encompassing not only material fulfilment but also the cultural interpretation of nature for their livelihoods.

Consequently, the local community experiences what can be termed "double exposure". On one hand, the community is blamed as the primary cause of environmental degradation. On the other hand, the creation of new socio-ecological spaces renders them the least beneficiaries, granting them only limited and constantly changing access and control rights. This simultaneously distances them from their existence as indigenous guardians of the forest and nature, undermining their roles that are embedded in narratives, rituals, beliefs, and other cultural practices.

This article aims to show that Social Forestry, as a means of creating new spaces/regions, triggers social, economic, and ecological changes in society, and even gives rise to socio-territorial conflicts between the state and local communities.

Although Social Forestry has been widely examined in relation to tenure reform, community participation, and forest governance, existing studies have primarily focused on state–community relations and questions of access to forest resources. Less attention has been paid to how agrarian contestation unfolds when state territorialization intersects with the territorial claims of religious non-state actors and Indigenous customary institutions. As a result, the political dynamics through which multiple authorities simultaneously construct and contest territorial legitimacy remain insufficiently understood.

This article contributes to the political ecology literature in two important respects. First, it demonstrates that agrarian conflict in Sikka involves not only the state and Indigenous communities but also a religious non-state actor whose legal, economic, and moral authority shapes territorial governance. Second, it conceptualizes Indigenous rituals, customary institutions, and land occupation as practices of counter-territorialization through which the Tana Ai community actively reproduces territorial authority rather than merely resisting state intervention.

Against this background, this article examines how successive processes of territorialization have transformed agrarian relations in Tana Ai, how competing actors negotiate and contest territorial authority, and how Indigenous communities mobilize ritual practices and customary institutions to reclaim access, identity, and territorial sovereignty.

To facilitate an understanding of the historical trajectory of agrarian change in Sikka, Figure 1 summarizes the major phases of territorialization and Indigenous responses from the colonial period to the present.

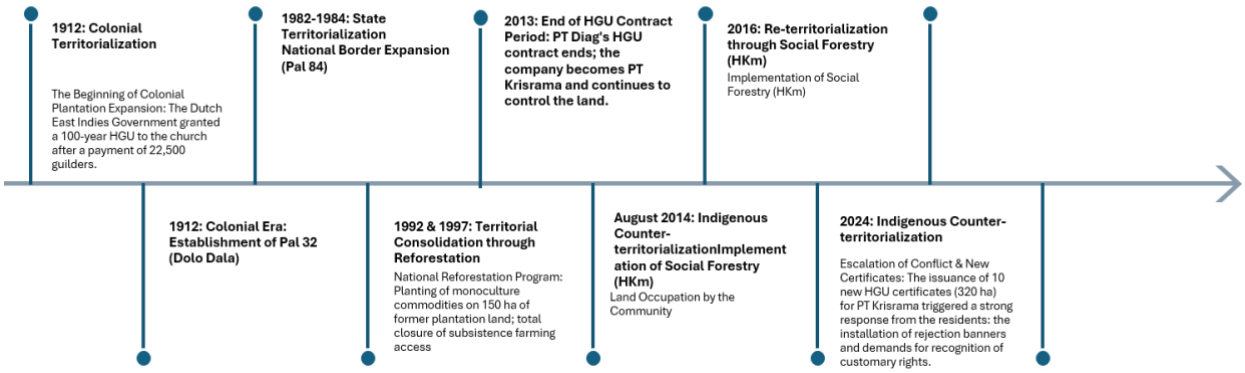

Figure 1. Timeline of Territorialization Processes and Indigenous Resistance in Tana Ai, Sikka (1912–2024)

As illustrated in Figure 1, the transformation of Tana Ai territory did not occur as a single event but through successive interventions, including colonial plantation expansion, state forest demarcation,

reforestation programs, the implementation of Social Forestry, and the Indigenous community's territorial reclamation movement. These successive processes provide the historical context for the political ecology analysis presented in this article.

Literature Review and Theoretical Framework

Deforestation is understood as the conversion of forests to non-forest uses, driven by the expansion of agricultural commodities, infrastructure, and the integration of global supply chains. Recent literature shows that the main drivers of tropical forest loss are intertwined with commodity expansion and global supply chain governance (Austin et al., 2019; Curtis et al., 2018; FAO, 2022; Pendrill et al., 2019). In Indonesia, the dynamics of deforestation are linked to land use changes, forestry policies, and global market pressures on plantation commodities (Austin et al., 2019; Pendrill et al., 2019).

