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REDD+ in Indonesia: An assessment of the international environmental program

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Abstract

This paper provides a comprehensive review of the literature and assesses the progress on the effects of Indonesia's REDD+ program. Due to the significance of Indonesia in terms of global rainforests and the comprehensive implementation practice of REDD+ programs since 2009, focusing on the case study of Indonesia enables interesting insights regarding the challenges and opportunities of REDD+. Indonesia faced challenges during the project's implementation, but there were also reductions. This success is attributed to the set program design of REDD+. In this paper, we show that without international development cooperation in the field of climate change mitigation, the countries in the Global South lack locally driven forest conservation or restoration incentives. These incentives emanate exogenously from international development cooperation programs in the field of climate change mitigation. The review of the program also shows that despite the rigorous institutional design of REDD+ in Indonesia, not all the stakeholders could benefit from the program appropriately. Because of the *de facto* weakness of the smallholder farmers, indigenous population groups, and other vulnerable categories in the political process of Indonesia, these groups' interests have not come fully to their own in Indonesia. Hence, we conclude that international programs that target environmental protection, while addressing inferior institutional quality, bad governance and operate through more accountable NGOs than government agencies would perform better in terms of global environmental targets and the sustainability of local livelihoods.

Keywords REDD+ · Forests management · Deforestation · Capacity building · Climate change mitigation · Stakeholder interests

JEL code Q23 · F51 · F53 · Q56

1 Introduction

Primary forest preservation is one of keystones of international environmental agreements (Mackey et al., 2015). Deforestation accounts for about 20% of global anthropogenic CO₂ emissions into the global atmosphere (IPCC, 2007; van der Werf et al., 2009). This is the second largest anthropogenic source of green house gases (GHGs) in the global atmosphere (Lai, 2024). Forests are crucial for the absorption of GHGs and heat and regulate water flows (Mulyani & Jepson, 2013). Thus, the preservation of tropical rainforests is of paramount importance for achieving global climate targets (Hein, 2017; UNFCCC, 2015). International environmental agreements play a central role in the context of the primary forest preservation. These agreements are closely linked to energy sector management, land use, climate change and agricultural sector development (Kalaba et al., 2014; Cowie et al., 2007). Furthermore, institutional capacity development and localization of the global environmental initiatives are vital for the attainment of the targets of global environmental conservation initiatives (Eimer et al., 2016; Park, 2022).

18% of the global greenhouse gas emissions emanate from deforestation and forest degradation, whereby 75% of them can be attributed to deforestation in developing countries (Stern, 2008; IPCC, 2020). Forests regulate ecosystems, prevent desertification and land degradation, protect biodiversity, and by doing so, contribute to the capabilities of rural communities to adopt sustainable livelihood strategies (IUCN, 2021; DFID, 2020). Besides having positive impacts on the environment, afforestation and indigenous crop planting are also the gateways to fostering food security by increasing household resilience and sustainable development in developing regions (Morrow et al., 2023, 2024).

Hence, promoting sustainable development, similar projects have been implemented all over the world, being regarded as key steps to ensure reforestation (Condor et al., 2011). The awareness about the critical importance of tropical rainforests has been steadily increasing worldwide since the Earth Summit in Rio de Janeiro in 1992 and the establishment of the “Forest Principles” within the UN Conference on Environment and Development (UNCED), the adoption of the Kyoto Protocol in 2005 and the UN climate conference in Glasgow in 2021. During the conference in Glasgow in 2021, more than 130 governments declared their commitment to stop deforestation by 2030 (UNFCCC, 2021).

Despite increasing awareness about the importance of forests and their role in the mitigation of global warming, the world has been witnessing deforestation over the past three decades. According to Food and Agriculture Organization (FAO) in the 1990s the annual global loss of forests was 16 million hectares. Due to forest policies since the Earth Summit in 1992 there were, however, also some advances in terms of global forest preservation and restoration. However, between 2015 and 2020 the annual rate deforestation was on average 10 million hectares (FAO and UNEP, 2020). According to The World Counts (2023), in reality, these numbers are much greater. Their estimations show that since 2016, there has been a substantial increase in deforestation. The yearly cut of forests surged from 20 million hectares between 2011 and 2015 to an average deforestation of 28 million hectares from 2016. This is equivalent to one football field forest loss every single second around the clock (WRI, 2023). In 2021, deforestation in the Amazon has reached a 15-year high (World Economic Forum, 2022). 2023 was, however, a very successful year because, according to the European Commission (2024), deforestation of Brazilian Amazon has been nearly halved in 2023 as compared to 2022.

