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Policy Paper

Regulation on the Utilization of Carbon Service as a Forest Protection Effort in Indonesia

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Abstract

Reducing Emissions from Deforestation and Forest Degradation (REDD+) is a strategy to reduce greenhouse gas emissions from deforestation and forest degradation. Through this scheme, Indonesia is vital in implementing ratified commitments through national legislation. The methodology used in the research employed normative juridical techniques characterized by descriptive research parameters and underwent analysis through comprehensive literature exploration. The results found that Indonesia has supported sustainable development by issuing REDD+ arrangements to realize climate change mitigation. Through the REDD+ scheme, Indonesia is expected to provide answers to global warming problems that occur throughout the world by providing protection, preventing degradation, and providing an increase in the quality of forest cover and carbon stocks.

Keywords: Reducing Emissions from Deforestation and Forest Degradation (REDD+); Carbon Services; climate change; Protection and management of the environment

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1. Introduction

As a logical consequence of the development of human life in this universe, the concept of development thinks about the protection of nature (Siagian & Alghazali, 2023). Various instruments and mechanisms for protecting nature are presented solely to create control for humans in utilizing existing land. Commencing with environmental preservation and governance regulations, this initiates the discussion of an ecologically conscious constitution and democratic framework (Asshiddiqie, 2017). In Indonesia, how the notion of human rights influence and the idea of economic democracy are put into action is enshrined in the country's Constitution as stipulated in the Constitution of Indonesia as established in 1945. This operational approach is subsequently clarified in Article 28 H subsection (1) of the Constitution of Indonesia as established in 1945, which affirms the inherent right of every individual to lead a life marked by affluence and well-being, the acquisition of an appropriate and salubrious habitat, and access to health services. Subsequently, the integration of sustainable and eco-conscious development principles is demonstrated in Article 33 (4) of the Constitution of Indonesia as established in 1945. This section states: "The national economy shall be structured based on economic democracy with the principles of unity, equitable efficiency, durability, environmental consciousness, self-reliance, and the maintenance of balanced development and national economic cohesion".

The arrangements made by this constitution emphasize that environment and development should be implemented by sustainable principles and illustrate the Indonesian Constitution, the Green Constitution (Asshiddiqie, 2017). Nonetheless, the integrity of this constitution is jeopardized by the challenge of climate change, leading to worldwide temperature rises. Consequently, Indonesia has enacted a range of measures to address the pressing matter of climate change, imperiling the tenets of the environmentally-conscious constitution. The presence of climate change, leading to consequences for the environment and living beings, should be the state's responsibility in its management (Zuhir, 2017). The state is responsible for decision-making and policies, both international legal instruments and national law.

Climate change can occur naturally and be brought about by human action. This action takes the form of deforestation, which is carried out on a massive scale and causes the earth's temperature to rise (Noordwijk, 2014). The inability of forests or the environment to perform their functions properly requires government action. Such actions are known as doctrines Parens Patriae (Koening, 2011), where the state acts as a parent or guardian for the vulnerable. This doctrine can also be applied to the environment because, in certain circumstances, the environment becomes a vulnerable entity and needs protection. The preservation and administration of the environment amidst climate change in Indonesia are catered to via Article 3 letter J Legislation with the identifier Law Number 32 of 2009, which focuses on the safeguarding and administration of the environment, also known as the UUPPLH, which is intended to foresee global environmental problems such as climate change. Subsequently, the Preamble of the UUPPLH underscores the need to exert endeavors to safeguard the environment from the impacts of global warming (Husin, 2016).

In the effort to oversee initiatives aimed at mitigating climate change impacts within Indonesia, the Indonesian government, with the facilitation of The Department of Environmental Affairs and Forestry or *Kementerian Lingkungan Hidup dan Kehutanan* (KLHK), which oversees matters related to environmental conservation and forestry, carries out the designated roles outlined in Regulation issued by the President Number 16 of 2015 regarding the functions of the Department of Environmental Affairs and Forestry. This Regulation was subsequently replaced by a Regulation issued by President Number 92 of 2020, which addresses matters concerning the Department of Environmental Affairs and Forestry. As articulated in Regulation issued by President 92/2020, Article 29 delineates that the Department of Environmental Affairs and Forestry, under the guidance of the Directorate General of Climate Change Control, is entrusted with formulating and implementing strategies related to climate change management. Conversely, when addressing the intricacies of climate change management in Indonesia, the Department of Environmental Affairs and Forestry assumes a crucial role in overseeing and directing the trajectory of climate-related initiatives within the nation (Kaisa et al., 2017).

Overcoming the problem of climate change will require two lines of action to be taken to reduce it, namely the path of mitigation and adaptation. The mitigation pathway is an action to slow down the pace of climate change, whereas adaptation involves taking measures to align with the threats posed by the consequences of climate change that have either taken place or are anticipated to happen (National

Council on Climate Change, 2013b). Concrete activities in climate change mitigation are to reduce and/or prevent GHG emissions released as a result of human activities (Hermawan et al., 2023). Various activities can be classified as climate change mitigation, one is increasing agroforestry to improve and maintain forest management. The forest, a component of natural resources, holds significant significance and plays crucial functions across various facets of social existence and environmental advancement. This is explicated in Article 1 section (1) of the Forestry Law, which defines a forest as an ecological entity encompassing tracts of land harboring biological natural resources, primarily composed of interconnected trees within the natural setting.

The Forestry Act regulates "forest areas" rather than "forests". Regardless of whether the area has trees or not, forest area measurement relies on the dimensions of the administrative region or the demarcated forest zone, potentially resulting in instances where areas designated as forests may not actually contain trees (CIFOR, 2013). Indonesia holds the distinction of being the world's largest archipelagic nation, setting aside approximately 64 percent or 120.5 million hectares of its total landmass for forested regions (Department of Environmental Affairs and Forestry of the Republic of Indonesia, 2020). A designated forest area is an allocated region defined and identified by the government to ensure its perpetual preservation as a forested space.

Forests are classified into three main functions: conserving, protecting, and producing. The conservation forest is a woodland with distinctive traits, primarily intended for safeguarding the variety of flora, fauna, and their environments (Hermawan et al., 2023). On the other hand, the protective forest serves as a shield for life-sustaining systems, overseeing water resources, averting floods, managing erosion, warding off saltwater intrusion, and preserving soil richness. Lastly, the production forest is a forest area whose chief purpose revolves around generating forest-based commodities. Production forest is further classified into “permanent production forest” (where the entire area is reserved for producing forest products), “limited production forest” (where only a portion of the area is reserved for producing forest products), and “conversion production forest” (which is reserved for other land uses) (Central Bureau of Statistics, 2022b).

