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Benefit sharing and conflict transformation: Insights for and from REDD+ forest governance in sub-Saharan Africa

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ABSTRACT

In light of growing pressure on forests benefit sharing is increasingly gaining attention as a governance approach to facilitating more equitable and sustainable interactions and outcomes. While benefit sharing is one of the key components of REDD+ (Reducing Emissions from Deforestation and forest Degradation and the enhancement of forest carbon stocks) programs and policies under the United Nations Framework Convention on Climate Change (UNFCCC), the approach is also actively debated within other resource governance contexts such as biodiversity and water. The debates however remain largely independent from one another. We particularly examine how benefit sharing could contribute to transformation of conflicts. Using discourse analysis and drawing from the broader scholarship of benefit sharing and property rights theory, we propose distinguishing appropriation-oriented and provision-oriented types of benefit sharing within REDD+. For sub-Saharan Africa, we see the need for such structured institutional analysis, which may point to particular emerging and persistent resource use inequalities as a new source of conflict. We investigate four case studies of REDD+ progress in Ghana, Tanzania, Cameroon, and Uganda that reveal some systemic challenges in achieving equitable and sustainable benefit sharing. The paper demonstrates that distinguishing and structuring appropriation and provision types of benefit sharing is indeed helpful as they are likely to be indicative of different outcomes. Our case studies also reveal challenges of policy-procedural nature such as weak land tenure arrangements and absence of carbon rights framework, but also fundamental challenges of agency nature such as conflicting interests vested in agriculture and tendency of concentration of benefits in the hands of few powerful actors.

1. Introduction

Growing and conflicting demands of societies for food, timber, bio-fuels, and environmental services, particularly under impacts of climate change, have accelerated pressure on world's forests in the last decades (Agrawal et al., 2008; Ziegler et al., 2012; IPCC, 2014). Environmentally, forests play an increasingly important role in regulating greenhouse gas emissions and consequently in efforts to mitigate climate change (Ziegler et al., 2012), while providing critical habitat for biodiversity (Betts et al., 2017), as well as mutually beneficial support for interconnected ecosystems such as water (Hallema et al., 2018) and soil (Chen et al., 2018). At the same time, forests are an important cultural and socioeconomic source for the livelihoods of more than one billion people living in extreme poverty (World Bank, 2004; Chao, 2012; FAO, 2014), while international agreements and development projects increase the scope of interest groups beyond national boundaries (Singer

and Giessen, 2017; Schroeder et al., 2020). Such direct relevance of forests for various actors from global to local scales makes this resource system highly prone to competition and conflict. Scholars increasingly debate benefit sharing as a potential governance approach to transforming existing and potential conflicts in such multi-actor and multi-scale social-ecological systems into more equitable and sustainable interactions and outcomes (Nkhata et al., 2012; Susskind and Ali, 2014; Soliev and Theesfeld, 2017). In forest governance discourse, benefit sharing received a particular attention in the last fifteen years under the banner of REDD+ (Reducing Emissions from Deforestation and forest Degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries) adopted by the United Nations Framework Convention on Climate Change (UNFCCC) (Luttrell et al., 2013). Yet, as the REDD+ represents a vast architecture of local to international policies, programs and projects, discussions of the benefit sharing concept within the similarly vast

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REDD+ literature, despite its central role in REDD+ terminology and prominent role known from other global environmental regimes such as biodiversity and water, remain largely fragmented without connections across the regimes. This paper aims to contribute to filling this gap by initiating a more concentrated discussion of benefit sharing in REDD+.

In 2015, benefit sharing within REDD+ has been institutionalized within the Paris Agreement, which in its Article 5, dedicated to forests, stresses not only carbon sink benefits of forests but also non-carbon co-benefits associated with REDD+ policies and approaches. Although this explicit recognition of REDD+ within the Paris Agreement is a significant milestone in the highly controversial evolution of the global forests regime, understanding of benefit sharing remains largely fragmented here and without explicit attention to the relationship between benefit sharing and conflicts. In contrast, within the global biodiversity regime for instance, the discourse around the United Nations Convention on Biological Diversity (UNCBD) prompted debates on the necessity of benefit sharing from biological and genetic resources already in the early 1990s (Coughlin Jr., 1993). Negotiations at the highest level led to adoption of the Nagoya Protocol in 2010 dedicated solely to the sharing of benefits arising from utilization of genetic resources in a fair and equitable way (Rosendal, 2015), further sparking debates on studying and formalizing the benefit-sharing concept as an independent legal norm in environmental governance (Morgera, 2016). Within the discourse of international freshwater governance, benefit sharing has similarly become one of the, if not the most, dominant concepts debated in the literature and practice (Sadoff and Grey, 2005). Here, the particular emphasis of benefit sharing is somewhat different and highlights facilitation of cooperation between riparian parties, most recently codified within the 1997 United Nations Convention on the Law of the Non-Navigable Uses of International Watercourses (UN Watercourses Convention) (Soliev et al., 2018).