In the framework of political ecology, environmental degradation is not merely seen as a technical-ecological problem, but rather as a product of power relations, knowledge production, and governance regimes that frame access, control, and the distribution of benefits and burdens (Le Billon et al., 2018; Robbins, 2020). The narrative of degradation and sustainability functions as a discourse of legitimacy that normalizes the restriction of community access to their living spaces, while simultaneously shifting the cost of conservation to forest-edge communities (Le Billon et al., 2018; Robbins, 2020).

Social Forestry in Indonesia is positioned as a devolution of access, but recent studies show a paradox of administrative inclusion that continues to reproduce state territorial control through zoning, licensing, and technocratic oversight (Fisher, Moeliono, Mulyana, & ..., 2018; Maryudi et al., 2017; Sahide et al., 2016, 2020). The implementation of Social Forestry often shifts risks and burdens onto communities without changing the power relations underlying forest governance (Fisher, Moeliono, Mulyana, Yuliani, et al., 2018; Sahide et al., 2020).

The concept of territorialization–de/re-territorialization explains how states and non-state actors produce legal-administrative spaces to control access to resources. Resource frontiers are reproduced through legal, technical, and field apparatuses (Peluso, 2018; Rasmussen & Lund, 2018; Vandergeest, 2017). Territory is understood as a socio-political construct that binds material practices, symbolic meanings, and historical relations with space (Peluso & Lund, 2011; Rasmussen & Lund, 2018).

Agrarian contests occur not only between the state and society but also involve a plurality of overlapping claim regimes (state, corporate, customary) that produce prolonged tenure uncertainties (Peluso & Lund, 2011; Sikor et al., 2017). In the context of Southeast Asia, exclusionary politics operates through a combination of formal legality, market, and moral/institutional legitimacy (Hall et al., 2015; Li, 2018; McCarthy et al., 2019) (Li, 2018).

The affective and everyday political dimensions are important for understanding how communities interpret the loss of living space and mobilize alternative claims. Affect, nostalgia, and alienation become the energy of spatial political practices that are often overlooked in technocratic policy readings (Nightingale, 2018; Singh, 2017). Thus, the theoretical contribution of this study is to read Social Forestry as an arena for the state's re-territorialization while also mapping alternative re-territorialization practices based on customary law as the politics of everyday space.

This study employs a political ecology framework as the overarching theory and utilizes the access theory formulated by Ribot & Peluso (2003) as the middle-range theory. This idea distinguishes between property rights and access (ability to benefit) (Peluso & Ribot, 2020). Within the framework in Sikka, the Tana Ai community may lack comprehensive formal legal rights to the protected forest area; however, they establish access mechanisms through: (a) rights-based access, (b) structural and social relationships (patronage, kinship), and (c) local knowledge and cultural identity as resources to sustain their habitat. Theoretical access to examine the different re-territorialization activities of the Tana Ai community should not be viewed solely as “resistance”, but rather as quotidian methods to secure resources in the context of agrarian transformations that marginalize them.

Consequently, political ecology critiques power dynamics, whereas access theory furnishes sociological analytical instruments to empirically delineate how the Tana Ai community sustains, forfeits, or reclaims access to agricultural land and forest regions.

METHOD

This research uses a qualitative design with an ethnographic approach combined with a political ecology framework. Ethnography is used to capture how these processes are experienced and interpreted in the daily lives of the Tana Ai indigenous community. Ethnographic data is not positioned merely as narrative illustrations, but rather as analytical data to understand how agrarian changes and state re-territorialization operate at the level of praxis, social relations, and livelihoods (Ingold, 2002).

The research locations encompass two main arenas of agrarian contestation in Sikka Regency, East Nusa Tenggara: (1) the Egon Ilin Medo protected forest area, which has undergone a series of state territorialization processes through boundary demarcation (Pal 32 during the colonial period, Pal 82/84 during the post-colonial period), reforestation programs, and the implementation of the Community Forest (HKm) scheme; and (2) the former HGU land of PT DIAG/PT Krisrama in the Nangahale–Talibura area, which has been the site of occupation and struggle by the Tana Ai indigenous community since 2014. The selection of these locations is based on the consideration that both arenas represent two modalities of agrarian change: the expansion of state forest territories through sustainable forestry policies and the expansion of land plantation control based on HGU by non-state actors with religious legitimacy.