From a regulatory perspective, empowered by Government Regulation 23 of 2021 concerning Forest Management, the Ministry of Forestry holds the jurisdiction to designate state forest zones for non-forestry undertakings, a concept counter to the previously outlined approach in Government Regulation 24 of 2010 regarding Forest Area Usage. This regulation aims to contribute to the escalation of forest depletion and decline within Indonesia. Deforestation, connoting the irreversible shift from a forested expanse to a non-forested expanse, is elucidated. Similarly, forest degradation denotes the decrement in the extent of forest cover and carbon reservoirs over a specific span. Indonesia's deforestation rate has exhibited an annual upsurge, with the solitary year of 2020 observing a deforestation rate of 115,459.8 million hectares (Central Bureau of Statistics, 2022a).

The surge in deforestation within Indonesia's diverse circumstances is intricately tied to alterations in the utilization of forested lands, unlawful timber extraction, and occurrences of forest fires. The fundamental root of deforestation and the deterioration of forests can be attributed to the management of forest resources (Jepson, 2001). Many things lead to weak forest governance, namely in the form of inconsistent and conflicting laws and regulations; forestry decentralization that deviates from its designation; unfinished forest area boundaries; the licensing process is closed and laden with corruption (Meehan & Tacconi, 2017), collusion and nepotism; weak government capacity to supervise licensing; at the localized level, the absence of a distinct forest overseer, feeble implementation of regulations, and instances of misconduct, coupled with a limited engagement of local communities in the decision-making process, particularly in matters related to forestry, are prevailing concerns (Moeliono et al., 2020).

Amidst the challenges surrounding forest management within nations marked by elevated deforestation and forest deterioration, an international framework termed educating emissions from deforestation and forest degradation, or simply REDD+, was developed. This system is envisioned to curtail climate change instigated by deforestation and forest degradation. Consequently, should Indonesia effectively implement the REDD+ framework, positive outcomes are anticipated. This fact is substantiated by information derived from the Central Bureau of Statistics, revealing that the extent of land and water covered by forest zones (Ha) reached 125,817,021.96 million (Ha) (Central Bureau of Statistics, 2022a). REDD+ incentivizes countries that can maintain their forests through carbon credits as an emission reduction measure. The results of these emission reductions are then sold to developed countries as a

form of commitment to the contribution of developed nations to fulfill their obligations for lowering carbon emissions.

REDD+ presents a strategy to curtail greenhouse gas discharges arising from deforestation, forest deterioration, preservation, sustainable forest management (SFM), afforestation, and reforestation. REDD+ aims to provide credit to parties involved in reducing GHG emissions (Angelsen, 2008) by trading on the international carbon market or submitting to funding agencies, which then compensate countries that carry out forest conservation. Regarding this, the presence of the REDD+ scheme is actually a scheme carried out by various parties and the state to secure recompense for endeavors to mitigate deforestation and the decline of forest (Pirard et al., 2023).

The concept of REDD+ surfaced within the framework of the Bali Action Plan during COP-13 in Bali, Indonesia, back in 2007 (Maryani et al., 2012). This initiative establishes a mechanism to lessen greenhouse gas discharges by rewarding entities that deter deforestation and the deterioration of forests (Siagian, 2023). At COP-14 in Poznan, Poland, in 2008, a consensus was obtained stating that REDD activities were expanded by establishing three strategic areas from the two previous provisions, namely: (Siagian, 2023)

a. Initial determination of REDD
    1) Mitigating emissions arising from deforestation;
    2) Alleviating emissions originating from forest degradation.
b. Strategic Area Determination (REDD+)
    1) The function of preserving nature;
    2) Ensuring the sustainable utilization of forests;
    3) Enhanced accumulation of carbon within forested areas.

REDD+ is the second scheme after the Clean Development Mechanism (CDM) which links the main tasks of developed countries for climate change mitigation. The central focus of this strategy revolves around endeavors aimed at curbing deforestation and the deterioration of forests, recognized as the leading factors driving global warming (Sheng et al., 2018). In general, it can be said that REDD+ is an effort to help countries that have forests by protecting their forests (Laurens & Fristikawati, 2014). REDD+ stands as a program strategically devised to provide recompense to developing nations in recognition of their actions towards curbing carbon emissions from deforested areas (Forest Climate Center, 2022). As set in Bali Road Map which states that:

> "*Enhanced national/international action on mitigation of climate change, including, inter alia, consideration of: (iii) Policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests, and enhancement of forest carbon stocks in developing countries*".

The mechanism of the REDD+ initiative functions through emission reduction or the prevention of deforestation, subsequently quantifying this effort as a form of credit (Boer, 2020). These credits accumulated across a time frame can be traded within the carbon market (Astuti & Mcgregor, 2015). Alternatively, they can be presented to a designated funding institution established to financially support countries engaged in forest preservation. Effectively, the REDD+ program creates an economic avenue for forest conservation to vie on equal terms with various other economic ventures responsible for deforestation (Laurens & Fristikawati, 2014) . However, until now there is still debate about how carbon is calculated and payments made, whether in the form of technical assistance, capacity building, or other forms. A step taken by Indonesia in this regard authorizes the KLHK to carry out the climate change control function as described in Article 5 letter of the regulation issued by the President as Number 92 of 2020 regarding the Department of Environmental Affairs and Forestry. Against this, the Department of Environmental Affairs and Forestry can formulate a policy for controlling climate change by producing a regulation to support the climate change control scheme, with the REDD+ scheme in Indonesia.

2. Methods

The investigative technique applied in this study is normative legal analysis, utilizing a juridical normative approach. This study uses a focus on normative legal research methods. Hartono (2006) stated, in normative legal research one can search for legal principles, legal theory and the formation of new legal principles. Meanwhile, as Bagir Manan's perspective, normative investigation entails the study of established legal principles and principles that focus on research on library data or what is called secondary data (Soekanto, 2001). The application of the normative legal approach in this study is pursued with the aim of delving into the clauses of domestic statutes and regulations pertaining to the utilization of carbon services. This approach entails scrutinizing and dissecting legal tenets, probing into the systematics of law, and delving into legal harmonization. Moreover, this investigation employs qualitative scrutiny within a literature review framework, tracing through primary, secondary, and tertiary legal sources. The legal materials will be analysed using descriptive, comparative, evaluation, and argumentation techniques to answer the research results regarding the use of carbon services as an effort to protect forests in Indonesia.

3. Results and Discussion

3.1 Indonesia's Commitment to Tackle Climate Change

Indonesia is explicitly bound to the Climate Change Convention and Kyoto Protocol, this is because Indonesia has ratified the Climate Change Convention, Kyoto Protocol, and Paris Agreement (Ekawati et al., 2019). Climate change is occurring and becoming an environmental challenge in many countries. These changes stem from shifts triggered directly or indirectly by human endeavours, which impact the composition of the Earth's atmosphere on a global scale, in addition to natural climate fluctuations that continue over long timescales (Dessler & Parson, 2010). Climate change is one of humanity's serious, complex, and dilemmatic multidimensional challenges. This makes it difficult for countries and groups to avoid the threat of climate change (Hadad, 2019). According to data released by the World Resources Institute (WRI), they made a map of the countries that have contributed the most carbon dioxide in the last 160 years and Indonesia is included in the list of countries that contribute the largest CO2 emissions (Siagian et all., 2022).