As will be demonstrated in this paper, understanding of benefit sharing in these various contexts have fundamentally different implications for the existing policy-institutional arrangements, particularly through affecting the bundles of property rights and thereby transforming the nature of potential conflicts. Designing property rights in shared resource systems that encourage more effective, efficient and fair resource use is of growing importance. Many scholars argue that clear definition of rights and duties, as well as their congruence, can help the system structuring the social interaction to coordinate the transmission of information between the affected parties effectively (Demsetz, 1967; Alchian and Demsetz, 1973). Looking from the perspective of bundles of property rights, one can distinguish appropriation rights (access and withdrawal rights), as well as provision rights (management, exclusion, and alienation rights) that can be articulated formally and informally. While appropriation rights stress benefits from the resource, provision rights deal with rights and duties necessary to maintain the resource. Based on these lessons from various understandings of benefit sharing largely evolving in parallel, as well as drawing on bundles of rights theory (Schlager and Ostrom, 1992; Ostrom, 2003), in this paper we propose distinguishing two types of benefit sharing within REDD+ in relation to conflict transformation, and term these as appropriation-oriented and provision-oriented types of benefit sharing respectively.

This paper thus analyzes these two types of benefit sharing in REDD+ and their potential contribution to conflict transformation. We argue that better understanding of and particular ways of structuring the appropriation-oriented and provision-oriented types of benefit sharing can contribute to more effective, efficient, and fair arrangements within the REDD+. We test our conceptual proposition in the examples of four sub-Saharan countries that implemented REDD+ projects in the last few years and started to generate empirical evidence. Thus, the goal of this paper is two-fold: (i) to demonstrate the conceptual differences in how one can understand benefit sharing in relation to conflict transformation and (ii) to examine empirical examples from sub-Saharan Africa where discussion of benefit sharing and conflict transformation in forest governance is particularly relevant in the context of REDD+ policies and

projects.

2. Benefit sharing for conflict transformation in REDD+

2.1. Conceptualizing benefit sharing approaches and conflict transformation

Starting with the Malthusian discussions in the 1960s and 1970s the discourse on conflict and cooperation has been continuously reframed over the last decades. Resource scarcity due to population growth, coupled with pressure from environmental change on natural resources and farming land, was predicted to lead to more frequent and intense conflicts (Ehrlich, 1968; Meadows et al., 1972). Yet, at multiple instances, new solution-oriented approaches entered the discourse often placing the emphasis on ways forward or potential gains from cooperation and reorganization (Boserup, 1966; Brundtland et al., 1987; Ostrom, 1990). Two such co-existing developments can be highlighted in the emergent benefit sharing discourse. On the one hand, more closely linked to REDD+, the negotiations around UNCBD resulted in the adoption of the Nagoya Protocol in 2010 formalizing the term 'benefit sharing' (Wallbott et al., 2014). The primary motivation behind this development was an increasing discontent of developing countries where hotspots of biodiversity are concentrated with the fact that benefits from the use of these biological and genetic resources, particularly driven by the pharmaceutical industries in developed countries, were not shared fairly and equitably (Rosendal, 2015). Results from the implementation of the Nagoya Protocol remain to be seen, but despite the relative weakness of the UNCBD regime compared to the UNFCCC regime that attracted much more political and financial resources in the last three decades (Axelrod and VanDeveer, 2014; Chasek and Downie, 2020), the concept of benefit sharing can be considered as more advanced here. The particular emphasis of benefit sharing within the UNCBD discourse is on making the sharing of benefits fair and equitable, without necessarily defining what exactly fair and equitable means but rather encouraging consideration of these principles in resource use and moving towards more fair and equitable sharing (e.g., Morgera, 2016; Cabrera Medaglia and Perron-Welch, 2019). From the perspective of conflict transformation, this represents a rather fundamental change that requires reorganization of existing arrangements, and thus might face stronger resistance from the existing right-holders in the short run. In the long run, it can be argued that the discourse and agenda-setting demanding for consideration of fair and equitable sharing will gradually build pressure on more powerful actors, and if successful, will lead to concessions reducing inequalities, and thereby reducing the potential tensions due to inequalities. Thus, transforming the conflicts in this discourse is rarely a goal, but rather revealing them with the purpose to achieve justice is considered a priority.