Figure 2. Map of the Study Area in Sikka Regency, East Nusa Tenggara

Data collection was conducted through participatory field observation, in-depth and semi-structured interviews with traditional leaders (Tana Puan and tribal chiefs Soge Natarmage and Goban Runut), residents directly affected by the designation of state forest areas and HKm, as well as community members involved in the occupation of ex-HGU land (both men and women). Interviews were also conducted with supporting actors (NGOs) such as AMAN (Aliansi Masyarakat Adat Nusantara) Flobatim, research institution such as Candraditya and the Sayogyo Institute, and, to a limited extent, local government officials, namely the Head of the Legal Division of Sikka Regency, to understand the rationale behind the policies and their implementation practices.

The total number of informants interviewed was 20 people. They are the parties who have the best understanding of history, movements, and actively build community solidarity to fight for their customary rights. Additionally, a literature review and analysis of policy document were conducted, including forestry regulations, historical archives of forest area designations, and literature on Social Forestry and agrarian conflicts in Indonesia. The research was conducted in 2024-2025 with four field visits throughout the year.

Data analysis was conducted through thematic coding stages that linked field findings to research's main analytical categories. By using an abductive approach that moves back and forth between field data and the access theory of Ribot & Peluso (2003) as a middle-range theory, the empirical findings on the access mechanisms of the Tana Ai community can be categorized into existing theoretical patterns. The political ecology framework is used to interpret how the narratives of environmental degradation, sustainable forestry, and agrarian modernization function as discourses of territorial control legitimacy (Robbins, 2020). In this way, the analysis does not stop at describing events but places the findings within a broader structural relationship between state policies, the interests of non-state actors, and the livelihoods of indigenous communities.

RESULTS AND DISCUSSIONS

The Territorial Power of the State over the Territoriality of the Indigenous Community of Tana Ai

Agrarian changes in the Tana Ai community began with the establishment of Boundary Post 32 by the Dutch in their forbidden forest area located on a hill far from the village, approximately 4 km on foot from the Natarmage hamlet. The boundary marking of Post 32 was carried out by an officer named Dolo Dala, so the local community also refers to Boundary Post 32 as Dolo Dala. According to the story from Tana Puan Suku Soge, the forbidden forest is a forest area on the hill that is highly respected by the local indigenous community as a place forbidden to human touch and not to be repurposed. The forbidden forest has existed since their ancestors protected the springs, forests, and sacred forests as places for conducting traditional rituals for the Indigenous People of Tana Ai.

The establishment of Boundary Pal 32 was well received by the community because it did not disrupt the forest's ecological functions and the socio-cultural functions of the local people. The establishment of Pal Batas 32 is also considered to meet the needs of the indigenous community at that time as it is believed not to interfere with the implementation of customary rituals they routinely perform every year and at specific times. In addition, the community can still utilize the land around the forbidden forest to open fields/gardens for seasonal agriculture such as rice, corn, cassava, and other types of tubers for daily living needs. The forest around Pal Batas 32 is also used to harvest wood for house construction and other purposes.

By using the shifting cultivation system, the Tana Ai Indigenous Community has its own time calculations to determine when to move. This shifting cultivation system is carried out every two to three years of land use because the soil is considered no longer productive for planting, either by opening new land or returning to previously abandoned fields. Clearing new land involves cutting down trees, clearing the land, and burning it (locally referred to as the land-burning system), which is believed to enhance soil fertility. Once the land is ready, the community plants rice, corn, and cassava in turn in each plot, and the harvest is also done collectively. This farming system has been practiced by their ancestors to this day. When utilizing the land, the community pays a tax called *Koang Ala* in the local language of the Tana Ai Indigenous People.

Agrarian changes in the Indigenous Community of Tana Ai occurred again from 1982 to 1984 by the Government of the Republic of Indonesia, which conducted a remeasurement to designate the land as a state forest area, known to the community as Pal 84. The change in the forest boundary measurement from Pal 32 to Pal 84 was carried out by officials, marked with piles of stones at each marker point. The measurement and establishment of Pal 84 were carried out without seeking permission from the community at the time. According to the story of Tana Puan Suku Soge, their ancestors simply followed the regulations because the officers at the time promised the community could continue farming as before.

The establishment of the Pal 84 boundary led to the designation of the Tana Ai indigenous people's forest as the Egon Ilin Medo Protected Forest Area, which the community refers to it as an area. The state forest area expanded further down to the villagers' settlements (in Dusun Wuta Detun and Natarmage), causing almost all of the community's cultivated lands/plots in the forest to fall within it. Although at the beginning of the establishment of Pal 84, the community was still allowed to cultivate their garden lands in the area, over time, the community was prohibited from clearing land and farming in there. The community cannot freely enter and exit the forest to collect the forest products they need, except to gather candlenut fruits from the remnants of candlenut trees they planted long ago.