Reforestation, confinement of forest degradation, afforestation and the mitigation of GHGs are the cornerstones of international environmental agreements (Lederer, 2012; Schroeder, 2010; Global Environmental Change, 2010). The central dilemma of deforestation is that smallholder farmers and indigenous population groups are to a some extent “beneficiaries” of deforestation and they are in the same time negatively affected by the deforestation that is driven by other stake holders (Solikin, 2015). This is why, the issue of deforestation is closely tied to the concept and problem of climate justice. And, hence, it is in the first line a complex ethical question that encapsulates different aspects of climate justice.

Notable measures are designed to protect both the environment and mankind – above all indigenous people and their resources rights (Wallbott, 2014; Lyster, 2011; Schroeder, 2010). In this sense, REDD+ has been designed as an international framework for protecting forests and achieving sustainable development goals by acting on environmental governance and environmental justice (Thompson et al., 2011; Okereke & Dooley, 2010).

International environmental programs, supported by international environmental agreements, are increasingly recognizing the importance of involving each socioeconomic group, especially the most vulnerable ones. This framework is often based on multistakeholder approaches relying on pluralistic and holistic perspectives pointing at universal socioeconomic inclusiveness – above all the most marginalized communities (Gatto, 2020, 2022; Rusciano & Gatto, 2022). REDD+ is one of few examples of global environmental action that actively incorporates the sub-national governments into this global action. Hence, REDD+ is a tool of environmental policy whereby the elements of the subsidiarity principle also come into their own (Sadik-Zada et al., 2018).

Despite a broad consensus in the scholarly and applied climate policies, economics and management literature on the merits of REDD+, there are grave differences in the performance of the program in different countries. This paper focuses on the implementation, results and major challenges of REDD+ in Indonesia. Indonesia is worldwide the third-largest tropical forest area after Brazil and the Democratic Republic of the Congo. 94,43 million hectares or 52% of Indonesia’s land area are covered by forests (FAO, 2011).

The choice of Indonesia as a case study emanates from its rainforest abundance, significance of Indonesia’s global significance in the realm of global primary forest abundance, the dominance of commodity-driven deforestation in the country (87%), and the high deforestation of the national forests since the early 2000s (WRI, 2023). The global significance of Indonesia’s forest resources, the country’s commitment to REDD+, and relatively high deforestation rates despite this commitment make Indonesia an interesting case study for the preliminary evaluation of the impact of REDD+ on forest preservation (Dwisatrio et al., 2021). Re-addressing the case of Indonesia is important due to the declining academic interest for the deforestation problems in the REDD+ committed forest and unfortunately also a giant in terms of the primary natural forest loss – Indonesia on the one hand side, and the increasing criticism in the environmental policy discourse on the effects of REDD+ in this country on the other hand side (cf. Austin et al., 2019). With this paper, we envisage a reactivation of the scholarly discussion on the achievements and/or failures related to REDD+ program in Indonesia, foregrounding the central challenges, and drawing the balance related to REDD+ Indonesia and discuss the lessons learnt for similar ongoing or planned project initiatives.

The paper is organized as follows: Sect. 2 dwells on the general description of the program. Section 3 scrutinizes the implementation of REDD+ in Indonesia and discusses the central challenges at different stages of the program that Indonesia encountered. In the subsequent Sect. 4, the study critically evaluates the REDD program from the perspective of Indonesia. The last Sect. 5 presents concluding thoughts and remarks.

