The Indonesian Journal of Southeast Asian Studies
Vol. 5, No. 1, July 2021, pp. 17-32
ISSN 2580-6580, E-ISSN 2597-9817
DOI: 10.22146/ikat.v5i1.64974

Achieving the Nationally Determined Contribution (NDC) Through Social Forestry: Challenges for Indonesia

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Submitted: 28 March 2021 **Accepted**: 22 July 2021

Abstract
Indonesia's determination in realizing the Nationally Determined Contribution target as a follow-up to the Paris Agreement resulted in concrete steps in climate change adaptation and mitigation efforts, one of which is through social forestry. This paper aims to describe the various efforts to achieve Indonesia's targets on both conditional and unconditional, especially applying and linking social forestry schemes to climate change. This research finds that after the MoEF Decree No. 83/2016, social forestry regulations in Indonesia have begun to accommodate ecological elements. However, its accommodation remains partial in the policy context and is still not in line with the scope of activities of REDD+ programme. Several critical issues could be identified further: institutional, technical and methodological, legal, and most importantly, political-economic challenges.

Keywords: Climate Change; Nationally Determined Contribution; Social Forestry; Indonesia.

Introduction

Forest plays a double role in the context of climate change. It is the source of carbon emission, especially when the forest is cut down, burn, or degraded, while at the same time, the forest also is regarded as the storage of carbon stocks (FAO, 2021). In Indonesia, the forest is calculated to cover 120 million hectares of the country's terrestrial. However, there has been an alarming rate of deforestation and forest degradation in the country as the expansion of palm oil plantation, mining, as well as infrastructure projects have continued to be the main priority of Indonesian development policies. Consequently, Indonesia has been a persistent contributor to world carbon emissions from forestry sectors. It is estimated that each year Indonesia contributes approximately 451 million tons of carbon dioxide, with 2.563 thousand tons of CO2 comes from deforestation (Sari, 2007).

It is frequently argued that two main problems have caused forestry issues in Indonesia. First, the failure of forest governance. The World Bank has officially stated that programs sponsored by the Indonesian government have caused 67% of all deforestation (World Bank, 1994). This statement is also reinforced by a study from Forest Watch Indonesia (FWI) affirming

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that 72% of the deforestation in North Sumatra, East Kalimantan and North Maluku is in an area burdened by a management permit from the government (Barri *et al*., 2018). Second, there has been a chronic problem of poverty among local communities who live in forests or nearby the forests. There is a lack of recognition of indigenous peoples' rights and forest-dependent communities despite the fact that they play an important role in managing the forest sustainably (Colfer and Dudley, 1993). As several scholars have pointed out, deforestation and forest degradation do not only provide impacts on global carbon emissions but also on socio-economic conditions of forest-dependent communities due to the loss of their livelihood (Rahmina, 2012).

The main response of the Government of Indonesia has been two folds. The first one is the direction of environmental and forestry development toward strengthening the circular economy of environmental development (including strengthening governance and human resource development). The second direction is toward maintaining and reducing deforestation and forest degradation rates. In the first direction, since 2016, the national government through the Ministry for the Environment and Forestry has undertaken social forestry program in a serious manner. The realization of the social forestry program is important to be discussed given the essence of the program which does not only empower people but also emphasizes efforts to reduce global emissions (Attachment I MoEF Decree No. 82/2019). This was further affirmed by the Presidential Regulation Number 56/2018 concerning the Acceleration of the Implementation of National Strategic Projects, that fastens the President target to allocate 12.7 million hectares of forest area to be used as social forestry land with enthusiasm on realizing the sustainability of ecosystems (both socially and ecologically) through the opening of legal access to the community to participate in making responsible use of forests for welfare (Indonesia Secretariat Cabinet, 2020).

Meanwhile, in the second direction, Indonesia has responded by ratifying the Paris Agreement through Law No. 16/2016 to show a willingness to the international community in undertaking mitigation efforts to reduce its emissions, especially from forestry sectors. As mandated by the Paris Agreement, every state party, including Indonesia, has to put forward its commitment to reduce emissions domestically in the form of a Nationally Determined Contribution (NDC). In November 2016, the Government of Indonesia announced its First Nationally Determined Contribution (NDC) to reduce emissions by 29% on its own effort and up to 41% with international supports. Forestry sectors were convicted as one of the main targets (Presidential Executive Office, 2019). It was targeted that 17.2% of the 29% target would be achieved through reducing deforestation from 0.9 million hectares per year in 2010 to 0.35 million hectares per year in 2030 (Presidential Executive Office, 2019).

