



Respons of Indigenous Community Towards the Plan of Carbon Forest Kahayan in Central Kalimantan

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Abstract. This article discusses the response of the indigenous community of Dayak Ngaju in Central Kalimantan, Indonesia, to the concessions of carbon forests in the native areas they claim. Using ethnographic methods in field research, we find complicated relationships between indigenous peoples, forests, and carbon trade. Conservation labels on some previous forest management efforts have become a pretext for indigenous peoples to lose access to forests. Advocates of the global carbon trading scheme portray it as a means to provide economic justice to indigenous peoples. The findings presented in this article enrich the literature on forests and carbon trade as well as offer a different context for understanding the challenges facing indigenous communities in Central Kalimantan. The study also highlights the importance of the capacity of carbon forest companies, governments, and indigenous communities in mitigating climate change.

Keyword: Carbon forest, indigenous community, Kahayan

1 Introduction

The ruling of Mahkamah Konstitusi No. 35/PUU-X/2011 (MK 35) has emphasized that indigenous forests are no longer part of the state forest. This ruling, the MK, restricts the authority of the state, so that Indigenous forest or with other names in the Nusantara: forest of Marga, forest of cultivation, is covered by the territory [1]. Recently, natural forests have only become a discourse and there are many cases of government disobedience to the ruling of the MK. The government is actively offering land and forests in Indonesia to investors in order to boost investment. One area of forest with protected forest status in Central Kalimantan is offered to private parties with a concession of 50,000 hectares, and in and around the forest still inhabit the indigenous people of Dayak Ngaju along the river Kahayan, Palangka Raya, Central Kalimantan. A concession aimed at meeting the new commodity of world trade, carbon.

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Some of the remaining indigenous communities in Indonesia have an adequate and diverse understanding of conventional forest management techniques [2]. That knowledge is not only vital in keeping the environment sustainable, but also provides effective practices for mitigating and adapting to climate change. Increased forest management within the carbon trading framework and market-oriented approaches to climate change mitigation have raised concerns regarding its impact on indigenous peoples and their traditional practices [3]. Mitigation approaches with carbon forests tend to ignore conservation perspectives, principles, and purposes that are typical of indigenous societies. Therefore, incorporating customary knowledge into existing environmental governance structures is significant in ensuring recognition and respect for the voices and contributions of indigenous peoples [4][5].

Indigenous communities in Kalimantan have played a significant role in protecting the vast but unstable ecosystem of the forest. These communities are driven by strong links with their surroundings and a desire to live, which are significantly associated with the well-being of communities and forest sustainability [6][7]. One is that the Dayak Ngaju community in Central Kalimantan is aware of the importance of striking a balance between conservation and resource utilization to ensure the sustainability of their livelihoods in the long term. The carbon forest plan in Palangkaraya Forest has received a variety of responses from my stakeholders, including indigenous communities [8]. Some stakeholders have expressed their support for the plan, as they recognize the benefits that forest restoration and environmental management can bring. However, other members of indigenous communities also expressed their concerns about land depletion or private corporate concessions granted by the government.

The term "concession" has basically been used from the outset for both local and customary communities in the surrounding and forests of Indonesia. How not, I took the case of the forests in Central Kalimantan, formerly called the HPH, which ran through the woods, then the HGH that seemed to defy ecological sustainability but left a hole in the Kalimantan area and the most recent was the concessions of coal mining and palm plantations that are land ownership most often leaving agraric conflict [9]. Recent decades, in the name of efforts to suppress the impact of climate change, have created a global bond between industrialized nations by developing a market mechanism called carbon trading. As one of the developing nations, Indonesia is seeking to exploit the carbon market with forest potential [10] [11]. As a result, the Indonesian government's policy seems soft in giving private concessions to managing carbon forests.