2 Development of REDD+

2.1 Origin and formation

In May 2005, under the leadership of the government of Papua New Guinea, a nongovernmental organization, the Coalition of Rainforest Nations was launched by two MBA graduates from Columbia University. They put forward the Reduction of Emissions from Deforestation (RED) initiative. There was much skepticism as RED was made public. Nevertheless, the government of Costa Rica secured the support for RED. This allowed the proposition of RED in the framework of COP 11 in Montreal in Canada. Later, during COP13 in Bali in 2007, the RED was supplemented by the topic of forest degradation. Hence, RED has been augmented and the official title of the program has been changed to Reducing Emissions from Forest Degradation and Deforestation (REDD) (Pistorius, 2012; UNFCCC, 2007).

REDD, the central tool of global forest policy, has been officially adopted during COP 13 in Bali in 2007. The idea of REDD goes, however, back to the Noel Kempff Mercado Climate Action Project in North-East Bolivia (Holloway and Giandomenico, 2009). Within UNFCCC the idea first came to its own 1997 in Article 2 of the Kyoto Protocol. The operation is widely recognized at the global level as an effort to mitigate vulnerability and promote resilience tools to the vulnerable, fostering decentralized forest management and inclusiveness in light of polycentric governance approaches (Gatto, 2022; Sandbrook et al., 2010). The principles of sustainable forest management have been further concretized and expanded within the Cancun Agreements in 2010 (UNFCCC, 2010).

Going beyond REDD has led to a more comprehensive framework dubbed as REDD+ (Olander et al., 2012). Important features of REDD+ are their compliance with the national forest programs and a special attention to the rights of indigenous population groups in the management of forests and forestry programs. The indigenous groups have to be a central element of the multi-stakeholder forestry management processes (UNFCCC, 2010). COP 19 in Warsaw played a decisive role in the strengthening fiscal transparency in the implementation of REDD+. This aspect has been strengthened again and substantiated in 2015 during COP 21 (UNFCCC, 2013, 2015).

2.2 The REDD+ mechanism

The Cancun Agreement that was proposed within the COP16 in 2010 and also the Warsaw Framework Conditions propounded at the 19th UNFCCC in 2013 determine a series of phases (Schaller, 2020; UNFCCC, 2021). REDD+ is a three-phase procedure (FAO, 2021; GCF, 2023). The first phase, *REDD+ readiness phase*, focuses on the development of the national forest strategies, policies, and measures, as well as establishment of the required

institutions and technical capacity building activities. There are also strict criteria related to the initial phase. These are (1) the existence of a national REDD+ strategy; (2) the national forest reference emission levels; (3) development of the transparent and reliant forest monitoring systems; and (4) development of a safeguards information system (Granziera et al., 2021).

These criteria are also known as Warsaw Framework elements (GCF, 2023). The second phase is related to the implementation of the forest action plans and strategies that have been drafted in the initial phase. And, the third phase is the evaluation and detailed assessment phase. The first submissions of the results were made only at the end of 2022. We could say more about the whole program success in the selected REDD+ implementing countries in the coming years (UNFCCC, 2010). The third phase is also known as the REDD+ results-based payment phase, because if the participating countries can demonstrate verifiable emission reductions or carbon stock enhancements then they are eligible for the results-based payments from the international climate finance mechanisms.

In the next section, we venture, however, a preliminary assessment of the case study of Indonesia, a country with 94,43 million hectares of forest that represent more than 50% of the total land area and the third-largest tropical forests worldwide. Only Brazil and the Democratic Republic of Congo have a greater tropical forest area than Indonesia (Solikin, 2015). Hereby, we review the potential of REDD+ to generate significant carbon savings in Indonesia and review the selected nationwide REDD+ initiatives in Indonesia, assess the verified emission reductions and analyze the central challenges such as land tenure conflicts, limited capacity of local communities, and difficulties in the monitoring and evaluation of the initiative.

3 The case of Indonesia

3.1 REDD+ in Indonesia

Deforestation is the central issue in Indonesia's climate policies. Roughly 60% of total emissions of Indonesia are caused by deforestation (Mulyani & Jepson, 2013). Land use, land use change, and forestry (LULUCF) are responsible for at least 35% of GHG emissions of Indonesia (DNPI, 2010; Solikin, 2015). The assessment of Indonesia's updated Nationally Determined Contribution (NDC) 2021–2030 shows that 97,2% of contributions are related to forest, land and energy sector management. Within the new NDC main forestry and land use measures are the enhancement of afforestation, reforestation, rehabilitation, and peat water management (Ministry of Environment and Forestry of the Republic of Indonesia, 2022).