At first, there was no connection between the social forestry program and efforts to achieve the target in the NDC, especially emission reduction in forestry sectors. The social forestry program focused on the economic empowerment of local communities while the climate change mitigation is about enhancing the carbon stocks. Later on, the Government of Indonesia has even undertaken a more significant step by adopting a "bottom-up" approach on the climate change agendas. In short, a bottom-up approach is a decision-making process where it originates from lower levels and proceeds upwards. Therefore, communities are given the capacity to be able to optimize the existing programs through community initiatives and

brainstorming processes in order to make a more harmonized and inclusive system (Khadka dan Vacik, 2012). This approach was adopted to comply with the Paris Agreement nature which endorsed the bottom-up approach in both its process and substance (Zaman, 2018). In response, the Indonesian government then made a breakthrough strategy by giving people open access and management rights of land through capacity building and empowerment to muster active local participation to manage forest management systems and making it affordable even at the lowest level, with one of the goals to involve the community in achieving the NDC targets.

Hence, it is suggested that there is a need for comprehensive recognition of the community in and around the forest to be involved in the management of forest resources. One way is by formulating strong legislation to enhance the protection and optimal management of the land resource, specifically in forestry areas with objectives of success determined by how well the communities in and around forests being involved as a key stakeholder in running the forest resources (Mawardi and Sudaryono, 2006). The objectives of this program are further translated into specific programs, namely Social Forestry (SF).

In relation to the context of climate change, SF has been placed in special proportions as one of the climate change mitigation programs (MoEF, 2018). However, Nurfatriani and Alviya's study shows that the policy of opening land access for the community through social forestry has not been able to achieve the ideal target of restoration of forest functions due to the arising problems from the forest management itself (Nurfatriani and Alviya, 2019). In line with this explanation, the National Development Planning Agency notes that this results from ineffective land resources management by the government (Thamrin, 2011). It is important to note beforehand that under the Ministry for the Environment and Forestry (MoEF) authority, the social forestry program is managed by the Directorate-General of Social Forestry and Environmental Partnership (DG SFEP) while the undertaking of the NDC target is placed under the Directorate-General of Climate Change (DG CC).

Therefore, in this article, the author aims to explore Indonesia's policies concerning the effort on reducing greenhouse gas emissions, especially in the forestry sector, in its national development agenda and seeks to find whether the progress of the social forestry program in regard to the achievement of NDCs targets. The author observes that considering the nature of the social forestry program on the ground, there are several challenges faced by Indonesia in achieving its NDC targets in forestry sectors, which include: the absence of a uniform and applicative carbon measurement, the lack of calculation methods for beneficiary communities, the problem of the national forest carbon certification system for social forestry areas, the weak recognition of indigenous peoples' rights, as well as persistent political-economic challenges.

Literature Review

This article contributes to the literature on environmental law in Indonesia by focusing on the nexus between forest and climate change. Indeed, the topic of forestry and climate change has been widely written (Mawardi and Sudaryono, 2006; M. Nijnik, J. Bebbington, B. Slee and G. Pajot, 2009; Wardana, 2012). In *Conservation of Forest and Land Through Empowerment of*

Communities Around the Forest, for instance, Mawardi and Sudaryono (2006) discuss the problems arising from past forest destruction by taking community forestry mechanisms as the main focus, especially to explain it as one of the solutions on realizing sustainable forest management. Nijnik *et al.* (2009) in *Forestry and Climate Change: A Socio-economic Perspective* draws the linkage of the forestry sector and its contribution to climate change while endorsing the importance of developing forest-based activities to tackle climate change through community involvement at the local level to be actively involved in this agenda. It underlines the importance of forestry governance to be cost-effective, ecologically sustainable and socially desirable in order to achieve sustainable development objectives and climate change agenda. The author then uses this approach and paradigm in order to overview, asses and gives the recommendation to be able to maximize the concept of social forestry in achieving the climate change target agenda. Wardana (2009) in A Critical Analysis of the REDD+ Legal Architecture in Reducing Emissions in Forestry Sectors in Indonesia discusses the development of the legal framework to govern the REDD+ scheme.