The increase in carbon dioxide has been detrimental to human life in all parts of the world (Chasek et al., 2010). These impacts range from changes in weather patterns to more frequent droughts and floods that disrupt agricultural activities. Another impact can be felt is the rising sea level that makes islands and coastal areas sink (Prijadikusuma, 2012). This situation triggered ideas and programs to reduce GHG emissions internationally, which began in 1979. This idea resulted in the Global Compact on Climate Alteration, commonly known as the UNFCCC (Rahmadi, 2019).

The aim of the Climate Convention centers on steadying greenhouse gas accumulations in the air at a threshold that poses no risk to the climate. This equilibrium must be attained within a timeframe allowing ample opportunity for the ecosystem to naturally adjust to climatic shifts, thus safeguarding both food production and sustainable development endeavors (Directorate General of Climate Change Control Department of Environmental Affairs and Forestry, 2016). Operative from March 21, 1994, this Convention is categorized into two factions: Annex I nations and non-Annex I nations. Those within Annex I have historically emitted greenhouse gases since the industrial era commenced. Conversely, non-Annex I nations are yet to be incorporated into this category. Their impact on greenhouse gas emissions is comparatively minimal, coinciding with their more modest economic expansion (Directorate General of Climate Change Control Department of Environmental Affairs and Forestry, 2016).

Through Law No. 6 of 1994 on the Ratification of the United Nations Framework Convention on Climate Change, Indonesia has effectively demonstrated its dedication to upholding the Climate Change Convention. As one of the Non-Annex I countries, Indonesia has direct obligations. This status gives Indonesia access to various opportunities and support the UNFCCC provides to empower its initiatives. One part of the effort to achieve the UNFCCC goals is participating in the highest meeting, the Conference of the Parties (COP).

A consensus decision was made at the implementation of COP-3 held in Kyoto, Japan, in 1997 which resulted in a consensus to adopt the Kyoto Protocol to the United Nations Framework Convention on Climate Change (Directorate General of Climate Change Control Ministry of Environment and Forestry,

2016). The Kyoto Protocol is the basis for industrialised countries to industrialised countries to reduce their combined GHG emissions by at least 5% from 1990 levels with targets for 2008-2012. The Kyoto Protocol places a heavier burden on developed countries because it adheres to the principle of common but differentiated responsibilities, meaning all countries share a common passion for preserving and protecting human life and the integrity of the earth's ecosystems. However, all countries have an equal obligation to reduce their greenhouse gas emissions. Protecting human life and the integrity of the earth's ecosystems, but with different contributions according to their capabilities.

One of the objectives of the existence of the Protocol of Kyoto as an effort to reduce emissions is to increase legally, with a commitment period, using emission allowances from each Annex 1 party, and including six types of GHG (Supriadi, 2006). The Protocol of Kyoto regulates the GHG emission reduction mechanism implemented in developed countries by providing several mechanisms, namely (Directorate General of Climate Change Control Department of Environmental Affairs and Forestry, 2016): a) Joint Implementation (JI) serves as a mechanism for curbing emissions, allowing Annex I nations to collaboratively channel emission reductions through joint initiatives aimed at diminishing greenhouse gas discharges. b) Emissions Trading (ET) constitutes a framework for exchanging emissions among developed countries. Those with greenhouse gas emissions below the acceptable threshold can vend surplus emissions to other developed nations grappling to fulfill their commitments. c) The Clean Development Mechanism (CDM) operates by shrinking GHG emissions through a partnership between developed and developing nations. This approach aspires to enable Annex I nations to attain their emission reduction goals by engaging in greenhouse gas reduction initiatives within developing nations.

CDM is one type of carbon market mechanism that has been regulated in the Kyoto Protocol under the crediting category. CDM is a mechanism that provides carbon credits that can be used to meet the needs of developing countries by involving low GHG emission projects in developing countries, including Indonesia. Indonesia has strengthened the CDM by ratifying the Kyoto Protocol through Law No. 17/2004 on the Ratification of the Kyoto Protocol to the United Nations Framework Convention on Climate Change. By ratifying the Kyoto Protocol, Indonesia can participate through one of the Kyoto Protocol mechanisms, namely the Clean Development Mechanism.

The concept of carbon trading has become an interesting study because it is considered a "win-win solution," this is reinforced by the jargon "when profit and ethics come together, solving problems with the thinking that created them". The strength of this concept is its success in combining two interests that have been considered conflicting, namely environmental and economic interests (Naibaho, 2011). As a non-Annex I country, as affirmed in the UNFCCC, Indonesia has officially ratified the Kyoto Protocol by enacting Law No. 17 of 2004 on the Ratification of the Kyoto Protocol to the United Nations Framework Convention on Climate Change. Nations Framework Convention on Climate Change. This essentially allows Indonesia to utilize the potential of the CDM to incentivize clean development initiatives (National Council on Climate Change, 2013a). This ratification also affects Indonesia's participation in the CDM and the sale of Certified Emission Reduction (CER) to Annex I countries in need.

Furthermore, the CDM has provisions stating that every project should make a positive contribution the sustainable development of the project's host country (Di Gregorio et al., 2017). However, this needs to be approved by the agency authorized by the state, namely Designed National Authority (DNA). In the context of Indonesia, this issue is governed by the Directive issued by the Head of Environmental Affairs under the title Decree Number 206 of 2005, which pertains to the Domestic Committee for Sustainable Development Approaches. Establishment of the National Committee for MPB as DNA of Indonesia, whose role is to assess the project's benefits for sustainable development in Indonesia against established criteria and approve its development as a CDM project in Indonesia.

Indonesia, being a significant player in global climate changes, aligns its stance with the Paris Agreement, supported by the presence of Law Number 16 of 2016 concerning the Endorsement of the Paris Agreement to The Global Compact on Climate Alteration (Hein et al., 2018). The presence of this legislation intricately interconnects with the repercussions of climate alterations on human existence. It encompasses both those involved in activities generating greenhouse gas emissions and those affected by them, underscoring climate change as a universally pertinent concern. The global stage provided by the Global Compact on Climate Alteration serves as a common ground for nations worldwide, where they participate in dialogues to devise ideal strategies and come to consensus on the distribution of duties and obligations concerning climate change mitigation and the management of its consequences.

3.2 REDD+ Scheme Regulations in Indonesia

REDD+ is a scheme to reduce GHG emissions based on deforestation, forest degradation, conservation, sustainable forest management, afforestation and reforestation. REDD+ aims to provide credits to parties involved in efforts to reduce GHG emissions, by trading on the international carbon market or submitted to funding institutions which then compensate countries that conserve forests (Angelsen, 2008). Against this, the presence of the REDD+ scheme is actually a scheme that is carried out by various parties and also countries to get a compensation for efforts to reduce deforestation and degradation of forest. The Indonesian government welcomes the presence of the REDD+ scheme.