On the other hand, a significant discourse on international freshwater governance emerged promoting benefit sharing as an approach to facilitate cooperation among riparian parties (Sadoff and Grey, 2005; Phillips et al., 2008; Phillips, 2009; Soliev et al., 2015). The primary motivation behind this development stems from the economic rationale, often described as Pareto efficiency in the game-theoretic literature, where in an interaction with a set of actors at least one actor's benefits can be increased without making any other one worse off and therewith achieve a positive sum. This is often contrasted to the water-sharing approach where riparian parties already holding rights to certain shares are unlikely to renegotiate their shares as one's gain means another's loss, resulting in a zero-sum game (Soliev and Theesfeld, 2020). A key characteristic of benefit sharing in this context is focusing on additional benefits from use or change in use and allocation or reallocation of natural resources rather than on their quantities. Hence, thinking is beyond existing sharing arrangements in order to ensure increased net benefits for all. This can be achieved by issue linkages, for example by connecting negotiations of several resource systems between the same actors with conflicting interests or involving new actors from

other sectors who could potentially benefit from new cooperative developments (Klaphake and Voils, 2006). From the perspective of conflict transformation, this approach also represents a rather fundamental change, as it requires reorganization of existing arrangements, but might face less resistance from the existing right-holders in the short run as ensuring increased benefits for all is the goal. In the long run, once the new benefits for all are developed, such an approach still does not resolve the potential distributional conflict (Tarlock and Wouters, 2007; Soliev et al., 2018), but might facilitate trust-building as it creates a common platform and goal for collaboration.

From the perspective of the bundles of rights theory, the above two approaches place different emphasis on the two groups of rights (Schlager and Ostrom, 1992; Ostrom, 2003). The former, understanding of benefit sharing largely evolved within the UNCBD discourse, stresses appropriation-oriented rights, that is, access and withdrawal rights within the bundle of property rights. Therefore, we propose to term this type of benefit sharing as *appropriation-oriented benefit sharing*. The focus of the debate in the appropriation-oriented benefit sharing is on identifying and agreeing on the shares of access and withdrawal rights between the actors sharing the resource. Obviously, such a debate is likely to intensify tensions as involved actors attempt to justify why they should have more access and use rights potentially evoking defensive chain of reactions from other resource users who stand to lose their allocated rights due to re-arrangements (Soliev et al., 2017). Well-known but often-unsuccessful court cases against exploitation of resources by international corporations in developing countries brought forward by representatives of local communities (e.g., Prih, 2011) or numerous long-standing disputes over transboundary rivers, particularly in Asia and Africa, in the recent decades (e.g., Zeitoun et al., 2013) are the prime examples that demonstrate the weakness of focusing on appropriation or access and withdrawal rights.

The latter, understanding of benefit sharing largely evolved within the discourse of the UN Watercourses Convention, increasingly stresses the provision-oriented rights, that is, management, exclusion (or inclusion), and alienation rights within the bundle of property rights (Schlager and Ostrom, 1992; Ostrom, 2003). We propose to term this type of benefit sharing as *provision-oriented benefit sharing*. The focus of the debate in the provision-oriented benefit sharing is on identifying and agreeing on the distribution of management, exclusion (or inclusion), and alienation rights and responsibilities that could lead to improved net benefits for all affected actors. Here, actors are encouraged to brainstorm and experiment with ideas that can be mutually beneficial. Thus, the starting point in such an approach already deals with the management or maintenance of the entire system and circumvents the distributional challenge associated with appropriation rights. Once the potentially win-win developments are identified, specific mechanisms of benefit sharing should also allow experimentation with the exclusion or inclusion of new actors within or outside the sector, as well as divesting the rights and responsibilities to others. Monetary or in-kind compensations, such as one time or recurring payments for the loss can be used to manage possible changes in access and withdrawal rights (Klaphake and Voils, 2006). For example, compensating the temporary loss of housing due to relocation to accommodate development of new infrastructure can be compensated by providing financial payments for housing of a comparable value elsewhere. Yet, we stress that to be considered a provision-oriented benefit sharing, a surplus of benefits should be guaranteed, that is, the affected actors should be better off as a result of the new developments and not only paid off symbolically. Similarly, linking issues within a sector, for example actors negotiating use and maintenance of (forest, water, land) resources in two shared areas simultaneously, or outside sector, for example, negotiating linkages across resource systems and sectors such as connecting forestry with land tenure or water use or tourism, can provide options for improving the total net benefits (Pham Do et al., 2012).

2.2. Benefit sharing and conflict transformation discourse in REDD+

In 2004–2005 experts and environmental groups pushed for the UNFCCC climate funds to be used for reducing or avoiding deforestation leading to introduction of global RED program (Reduced Emissions from Deforestation in developing countries). According to den Besten et al. (2014), it was seen as a cost-effective way to address climate change. RED was adopted at the 11th Conference of Parties to the UNFCCC as a forest-based climate mitigation strategy. Even then, a second argument was stressed: that it would contribute to co-benefits such as poverty reduction, biodiversity conservation, and sustainable development. In the following years the concept was expanded to include countries with deforestation and degradation (den Besten et al., 2014) and in a subsequent step called for the “plus”—enhancing biodiversity, alleviating poverty, and protecting indigenous people's rights (Agrawal et al., 2011). The REDD+ implementation nowadays follows a “phased approach” which implies “an early phase for REDD+ preparations and governance reform, a second phase for the development of policies and measures, and a third phase for the implementation of markets” (Angelsen et al., 2009: 3–4). Particularly, three shifts can be highlighted to understand the current developments in REDD+ approach better (Angelsen, 2017). First, there is a shift towards results-based rewards in REDD+. For example, Phase 3 transfers funds only after countries implement Phases 1 and 2 and reductions in greenhouse gases (GHG) are verified (see also Lujan et al., 2018). Second, the focus in REDD+ has shifted from monetary and direct compensation mechanisms such as a Payment for Ecosystem Services (PES) to more development-oriented and indirect mechanisms such as integrated landscape approach that aims to find win-win solutions between competing interests leading to deforestation (see also Nielsen, 2016; Bastos Lima et al., 2017). Finally, the original emphasis on carbon markets in the financing of REDD+ has shifted towards international and domestic public funds, increasing the role of state actors in these processes. Overall, REDD+ approach within the UNFCCC appears to respond to newly discovered challenges and continues to evolve.