However, they were published prior to the adoption of the Paris Agreement in 2015. Hence, they use the United Framework Convention on Climate Change (UNFCCC) and the 1997 Kyoto Protocol as the main legal frameworks in analysing the forestry/climate change nexus. In fact, the 2015 Paris Agreement provides a different and important legal framework for Indonesia to undertake its legally binding commitment in reducing emissions from deforestation. This commitment was not required under the previous climate change legal regime, especially the 1997 Kyoto Protocol, which only obligated to reduce emissions for developed countries. Hence, this article will enrich the literature by using the Paris Agreement as the legal framework to analyse the relationship between forestry sectors and climate change mitigation in Indonesia.

Methods

The research method used is a combination of library-based research and fieldwork. In this regard, the writer examined secondary data through relevant library materials in order to seek the Indonesia climate change target and objectives, also the original concept of Social Forestry. The sources of secondary data include various policies and regulations, published reviewed papers, theses, formal reports, and many supporting literatures regarding climate change and social forestry, specifically in Indonesia. Moreover, the author also collected primary data through interviews in order to know the further translation of NDC's target and the ongoing Social Forestry implementation on the ground. The research was conducted on January 2020 to February 2021 through semi-structured interviews with several key informants, representing the government, environmental NGOs that have been work as a partner for local communities in undertaking social forestry.

Resultas and Discussion

Forestry and Climate Change Agenda

It is inevitable that Indonesia through its forestry sector has contributed up to 47.8% of Indonesia's total greenhouse gas emissions and reached a deforestation rate up to 0.920 Mha per year in the 2013-2020 period (First NDC, 2016). Therefore, Indonesia has long recognized the importance of the forestry sector in meeting climate change targets. As can be observed from the first (2004-2009), second (2010-2014) and third (2015-2019) period of Indonesia medium-term development plan (re: RPJMN), the issue of climate change is consistently being occupied in an important proportion in each period, with forestry sector as one of its pressure points in regards with the fulfillment of national development agenda.

Being aware of its large scale of tropical forests, Indonesia then expressed its concern by taking concrete steps to protect its forests (Indonesia Government, 2017). In the forestry sector, climate change policies have been built under a scheme known as Reducing Emissions from Deforestation and Forest Degradation in Developing Countries plus Conservation, Sustainable Management of Forests and Enhancement of Carbon Stocks (REDD+). REDD+ is developed as an important component in achieving the NDC target for developing countries. Conceptually, it has developed within a framework of low carbon development and a green economy to ensure that efforts to address climate change from the land-use sector align with Indonesia's sustainable development policies and needs (Rustiadi, 2014). The scope of REDD+ consists of reducing emissions from deforestation, reducing emissions from forest degradation, conservation, sustainable forest management, enhancement of forest carbon stocks (Wardana, 2012).

The use of REDD+ is further emphasized in the NDC, especially related to the unconditional target for mitigation from the forestry sector. As Marispatin (2017) puts it, mitigation efforts will be implemented through sustainable forest management, including social forestry. As a response, Indonesia then carried out categorization as well as further targets of the planned mitigation efforts. At first, the foundation for climate change mitigation actions in the forestry sector was put through Presidential Regulation No. 61 of 2011 which included 13 core activities and 17 supporting activities, with the forestry and peatland sector carried the largest reduction target, 0.672 tons of total 0.767 tons of carbon dioxide (Darajati, 2012). Afterwards, the MoEF took action in translating the specified target through a series of actions to reduce emissions in the forestry sector based on budget tagging by the Directorate-General of Climate Change Control. In a book entitled *Guidelines for Determining Climate Change Mitigation Action* published by the Directorate for Climate Change Mitigation, these activities include: (1) Prevention of Reducing Natural Forest Cover or Conversion of Natural Forest (Reducing Deforestation and Degradation Rates); (2) Sustainable Forest Management; (3) Development of Industrial Plantation Forest (HTI); (4) Rehabilitation of Forest Areas (regeneration / without logging); (5) Rehabilitation of Production Forests and Land (with Rotation); (6) Peat Restoration; (7) Forest and Land Fire Control; and (8) Peatland Restoration.