This is evidenced by the presence of various regulations that accommodate the REDD+ scheme. Regulations related to the REDD+ scheme in Indonesia are: Minister of Forestry Regulation No. P.68/Menhut-II/2008 on the Implementation of Pilot Activities for Reducing Carbon Emissions from Deforestation and Forest Degradation; Minister of Forestry Regulation No. 30/Menhut-II/2009 on Procedures for Reducing Emissions from Deforestation and Forest Degradation (REDD); and Minister of Forestry Regulation No. 36/Menhut-II/2009 on REDD+.

3.2.1 Regulation of the Minister of Forestry No. P.68/Menhut-II/2008 concerning Implementation of Pilot Activities for Reducing Carbon Emissions from Deforestation and Forest Degradation

This Ministry of Forestry arrangement is here to explain the implementation of REDD+ demonstration activities in Indonesia. The purpose of organizing demonstration activities to reduce carbon emissions from deforestation and forest degradation is to test and develop methodologies, technologies, and institutions for sustainable forest management that seek to reduce carbon emissions through controlling deforestation and forest degradation (Enrici & Hubacek, 2016). The demonstration activities aim to reduce carbon emissions from deforestation and forest degradation by testing and developing methodologies, technologies, and institutions for sustainable forest management that aim to reduce carbon emissions by controlling deforestation and forest degradation (Implementation of Pilot Activities for Reducing Carbon Emissions from Deforestation and Forest Degradation, 2008).

This regulation outlines the procedure for applying. The first thing that is regulated is the stages in the application process, as stated in Chapter IV, Application and Approval Procedures. This application includes a map of the location of the prospective area, the form and period of cooperation, an estimate of the value of the activity, risk management, and a revenue distribution allocation plan. Furthermore, this regulation requires all applications to carry out pilot activities assessed by the Ministry of Forestry's Climate Change Control Working Group (Casse, 2019). The assessment results, which the Climate Change Control Working Group estimates, are then given to the minister to recommend the planned activities. However, this regulation does not accommodate the rights of communities concerning implementing demonstration activities and does not explain the context. Therefore, there is a possibility of disputes between the project proponent and the community related to the social and cultural conditions of the local community in the designation of areas as demonstration activities.

3.2.2 Regulation of the Minister of Forestry No. P.30/ Menhut-II/2009 concerning Procedures for Reducing Emissions from Deforestation and Forest Degradation (REDD)

Encompassed within this Regulation by the Ministry of Forestry is a broad aspiration that guides the implementation of REDD endeavors, aiming to thwart and curtail emissions stemming from deforestation and forest deterioration, all with the intention of fortifying forest administration. Essentially, the objective of REDD activities revolves around stifling deforestation and forest degradation, with the ultimate goal of fostering sustainable forest management and enhancing the well-being of communities (Rochmayanto, 2023). This directive takes on a distinctive role by ensuring clarity concerning the designated forest regions earmarked for REDD purposes within Indonesia. This clarity is presented in Article 3, section (1), where it outlines the subsequent classifications: a) Zones allocated for the application of timber forest products within natural forests (IUPHHK-HA); b) Zones designated for the utilization of timber forest products in plantation forests (IUPHHK-HT); c) Zones set aside for the purpose of community-based forest product utilization (IUPHH-HKM); d) Zones specified for timber forest product utilization in community plantation forests (IUPHHK-HTR); e) Zones marked for the establishment of businesses focusing on ecosystem restoration timber forest product utilization (IUPHHK-RE); f) Zones supervised by Production Forest

Management Units (KPHP); g) Zones monitored by Protected Forest Management Units (KPLH); h) Zones managed as Conservation Forest Management Units (KPHK); i) Designated Conservation Forests; j) Indigenous Forests; k) Privately-Owned Forests; and l) Village Forests.

This regulation also regulates REDD actors who are divided into two entities that play a role, namely national entities, and international entities. National entity actors are managers of twelve (12) forest area statuses, as explained in Article 3 paragraph (1), Meanwhile, international entity actors can be: governments, business entities, and international organizations, foundations, individuals who have funds for the implementation of REDD. The financial resources for the execution of the REDD program, procured through contributions from entities engaged in the UN climate change convention and validated funding channels, were initially utilized for REDD implementation before the international-level decision on the REDD mechanism by the parties to the UN Climate Change Convention. During this period, the REDD initiative's actualization encompassed REDD demonstration activities, skill enhancement, technology exchange, and voluntary transactions of carbon credits. This regulation stipulates the requirements for applying for the implementation of REDD activities as stated in Articles 5, 6, 7, 8, 9 and 10. This regulation regulates requests for REDD+ activities, in which the initiator must apply to carry out REDD activities to the minister, by completing the requirements set out in Articles 5, 6, 7, 8, 9 and 10. This application is then submitted to the REDD Commission for review taking into account the REDD site selection criteria.

Ministers are obliged to make a decision on the REDD application within a span of 14 days upon receipt of the pertinent documents. If the application is verified upon reception, it is mandated that the REDD commission must issue a certification for carbon emission reduction within 30 business days at the latest. This certification, pertaining to carbon emission reduction, holds the potential for trade. However, as outlined in the Minister of Forestry Regulation No. P.30/Menhut-II/2009 governing the Procedures for Reducing Emissions from Deforestation and Forest Degradation (REDD), the entity referred to as the "REDD Commission" is not accommodated. This Regulation doesn't specify the nature of this commission or working group, whether it is an independent commission or a collective working group, and its inclusion is not mirrored in the Minister of Forestry Regulation No. P.68/Menhut-II/2008 which outlines the Implementation of Pilot Activities for Reducing Carbon Emissions from Deforestation and Forest Degradation.

Through the enactment of Minister of Forestry Regulation No. 30/ Menhut-II/2009 which addresses the Procedures for Reducing Emissions from Deforestation and Forest Degradation (REDD), the framework is broken down into six appended segments that accompany the regulation. These attachments elaborate on the technical execution of REDD, encapsulated in the following facets: a) Directives for Formulating Local Government Recommendations for REDD Implementation; b) Criteria for Selecting Sites; c) Blueprint for Compiling REDD Implementation Plans; d) Process for Assessing REDD Applications; e) Procedure for Establishing Reference Emission Levels (REL), Carrying out Monitoring, and Reporting REDD undertakings; and f) Instructions for Verifying REDD Initiatives.

The issue of carbon credits has actually been accommodated as explained in Chapter VII concerning Rights and Obligations. The rights of REDD actors are stated as follows:

a) Obtaining compensations for enacting REDD+ on a nationwide scale (national entities);
b) Possessing and utilizing REDD+ certificates (carbon credits) as evidence of emission reductions and;
c) Engaging in the trade of REDD+ certificates within the post-2012 REDD+ carbon trading system.