Discourse of benefit sharing in REDD+ does not explicitly address conflicts or conflict transformation, although there is a growing strand of scholarship and civil-society driven discourse dedicated to forest and natural resource conflicts (e.g., Eckerberg and Sandström, 2013; Gritten et al., 2013; Simonet et al., 2020; Temper et al., 2015; HIIK, 2021). Implicitly however, the existing definitions point towards understanding of benefit sharing within REDD+ focusing on both appropriation and provision types of bundles of rights, that could be reasonably expected to have similar effects on conflict transformation as discussed in the previous section. For example, the International Union for Conservation of Nature (IUCN) defines benefit sharing as “Agreements between stakeholders, such as private sector, local communities, government and non-profit organizations, about the equitable distribution of benefits related to the commercialization of forest carbon” (IUCN, 2009: 2). It is, as Lindhjem et al. (2010) point out, a definition specifically related to commercialization of different products from forests and allocation of these benefits, thus focusing on appropriation-oriented benefit sharing rather than provision. In contrast, according to Chandrasekharan Behr et al. (2012, 6), benefits of REDD+ initiatives “mean incentives, opportunities, additional payments, rents/profits, nonfinancial benefits provided for free in a partnership, compensation, and so forth.” These will be in line with the provision-oriented benefit sharing as the focus is on creating new benefits. Furthermore, Luttrell et al. (2013) define direct (financial) benefits from selling carbon credits or receiving funding (through government, donors) and indirect (financial and non-financial) benefits subsequent of the improvement of the forest ecosystem as well as indirect (non-financial) benefits such as more effective land tenure system. Indirect benefits may also include empowerment of communities, development of infrastructure (e.g. water supply facilities, roads), social services (e.g. education, health), and improvement or clarity of rights (Chandrasekharan Behr et al.,

2012). Weatherley-Singh and Gupta (2015) analyzed a wide range of monetary and non-monetary benefits that can be associated with forests and offer various possibilities of benefit sharing. For example, increasing agricultural productivity, creation of protected areas and land-use planning, community-based forest management, direct payments, ecotourism, microcredits, and provision of education / clean water. Depending on the benefits and their allocation, they also present incentives for the beneficiaries to ensure sustainable use of resources and have positive conservation impacts (Hassan et al., 2019).

Policy-procedural structure in REDD+ was meant to be flexible and combines both international and domestic benefit sharing. In 2007 with the negotiations of the 13th Conference of Parties consensus regarding financing RED was reached, however, it was not clearly defined how financing would work. It was thought that in a first step, donors would finance the program and in the long run the carbon market would take over. Billions of dollars were paid into funds by various countries destined to institutional and technical aspects (see e.g., Norman and Nakhouda, 2015), while important policy changes for acting on the drivers of deforestation were neglected (den Besten et al., 2014). Not only did the purpose differ but also the timeframe of taking action: whereas some funds were meant for immediate action (Government of Norway, 2011) others were set up to guide developing countries with forests to prepare for REDD+ through piloting and capacity building, also referred to as REDD readiness (den Besten et al., 2014). As decided at the beginning of the program in 2005 funding in the future would come from the voluntary markets and possibly also from emerging national or regional carbon markets (den Besten et al., 2014). Which finance structure would be adopted from a country has to be decided by each individual country, taking in account local governance structures (Luttrell et al., 2013).