The climate-oriented forest policies date back to 2009 as Indonesia joined the REDD+ program. In just three years, Indonesia finalized the first phase of REDD+ and proposed a full-fledged action plan by the end of 2012. The related strategic REDD+ implementation plan has set three main objectives that build upon each other in terms of timing and content. The initial capacity building targets set in the strategy paper had to be achieved by the end of 2014. Indonesia envisaged a complete advancement of the REDD+-aligned governance systems by 2018 and achieve the emission reduction target by 26–41% by 2020 (Indonesian

REDD+ Task Force, 2012). The envisaged long-term target was, however, the achievement of full carbon-neutrality by the end of this decade.

It has to be mentioned that Indonesia has already allocated USD 6,1 billion of its state budget to climate funding and is committed to attain the Paris targets by 2030. Despite substantial attention to climate issues, the mentioned amounts are not sufficient. The mentioned climate investments cover only 34% of the required investments into climate change mitigation in Indonesia (Satrio, 2021).

In order to achieve these long-term goals without violating the five core principles of effectiveness, efficiency, fairness, transparency and accountability Indonesia elaborated a strategic framework built on five pillars. The first pillar targets development of an appropriate and functioning institutional system for REDD+ in Indonesia. This system has to provide an effective exchange and negotiation platform for all the major stakeholders of the forest and land use policy in Indonesia. To this end, Indonesian government established a National REDD+ agency that has to assure good institutional quality. If one asks about the function of this agency then the answer is first of all transparency and inclusiveness of the forest management, i.e. creation of a new culture of inclusiveness in the management of natural resources (Indonesian REDD+ Task Force, 2012). The second pillar is closely related to the first one. It, however, encompasses only the financial engineering of the local REDD+ in Indonesia. This is the creation of a straightforward and for everyone understandable remuneration system for those who engage in reforestation.

The REDD+ Measurement, Reporting and Verification (MRV) is the third essential element of the institutional design of REDD+ in Indonesia. The purpose of the institution is the support in monitoring, evaluation and reporting related to Indonesian REDD+ (Indonesian REDD+ Task Force, 2012; Solikin, 2015).

Legal and Regulatory Frameworks is the second pillar of REDD+ in Indonesia, whereby, its operationing is closely chained with the work of the first pillar. This pillar contributes to the flexibility of the program in the face of permanent changes, emerging opportunities and the eventual challenges.

The third pillar of the Indonesian REDD+ National Strategy is a coordinated strategic programming against the backdrop of the trade-offs and complementarities of the individual targets within the REDD+ program. There are roughly three coordinated programs within the REDD+ strategy roof. These are: (A) conservation and rehabilitation; (B) sustainable agriculture, forestry and mining; and (C) sustainable management of landscapes.

3.2 Implementation

Now, almost fifteen years after launching the REDD+ program in Indonesia, there is much praise, but at the same time also critique on the effects of REDD+ on the set targets and the impact on different stakeholders (Afifa, 2024). The literature is dominated by discussions on the effectiveness of REDD+ in reducing GHGs. The impact of REDD+ on GHGs is mostly measured by the magnitude of the mitigation of deforestation. The main drivers of deforestation in Indonesia are oil palm cultivation and timber plantation (Tsujino et al., 2016; Austin et al., 2019). Both activities play a significant role in terms of employment and growth performance of Indonesia. The mentioned productions are disproportionately contributing to income-generating activities of the rural poor and the indigenous population groups in Indonesia (Solikin, 2015). Hence, the present compensation systems of the

REDD+ program are supposed to compensate for the inhibition of the economic activities of these vulnerable swaths of the population.

The decrease of the primary forest loss in Indonesia since 2016 is attributed solely to the takeover of REDD+. In 2016, Indonesia provided an updated value for the national forest reference emission level. It was set at $0.57 \text{ GtCO}_2\text{e}^{-1}$ with 1990–2012 as the reference period and included emissions from deforestation, forest degradation, and peatland decomposition in order to measure the performance of the implementation period between 2013 and 2020 (Nofyanza et al., 2020).