The presence of this directive underscores the alignment of REDD implementation in Indonesia with the stipulations set forth in Minister of Forestry Regulation No. 30/ Menhut-II/2009, delineating the Protocols for Curbing Emissions from Deforestation and Forest Degradation (REDD), by providing clarity on market mechanisms and certificates as proof of REDD activities that can be traded.

The results of the distribution of funds received by the government will be treated as Non-Tax State Revenue (PNBP), then the distribution of funds for the community will be channeled into the form of trust fund whose management is jointly managed by the community and village government, as well as the project developer. Trust fund This is used to finance the activities of securing the forest area of the RAP-KARBON and/or PAN-KARBON Development project in order to prevent leakage (leakage) (Article 17 paragraph 4)". In contrast to REDD as stipulated in Permenhut P30/2009 which links the proceeds from REDD to poverty alleviation, the funds received from the carbon project are actually also used for community empowerment but with the aim of preventing leakage (leakage) of the project area.

3.2.3 Regulation of the Minister of Forestry No. 36/ Menhut-II/2009 concerning Procedures for Licensing Businesses for Utilization of Carbon Sequestration and/or Storage in Production Forests and Protected Forests

Business absorption and utilization carbon business storage carbon (UP RAP-Karbon and UP PAN-Carbon) is a type of business that utilises the service environment for forest production and forest protection. Rules this concerns REDD+ as explained in article 4, which explains implementation activity storage carbon in the schematic reduction emission from Deforestation and Degradation Forest (REDD) and absorption carbon of down mechanism development clean. Own rules alone of level minister. However, provision this no explains more carry-on about the mechanism of REDD.

This regulation places more emphasis on businesses that provide environmental services and not on reducing emissions. This regulation divides the business activities of Utilization of Carbon Sequestration (RAP-Karbon) and Carbon Storage (PAN-Karbon). Article 3 explains the division of RAP-Karbon and PAN-Karbon business activities for Sustainable Management of Production Forests and Protected Forests.

Although it mentioned that activity RAP and PAN could be done in forest production and forest protection, it gives limitations on which detail about activity RAP and PAN, except state that the activity is shaping utilization service environment in forest production and forest protection. Definition this no can understand appropriately what RAP and PAN do. However, there is a description activity which can be done, like operation RAP and NAP. Activity PAN between another postpone logging, expand area conservation, and apply harvest take turns It means activity PAN is intended to guard so that forest is still in front and prepare it for absorption of carbon. Activity RAP covers planting stands and enhancement of area forest. Because although activity RAP and PAN rule their speciality activity, which is different in forest production and forest protection, differences are found between the second type of activity.

Activity RAP and PAN can be done of region with or without permission. Precondition and procedure to file applications are different for the second region. Authority above the area given permission (HTI, area restoration ecosystem, forest society) is at the hand of the Minister, Governor, and Regent/Mayor, whereas authority above the area which not yet once permitted by Minister. Although meaning carbon RAP and PAN seems different from REDD+, Article 4 rules them with a clear state that:

> Implementation of activities storage carbon in the REDD scheme and absorption carbon of down Mechanism Development Clean arranged by Ministerial regulations.

Nonetheless, the processes of RAP and PAN activities bear striking resemblance to REDD+. In essence, these activities undergo independent verification by a verifier, resulting in the issuance of emission reduction certificates that can be traded on the carbon market. The core differentiator lies in the fact that while RAP and PAN activities are limited to forest production and safeguarding, REDD+ encompasses a broader spectrum of forest types.

We other, activity REDD+ of Indonesia, face lots of conflicts, no only from public civil but also from institutional government, which no feel involved in process regulation. On 29 April 2010, the Ministry of Finance objected to decision No. 36/Menhut-II/2009 because the Ministry of Finance must be involved in formulating rules for results between country, city, and business person.

The pivotal concern emerges when the Ministry of Forestry surpasses its jurisdictional boundaries. Referencing Law No. 17 of 2003 pertaining to the Financial Matters of the State for the year 2003, the Ministry of Finance, spearheaded by the Finance Minister, holds the authoritative reins (Chapter 6(2)) responsible for answering the above management finance country. The legal context defines "state finances" as encompassing all entities stemming from a nation's rights and obligations, which can be assigned a monetary value, alongside any monetary or tangible assets that the State may possess in relation to fulfilling these responsibilities. Although ministers and other governing bodies, such as the Ministry of Forestry, possess influence over state finances, their control is positioned as that of users rather than managers (Article 6, paragraph (3)). According to the guidelines of Law No. 17 of 2003, the Ministry of Forestry lacks the authorization to regulate the allocation of profits derived from REDD+ and/or carbon storage endeavors. This provides integration and alignment between sectors which is still a major challenge in Indonesia. However, particularly in the implementation of REDD+, there have been many overlapping regulation.

Table 1: Profit Sharing

License Holder/ Developer	IUPHHK-HA	IUPHHK-HT	IUPHHK-RE	IUPHHK-HTR	People's Forest	Community Forest
Government	20%	20%	20%	20%	10%	20%
Public	20%	20%	20%	50%	70%	50%
Developer	60%	60%	60%	30%	20%	30%
License Holder/ Developer	Indigenous Forest	Village Forest	KPH	KHDTK	Protected forest	
Government	10%	20%	30%	50%	50%	
Public	70%	50%	20%	20%	20%	
Developer	20%	30%	50%	30%	30%	

Source: Regulation of the Head of Environmental Affairs and Forestry No. 8 of 2015 concerning the Second Amendment to the Regulation of the Minister of Forestry Number P.36 / MENHUT-II / 2009

Based on explanations from various arrangements regarding carbon service mechanisms specifically for the schemes of REDD and REDD+ policies in Indonesia, these have been accommodated, among others, through: Minister of Forestry Directive No. P.68/Menhut-II/2008 outlining the Execution of Demonstration Initiatives for Diminishing Carbon Emissions due to Deforestation and Forest Degradation; Minister of Forestry Edict No. P.30/Menhut-II/2009 addressing the Protocols for Curtailing Emissions Arising from Deforestation and Forest Degradation (REDD); and Minister of Forestry Regulation No. 36/Menhut-II/2009 addressing the Protocols for Granting Permits for Ventures Engaged in Carbon Sequestration and/or Storage within Production Forests and Protection Forests.

In fact, the presence of Minister of Forestry No. P.68/Menhut-II/2008 is an explanation to outline procedures for requesting and validating REDD activities, so that the application of methods, technology, and institutions from the REDD scheme can be implemented and evaluated. However, the challenge of this regulation is that the activities to implement the REDD scheme can be transferred to the expected REDD projects for the future. Then, Minister of Forestry No. P.30/Menhut-II/2009 contains procedures for implementing REDD, in which there are requirements that must be met, whether in the form of verification, certification, rights and obligations of the REDD actor (Giessen et al., 2016). However, there has been no determination of emission levels to be a reference for the REDD scheme. Meanwhile, within Minister of Forestry Regulation No. 36/Menhut-II/2009, provisions are established for granting licenses for enterprises engaged in REDD operations involving carbon sequestration and storage. This directive also elucidates the equilibrium in financial matters, delineating the protocols for enforcing, amassing, placing, and disbursing state income through the application of the REDD framework. Moreover, this regulation outlines distinctions between carbon sequestration and storage activities across diverse forest categories and corporate entities.