One of the earlier concerns about benefit sharing in REDD+ had been its prevailing carbon sink priority that boosted the conflict potential within the REDD+ practice. It was strongly questioned by scholars and civil society for prioritizing the economic dimension and neglecting the ecological and social functions of forests, assuming that these will occur naturally during the implementation. Some organizations such as Greenpeace International insisted on including and explicitly mentioning people and biodiversity dimensions within benefit sharing. For others the program needed to include safeguards to protect the interests of the communities and biodiversity, as well as equitable mechanisms of benefit sharing, with organizations such as the World Wildlife Fund calling for reforms (den Besten et al., 2014). It can be stated that the formal reforms have started as the REDD+ objectives expanded from focusing on reduction of GHG emissions to a number of broader objectives such as combating biodiversity loss and poverty, particularly through improving governance and ensuring fair access and benefits for affected local and indigenous communities (Angelsen, 2017). Further, to address the potential risks of REDD+, particularly for local and indigenous communities (e.g., displacements, restricted access to benefits, exclusion from decision making), the Conference of Parties to the UNFCCC in 2010 developed and agreed a set of safeguarding principles. According to the agreement, countries are required to demonstrate how these principles are promoted and implemented. By 2019, fourteen countries had already developed information systems demonstrating such safeguards (Green Climate Fund, 2019: 21). However, given the relatively slow response of practice to the changes in the global discourse and formal national reforms, it is reasonable to expect that forest carbon sink will continue to dominate in measuring and reporting on REDD+ performance on the ground (Turnhout et al., 2016).

3. Methodological approach

This study was carried out using a discourse analysis approach (Fischer, 2003; Hajer and Versteeg, 2005) with the aim to delineate the role of policy framing and its consequences. As we were interested in analysis at the level of property rights as a specific form of institutions

(Williamson, 1998), we drew from and contribute to the scholarship on discursive-institutional analysis (Schmidt, 2008). To derive insights from policy documents, as well as reports and peer-reviewed literature, we used qualitative content analysis (Mayring, 2014). The analysis was conducted iteratively between building the theoretical framework presented in the previous section and analyzing the case studies in the next section. For the case studies, first, an analytical coding framework was developed based on existing literature on benefit sharing. Four countries in sub-Saharan Africa were selected to ensure similarity in deforestation trends and variation in experienced conflicts for informing the theory. Thus, the purpose of the sampling was to select countries with substantial annual forest loss (> 50,000 ha), varying degrees of intensity of conflict potential, and already documented experience with the REDD+ benefit sharing. By the term conflict we broadly understand diverging interests of actors related to natural resource use which can manifest themselves from low to high intensity (Neudert et al., 2020). We were particularly interested in local resource use disagreements, distinguishing different degrees of conflict intensity: low – extensive disagreements without specific actions; medium – non-violent actions with incidents of suppression; and high – (violent) actions including migration and displacement. We use these categories largely for ensuring the diversity of case studies included in the study and not for analysis of effects of benefit sharing on conflicts by degree of intensity, since such analysis would require a much larger base of empirical evidence, currently only emerging within the REDD+ domain. For each country we looked into the broader country level conflict intensity based on several indicators in available databases (Braunschweig et al., 2020; Transparency International, 2019; International Crisis Group, 2020; The Fund for Peace, 2020; Control Risks, 2021), as well as the recorded conflicts specifically related to natural resource use and forests (Temper et al., 2015; Simonet et al., 2020). Table 1 below shows the criteria for the selection as well as the key characteristics of the selected cases.

Further, using the developed coding framework as a guide, a qualitative content analysis was employed using four document types for each case study. The national policy documents of each country on REDD+ were identified and analyzed to gain insights into the official framing of benefit sharing in REDD+ and country-specific approaches. Empirical lessons from peer-reviewed articles were retrieved through Web of Science by searching the terms “REDD+” AND “benefit sharing” AND [“Ghana” OR “Tanzania” OR “Cameroon” OR “Uganda”] in the entire texts of articles. From the 23 retrieved articles - nine articles for Cameroon, three for Ghana, ten for Tanzania, and one for Uganda - four articles were selected for further analysis. We selected the articles based on the in-depth focus on one country providing contextual insights (excluding comparative case studies), explicit engagement with the subject of conflict, and REDD+ project(s) being in an advanced phase to allow deriving *ex post* lessons from implementation of these projects. Further, REDD+ project documentation was retrieved from the International Database on REDD+ projects and programs (Simonet et al., 2020). The focus was on projects that implemented REDD+ and were no longer in their readiness phase. This led to additional two documents per country (Table 2).

Documents were analyzed using MAXQDA by coding segments and paragraphs according to the developed analytical coding framework: prior experience with conservation projects, type of benefit sharing, type of benefits, benefit-sharing mechanisms, scales of benefit sharing, type of conflict, diffusing or intensifying effect of benefit sharing in REDD+ on conflicts, and underlying facilitating and inhibiting factors. The particular focus was on to what extent REDD+ projects by focusing on either appropriation-oriented or provision-oriented benefit sharing could transform conflicts.

Table 1
Key characteristics of selected case studies.