The calculation of the national forest reference level was criticized by the Global Forest Watch board members and other experts (Global Forest Watch, 2021). They presumed that the reference emissions level might be inflated, double counting project-level reductions occurred and that indigenous people's rights have not been sufficiently protected. They also criticized the fact that a more recent date had not been used as a reference period, as Indonesia had already made progress in reducing emissions and an outdated reference period leads to higher performance-based payments without providing strong incentives for forest protection (Jong, 2020).

Korhonen-Kurki et al. (2017) examined the institutional aspects of REDD+ in Indonesia and came to the conclusion that REDD+ was a significant breakthrough in the public sector management and institutional development both within REDD+ Indonesia and countrywide. REDD+ created an impactful and an inclusive multi-stakeholder exchange and decision making platform in Indonesia (UNCCCC, 2023). In addition, REDD+ has triggered an overarching and for all the stakeholders beneficial development of the dialogue culture in the issues related to socio-economic development. However, there were also significant drawbacks in the aftermath of the new government that delegated the interaction between the government and REDD+ to the individual ministries. Reporting to and working directly with the administration of the former president of Indonesia was a setting that enabled a substantial reduction of the transaction costs, and especially the costs of bureaucracy.

Enrici and Hubacek (2018) analyzed the effects of REDD+ and claimed that the reductions of GHGs in Indonesia could be more substantial if the stakeholder management of REDD+ in Indonesia would provide more transparency and automation in terms of compensation payments to the indigenous groups and smallholder farmers. The authors refer also to the difficulties in the implementation of REDD+ due to the complex interaction patterns between central government, states and municipalities. This confirms the transactions costs hypothesis in Korhonen-Kurki et al. (2017)

The Center for International Forestry Research (CIFOR) also referred to the organizational issues and showed that the attained results were not sufficient. As the central cause Evans (2022) referred to president Yudhoyono and international community support as positive factors that ended, however, with the ministerial reforms and lower level of involvement of Indonesian presidential office in the work of REDD+ (Nofyanza et al., 2020).

3.3 Challenges

As we have already mentioned in the previous section, putting forward a streamlined and really inclusive forest protection policies was and is still a great challenge because of the importance of forests in the livelihoods of different stakeholders and the related economic

sectors. The central obstacles for stopping deforestation is the economic weight of timber as an export commodity, mining activities, and agricultural land use. Based on a comprehensive literature review on the causes of deforestation in Indonesia, Austin et al. (2019), compiles the central drivers of deforestation in Indonesia between 2001 and 2016. The authors show that timber plantations, oil palm plantations, extension of the grassland areas, further large-scale plantations, small-scaled farming, and logging have been the main single drivers of deforestation in Indonesia in the respective time frame.

This shows that the revenue side of Indonesia's public budget, agricultural sector output and the livelihoods of small-scaled farms are heavily dependent on the degradation of forests. In the same time, the most vulnerable, the indigenous groups are heavily dependent on intact forest landscapes. Figure 1 outlines the main REDD+ stakeholders in Indonesia. The stakeholder diagramme is based on the literature review and the assessment of the official documents related to REDD+.

The area of the respective stakeholders indicate the relative importance of them within the framework of forest conservation and upgrading in Indonesia. According to our interviews with experts from Indonesia Ministry of Environment and Forestry of Indonesia and also National Council of Climate Change of Indonesia play a decisive role in the forest policies in Indonesia. The success of the REDD+ program depends consequently almost entirely on national government. In addition, the subnational governments are strictly following the policies that are induced by the national government in Jakarta.