3.3 Analysis of the Application of Carbon Service Utilization in Overcoming Forestry Problems in Indonesia

The transformation of native forests into yearly plantations, the alteration of native forests into agricultural and plantation zones, the engagement in extractive activities within forest domains (coal, oil, gas, geothermal), the igniting of forests and land (blazes), and the conversion for transmigration and additional infrastructure necessities encompass a multitude of factors that propel forest deterioration and deforestation across Indonesia (Panabulu Foundation, 2017). Through REDD+, which is forest management with efforts to prevent, reduce and protect as well as increase the quality of forest cover and, most importantly, carbon stocks with the ultimate goal of supporting sustainable development (Implementation of the National Registry System for Climate Change Control., 2017). REDD+ is poised to serve as the primary mechanism through which the Indonesian Government endeavors to uphold its responsibility in diminishing greenhouse gas discharges by 26% from the Business-as-Usual (BAU) projection in 2020 autonomously, or by 41% with global support. This commitment from Indonesia was subsequently reaffirmed within the 2015 Paris Accord and was integrated into the contents of the Nationally Determined Contribution (NDC). This cements Indonesia's determination to cut national emissions by 29% in 2030 compared to the BAU reference (National Energy Council, 2020).

Since 2014, the implementation of the REDD+ scheme in Indonesia has entered its third phase with a focus on developing a results-based financing model and market-based mechanisms (Laurens &

Fristikawati, 2014). Commencing from 2010 and extending through 2013, the rollout of the REDD+ initiative embarked on two sequential phases: the inauguration of the 1st phase, recognized as the preparatory stage, followed by the second phase, known as the transformative stage. This involved the crafting of the National REDD+ Strategy, the institution of the REDD+ agency, the establishment of an autonomous MRV (Monitoring, Reporting, and Verification) entity, the identification of financial mechanisms, the founding of a Pilot province, the operationalization of financial mechanisms, the imposition of a moratorium on new permits for forest and peat conversion, the creation of a repository for degraded forests, the reinforcement of regulations pertaining to logging, timber trade, and the resolution of land and tenure disputes. In phase 3, it is hoped that developing a results-based financing model and market-based mechanisms will foster a carbon trading model that will benefit REDD+ program actors, both financially and non-financially (Panabulu Foundation, 2017).

Facilities are needed for countries implementing REDD+ (Fay & Denduangrudee, 2018), particularly within the context of Indonesia, where preparations are underway for the comprehensive enactment phase of REDD+, significant strides are being made through the formulation of an endeavor via the Forest Carbon Partnership Facility (FCPF), overseen in collaboration with the World Bank. The FCPF is an initiative tailored to aid developing nations in curtailing emissions arising from deforestation and forest degradation, while concurrently amplifying efforts in carbon storage, preservation, and the sustainable administration of forested domains. Initially unveiled during COP 13 held in Bali in December 2007, the FCPF initiated its operations in June 2008, signaling a pivotal turning point in its journey. The FCPF provides financial support through the Carbon Fund (FCPF-Carbon Fund), namely performance-based funding support intended as piloting/trial payments for reduced emissions from a forest landscape with a results-based approach (Archipelago Nature Conservation, 2022).

In the Indonesian context, FCPF funding will encourage capacity building in preparing infrastructure for REDD+ implementation. FCPF support includes national research activities and capacity building at the national and subnational level.

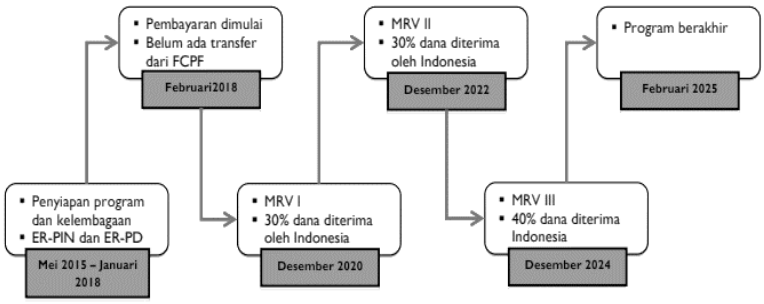

***Figure 1**. Flow and Timeline of FCPF Carbon Found Indonesia (The Research and Development and Innovation Agency of the Department of Environmental Affairs and Forestry and the Climate Change Regional Council of East Kalimantan Province)*

To be able to implement the FCPF Program Carbon Fund, the Indonesian government is obliged to compile Emission Reduction – Program Idea Note (ER-PIN) on a national scale proposed to the World Bank (Department of Environmental Affairs and Forestry Research and Development Agency and East Kalimantan Province Climate Change Council, 2016). The next stage after the ER-PIN has been approved is the preparation of Emission Reduction Project Development (ER-PD) on a pilot area scale. The FCPF program scheme has stages that must be passed to obtain a funding scheme, Carbon Fund. Preparation of proposals Emission Reductions – Program Idea Note (ER-PIN) is the beginning of the program bidding process submitted by Indonesia to the World Bank as a fund management institution Carbon Fund After the initial proposal (ER-PIN) has been approved, it is followed up with the preparation of a full proposal for the implementation of the FCPF program through documents mission Reduction–Project Development (ER-PD), this document will then be followed by the preparation of an agreement scheme mission Reduction–Purchase Agreement (ER-PA) (Department of Environmental Affairs and Forestry Research and Development Agency and East Kalimantan Province Climate Change Council, 2016).

Based on the ER-PIN document, Indonesia proposed East Kalimantan Province as a pilot area in the FCPF Program Carbon Fund so that the ER-PD will be prepared based on the local context of East

Kalimantan Province (East Kalimantan Provincial Government, 2019). This determination was strengthened by the presence of the Letter of the Head of the Development and Innovation Research Agency of the Department of Environmental Affairs and Forestry No. 5.92/Litbang-P3SEKPI/2015 on 30 September 2015 concerning the Carbon Fund. This letter was followed by a statement signed by Dr H. Awang Faroek Ishak as Governor of East Kalimantan on 5 October 2015 (The Research and Development and Innovation Agency of the Ministry of Environment and Forestry and the Climate Change Regional Council of East Kalimantan Province, 2016). East Kalimantan Province has an area of approximately 12,726,752 ha consisting of 12,533,681 ha of land and 193,071 ha of in land waters (East Kalimantan Portal, 2022).