Carbon trading has been a major issue in efforts to tackle climate change in today's era of globalization. Indonesia, which has a lot of biodiversity, is considered to have great potential to contribute to carbon trade through indigenous community involvement in forest management [12]. Indigenous communities are a significant part of ecology and forest management. However, the carbon trade faces a lot of complicated problems. These include issues of agricultural law, indigenous rights, and access restrictions in carbon trading mechanisms. To implement carbon trading in the context of indigenous societies, an approach that takes into account the socio-cultural and environmental sustainability aspects is needed [13]. Some of the challenges faced in integrating indigenous and forestry societies into carbon trading involve a balance between nature conservation and the economic needs of Indigenous peoples. In addition, regulations are needed that support indigenous participation, land conflict management, and indigenity capacity-building in terms of sustainable forest management [14].

Initiatives like REDD+ are aimed at involving both indigenous and local communities in forest conservation programmes, but on the other hand, it is necessary to ensure that land rights and natural property should be a priority. Failure to consult and involve indigenous peoples in the development and implementation of REDD+ strategies can affect conflict and other socio-cultural problems [15][16]. The most important attempt to avoid a traumatic repetition of history and against indigenous peoples, the design of the REDD+ system in national programmes such as in Indonesia, needs to prioritize public participation and recognition of the rights and interests of Indigenous people. To date, more than 150 bilateral carbon losses compensation schemes have been developed despite doubts about carbon loss compensation, mainly denying land use. To be an investor, a company must abide by the law, take responsibility for the business, and make a profit as the first driver. About 30 of them relate to forestry choices or land use intended to preserve forests [17].

Transferring forest management to market mechanisms is creating increasingly strange problems, especially in terms of concession rights handed over to private companies. The participatory ideas of indigenous peoples designed to contain interests are still chaotic and public knowledge of carbon forests and REDD+ mechanisms is still minimal [18]. The 50,000-hectare concession case by the coal-forest management company in Central Kalimantan does not seem to be in the same position and rights as indigenous farmers. Indigenous peoples' efforts to fight for indigenous territories, including forests, are never based on market paths, but part of a living space. Speaking of the market, then profit-oriented is the goal of the company. While for indigenous peoples within the framework of my interests is not only profit but also recognition of rights and identity along with living space to maintain sustainability. Carbon claims in indigenous territories are an inseparable part of the rights of indigent peoples to forests, whereas forests are inseparable parts of land rights. Therefore, carbon rights cannot be separated from land rights and forest rights [19]. The knowledge and skills and the participation of indigenous peoples to preserve forests, never included in the carbon trade affairs. Various rules and prohibitions made the owners concessions on access to forests for local and customary communities, and their smell if necessary, relocation of settlements. Nowadays, indigenous peoples are faced with issues or corporate plans that could take away the livelihoods of indigents.

The Dayak Ngaju community in Central Kalimantan is currently facing two companies with the same entity that have a concession of 50,000 hectares of land and forest to be managed as a carbon forest. Previous concessions that took advantage of forest services turned into carbon forest management concessions in 2012. Since then, the two companies, with the help of consultants, have begun to conduct research and evaluation of the potential vegetation in the forest area around the river Kahayan. Measurement of forest carbon in that forest area at ideal values with the presence of copper which is scientifically proven to contribute to the production of considerable oxygen. At the same time, the two companies also approached and studied the strategies of indigenous peoples who also claimed forests. Another issue is the overlap of concession territory with private palm plantations. In the past, indigenous and local communities have suffered trauma with palm companies due to land conflicts, especially plasma land zones that are often resolved with apparatus repression. Bad experience with the palm planting company makes it difficult for the Dayak Ngaju community to negotiate with the carbon forest concession company. Conservation and preservation of forests keeps the community untouched. The socialization and consultation of the two companies did not provide an understanding of the carbon

trade. The concept of indigenous participation is useless at all, with the discourse of rules of access to the forest so weird.