In achieving the climate target, the Indonesian government then realise the importance of maximizing the involvement of the local community. This is in line with the sustainable forest management concept which encourages important principles in forest management

includes: monitoring, reporting and management instruments at a global, national, and also community level (UNCED, 1992). The social forestry program is designed as one of the derivative programs from the rehabilitation of forest areas category. Through the social forestry scheme, it is expected that an increase in the area of land granted a permit to be planted with annual and timber species. Besides the mitigation effort, being aware that climate change also impacts local communities living around the forest, the land rights entitlements through the social forestry program are designated to allow them to manage their environment to adapt to climate change.

Social Forestry in Indonesia

It is important to be noted firstly that Minister of Environment and Forestry Regulation Number 83 of 2016 (MoEF Regulation 83/2016) is a milestone regulation on social forestry in Indonesia. This regulation has implicitly created a linkage between community empowerment and a need to mitigate climate change through planting and sustainable forest management. First, by its definition, social forestry is described by the regulation as a "sustainable forest management system implemented in state forest areas or customary forests implemented by local communities or customary law communities as the main actors to improve their welfare, environmental balance and social and cultural dynamics." Social forestry aims to resolve tenure and justice issues for local communities and indigenous peoples in or around forest areas in the context of community welfare and preservation of forest functions.

Given attention to the choice of word, by using a grammatical interpretation of "sustainable forest management," it is noted that this word implicates not only economic and social sustainability but also the ecosystem and hydrological aspects of the forest (Indonesia Forestry Certification Cooperation, 2013). Moreover, "environmental balance" in biological science is interpreted as the ability of the environment to cope with disturbances of pressures arising both from nature and human activities and the ability of the environment to maintain the stability of life. This balance can only occur when there is a proportional interaction between living things and their environment (Kricher, 2009).

In addition, under the social forestry scheme, forest's environmental services are utilised for ecotourism, water management, biodiversity services and carbon sequestration or storage services (Article 1 paragraph 8 of MoEF Regulation 83/2016). The government is also encouraged to facilitate programs or activities for the rehabilitation of forest and land, the conservation of soil and water, the empowerment of community-based conservation, and the certification of sustainable forest management and/or timber legality (Article 61 paragraph 4 of MoEF Regulation 83/2016). Therefore, despite the fact that it is not explicitly stated, the ministerial regulation accommodates the mitigation efforts to climate change under the social forestry scheme. After the enactment of MoEF Regulation 83/2016, the social forestry program is delegated to the Directorate-General of Social Forestry and Environmental Partnerships (DG SFEP). The DG SFEP has enacted several regulations to achieve the objective of social forestry in Indonesia as follows:

Table 1. *Social Forestry-Related Regulations that Support the NDC Target*

No	Rules	Contents
1	Article 1 Paragraph (1) of DG SFEP Regulation No. P.3/PSKL/SET/KUM.1/4/2016 concerning Guidelines for Developing Social Forestry Businesses and DG SFEP regulation Number P.2/PSKL/SET/KUM.1/2018 concerning Guidelines for Social Forestry Business Development	Business in the field of social forestry is a business of non-timber forest products and/or wood forest products which includes nurseries, planting, enrichment, maintenance, harvesting, processing, marketing, protection and security of forests and forest environmental services (natural tourism, storage and absorption forest carbon, water management services and germplasm services) carried out by the Social Forestry Business Group (KUPS) based on the principle of forest sustainability and economic principles.
2	Article 9 jo Article 11 (c) and (d) of DG SFEP Regulation No. P.8/PSKL/SET/KUM.1/9/2017 concerning Guidelines for Preparing Forests Utilization Plans and Annual Work Plans for Social Forestry Forest Utilization Permits (RPH-IPHPS)	RPH-IPHPS document must include, among others, an overview, action plan, monitoring and reports, as well as a work plan map (Article 9). The planned activity must cover the utilization of forest environmental services which can be in the form of business utilization of natural tourism services/facilities and/or water/ energy business and/or business on the utilization of carbon sequestration and storage and forest protection and security (Article 11).
3	Article 5 of DG SFEP Regulation No. P.2/PSKL/SET/KUM.1/2018 on Guidelines for Social Forestry Business Development (KUPS)	KUPS facilitation forms include increasing the value of production and environmental services as one of the components facilitated for the development of social forestry businesses.
4	Appendix I of DG SFEP Regulation No. P.9/PSKL/PKPS/KUM.1/2019 concerning the Evaluation Guidelines for Social Forestry Permit	Several aspects to be achieved in the framework of community empowerment through social forestry, namely: (a) production/economic, to increased income and welfare of the community around the forest, (b) ecological, the realization of forest utiliziation which does not damage and disturb ecosystems and the environment, (c) social, changes in the behavior of the permit holder/management rights community towards an awareness of the preservation of forest functions and the use of forests that contribute to development.
6	Appendix I of DG SFEP Regulation No. P.9/PSKL/PKPS/KUM.1/2019 concerning the Evaluation Guidelines for Social Forestry Permit	There are four indicators of the evaluation process carried out on social forestry permit holders, namely: 1) Prerequisites, emphasizing the existence of work plan documents as initial legality; 2) Production and economy, looking at the governance and utilization of forest resources, timber forest products, non-timber forest products, and environmental services, as well as