Their cultivated land eventually disappeared because it had entered the state forest area, although some people still farmed within the area, their land for planting became increasingly limited. To meet their daily needs, the community only utilizes the remaining narrow land outside Pal 84 or borrows land from others to cultivate rice and corn. In addition, the establishment of Pal 84 resulted in the elimination of taxes on the land of the community in that area. However, many community members have been required to pay taxes on their land for decades since Pal 84 was established. Consistent with the research findings of Christian et al., (2018); Sihalolo et al., (2016) agrarian structural changes lead to poverty and sustained conflicts.

Agrarian changes by the state in the Tana Ai Indigenous Community continued in 1992 through a reforestation program. The reforestation program was carried out in the Pal 84 forest area covering almost 100 hectares, with the planting of commercial plants such as Candlenut, Mahogany, and White Teak. Before the reforestation program was implemented, the area consisted of forests, shrubs, and former community farming plots. The land was cleared by cutting down all the trees, removing the bushes, and burning it, turning it into a plot for reforestation. The 1992 reforestation program involved local communities and newcomers from the land clearing stage to tree planting, providing them with wages. According to the explanation from Tana Puan of the Soge Tribe, who participated in the reforestation program at that time, the community merely followed the activities without knowing what would happen to the area in the future. However, the community still considers the reforestation program beneficial, as they can continue farming in the spaces between the planted trees for several years afterward. However, after 5 years, the planted trees have grown tall, making it impossible for the community to cultivate them, resulting in the Tana Ai indigenous people losing both their land and their source of livelihood.

The reforestation program was resumed in 1997 by adding a planting area of 50 hectares in a different location but still within the boundaries of the Pal 84 area. The land before it was designated as a reforestation area that was a vast expanse of shrubs and trees. The community was once again involved in the program. According to the confession of Tana Puan from the Soge Tribe, the land used for reforestation covers 150 hectares, and it is estimated that the average community member owns a 1-hectare plot within the area. The community was still promised they would be allowed to farm within the reforestation area among the reforestation plants. However, this ultimately caused the same impact as the reforestation program in 1992, where once the reforestation plants grew tall, the community could no longer farm within it because the area had become a closed forest. The community must relocate to land outside the area to plant seasonal crops needed by the community.

Meanwhile, within the area, the community can only harvest forest products such as Kemiri and Mente with very minimal yields each year. As for timber, it is not allowed to be taken by the community. Access in and out of the forest has become increasingly restricted due to a ban by forestry officers, leaving only a small footpath for the community to collect Kemiri and Mente fruits. Meanwhile, regarding taxes, some community members are still required to pay taxes on their land in the area.

The state's process of forest territorialization in the indigenous community of Tana Ai continued in 2016 through Social Forestry with the Community Forest (HKm) scheme. This HKm has caused the territorial expansion of state forests to extend far below Pal 84, resulting in more indigenous land being included within the HKm area. Even in several hamlets, some houses fall within the boundaries of the HKm area. In Dusun Wuta Detun, there are 6 houses and 1 Posyandu, while in Toa Bao, there are even more houses that fall within it. The lower boundary of the HKm area in Toa Bao Village is at the intersection of the paved road (planned as the location for the HKm secretariat).

Through the HKm program, the community received coffee seedlings to plant in the HKm area. According to the account of a traditional leader from the Soge Tribe, the community is no longer allowed to cultivate their land for annual crops, but they are still permitted to harvest forest products such as candlenuts and cashews, although the productivity of these yields continues to decline. The community was also informed by the officers that after 30 years, the HKm area should no longer be touched by humans. Thus, the establishment of the HKm area boundaries causes the community to lose a larger amount of their land while also losing access to their own land for farming and harvesting forest products that they have cultivated since ancient times. Meanwhile, the community must continue to pay taxes on their land that falls within the HKm area.

During the process of state territorialization over the forest area, indigenous communities experienced various pressures and restrictions. According to information from several informants, forestry officers routinely patrol their villages. The community's movement is strictly limited in entering and exiting the

forest except for collecting forest products such as candlenuts, prohibited from taking wood for building or repairing their houses, and strictly prohibited from clearing land and farming within the area. These conditions caused the community to lose their land and sources of livelihood, which had long depended on the forest. This situation led the community to take several actions to violate these restrictions in order to survive. Some community members were forced to clear land for farming to meet their daily needs because they no longer had land to cultivate, and to take wood for house repairs. As a result, they were arrested and prosecuted by the authorities.