As indigenous peoples and local communities face the complexities of forest and carbon trading and REDD+ readiness, it is relevant to capture responses through research on the Dayak Ngaju indigenous community in Central Kalimantan. The top-down initiative of policymakers through the REDD+ scheme towards forests and indigenous peoples' welfare by considering carbon benefits and benefits for the community. The main focus of this article is on the response of the Ngaju indigenous community to carbon forest management plans by two national companies that have begun to approach and socialize the community. It seeks to elaborate on indigenous peoples' responses to forest carbon trading, exploring challenges, opportunities, and the way forward by taking into account traditional knowledge integrated into environmental governance structures. Understanding forest management for carbon trading means understanding the important role of indigenous communities in safeguarding forests and reducing greenhouse gas emissions. Community-based forest management can provide a framework through which REDD+ can provide benefits and livelihoods for forest-dependent communities [20]. Similarly, the role of indigenous peoples in forest ecosystem management can be sustainable in the long term.

2 Research Methods

An in-depth examination of the viewpoints of indigenous populations about forests, knowledge, and attitudes of carbon trading necessitates a thorough methodology that surpasses superficial observations [21]. Ethnographic study facilitates the development of a comprehensive and intricate comprehension of the intricate connections between indigenous communities and their surroundings, as well as their perception of the consequences of carbon trading on their customary land tenure. Throughout the process of conducting this ethnographic research, we established connections with the indigenous population, fostered a sense of trust, and held targeted conversations with various community factions. This included engaging with indigenous community leaders such as *damang* and *mantir*, as well as neighborhood heads, religious leaders, and *lurah* in all sub-districts within Rakumpit sub-district, Sei Gohong sub-district, Bukit Batu sub-district, and Palangka Raya. The use of this methodology led to a period of 21 days during which qualitative data was gathered in the field. This data provided valuable insights into the intricate connections and significance of forests in relation to indigenous populations, including aspects of culture, society, and economy.

Ethnographic methods helped me explain the complexity of indigenous communities knowledge systems, customary practices, and governance structures related to forest management and conservation. Using observation, interviews, and storytelling, I gained insights into indigenous communities perspectives on carbon trading, including the potential benefits and risks perceived by the communities. This comprehensive approach ensured the analysis was based on diverse perspectives and reliable sources, which facilitated a holistic understanding of the subject matter [22]. In addition, to ensure the validity of the findings, I used triangulation by cross-referencing data from multiple sources and employed cultural theme analysis methods and data-driven inductive methods that generate theoretical explanations of data from the ethnographic field [23]. Reflexivity is a hallmark of ethnographic research, namely

the position of the researcher and its possible impact on the community under study [24]. By critically reflecting on biases and assumptions, I present the insights gathered from the field as valid, accurate, and representative of indigenous perspectives on forests and carbon trading.

3 Result and Discussion

3.1 Ngaju, Indigenous Community

The Ngaju Dayak ethnic group is one of the four ethnic groups in Central Kalimantan, synonymous with traditional life with environmental wisdom that depends on forest services. Currently, there are still some Ngaju Dayak people who still adhere to the ancestral religion Kaharingan, and others have embraced religions officially recognized by the Indonesian government. All Ngaju Dayak communities construct their lives, lifestyles, and economic activities (land tenure) in ecological correlation with rivers and forests. The spatial layout of their settlements is associated with rivers, such as the Kahayan, Katingan, Mentawi, Kapuas, Seruyan, and Barito rivers. These rivers have culturally shaped the identity, culture, and distribution of the Ngaju Dayak language dialects, which are quite varied: basa katingan, ngaju katingan, and uluh katingan, covering the Central Kalimantan region [25]. Dayak Ngaju, as a language of communication, has dominated the region in Central Kalimantan. In terms of population, almost half of the total population in Central Kalimantan is scattered and settled in the center and outskirts of settlements following the river [26].