Country	Forest loss		Conflict intensity	Description ^{6,7,8,9,10,11}	Experience with REDD+ benefit sharing ¹¹ , ongoing (planned/ ended)
	Forest loss in 2019, ha	Forest loss in 2001–2019, ha			
Ghana	87,400 ²	1,170,000 ²	low	- One of 14 natural resource conflicts associated with forests - No violence / non-violent conflict outcome - Low corruption perception, low security and political risk, low fragility of state	6 (1/1)
Tanzania	143,000 ³	2,510,000 ³	low / medium	- Five out of 15 natural resource conflicts associated with forests - Corruption as conflict outcome - Medium corruption perception, medium security and political risk, relatively low fragility of state - Recent destabilization in the country	7 (0/5)
Cameroon	120,000 ¹	1,320,000 ¹	medium	- Six out of nine natural resource conflicts associated with forests - Repression, violent targeting and criminalization of activists as well as migration and displacement outcome of conflicts - Relatively high corruption perception, medium to high security and political risk, most fragile state of selected four	6 (1/1)
Uganda	63,300 ⁴	844,000 ⁴	medium / high	- Seven out of 14 natural resource conflicts associated with forests - Repression, violent targeting and criminalization of activists, migration and displacement and even deaths, assassinations and murder as outcome of conflicts - Medium corruption perception, medium security and political risk, relatively high fragility of state	18 (0/1)

¹ Global Forest Watch (2020a).

² Global Forest Watch (2020b).

³ Global Forest Watch (2020c).

⁴ Global Forest Watch (2020d).

⁵ Braunschweig et al. (2020).

⁶ Temper et al. (2015).

⁷ Transparency International (2019).

⁸ International Crisis Group (2020).

⁹ The Fund for Peace (2020).

¹⁰ Control Risks (2021).

¹¹ Simonet et al. (2020).

4. Benefit sharing in REDD+: insights from case studies

4.1. Ghana: collective provision rights held by local community

Ghana is an example where appropriation-oriented and provision-oriented benefit sharing seem to be in congruence in the analyzed REDD+ policy and projects. Critical is that de facto resource users in Ghana's REDD+ projects, due to the latest developments in the country, simultaneously hold provision and appropriation rights, which allows them to appropriate the access and withdrawal rights on their own and sustain the resource by excluding free riding. This is promising in light of high deforestation in the country. Ghana is situated on West Africa's Gulf of Guinea and 47% of its land was covered by forest in 2018 (FAO, 2021a). Nevertheless, the country lost 17% of its tree cover since 2000 resulting in 1.17 million hectares of loss (Global Forest Watch, 2020b). Ghana predominantly uses customary rights systems with more than 75% of the land owned informally — ownership is vested in Stool or Skin by the constitution (traditional or customary leadership structures) — whereas 20% are owned publicly, and 2% privately (Forestry Commission of Ghana, 2020). The national strategy places a special attention to inclusion of local users that despite being responsible for management were long not included in the tenure system. Trees on land are not regarded as part of the land and delinked from land rights. As no international framework exists to define carbon rights (Karsenty et al., 2014), this creates particular challenges at the national level in assigning rights to carbon, especially where customary rights prevail. Natural forest areas are solely managed through the Ghanaian state who possesses the complete set of bundle of rights (access, withdrawal, management, alienation and exclusion) (Agyeman, 1994; Dumenu et al., 2014). However, farmers and local communities are granted access and withdrawal rights and sometimes even exclusion rights (Dumenu et al.,

2014).

Conflicts related to deforestation are primarily characterized by non-violent disputes around insecure land tenure systems (Asare et al., 2013). The insecurity leads to (illegal) encroachment for example for the expansion of agricultural farms, cattle grazing, logging, and charcoal production, thereby increasing deforestation (Asare et al., 2013; Simonet et al., 2020). De facto users such as farmers and communities have been excluded from provision rights, marginalized and under-valued, leading to tensions about withdrawal and access to forest resources (Asare et al., 2013). To tackle these tensions and ongoing conflicts REDD+ projects — mainly in the southern third of the country — are using the Community Resource Management (CREMA) mechanisms developed by the Ghanaian government (Forestry Commission of Ghana, 2020). The CREMA was developed by the country over many years to sustainably manage wildlife resources. In preparation of REDD+ and in light of potential conflicts, CREMA was seen as a way of combating deforestation while addressing issues such as securing land tenure, technical capacity building, and benefit sharing. CREMA provides economic incentives through sustainable income generation activities, compensation and credits while also providing non-monetary benefits such as education on smart agricultural practices, health programs, improved market access, land tenure, as well as institutional reforms (Asare et al., 2013; Simonet et al., 2020). Carbon payments are appropriated by the government and distributed to communities' trust funds based on their performance (e.g. conservation efforts and commitment) (Forestry Commission of Ghana, 2020). The communities spend the received monetary benefits based on community needs and thereby ensure provision of non-monetary benefits to all participants of CREMA. The provision-oriented approach of CREMA (used in all REDD+ projects) is enabled by democratic decision-making and problem solving. Since these processes are backed-up by traditional values (e.g. land

Table 2
Results of search - key documents analyzed.