Re-Territorialization and the Struggle of the Tana Ai Indigenous Community on the Former HGU PT DIAG/PT Krisrama

PT DIAG is a company owned by the Archdiocese of Ende that operates in the coconut plantation sector and is based at the Catholic Church Stasi Nangahale, Talibura District. PT DIAG has a 100-year HGU contract covering an area of 7,000 hectares from Likong Gete Village, Wae Gete District (Hitohalok Hamlet) to Nangahale Village, Talibura District (Pedan Hamlet), after paying 25,000 golden to the Dutch Government in 1912. The contract ended in 2013, and by the diocese, PT DIAG was renamed PT Kristus Raja Maumere (PT Krisrama) with the same location and continued the company's activities to harvest the plantation's coconuts on all the leased lands of PT DIAG, while also maintaining security on the plantation lands. By the indigenous people of Tana Ai, both PT DIAG and PT Krisrama are commonly referred to as the church or Misi party.

On August 9, 2014, in the evening after performing ancestral rituals, 250 households from the Tana Ai indigenous community of Dusun Natarmage, Dusun Wuta Detun, Dusun Ilin Medo, and Dusun Toa Bao simultaneously moved down to the former PT Krisrama HGU land at the Talibura road intersection. The indigenous people, accompanied by several traditional leaders of the Soge Tribe, moved to reclaim their ancestral land by occupying it.

The occupation of the former PT Krisrama HGU location by the Tana Ai indigenous community is caused by four reasons: 1) The Tana Ai indigenous community believes, with various pieces of evidence (including: intergenerational narratives about the origins of the Tana Ai Indigenous Community, remnants of several ritual sites, and recognition from several existing tribes of their existence), that the former HGU land is their ancestral communal land; 2) The HGU contract period of PT Krisrama has ended; 3) The land for their survival in their village (around the state forest area) has become very limited, and many community members no longer have garden and cultivation land due to agrarian changes made by the government. Finally, the HKm program has caused the community to be unable to farm anymore because their land has become a very dense protected forest; and 4) The 1992 earthquake refugee community was given certified land to live in the Nangahale refugee village by the government, while the Tana Ai indigenous community believes that the land is part of their ancestral communal land heritage.

After they arrived at the location, the division/designation of the land had already been determined by Tana Puan and mandated to the tribal chief for distribution to each household/member of the indigenous community at the former PT Krisrama HGU location. The land area was divided into two, namely 25 x 30 m at the roadside, and 15 x 20 m at the back. After the land distribution was completed, the community gradually worked together to set up tents and build huts for each member, with building materials provided by each person. During the construction of the tents and huts, officials from the government, police, and military came by, but work continued until completion. In addition to the yards, the indigenous people also began to open gardens on their yard land to plant rice and corn. At the time this research was conducted, all community members who had participated in occupying the former PT Krisrama HGU land already had their own huts and yards scattered from the Talibura intersection to the Pedan River.

Field observations reveal two key findings regarding the community’s physical environment. First, the community's yard still looks barren, only covered with a few trees such as Mente, Asam, Kakao, Mangga, Pisang, and some other plants. In addition, there are many coconut trees previously owned by PT Krisrama in the residents' yards. According to the explanations of several informants, by early 2024, the residents' yard had already grown several fruit-bearing plants and was producing fruit. However, those plants are no longer there after the Mission carried out random, unilateral cutting. Meanwhile, the yard soil is not productive enough to cultivate rice, corn, and cassava due to its sandy, very dry nature.

Second, most of the houses or huts in the community are made of bamboo walls, cement/earth floors, and zinc roofs, and are relatively small. On average, each house is inhabited by one family, but not all houses are occupied by residents every day because some community members travel back and forth to their original village to farm on the land they still own, gather candlenuts in the forest, and clean their houses above. Some huts already have access to electricity and water, but most of them do not yet have it.

The occupation of the former HGU PT Krisrama land is not only carried out by indigenous people from the upper villages around the state forest area but also together with the Tana Ai indigenous people who have long lived on the land from several other villages scattered across the area. According to one of the tribal chiefs, as of now, the Tana Ai indigenous people living on the former HGU PT Krisrama land number 1,070 households on an area of 780 hectares. The Soge Natarmage and Goban Runut tribes are the two largest tribes among the Tana Ai indigenous people, followed by several other tribes.