And, if we juxtapose the mentioned stakeholders, it would be clear that the purely economic short- to middle-term interests and power relations are more favorable for the benefi-

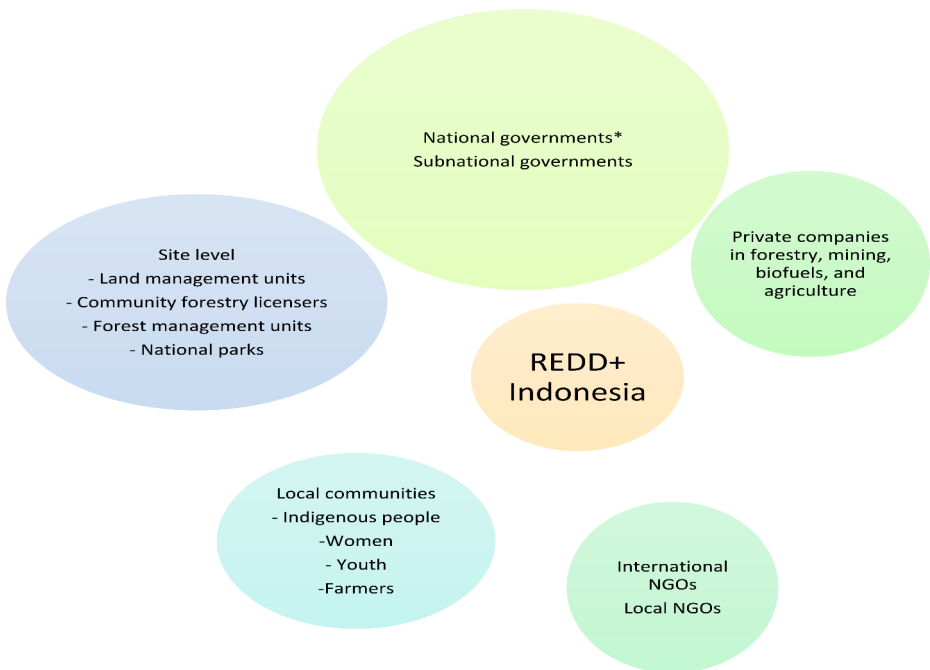


Fig. 1 REDD+ Stakeholders in Indonesia. * Indonesia ministry of environment and forestry of Indonesia and also national council of climate change of Indonesia

ciaries of deforestation. This is also in line with the findings in Brockhaus et al. (2012) that indicate that in Indonesia development policies favor the allocation of forest land for timber and palm oil. Without international climate development cooperation and programs such as REDD+ and central government's commitment to forest conservation, the perspectives of the primary forest preservation would be rather gloomy (cf. Strotz, 1955). Brockhaus et al. (2012) are rather pessimistic about the potential role of REDD+ in changing the incentive structure in Indonesia toward forest conservation. Hence, based on purely economic interests, the state institutions, business elites, and small-sized farmers would rather prefer the continuation of deforestation and would compensate the losses of the disproportionately nature-dependent indigenous groups.

However, latest since the adoption of Paris Accord, there is an increasing evidence that tropical forests are more than national environmental amenity of natural resource stock. It is a global common good that is worth international protection. Hence, REDD+ is the mechanism that contributes to equalization of the global environmental and national economic interests through international fiscal incentives for the forest-rich countries like Indonesia. This, combined with the climate related commitments of Indonesia could change the *status quo* in favor of forest protection and reforestation. However, the study of Mulyani and Jepson (2013), that is predicated on 60 expert interviews, has shown that despite international funding pledges of nearly US\$2 billion, 50 of 60 experts have expressed pessimism about the role of these financial incentives due to policy uncertainty and high transaction costs.

The logic of the above presented argumentation is in line with the elasticity model of deindustrialization proposed by Sadik-Zada (2016). The model predicts that in the face of the disproportionately large natural resources exporting and a relatively small manufacturing sector, the economically rational budget-maximizing behavior of the elites leads to increased deindustrialization. Here, in a fully different context, the same logic could also be used to justify the deforestation of the past five decades in Indonesia – a typical developing country, which heavily dependent on the exports of natural resources, such as oil, palm oil, timber and agricultural staples.

Due to high poverty headcount ratios and insignificance of the indigenous groups in the context of tax revenues, the state and business elites do not consider them in their structural economic policies. The indigenous groups play, however, an important role against the backdrop of separatism and political instability. This implies that an increasing deforestation pressure could translate in protest and organized political struggle of the indigenous population groups. These groups, if sizeable enough, can be appeased by means of the fiscal transfers of migration to the urban areas. Hence, without international environmental programs, the probability of environmental upgrading, the preservation of the forests and the rights of the indigenous groups, especially of the smallest ones, is rather improbable.