Language in Ngaju Dayak culture essentially stores categories and structures the minds of its people in managing their environment. Therefore, the Ngaju Dayak language is the basic pattern of interaction between its members and also with its environment, namely rivers and forests. The transmission of knowledge in the context of the environment has made the Ngaju Dayak one of the indigenous communities that maintain their local knowledge in environmental management, especially with regard to rivers and forests. The reciprocal relationship between the physical environment and the natural mind of the Ngaju Dayak community is manifested in local terminology and psychically pretends to be part of the beliefs, values, and order of the community [27].

In the Kaharingan belief, which is the original belief of the Ngaju Dayak people, they practice the ritual of *maniring hinting*, which relates to respect for land. *Maniring hinting* regulates the law of land management based on the ontological reality of a metaphysical idea they call *ranying hatala*. These realities (beliefs and practices) are essentially part of the Ngaju Dayak concept of environmental management. In other related structures, the Dayak Ngaju also practice the mystification of certain natural forest areas and forests, which are conceptualized by the Dayak Ngaju as *tajahan* and *sapan pahewan*, which are forest areas considered important for animals. The Ngaju Dayak community in land management, which previously practiced shifting cultivation, has a mechanism for regulating *pukung himba*. Regulation through *pukung himba* limits the community from opening new fields. The mechanism is part of livelihood resilience that is considered capable of maintaining the sustainability of their farming and other livelihoods. The recent plantation system, although affecting Ngaju Dayak agriculture, still tends to maintain forest characteristics by cultivating long-term crops such as rubber, tengkawang, and rattan. Bajaka root, which has been

recognized as one of the ethnomedicines of the Ngaju Dayak community, is utilized for its popularity in the domestic market [28].

The control of land and customary forest and river areas is regulated through the local institutions of Damang and Mantir. When territorial division has been regulated by the state with a formal system of sub-districts or districts, it seems that the structure of the Damang also follows a similar territorial control. The damang is governed by the indigenous community to the same extent as the sub-district. Hierarchically, the damang oversees the mantir, who has control at the level of the kelurahan. In each kelurahan, there are three mantirs who have different tasks and roles. Customary authority in some Ngaju Dayak rituals and traditions that are still practiced, including land management, is regulated by the institutions of both damang and mantir. However, customary land arrangements still require the legitimacy of local governments that issue regulations, such as Central Kalimantan Governor Regulation No. 13/2009 on Customary Land and Customary Rights on Land in Central Kalimantan Province. Customary land, in the understanding of the Dayak Ngaju indigenous community, is land within the sub-district area and includes villages within the sub-district area. Customary claims range from scrub forest to local community land that is utilized or controlled individually. Land tenure is very important to be recognized by the damang in the sub-district. Customary land is more valuable if it is land that is correlated with the beliefs and traditions of the Dayak Ngaju indigenous people, such as pukung pahewan land, rutas land, and kayuan tempat tajahan [29].

Individual land is a category of land that is incorporated into the area of land which is inherited from the descent of the family called my own land. My own land is an individual claim against land obtained from the opening of forests either individually or in a group, the result of the sale, donation or grant, land inheritance on the basis of agreement with the community. The mechanism, in addition to the customary consensus of Dayak Ngaju itself, is also legitimized by the rules that come from the Central Kalimantan Government. The ambiguity between private ownership in a personal sense is also meant as a customary claim of a communal nature. The arrangement of land ownership called indigenous land controlled by individuals is authorized by the local government together with the damang or mantir as the customary possessor. According to the current recognized regulation, Pergub No. 13 of 2009, the ownership of indigenous land by individuals is stated in the Surat Keterangan Tanah (SKT) which also gives the opportunity to be traded. This regulation results in large-scale land ownership in Central Kalimantan claimed individually and encourages the sale of seemingly 'legal' land purchases to certain parties that have interests in the land. This has been greatly exploited by palm coconut entrepreneurs who have contributed to deforestation.