Country	National REDD+ policy document	Key source from Web of Science	Project documentation
Ghana	Forestry Commission of Ghana (2020) - Final Benefit Sharing Plan for the Ghana Cocoa Forest REDD+ Program in southern third of country	Asare et al. (2013) - Case study of Ghana's Community Resource Management Area (CREMA) mechanism and policy recommendations for REDD+	1. Nyankamba Community Resource Management Area REDD+ project - Northern Ghana 2. Bonsam Bepo REDD+ Cocoa Carbon Landscape Project - Western Ghana
Tanzania	Vice President's Office (2012) - National Strategy for REDD+	Nantongo et al. (2019) - Case study of REDD+ pilot project in North-Central Tanzania using mixed-method approach to analyse decision-making processes	1. Carbon Tanzania - Ujamaa Community Resource Trust - Northern Tanzania 2. MJUMITA Community Forest Project - Southeast Tanzania
Cameroon	MENPSD (2018) - National Strategy for Reducing Emission from Deforestation and Forest Degradation, Sustainable Forest Management and Increasing Carbon Stocks	Awono et al. (2014) - Examination of tenure rights and participation in two REDD project sites using mixed methods approach	1. Mount Cameroon National Park REDD Project - Southwest Cameroon 2. REDD in Ngoyla-Mintom forest block through implementation of sustainable integrated management in the Tri-National landscape Dja-Odzala-Minkebe (TRIDOM) - South-Central Cameroon
Uganda	Ministry of Water and Environment (2017) - National REDD+ Strategy and Action Plan	Namwaalwa et al. (2017) - Process assessment of Carbon offset project using mixed methods to inform future REDD+ projects	1. Bukaleba Forest Project - Eastern Uganda 2. Namwasa Central Forest Reserve Reforestation Initiative - West-Central Uganda

use) and by-laws, potential leakages (e.g. continuous encroachment) are prevented. Participating communities benefit from overall sustainable outcomes and improved quality of the entire forest area since biodiversity is conserved and charcoal production is made efficient ([Asare et al., 2013](#)). REDD+ projects improve or even resolve existing conflicts by increasing the agricultural productivity of cocoa farms and therefore making encroachment unnecessary.

Thus, the CREMA mechanism appears to be critical for the implementation of REDD+ in Ghana and described as a policy shift allowing communities to govern their forests and benefit from them financially ([Asare et al., 2013](#)). Despite the weaknesses such as power imbalances, lack of resources and prevalence of financial benefits, there are no new serious or lasting conflicts reported in the context of REDD+ in Ghana ([Asare et al., 2013](#)). In fact, it is quite the contrary: tenure rights are improved by handing them over to the communities and caring for the most vulnerable. Since all REDD+ projects are obliged to use CREMA, as it was proposed in the Readiness Preparation Proposal, they seem to be key in preventing conflict. Noteworthy is also the emphasis on smart (or sustainable) agricultural practices in REDD+ projects and the National Strategy ([Forestry Commission of Ghana, 2020](#)). In particular, Ghana is the second largest producer of cocoa in the world with over 800,000 tons of production in 2019 constituting about 30% of its total export earnings and providing an income to about four million farming households

([Bangmarigu and Qineti, 2018](#); [Abbadi et al., 2019](#); [FAO, 2021a](#)). In prospect of a better income many farmers switch their cultivation to cocoa by encroaching the forest and thereby contributing to deforestation. The main driver of deforestation between 2001 and 2019 has been cocoa farming ([Global Forest Watch, 2020b](#)). Providing farmers not only with knowledge about more sustainable ways of cocoa farming as well as financial and technical means for that, but also organizing the provision and appropriation of rights in a particular way, appear to help them to increase their productivity and reduce incentives for illegal encroachment and further deforestation. REDD+ projects thus approach drivers of deforestation directly by making unsustainable activities unproductive, inefficient, and less necessary.

4.2. Tanzania: strong distinction between paper and practice

When it comes to Tanzania there seems to be a serious gap between what is on paper and what is in practice. While the state policy focuses on a provision-oriented benefit sharing in REDD+ projects, the implementing parties use their power to influence decision-making at the local scale mainly focusing on appropriating benefits for their own interests. Despite the country's long experience with conservation programs and REDD+—the national strategy came into force in 2012 after having nine pilot projects across the country—communities are still concerned about the implementation of REDD+ projects fearing that corruption, power imbalances, marginalization, and lack of participation continue ([Vice President's Office, 2012](#); [Nantongo et al., 2019](#)). This is despite that the National Strategy was developed involving various stakeholders at different scales ([Vice President's Office, 2012](#)) and defining Participatory Forest Management (PFM) as precondition for the implementation of REDD+ projects ([Nantongo et al., 2019](#)). The Tanzanian forest covering 49% of the mainland and Zanzibar has been under various threats such as agricultural expansion, cattle grazing, charcoal production, industrial wood exploitation, and infrastructure development ([Vice President's Office, 2012](#)) leading to a loss of 2.51 million hectare (9.5%) of forest until 2019 ([Global Forest Watch, 2020c](#)). In addition, climate change is increasing fire intensity, hurricanes, droughts, and poor crop yield contributing to the further deforestation in Tanzania ([Vice President's Office, 2012](#)).