		economic activities of forest products, 3) Ecology, which focuses on aspects of equilibrium in the management of forest resources in the context of sustainable management of forest resources.

(Source: Author from various sources)

Based on the table above, it is inevitable that some regulations have tried to accommodate ecological perspectives in order to achieve their targets. Moreover, DG SFEP Regulation No. 9/2019 concerning the Evaluation Guidelines for Social Forestry Permit also indicates several points in line: *First*, the inclusion of plans for planting and improving conditions of land covers in the General Work Plan (RKU) and Annual Work Plan (RKT) established by the community receiving the land. Since the planning stage, ecological aspects have been given a place in the formulation of social forestry scheme planning. *Second,* there is an encouragement for the community to actively participate in protecting the forest from fire and occupation through the inclusion of action plans in the planning documents and realization of forest area utilization, as well as the formation of community groups concerned about fire and equipment supply and mitigation when forest fires occur. *Third,* there is a concrete mandate for the MoEF to form concrete steps in securing forests from illegal logging activities. Lastly, the community shall formulate an internal term of conditions on forest maintenance and protection activities.

However, there are some major critics can be conveyed. *First*, activities and/or goals that are in line with efforts to achieve climate change targets are still not portraited as a major agenda or target component that must be met and fully considered in the running of social forestry. *Second*, one of the components that are a channel in the realization of this integration, namely the carbon sequestration and storage, and the absorption forest carbon under the environmental services concept, does not yet have clear and definite rules and schemes legally, so that it still cannot be implemented optimally in the community. *Third,* there is an absence of further arrangements and weak political will from the government. As can be seen from other DG SFEP regulations that are not in line with the spirit of achieving NDC targets as follows:

Table 2. *Social Forestry-Related Regulations that Do Not Support the NDC Target*

No	Rules	Contents
1	Article 5 of DG SFEP Regulation No. P/3/MENLHK/PSKL/SET-1/1/2016	Identification of KPS to facilitate the development of social forestry businesses to become KUPS covering the potential for business development, counterpart institutions, financial institutions, and marketing of business results only.
2	Article 8 and 9 of DG SFEP Regulation No. P.2/PSKL/SET/KUM.1/2018	There are classifications and criteria for evaluating the ability of KUPS, broken down by categorization, such as: a. Blue - Has been determined as KUPS - Business potential has been identified b. Silver - Has been determined as KUPS - Business potential has been identified

		- Has established RPHD/RKU/RPH/RKT - Has established a business unit c. Gold - Has been determined as KUPS - Business potential has been identified - Has established RPHD/RKU/RPH/RKT - Has established business unit - Already processing the results/tourist facilities - Already have access to capital (independent/assistance/loan) - Already have a market/tourist (local) d. Platina - Has been determined as KUPS - Business potential has been identified - Has established RPHD/RKU/RPH/RKT - Has established business unit - Already processing the results/tourist facilities - Already have access to capital (independent/assistance/loan) - Already have a market/tourist (local) - Already have a market/tourist (regional)
3	Appendix 1 Regulation of the Minister of Villages, Development of Disadvantaged Regions and Transmigration Number 19 of 2017 concerning Determination of Priority in the use of village funds in 2018	One of the activities prioritized in the management of economic facilities and infrastructure is the management of village forests, customary forests and social businesses, with a note devoted to the formation and development of superior village products.