The indigenous people who have occupied the land longer are those who were flood victims, people from Kampung Gere due to the very narrow village and its location on the edge of a ravine, and people from other villages who joined in occupying the land to support the struggle of the Tana Ai indigenous people on the former PT Krisrama HGU land. Most of these indigenous people work as field and rice farmers. In several locations, the community has built permanent houses, gained sufficient access to electricity and water, and received various forms of assistance from the government. However, there are still no residents who possess land certificates and local identity cards. In addition, in several locations believed to be communal lands of the Tana Ai indigenous people, several public facilities, such as schools and markets, have also been built.

In addition to land occupation efforts since 2014 and earlier aimed to reclaim their customary land, the Tana Ai indigenous community continues their struggle in various forms. According to information from several informants, their struggle is carried out through regular internal consolidation, demonstrations at the local government office, consultations with the central government, consultations and assistance from several non-governmental organizations and some figures, and several peaceful actions at the struggle locations. At the beginning of 2024, the indigenous community heard information about the issuance of 10 new HGU certificates for PT Krisrama at the same location covering an area of 320 hectares, with the largest area on land occupied by the Tana Ai indigenous community, which was settled in 2014. Information regarding the 10 new certificates was conveyed by the Misi through religious sermons in several churches, and the community was urged to vacate the land immediately. However, until this research was conducted, the community claimed they had never directly seen the evidence of the 10 HGU renewal certificates from PT Krisrama.

The issuance of 10 new HGU certificates by PT Krisrama has led the indigenous Tana Ai community to intensify their struggle to reclaim their customary land. In addition to continuing the struggle that had been carried out previously, the community also conducted several peaceful actions, including installing signs expressing rejection of the issuance of the 10 new certificates and opposing PT Krisrama's activities on their customary land. The installation of rejection signs was carried out collectively by the community at several points along the Patiahu to Pedan road.

In the years prior to the occupation of indigenous land in 2014, several actions occurred in response to the mission's attempts to claim the land, including the removal of new boundary pillars and the removal of new coconut planting poles/stakes by the mission. These various efforts to struggle are considered by the community to be peaceful actions that will continue until their struggle is successful. Furthermore, to the researchers, the community stated that the indigenous people of Tana Ai will not stop fighting for their customary land rights until they succeed and will not leave the land at any time.

The struggle of the Tana Ai indigenous community is also intended to uphold the ancestral mandate for the continued existence of the customary system, which is still believed in and practiced to this day. They believe that as an indigenous community, they are subject to customary rules and sanctions if they commit violations. In the struggle location, there are several heritage sites in the form of ritual places (nuba) that are regularly used by the community to conduct traditional rituals.

According to several informants, there are currently 5 nuba that are still being maintained by the indigenous community, and there is 1 nuba that has been damaged due to the actions of other communities building houses. Efforts to prevent damage to the ritual site have been made by the indigenous community, but it continues to be vandalized. Therefore, according to the indigenous people, the efforts to occupy the former HGU PT Krisrama land and the struggle to obtain their customary land

rights are also considered their duty to preserve and maintain the ancestral customary system and their existence as the Tana Ai indigenous community.

According to several informants, the efforts to struggle of the Tana Ai indigenous people continue to face opposition from the mission in two ways. First, the Misi has rejected the occupation and struggle of the Tana Ai indigenous people through acts of provocation and stigmatization via the church pulpit. The majority of Catholic Tana Ai indigenous people stated that the church/Misi has conveyed information about land seizure, land encroachment, land eviction, and land clearance to the Tana Ai indigenous people. Additionally, efforts to stigmatize them as lazy, thieves, and robbers have also been made. Second, the Misi apprehended certain members of the indigenous community who took coconuts to eat upon their arrival by cutting their nails and hair, attempted to demolish residents' houses using heavy machinery but the action failed due to a flat tire and the driver's death, and finally, the latest act of defiance was carried out in early 2024 and throughout 2025 by randomly and unilaterally cutting down trees in residents' yards. Some of the mission's efforts did not meet with resistance from the indigenous community.

Discussion

The findings show that agrarian changes in the Tana Ai region occur through a cycle of state territorialization–re-territorialization that repeatedly produces new socio-territorial spaces. The establishment of Pal 32 during the colonial period was relatively compatible with the local cosmology because it did not disturb the customary forbidden forests. However, the establishment of Pal 82/84 in the post-colonial period lowered the boundaries of state forest areas to near and encroach upon community living spaces, converting subsistence farming lands into state-protected areas. The reforestation programs (1992; 1997) then intensified territorial control by replacing local agro-forest mosaics with trade-oriented monoculture cover, while the HKm scheme (2016) redefined boundaries and land-use regimes according to the logic of state zoning.