The choice of East Kalimantan Province was based on existing criteria Carbon Funds, including : (Forest Carbon Partnership Facility (FCPF) Carbon Fund, 2014)

a) Cohesive with broader REDD+ objectives. The Carbon Program Fund lends its backing to the nationwide REDD+ initiative, while contributing provinces will hold a pivotal role in executing localized REDD+ strategies.
b) Preceding REDD+ investments have paved the way. East Kalimantan has previously embraced a substantial interconnected REDD+ program, which serves as the propelling force for the ongoing momentum of the Carbon Fund.
c) Robust involvement of civil society. This engagement stands as a pivotal facet, facilitating the program's ability to tackle issues at the grassroots level and to seamlessly incorporate local communities into the comprehensive program planning and execution.
d) Dedication from local government bodies. Local administrations assume a crucial function in orchestrating district-level undertakings, with their unwavering commitment to REDD+ and the Carbon Program Fund standing as the linchpin to the viability and enduring success of the proposed endeavors. Local entities within each district are identified as the focal juncture for program execution, augmented by budgetary allocations earmarked for REDD+-related activities.
e) Aligning with spatial blueprints and local decrees.
f) A structured mechanism for information dissemination and stakeholder involvement exists, incorporating avenues to engage local communities and address concerns raised by stakeholders.
g) Advancements in shaping a REDD+ framework. This encapsulates the headway in formulating Reference Emission Levels, enhancing proficiency in cultivating Forest Monitoring Systems, and refining expertise in emissions quantification, encompassing issues like leakage and returns.
h) Headway pertaining to safeguards. This encompasses the assimilation of PRISAI or SES, disseminating information about REDD+, and garnering support from non-governmental organizations and academia for REDD+ pursuits.
i) Advancements in spatial strategy and the operationalization of FMUs. This involves the formulation of community-driven forestry strategies.
j) Advancements in mechanisms for sharing benefits. This encompasses insights gleaned from community-driven developmental initiatives and localized statutes that bolster the mechanisms for distributing benefits.

ER-PD prepared for the FCPF Program Carbon Fund will have the following main components: managing institutional arrangements, location, intervention strategy, stakeholder engagement, operational and funding plans, carbon types and categories, reference levels, monitoring, measurement, reporting and verification (MRV) methodologies, leakage and return risks, social and environmental safeguards, data management and registration systems and institutional and benefit-sharing mechanisms (Panabulu Foundation, 2017).

Benefit sharing in the REDD+ Program must take into account several important aspects in a comprehensive manner, namely: identification of who should receive the benefits, determination of the most appropriate type of benefits, and arrangements regarding the distribution of practical benefits (Luttrell et al., 2014). This means that the arrangements for distributing REDD+ will be closely linked to the types of benefits distributed and to whom these benefits will be distributed (Panabulu Foundation, 2017).

Differences in benefit distribution arrangements are based on the type of carbon assistance or market finance, which comprises a compliance market and a voluntary market. The compliance market is

a carbon market that operates under the rules of international agreements to set emission reduction targets in developed countries, and is compensated with emission reduction credits from emission reduction projects carried out in developing countries. A voluntary market is a carbon market that uses an emissions trading mechanism but operates outside international agreements (SEKPI-RePort, 2022).

Involuntary market, international entities can directly conduct transactions with the developers/actors of the REDD+ Program, namely land owners or business license holders for forest utilization with or without the involvement of supporting third parties. For forest areas, the government, as the land owner, can impose various levy instruments on economic rents resulting from efforts to sequester or store carbon (Abraham, 2016). Meanwhile, in the compliance market, the role of the government plays a central role because bilateral and multilateral funds will be managed centrally and then distributed to the parties involved in implementing the REDD+ Program (SEKPI-RePort, 2022).

On the voluntary schematic market, international entities as buyers can directly make payments based on carbon reduction emission certificates (Certificate of REDD/Certified Emission Reduction/CER) generated. As for the schema compliance market, revenue from the CER that is sold goes to the central government before finally being channelled back to the manager after deducting the business license fees and fees on the sold REDD Certificates. Revenue derived from the sale of REDD certificates is the manager's right (SEKPI-RePort, 2022).

Suppose the REDD+ location is in a forest area. In that case, the manager should pay economic rent to the state through fees for REDD+ activity permits and fees for selling REDD+ certificates. This REDD+ activity permit fee is paid once within the management period. While levies on CERs are based on the volume of carbon sold (per tonne of equivalent) (Panabulu Foundation, 2017). The mechanism for the distribution and proportion of profit sharing from the REDD+ permit fee follows Government Regulation no. 55 of 2005 concerning Balancing Funds. The allocation of Revenue Sharing Funds from REDD+ permit fees is divided between the central and regional governments, with the central government receiving 20% and local governments receiving 80%. This distribution entails 16% for the corresponding provincial government and 64% for the district government responsible for production.

The share for the central government is allocated to the National REDD+ Guarantee Fund. Meanwhile, the distribution mechanism and the proportion of profit sharing for the levy on sold REDD certificates is proposed to follow the proportion of profit-sharing Funds from the Reforestation Fund, amounting to 60% for the central government and 40% for regional governments. This proportion is proposed because the implementation of REDD+ is based on a national approach involving complex institutions because it involves cross-sectors (Panabulu Foundation, 2017). The REDD+ manager should also contribute to the community around the REDD+ site, so benefits should be allocated to the community.

Part of the REDD+ revenue for the community can be given in the form of alternative sources of livelihood, such as assistance with plant nurseries, fisheries, animal husbandry, handicrafts and so on. In addition, assistance can also be in the form of infrastructure development, education and health. Local governments also should contribute to the community from DBH REDD+ revenues. Assistance is provided through financing programs allocated in the budget of each work unit within the local government. These programs are directed at empowering the community around the REDD+ location. Performance-based payment mechanisms can be implemented at different levels of the REDD+ Program, ranging from programs focused on land users to programs managed by specific local governments (Rahayu et all., 2016).

The performance-based REDD+ payment mechanism or results-based payment is an incentive expected to help facilitate initial support from stakeholders and build the necessary conditions to encourage positive behaviour changes of the parties in achieving the ultimate goal of the REDD+ Program. The distribution of benefits from the REDD+ programme is also expected to help overcome some of the risks and costs faced by more powerless and marginalized stakeholders by providing cash payments for the results of performance that have been carried out.

3.3.1 Benefits Obtained for the Community in Implementing FCPF Activities Carbon Fund

FCPF support Carbon Fund will encourage the strengthening of REDD+ implementation in East Kalimantan Province, as a pilot area at the sub-national level, through a performance-based payment mechanism. In carrying out FCPF program activities Carbon Fund, then beneficiaries are classified as:

Communities (indigenous peoples and local communities), Government (central, provincial, district and village), and Business groups and developers (Forest Carbon Partnership Facility (FCPF) Carbon Fund, 2015).