(Source: Authors from various sources)

The above table clearly shows that the ecological context in several regulations under the MoEF regime is neglected for further accommodation and elaboration within the context of social forestry. For example, as stated in Article 5 of DG SFEP Regulation No. 3/2016, environmental services activities in the storage and absorption of forest carbon and nursery and forest plant maintenance activities are not proportionate in the categorization of assessments to facilitate business development. Even in determining the criteria and benchmarks for the success of the activities carried out by the KUPS, it is clear that the criteria assessment highly focuses on economic and natural tourism aspects only, while the proportion of forest carbon storage and sequestration, despite being included in the scope businesses in the field of social forestry is not given a place in determining the success of the program. This clearly shows the 'disconnection' of social forestry regulation between one another.

At another ministerial level, as can be seen from the first appendix of Minister of Villages, Development of Disadvantaged Regions and Transmigration Regulation No. 19/2017 concerning Determination of Priority in the use of village funds in 2018, it is stated that one of the activities that are prioritized in the management of economic facilities and infrastructure is the management of village forests, customary forests and social businesses, with a note devoted to the formation and development of superior village products. Thus, for the development of

businesses that are non-environmental products or services in the form of forest carbon storage and absorption, water management services and germ plasma services have not been prioritized in the allocation of the use of village funds. From this, we may conclude that although there has been a will to integrate climate mitigation into the social forestry program, but there is no clear guide or direction regarding this will. Therefore, the nature of the disposition is very partial even under the same directorate-general.

In order to see the implementation on the ground, I conducted empirical research by interviewing two NGOs assisting the social forestry village, namely Kehati and Madani Berkelanjutan Foundation. Both of them have assisted several social forestry villages throughout Indonesia. It finds that there is no clear program or communication from the government regarding the implementation of the climate change mitigation will in social forestry. In fact, the program's success is still largely determined by the capacity of the local community, the support from local governments, and local initiatives at the site level. Because until recently, there has been no training, standardisation, and certification regarding the facilitators, as well as the lack of extension of the center to the regions to assist and control the implementation of social forestry (Liman, 2020). As a result, facilitators who suppose to help local communities in achieving the objectives of the program do not yet have official guidelines and regular training on basic values or intentions that the central government intends to carry out as the initiator of the social forestry program (Hidayat, 2020). For this reason, it can be concluded that success in the ecological context depends on the capacity of the related facilitator, whether they have a good insight and are oriented to ecological values or not. In addition, the monitoring and evaluation carried out at this time is still not being done regularly and clearly measuring the evaluation aspects (Amelia, 2020). This, in fact, is due to the just issuance of DG SFEP Regulation No. 9/2019 as a guideline for monitoring and evaluation.

The series of exposures above shows that the translation model of Indonesia's ideals and objectives in climate change mitigation in the social forestry sector is still not comprehensive and designed sustainably. Although there has been a will to adopt climate change issues in the social forestry scheme through the adoption of content in several laws and policies, as well as an ideal target framework for achievement, I find that the built ecological context is still not well-designed and holistic, so that it applies partially in every policy momentum, Therefore, lack in the implementation. This makes it visible that the social forestry program currently being built seems to be very oriented towards community economic empowerment. Although several pro-ecological actions have been present, they generally only depart from local initiatives in preserving and conserving forests so that the actions carried out are still partial and have minimal supervision. So, it only works in areas with a companion or facilitator who is aware of the issue of climate change.

Getting Back in Track: Integrating Social Forestry to Climate Change Agenda

While the social forestry program is under the domain of the DG SFEP, climate change adaptation and mitigation is under the domain of the Directorate-General on Climate Change (DG CC). Under the DG CC, there is also a scheme related to community empowerment to protect forests, with focus on reducing Indonesia's carbon emissions called "the Community

REDD+ model" (CIFOR, 2009), one of which is the climate village program (ProKlim). MoEF Regulation No. 19/2012 concerning the Climate Village Program has defined ProKlim as "a national scope program managed by the MoEF in order to encourage communities to increase their capacity to adapt to the impacts of climate change and decrease greenhouse gas emissions and give awards for climate change adaptation and mitigation efforts that have been carried out at the local level according to regional conditions" (Article 1). Climate village itself is a location where the community has made efforts to adapt and mitigate climate change on an ongoing basis (Emilda, 2017). ProKlim activities applied the concept of community empowerment carried out by the community and their institutions in mobilizing and managing human and natural resources to strengthen the efforts of mitigating and adapting rural communities to the impacts of climate change. Thus, we may assume that both ProKlim and Social Forestry share a similar principles, community-based and sustainable use of local resources.