This process affirms that Social Forestry operates as a mechanism of re-territorialization: the state re-binds access to and use of resources through legal, technical, and field supervision instruments. The production of space is not neutral; it transforms the material landscape while simultaneously producing "legal space" that marginalizes subsistence livelihoods (Peluso & Lund, 2011; Vandergeest & Peluso, 1995). The narrative of environmental degradation and sustainable forestry functions as a discourse of legitimacy that normalizes the restriction of community access (Blaikie, 2012; Robbins, 2020).

The creation of new spaces directly contributes to the loss of cultivated land, restrictions on mobility to the forest, bans on timber collection, and the criminalization of subsistence practices. Although "participation" in HKm was promised, community access to seasonal agricultural practices is restricted by zoning and technocratic mechanisms of territorial governance; these technocratic arrangements should not be understood as politically neutral instruments. Rather, they represent one of the principal mechanisms through which state power is exercised, legitimized, and reproduced in forest governance by defining legitimate forms of access, resource use, and territorial control. The promised economic benefits do not compare to the loss of livelihood. The disparity in the distribution of benefits and burdens reflects a structural governance bias that shifts the cost of conservation onto forest-edge communities (Le Billon et al., 2018).

These findings also reveal the paradox of "exclusive inclusion": the community is included as managing subjects yet remains within a control regime that closes off the space for practical autonomy. Politically, the simplification by the state abstracts the diversity of local practices into administrative categories that facilitate control but reduce the socio-ecological significance of space for the community (Li, 2007; Scott, 1998).

The contestation does not only occur between the state and indigenous communities but also involves non-state actors with religious legitimacy (PT DIAG/PT Krisrama) (Desmiwati et al., 2025). In the former HGU area, the expiration of the formal contract does not automatically restore customary land claims; instead, practices of re-claiming emerge through corporate devices and moral-religious authorities. This dynamic illustrates the plurality of overlapping claim regimes (state, corporate, customary) that produce prolonged uncertainty about tenure (Peluso & Lund, 2011). At the practical level, security apparatus and bureaucratic devices reinforce re-territorialization through patrols, access restrictions, and selective criminalization, demonstrating how territorial control is exercised from "close range" through local agents.

Competing Interests and Power Relations among Actors

The empirical findings suggest that agrarian conflict in Sikka is driven not merely by overlapping land claims but by competing interests among multiple actors whose objectives are rooted in different political, economic, cultural, and institutional rationalities. The state's primary interest lies in maintaining territorial authority over forest landscapes through legal demarcation, conservation programs, and Social Forestry schemes. These policies simultaneously pursue environmental objectives while reinforcing state control over access, resource use, and land governance.

For the Tana Ai Indigenous community, the struggle over land extends far beyond economic interests. Their collective action is driven by the imperative to safeguard customary land rights, sustain subsistence livelihoods, preserve sacred ritual sites, maintain cultural identity, and secure continued access to forest resources that have long underpinned their social and ecological existence. These objectives are deeply interconnected, as land is understood not merely as an economic asset but as the material and symbolic basis of community life, ancestral authority, and cultural continuity. From a political ecology perspective, the Tana Ai's resistance represents a struggle for survival, identity, and territorial sovereignty. Their efforts to reclaim and defend customary territories therefore constitute not only a response to livelihood insecurity but also a political assertion of Indigenous territorial rights against competing state and corporate claims.

For PT DIAG/PT Krisrama, the contestation is not solely about maintaining control over former HGU land as an economic asset, but also about preserving its legal, institutional, and moral authority over the territory. The plantation represents both a productive resource, particularly through coconut production, and a historically embedded institutional claim that the company continues to defend despite competing Indigenous claims following the expiration of the HGU. As an institution closely associated with the Catholic Church, PT DIAG/PT Krisrama also draws upon religious legitimacy to reinforce its territorial authority, framing its claims not only through legal mechanisms but also through moral narratives and institutional influence. From a political ecology perspective, its actions reflect an effort to sustain a particular territorial order in which legal authority, economic interests, and religious legitimacy converge to maintain control over land and natural resources. Consequently, the conflict is not merely a dispute over landownership, but a contest over the legitimacy of authority to define, govern, and control the territory.