But, what is meant or better said has to be meant specifically under international programs? Is this just compensating developing countries for conservation of the forests or rewarding them for forest restoration? Based on the literature on fiscal studies, and especially the studies on the effects of external revenue inflows, it can be concluded that development cooperation in the field of climate upgrading could fail and even lead to detrimental effects (Sachs and Werner, 1995; Sadik-Zada, 2019). Hence, development programs that entail substantial financial transfers from the Global North to Global South must be based on capable institutions and transparent processes. REDD+ is supposed to encounter this

challenge by focusing first on institutions and processes and only then on the results-based transfers.

Now, let us turn to the role of central government. As already mentioned, the Ministry of Environment and Forestry of Indonesia and the National Council of Climate Change of Indonesia are central for the implementation of the REDD+ program. The subnational governments try to follow these policies on the local level. There are, however, still grave problems related to the program due to the conflicting interests of other stakeholders. Just a few examples for the problems on the ground: indigenous people and local communities often have overlapping land claims that clash with REDD+ projects (Hein, 2013). The further problem is related to the distribution of REDD+ funds among villagers that is regularly leading to tensions. One more example is related to illegal logging or mining despite formal REDD+ compliance. Destruction of the livelihoods of the most vulnerable groups, such as subsistence farmers that are working in the informal sector, is probably the most prominent example for a negative impact of REDD+ on indigenous population in Indonesia.

4 Criticism: achievements of REDD+

Between 2013 and 2017, REDD+ led to an annual reduction of approximately 50 Million tons CO₂. Between 2018 and 2020, this number has been quadrupled. REDD+ has significantly contributed to the realization of the envisaged NDCs that Indonesia has set in the framework of the Paris Accord. Hence, REDD+ was a clear success for Indonesia and the global climate action. Indonesia looks, however ahead and has already enacted a second National REDD+ Strategy for the time frame between 2021 and 2030 (UNFCCC, 2023). Also, the interim evaluation of other 16 countries of the Global South that have been implementing REDD+ indicate substantial results in terms of CO₂ emissions reduction and the realization of the NDCs.

Nevertheless, there are also critical voices that shed shadow on REDD+ and its achievements in Indonesia. One of the main opponents of REDD+ in Indonesia is BUND (2014). BUND deems the REDD+ program to be rather controversial because the Global North transfers its own responsibility for climate crisis to developing countries. Furthermore, BUND (2014) considers the issues related to institutional capacity deficits and corruption in the implementing developing countries as too grave to be overcome by a two-three year capacity building measures. According to them the stringent rules of REDD+ can be easily circumvented with a high level of grand and petty corruption (Sadik-Zada et al., 2022).

Sandbrook et al. (2010) consider the problems related to stakeholder participation as the central hurdle on the way of REDD+ program. The authors doubt that the dialogue between national and subnational governments and a fully equitable inclusion of the indigenous population groups is realistic. And, without these vulnerable indigenous groups, REDD+ cannot be considered a success from the angle of climate justice (Cisco & Gatto, 2021). As previously stated, REDD+ measures should be implemented on the condition that the rights of forest-dependent communities, the poor, indigenous peoples, and other disadvantaged users are protected. However, concerns have been raised in many studies about the potential and actual consequences of REDD+ on forest-dependent communities and marginalized groups, as it may limit their access to land and forest resources.

The fullfledged inclusive multistakeholder engagement and exchange fails, however, not only because of the lacking empowerment of the indigenous groups. It is rather the issue related to the de facto power relations. As shown in Saytal et al. (2020) such a multi-stakeholder dialogue fails if the society is rather fragmented in terms of race, ethnicity or religion. Myers et al. (2018) and Lund et al. (2017) show that the opinion of most vulnerable groups that are negatively affected by deforestation is not really counting in the fragmented societies like Indonesia that is situated on more than 17000 islands, speaking many different languages and adhering different religious beliefs.