In 2019 the initiative to combine ProKlim and Social Forestry programs became an initiative of the Madani Berkelanjutan Foundation. This was undertaken through the establishment of Lampo and Nagari Sirukam Villages as pilot villages for the development of ProKlim while maintaining the existing social forestry program. Previously, the Lampo and Nagari Sirukam Villages had worked under the social forestry regime with a village forest (*Hutan Desa*) entitlement. Hence, in practice, there has been an attempt to combine two programs together. In principle, there is no doubt that social forestry and ProKlim schemes have the same goal, which is to improve the welfare of the community and forest resources through efforts to provide legal access to local communities to be able to contribute to the reduction of GHGs and environmental quality (Albar, 2017). While social forestry is expected to also be able to encourage the preservation of forest resources through community empowerment activities in and around the forest, ProKlim clearly carries out its activities with an orientation towards climate change adaptation and mitigation efforts, even both have the same mission in the form of land cover activities and forest fire prevention. Therefore, an integration of these two programs is needed considering the essence of the two programs is actually in line.

However, to date, this integration is a matter of experiment. There are several fundamental problems in integrating these programs. The first is the absence of national standards regarding methods for measuring and calculating carbon from community-managed forests, so reforestation efforts from the community are not taken into account. Secondly, no official methodology is simple and applicable that can be understood by the people who benefit from forest carbon services. Thirdly, the payment of ecosystem services (PES) mechanisms are not clearly regulated and accommodated in MoEF regulations and budget planning; thus, there is no certainty and clarity of potential incentives that can be given. This is also exacerbated by the absence of a national forest carbon certification system for social forestry so that people are more motivated to orient their forest productivity in the agroforestry domain compared to environmental services in the form of compensation for protecting forests. Moreover, there has not been an intersection map that combines the reference map determining the social forest area and the ProKlim area to find their possible overlapping (Amelia, 2020). Therefore, addressing those problems would be essential in

integrating the ProKlim and Social Forestry schemes in order to increase community income and at the same time, reduce the pressure for deforestation and forest degradation that contribute to climate change.

Challenges Ahead

Apart from institutional challenges and technical/methodological challenges, as mentioned in the previous chapter, there are also several other challenges in the context of achieving the emission reduction target through social forestry. Firstly, the lack of recognition of indigenous peoples' rights. Due to the absence of a coherent piece of legislation recognising, respecting, protecting, and ensuring the enjoyment of indigenous peoples' rights may affect the implementation of social forestry within indigenous peoples' territories (*Ulayat*). Although MoEF Regulation No. 83/2016 recognises the importance of consent from indigenous communities in utilising their territory for social forestry, the existence of indigenous communities would be determined by whether or not a regional regulation has recognised their existence. Hence, without such regulation in place, the communities are considered non-existence; consequently, their rights are not taken into account.

The second challenge is a political-economic one. It is important to note that the natural resource-based economy remains overriding Indonesia's economic sector to date. The series of existing legislation in Indonesia still provides a red carpet for extractive industries, starting from providing incentives, ease of licensing and information flows. This results in an unfair distribution of land, where the majority of land ownership is still held by the industries that not only systematically destroys the quality of the environment in Indonesia but also has created a condition where local communities suffer and live in poverty. Unfortunately, until recently, there is no indication that this political-economic situation will change. In fact, through the enactment of Omnibus Law on Job Creation No. 11/2020 and the revision of Mineral and Coal Law No. 3/2020, it is clear that the stimulus for the implementation of extractive business practices in Indonesia is getting stronger. Besides ease of licensing, environmental safeguards have also been weakened, making the government's commitment to people's welfare remain questionable.

Moreover, Article 29A of Job Creation Law widens the scope of a party that may be granted a social forestry permit under a term "individuals." It should be understood that previously, the scope of individuals who could obtain a social forestry permit was limited to forest farmers and experts. Meanwhile, the Job Creation Law does not provide any limitation on who should be considered as "individuals." Therefore, it can be interpreted that business actors or big landowners or land speculators can also be granted a social forestry permit and have access to social forestry benefits that are supposed to improve the well-being of forest-dependent communities. In the long run, this could further widen the gap in land tenure. Furthermore, economically, the local community can lose out to the business actor due to the similarities of the benefits obtained. This may lead to social forestry governance that moves away from local communities and will be even more difficult to control and to be integrated into ProKlim in achieving the NDC target. Potentially, a conflict of interests may conquer due to the addition of new actors who have the high potential to contra to the main original goal

of social forestry, which is to empower the community in responding to the climate change agenda.