Local government agencies and forestry officials play a distinct role as frontline actors responsible for implementing and enforcing state forestry policies. Their primary interests lie in ensuring compliance with forestry regulations, maintaining order within designated forest areas, protecting the legal status of state forests, and preventing the normalization of unauthorized land occupations that could challenge state authority. Consequently, routine patrols, restrictions on access to forest resources, prohibitions on cultivating land within forest boundaries, and the criminalization of activities deemed illegal are not merely law-enforcement measures but also practices through which state territorial authority is reproduced on the ground. From a political ecology perspective, local officials function as agents of territorial governance, translating national forestry policies into everyday practices of surveillance, regulation, and control that reinforce the state's claims over forest landscapes while simultaneously constraining Indigenous access and customary land use.

Rather than representing a simple contest over land ownership, the conflict in Tana Ai reflects the interaction of competing territorial projects. Each actor seeks to define legitimate authority over the same landscape through different sources of legitimacy—state law, customary institutions, religious authority, or historical occupation. From a political ecology perspective, these competing interests continuously reproduce unequal power relations and shape the transformation of agrarian landscapes.

The response of the Tana Ai community is not limited to open resistance; it manifests as an alternative re-territorialization practice. The occupation of former HGU land since 2014, the installation of rejection signs, the uprooting of fences, and the maintenance of ritual sites (nuba) are practices of spatial politics that articulate land claims through material-symbolic mediums. This practice demonstrates the subject's capacity to "transform territory" through material and symbolic actions beyond the state's design (Gutiérrez-Zamora & Estrada, 2020; Ventura-Patiño, 2011). Affective dimensions, nostalgia, alienation, and aspirations for the restoration of dignity become the mobilizing energy that binds collective actions, marking that agrarian change not only has material impacts but also touches the realms of identity and social reproduction (Singh, 2013; Thrift, 2008).

The findings confirm the political ecology argument that sustainable forestry policies operate as an arena for contesting power relations, rather than merely technocratic interventions. In Sikka, Social Forestry reproduces state territorial control through layered re-territorialization (boundary-setting, reforestation, HKm), thereby converting living spaces into legal-administrative spaces. This challenges the mainstream narrative that positions Social Forestry as a devolution of access; empirically, the devolution occurs selectively and conditionally, while control remains centralized (Robbins, 2020; Vandergeest & Peluso, 1995).

Second, the findings expand the literature by showing that practices of space claims based on customs, rituals, oral narratives, and occupation function as alternative re-territorializations that are not always interpretable as "resistance" within the binary framework of agree or disagree. These practices shape the politics of everyday space that negotiate legal boundaries through material-symbolic actions. Thus, this analysis transcends the framework of open resistance toward an understanding of counter-territorialization that operates within the interstices of governance rationality (Nightingale, 2011; Singh, 2013).

Third, the involvement of non-state actors with religious legitimacy adds complexity to agrarian politics: moral legitimacy can extend territorial claims after the formal end of HGU, demonstrating how non-state authorities also produce legal-moral spaces that compete with customary land claims. This emphasizes the need to read the plurality of authority in agrarian conflicts, not just state vs. society (Peluso & Lund, 2011).

The policy implication of this finding is the need to recalibrate Social Forestry from a zoning-control approach toward substantive recognition of customary tenure and co-production of governance based on local practices. Without it, Social Forestry risks deepening exclusion through "administrative inclusion" that does not change power relations.

CONCLUSIONS

This research shows that Social Forestry in Sikka Regency functions as a mechanism of state re-territorialization that produces new socio-territorial spaces, limits access and control of the Tana Ai indigenous community over forests and land and triggers prolonged multi-actor contestation. On the other hand, the community produces alternative re-territorialization practices through space occupation, rituals, and symbolic claims that negotiate the state's legal boundaries in everyday spatial politics.

The theoretical contribution of this study is to expand the reading of the political ecology of Social Forestry by placing customary practices and affective dimensions as part of territorial politics, transcending the resistance-compliance dichotomy. Regionally, these findings highlight the need for forestry policies that substantively recognize customary tenure and facilitate co-production of governance, rather than mere administrative devolution. The limitation of this study lies in access to internal institutional documents and the ever-changing dynamics of current policies; further research needs to explore legal mechanisms for recognizing customary land and co-governance models that reduce socio-territorial conflicts.

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Credit Contribution. DSM: Conceptualization, Methodology, Formal Analysis, Writing-Original Draft, Writing-Review&Editing; **SRT**: Resources, Data Curation, Project Administration, Bibliography.

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