REDD+ efforts, supported by international carbon funds, to reduce deforestation and forest degradation are intended as an incentive so that developing countries that have large areas of tropical forests can receive significant benefits from efforts to reduce emissions. As mentioned above, the REDD+ scheme will provide incentives and compensation in the form of sharing benefits/benefits with a performance-based payment mechanism for emission reduction actors. FCPF program Carbon Fund has identified that apart from the government (both central, provincial, district and village governments) and business groups and developers; The community should also get the main benefits from emission reduction programs. Community groups include indigenous peoples and local communities (ER-PIN) (Forest Carbon Partnership Facility (FCPF) Carbon Fund, 2015).

In the REDD+ Program scheme, communities are key stakeholders in managing forest areas. Community groups at a certain level will be able to play a role as program managers, be the ones most likely to be affected by the program, and on the other hand have the greatest potential to be able to enjoy non-carbon program benefits (Forest Carbon Partnership Facility (FCPF) Carbon Fund, 2015).

3.3.1.1 Community Benefit Sharing Plan in the FCPF Carbon Fund Program

FCPF program Carbon Fund has positioned indigenous peoples and local communities as the program's primary beneficiaries in addition to the government (central, provincial, district and village governments), business groups and developers. FCPF Carbon Fund has potential to deliver both carbon and non-carbon programme benefits. Non-carbon advantages are directly obtained and enjoyed by the community (McDermott et al., 2012). Meanwhile, the benefits of the REDD+ Program in the form of carbon will be measured using the MRV method (Chhatre, 2012), which is the basis for payment for emission reduction performance (Panabulu Foundation, 2017). The receipt of the payment will be distributed in the form of monetary and non-monetary benefits to administrators, including community groups.

FCPF funding Carbon Fund will provide incentives based on a jurisdiction-based performance approach, and incentive mechanisms can be provided to parties within a particular jurisdiction, either at the district or village level, to change the behaviour of actors in that jurisdiction. Budget allocation Carbon Fund is based on performance determined at each jurisdiction level. The performance will be measured using indicators outcome, i.e. reduced deforestation or emissions or indicators output/ process, namely, benefits are given based on the implementation of a particular policy or activity.

As it has been explained, the FCPF carbon fund has focused on the sharing plan utilization for the public. These funds will be specialised in the distribution of the benefits of the REDD+ programme as divided into several forms, including : Non-carbon benefits for society; Carbon benefits in the form of monetary and non-monetary based performance outcomes for community groups that act as managers (HKm, HTR, Village Forests, Customary Forests); and Carbon benefits in monetary and non-monetary forms are based on Village/Customary Village/Rural Area jurisdictions and are measured based on output performance.

During the phase of disbursing advantages from the Provincial/District Administration to local Villages/community entities, these community groups have the opportunity to access grants offered by the provincial/district administration through the Village channel. Furthermore, these community associations are eligible to directly acquire Social Welfare Allocations from the provincial, district, and village levels. Social welfare allocations denote the supply of financial support or commodities by the regional administration to individuals, families, collectives, or communities. This assistance is non-continuous and discerning, aiming to provide a safeguard against potential social hazards.

One of the fundamental challenges in implementing options for sharing carbon benefits in monetary and non-monetary forms based on Village/Customary Village/Rural Area jurisdictions and which are measured based on output performance is to ensure that output-based performance measures have a significant portion of the distribution plan. Benefits to be used by the FCPF Carbon Fund. Concern that performance measurement is based on the outcome will take up a much more significant portion of the allocation of benefits, now coupled with the unpreparedness and maturity of the MRV measurement

system and mechanism itself so that the measurement of emission reduction performance by managers cannot be ascertained in a transparent and accountable manner.

Preliminary strides towards ascertaining the division of profit allocation have been initiated, elucidated in the Head of Environmental Affairs and Forestry Regulation No. 8 of 2015, detailing the Second Revision to Minister of Forestry Regulation No. P.36/MENHUT-II/2009, which pertains to the Protocols for Licensing Enterprises Engaged in Carbon Sequestration and Storage within Production Forests and Protection Forests. This regulation systematically outlines the distribution ratio of earnings stemming from the trade of Verified Emission Reductions (VER) that should be apportioned to the local community, governmental entities, and project developers.

Conclusions

The protection and management of the environment must be carried out on the basis of the principles of state responsibility, sustainability and benefit in order to realise environmentally sound development, as well as protection from the effects of global warming. Global warming occurs due to the increasing deforestation and degradation of forest functions to absorb carbon emissions. Against this, the REDD+ scheme is a climate change mitigation program. It emphasizes forest management to prevent degradation, protection, and to improve the quality of the forest cover and the carbon stocks in support of sustainable development. On the other hand, the REDD+ scheme has a focus on providing incentives for pressure speed deforestation, and this is in line with the Polluter Pays Principle doctrine, which polluters need to be responsible for their actions that hurt the environment.

The implementation of the REDD+ scheme in Indonesia has been accommodated through Permen LHK 70/2017, whose aim is to achieve the implementation of REDD+ by the requirements of the UNFCCC COP decision on REDD+. REDD+ is implemented nationally by the responsible government for the environment and forestry sector. At the sub-national level, it is carried out by Regional Governments, the private sector, Forest Management Units and Community Groups managers. The implementation of this sub-national has appointed East Kalimantan Province as a pilot area for REDD+ with funding from the World Bank in the FCPF program. In fulfilling this implementation, Indonesia has issued various implementation instruments from REDD+, namely: “National Strategy, Forest Reference Emission Level (FREL)/Forest Reference Level (FRL), Measuring, Reporting, Verifying (MRV), National Forest Monitoring Systems (NFMS), Funding Instruments, Safeguards, and the REDD+ Safeguard Information System, the National Registry System (SRN).”

Recommendation

REDD+ emerges as an effective strategy in curbing the pace of deforestation and forest degradation due to its capacity to offer mutual benefits in this challenge. However, the statistics concerning deforestation and degradation within Indonesia's forest realms have shown no marked shift since the inception of the nationwide REDD+ strategy. Thus, there arises a necessity to bolster policies that can harmonize the alignment of REDD+ initiatives both at the broader national level and the localized sub-national tiers, all essential for securing the triumphant execution of the REDD+ blueprint within Indonesia. Furthermore, heightened transparency in the endeavors enacted at the sub-national echelons becomes pivotal, considering that the REDD+ program's essence underscores the distribution of advantages among the forest-adjacent communities as part of the REDD+ undertaking.

The Government of Indonesia needs to strengthen the policies for what schemes are used in financing REDD+ in Indonesia due to the various schemes that appear in carbon trading, creating susceptibilities for engaging in corrupt behaviors, both on a national and sub-national scale, in the establishment of REDD+ initiatives within Indonesia. In terms of financial allocations for climate change mitigation within the country, the essential approach lies in seamlessly integrating climate control measures into developmental strategies at both the national and local levels. Vital planning will be reflected in proper budget allocations and a continuous monitoring and evaluation system to ensure budget efficiency and effectiveness. Strong coordination between key institutions as regulators and implementing institutions as implementers is needed to accelerate and synergize various climate change control programs.

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