Furthermore, Presidential Regulation No. 23/2021 as the derivative regulation of the Job Creation Bill, the Forest Management Unit ("Kesatuan Pengelolaan Hutan/KPH") is only acting as a regional technical implementing unit or structural organization with its main function only to be a facilitator. Hence, the function of KPH is very limited, focusing primarily on administrative tasks with no longer implementing forest management at the site level. As a result, this may lead to the inability of the local community who have been granted a social forestry permit to utilise their permit effectively to achieve the objectives without technical assistance from the KPH. Whereas so far, the KPH had been quite active in developing forestry commodities through cooperation and partnerships that succeeded in boosting local revenue (Kartodihardjo, 2021).

In addition, neither the Job Creation Law nor its implementing provisions confirm communal principles to be implemented in forest management by the community, as well as not confirming the effort to strengthen "*Koperasi*" (cooperative), a local institution that has long been designed for the welfare of forest communities (Suharjito, 2020). To conclude, the Job Creation Law and its derivative regulations, which generally centralize the forestry sector, have a great potential to bring little economic and social benefit to the local community. Moreover, they potentially will open up possibilities for greater land occupations by the private sector and capital owners to invest in social forestry ventures. In the end, the target for reducing emissions from social forestry would also be implicated.

Conclusion

After the enactment of MoEF Regulation No. 83/2016, Social Forestry in Indonesia has started to accommodate ecological elements in its standards, albeit partially. In fact, the current social forestry scheme is still not in line with the framework for the scope of activities of REDD+. Departing from the practice in the pilot village of ProKlim, there are several shortcomings that need to be addressed in the context of mitigating GHGs through social forestry in Indonesia. They include: 1) the absence of uniform methods of measuring and calculating carbon from each compatible scheme applicable in the community and easily understood by beneficiary community groups; 2) there is no a national forest carbon certification system for social forestry; 3) there are differences in map references used in determining the location of program implementation. Therefore, it is necessary to encourage synergy between the DG CC and DG SFEP in the realization of ecological social forestry; 4) another legal challenge also includes the recognition of indigenous peoples' rights, a necessary safeguard to ensure their rights being respected in the implementation of the social forestry program; 5) the political-economic condition also remains problematic in producing progressive climate change and social welfare policies; and 6) the enactment of the Omnibus Law on Job Creation which broadens the subject of social forestry permit grantee that may result in new social problems which in turn potentially deflect Indonesia's priority in achieving it climate change targets. Hence, it remains to be seen how the Government of Indonesia will respond to those challenges if it is serious in achieving its pledge to the international community stated in the NDC.

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Acknowledgment

Author thanks to Mr. Irawan Asaad as Head of Sub-Directorate of Greenhouse Gas Inventory in the Land-Based Sector at the Directorate of Greenhouse Gas Inventory and Monitoring, Reporting and Verification, the Ministry of Environment and Forestry, Mr. Eris Maulana as Head of the Section for Community Forestry Business Development, Village Forest and Community Plantation Forests Region I at the Sub-Directorate for Community Forestry Business Development, Village Forest and Community Plantation Forests, Directorate of Social Forestry and Customary Forest Business Development, Mrs. Puspa Dewi Liman as Program Director of the Kalimantan Tropical Forest Conservation Act (TFCA) at Kehati Foundation, Mr. Ahfi Wahyu Hidayat as Forest Conservation and Climate Change Specialist at Kehati Foundation, Mrs. Nadia Hadad as Strategic Engagement Director at Madani Berkelanjutan Foundation, Mrs. Luluk Uliyah as Senior Media Communication Officer at Madani Berkelanjutan Foundation, Ms. Yosi Amelia as Program Officer for the Social Forestry Program in the Villages of Lampo and Sirukam at Madani Berkelanjutan Foundation, Mrs. Yunita Ningsih as the Author of Social Forestry Implementation in the village of Gunung Rakutak and Telukjambe.