Dayak Ngaju society has so far faced the issue of rapid deforestation with various factors. One of them is the opening of forests for monoculture farming, namely, palm coconut. Others are internal factors such as demographic change and population growth; changes in agricultural practices to settlement; deforestation; settlement and infrastructure development. The greatest impact felt on Kalimantan Island has been the reduction in rainfall as an impact of climate change, which has caused forest and land fires and drought [30]. While conservation efforts are often encouraged, it still leaves a problem that indigenous peoples regard as not a comprehensive solution. At first, people often regarded forest production as part of conservation, or even forest areas that were originally for conservation changed their concession permits into palm plantations [31]. As for conservation forests such as educational forests in Petuk

Berunai, Rakumpit districts restrict public access to forests that have long been regarded as common or indigenous lands. The issue eventually makes the public more inclined to programs that are labeled conservation. So, when the carbon forest as a new business scheme in trade or in the REDD+ initiative is responded to with cynicism because of the same conservation labels as previous programs.

3.2 Understanding Forest Management for Carbon Trading

Understanding forest management for carbon trade means accepting and appreciating the important role of indigenous peoples in preserving forests. Community-based forest management can provide a framework that can be used to provide financial benefits and livelihoods for communities that rely on forests and indigenous communities to manage forest ecosystems sustainably and over the long term [32]. The mechanism considers the links between social forests, indigenous rights, and carbon trade efforts. Furthermore, in the implementation of the REDD+ program, it is essential to address possible conflicts between the government and indigenous peoples [33]. The reaction of indigenous peoples to companies that manage forests for carbon trade varies depending on local practices and circumstances [34].

The indigenous communities of Dayak Ngaju have expressed their concerns about the possible negative impact of carbon trading and the REDD+ program on their rights and well-being. They're afraid of land seizures, evictions, and loss of control over their resources. It is essential for governments and international bodies to engage in significant consultations and cooperation with local and indigenous communities to address this problem and ensure the protection of the rights of Indigenous peoples. Recognizing and respecting their traditional knowledge, land rights, and customs is one example. By involving indigenous peoples in designing and implementing an incentive-based REDD+ project, policymakers can ensure that the program meets the needs and wishes of the community involved [35]. To protect their livelihoods, cultures, and rights to their land, indigenous peoples must have a voice in formulating and implementing forest carbon trade initiatives. We can encourage a more inclusive and sustainable approach to combating climate change by incorporating traditional knowledge and indigenous perspectives into forest management and carbon trade initiatives [36].

In order for the forest carbon trade initiative to succeed and survive, the participation and agreement of indigenous peoples are essential. They can contribute to effective forest management and carbon absorption with their traditional knowledge and techniques. In addition, it is vital to provide institutional and technical support to indigenous communities so that they can engage in forestry and carbon calculation. This will help ensure the significant participation of indigenous peoples and a fair sharing of the benefits of the REDD+ program. Basically, the participation and rights of indigents should be a top priority when building and implementing forest carbon trading initiatives such as REDD+ [37]. This will not only preserve the rights and resources of indigenous peoples but will also improve the sustainability and efficiency of efforts to tackle climate change and support environmental conservation. Accurate weather forecasts are crucial in today's rapidly changing world.

Therefore, it is crucial to involve the indigenous community of Dayak Ngaju in the decision-making process and the mechanism of sharing the benefits of the REDD+ program. This will help to address the historical marginalization and deprivation that indigenous peoples have experienced in connection with forest protection initiatives [38].

3.3 Responses of Ngaju Indigenous Community to Carbon Trading Companies

The carbon trade can have a good or bad impact on indigenous communities. There is a potential for increased income and economic opportunities, recognition of traditional land rights, development of skills and capacities, and preservation of their traditional culture and practices. On the other hand, there are concerns about the negative impact of carbon trading. Among these concerns are the possibility that indigenous landscapes and cultural practices will be homogenized, the likelihood that Indigenous societies will be marginalized or excluded from decision-making processes, and the potential for increased land confiscation if government regulations and design support the control of carbon forest management companies [39][40][41]. Indigenous people's involvement in carbon trading initiatives often raises complex questions regarding the equitable distribution of profits. The spread of carbon credit at the community level has proved challenging, and there are legitimate concerns about the effectiveness and fairness of payment systems based on performance evaluations. In addition, it is important to carefully consider the social and economic impact of carbon trading projects on indigenous peoples, as they are likely to be scattered [42][43][44].