Grima and Singh (2019) and Rodríguez-de-Francisco et al. (2021) criticize REDD+ from a totally different, political economy angle. They show that under some special conditions, in the countries of the Global South REDD+ could be an interesting option for the revenue-maximizing central governments. And, to maximize the revenue side of their budgets governments in Nepal, Ivory Coast, Colombia and Sri Lanka could joint REDD+ at cost of the indigenous population groups, subsistence farmers and other vulnerable groups. This problem also emanates from the de facto unequal rights of the stake holders. Without providing a equalizing platform for all the stakeholders REDD+ is a real threat for the underrepresented and vulnerable population groups that would only hinder their socio-economic and political emancipation.

There are also voices that raise the issue of the speed of forest recovery with REDD+ (Fischer et al., 2016; UNFCCC, 2021). Heinrich-Böll Foundation in Germany criticizes that countries where deforestation rates are positive receive compensation payments (Heinrich-Böll-Stiftung, 2020). Shahab (2018) also deems the reforestation results to be insufficient. However, the author observes a substantial progress in the institutional capacity building in the REDD+-participating developing countries. This critique is, however, not fair because the major donors of REDD+ transfer payments to the Indonesian government only after rigorous monitoring and evaluation of the program.

Norway's International Climate and Forest Initiative and the Green Climate Fund (GCF), the financing arm of the U.N. Framework Convention on Climate Change are the major donors of REDD+. Within the past four years Indonesia has received less than 100 million USD for its conservation efforts (Satrio, 2021). The argument that the success in the forestry management of the past decade in Indonesia is mainly attributed to financial incentives created by REDD+ is not convincing. The updated NDC is fully focused on the management and protection of forests in Indonesia. REDD+ is a meaningful support and augmentation to the climate policies to which Indonesian government has already shown its commitment.

5 Conclusion

Forests preservation is a keystone of international environmental agreements. International environmental agreements focusing on forests are crucial for developing and transitioning economies and are connected with energy, land use, climate change, and agriculture aspects. Promoting sustainable development, similar projects have been implemented all over the world, being regarded as key steps to ensure reforestation. This work examined a noteworthy forest preservation project based in Indonesia – i.e., REDD+. By analyzing the project's progress, strengths and weaknesses, this inquiry aimed to provide a preliminary assessment of REDD+ as part of international environmental agreements.

To this end, this work examined a noteworthy forest preservation project based in Indonesia – i.e. REDD+. By analyzing the projects progress, strengths and weaknesses, this inquiry aimed to provide a preliminary assessment of REDD+ as part of international environmental agreements. The central result of this investigation is that for the success of the international development cooperation project like REDD+ the capability of the recipient country to absorb the project aid is of paramount importance. Of course, the initiators of RED were aware of the issue of the absorption capability. The same holds also for the REDD+ approach, whereby the first phase of the REDD+-related projects is the capacity building for project, assurance that there are institutions that can support the implementation of the project and offer a platform for an inclusive stakeholder exchange and equality-based decision making.

The case of a country like Indonesia, which is probably one of most fragmented countries worldwide. Fragmented not only ethnically, religiously and regarding the level of income and development, but even geographically has demonstrated clearly the whole range of problems related to stakeholder engagement. The problem of the interaction between the central government bodies and sub-national governments on the one hand side, and sub-national governments on the one hand side and the indigenous population groups is more than problematic.

At the same time, the analysis has shown that the personal engagement of the former president of Indonesia and the direct accountability of REDD+ project authorities to the presidential office enabled a successful program implementation in Indonesia. The direct contacts to the president has led to a substantial reduction of transaction costs and a more engaged action of the respected ministries and subnational governments in the organization of a platform for the multi-stakeholder decision-making. In contrast to a number of the countries of the Global South, Indonesia is a real success story in terms of REDD+ because it resulted not only in reduction of GHGs and decreasing deforestation but also to the institutional capacity building that has given an impetus for public governance bodies and grass-root organizations. This has decisively strengthened the bottom-up-processes in Indonesia.

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Data availability No data was used in this paper.

Declarations

Conflict of interest The authors declare no conflict of interest.

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