The indigenous community of Dayak Ngaju have expressed their concerns and risks associated with forest carbon trading initiatives such as REDD+. They're worried about losing income, losing jobs, and disrupting their existing customs. Carbon and land ownership are also matters of concern. Private companies should develop carbon forest projects only after obtaining informed consent from indigenous peoples, without any coercion, and ensure control over profit sharing and improved quality of life for their communities. Additionally, indigenous peoples demand the incorporation of their traditional knowledge and practices into the management of carbon forests. It will not only ensure better and more sustainable outcomes but will also respect the cultural rights, livelihoods, and rights of the native people of Dayak Ngaju. Because of their different knowledge and understanding of forest ecosystems, indigenous peoples argue that active involvement and participation in forest carbon trading initiatives are essential for sustainable forest management. Involving indigenous peoples actively in the decision-making process and the benefits-sharing mechanisms of the REDD+ program can stop their marginalization and deprivation of their history. It will produce a more equitable and fair outcome for indigenous peoples [45].

The indigenous people of Dayak Ngaju began advocating agreement on the basis of unforced initial information, control over profit sharing, and participation of their traditional knowledge in forest management and carbon monitoring. Furthermore, national regulations for carbon trade should consider and respect indigenous values and cultural practices to prevent the commodification of their heritage. It is therefore vital to establish peaceful and sound institutional mechanisms, as well as regulations that provide adequate incentives and protection to indigenous peoples, ensure that they are active participants in decision-making processes, have control over the distribution of benefits, and that their traditional knowledge is respected and

integrated into forest management and carbon monitoring. It is important for companies and stakeholders involved in forest carbon trade to consult and partner with indigenous people to ensure unforced agreement on the basis of information at the outset and significant participation in the design and implementation of carbon trade initiatives. This will help prevent adverse impacts and encourage a fair distribution of profits among indigenous peoples.

Carbon trade has the capacity to mitigate climate change through conservation and restoration of forests and enhance the well-being and empowerment of indigenous communities as a whole by recognizing and respecting the customs values, incorporating traditional knowledge, and ensuring appropriate incentives. In the future, companies that manage forests will engage in significant consultations and cooperation with indigenous, peaceful, and wise institutions. Furthermore, it is important to remember that the current global discussion of the carbon trading system may not be sufficient to address the problems faced by countries such as Indonesia that have weak governance systems and inadequate monitoring mechanisms. The potential of carbon trading to exacerbate socio-economic disparities in these countries raises questions about how far this system really helps the communities directly affected by these initiatives, especially indigenous communities and communities that depend on forests [46].

4 Conclusion

The indigenous community of Dayak Ngaju have expressed their concerns and risks associated with the carbon forest initiative and its trade. They responded with fears of losing income, losing jobs, and disrupting their existing customs. They could have supported agreements based on non-violent preliminary information, control over profit-sharing, and the involvement of their traditional knowledge in forest management and carbon monitoring. To prevent cultural heritage and customary values from being modified, the national carbon trading framework must consider and respect those things. Therefore, it is essential to establish institutional mechanisms and regulations that encourage and protect indigenous peoples in the right way, ensure that they participate actively in decision-making processes, hold control over profit sharing, and respect their traditional expertise in forest management and carbon monitoring. The issue of carbon trading and its impact on indigenous communities requires a comprehensive and integrated approach. It is essential to build a transparent governance system, prioritizing the protection of the rights and traditions of indigenous peoples and eliminating concerns about the transfer and distribution of benefits. Ngaju indigenous communities can achieve sustainable and fair outcomes in carbon trading initiatives by recognizing the social, cultural, and economic context of their communities.

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