As mentioned above, the National Strategy was drafted through consultative meetings and interventions with the aim to ensure all concerns are addressed and potential trade-offs between immediate economic benefits, urgent development needs, and long-term sustainability benefits are considered ([Vice President's Office, 2012](#)). The national strategy focuses on interventions to address the drivers of deforestation without mentioning benefits or benefit sharing, and it appears implementing actors define benefits on their own by mainly focusing on economic and social development ([Vice President's Office, 2012](#); [Nantongo et al., 2019](#); [Simonet et al., 2020](#)). Local authorities seek consent and approval by participating communities and other stakeholders on land use planning, payment mechanisms, and choice of benefits. Communities, for example, were provided with information on land use planning as well as technical supplies to enable them to demarcate their village boundaries. Despite these official and practical efforts of empowering local communities, power imbalances seem to continue to outweigh the advantages leaving them with no genuine control over decisions. Imbalances exist either within villages or between stakeholders and involve biased agenda setting and decision-making by elites due to economic or political interests or simply lack of transparency ([Nantongo et al., 2019](#)). It is expected that power imbalances will exacerbate once REDD+ funds become available: the financial means might end up being appropriated by state officials, implementing actors, and village leaders excluding the de facto users of forest resources. Once payments do not reach communities they might be encouraged to start encroaching again ([Vice President's Office, 2012](#)).

Noteworthy for Tanzania is that the National Strategy does not define clear benefit sharing mechanisms or rules, but rather focuses on

the benefits themselves. By focusing and emphasizing the allocation of work and responsibilities between different institutions the state tries to tackle for example issues of transparency and corruption. The strategy also highlights already existing laws and policies important for the implementation of REDD+ projects. Based on that, the strategic objectives include the forest, land, water, energy, agriculture, and fishery sectors, which provide the basis for issue linkages between forests and other sectors. In addition, the National Strategy stresses the promotion of peace and conflict resolution (Vice President's Office, 2012). Reports from implemented REDD+ projects highlight that expanding and promoting communication between actors, for example by including neighboring villages, and capacity building by providing training on agricultural practices, led to a reduction of encroachment and land intrusion, contributing to improved state of existing conflicts (Simonet et al., 2020).

4.3. Cameroon: including the vulnerable in the tenure system

The type of benefit sharing in the case of Cameroon depends on the project type: Payment for Environmental Services (PES) or National Park. Both project types are eligible according to the national strategy that focuses almost solely on the appropriation of monetary benefits. Nevertheless, the constitution of Cameroon — located in Central Africa at the Atlantic coast — states that every person has the right to a healthy environment. Forests here provide not only the main basis for subsistence for local communities, but also refuge to some of the most endangered species on the planet (MENPSD, 2018). Over 30 million hectares of the national territory (around 67% of all land cover) are covered by forest (Global Forest Watch, 2020a; FAO, 2021b), although Cameroon has still one of the highest deforestation rates in the Congo Basin (Alemagi et al., 2014). The country's Southwest region in particular suffers from major forest loss. Between 1987 and 2010, almost 50% of the natural forest was converted into agricultural land (Awono et al., 2014) and used to establish palm oil plantations (Global Forest Watch, 2020a). Additional drivers of deforestation include (industrial) timber and non-timber exploitation, firewood production and cattle ranching. To tackle these drivers Cameroon joined the UN-REDD Program in 2013 by initiating its Readiness Phase that finished in 2018 and led to the adoption of the National Strategy for Reducing Emissions from Deforestation and Degradation of Forests, Sustainable Management of Forests, Conservation of Forests and Increase of Carbon Stocks (MENPSD, 2018). Cameroon set itself the goal of achieving net zero deforestation by 2035. REDD+ projects aim to achieve this by implementing community forests projects, which had already been introduced by Cameroon's 1994 Forestry Law (Awono et al., 2014).

For Cameroon, it is largely described that former efforts to manage forests sustainably failed due to prevailing land and forest tenure conflicts, marginalization, non-compliance with written or verbal commitments, corruption, and lack of cooperation between authorities (Awono et al., 2014). Especially women faced discrimination and sometimes, even violence (MENPSD, 2018). In the analyzed project areas land conflicts exist for example between indigenous people and immigrants who ignore formalized boundaries and further encroach forest land. Households see it as discriminatory that while they face restrictions others can free ride. Even if official permits are allocated, they might discriminate against the local communities and often push them into illegality. Because of their previous experiences, villagers doubt whether REDD+ projects will deliver the promised improvements. REDD+ projects that use PES appropriate benefits and distribute payments based on present rights. Carbon rights and therefore the rights to benefits belong to the person with the right to occupy the land and to those who actively preserve the forest. There is almost no communication between implementing authorities and communities in regards to needs and additional benefits. Since tenure is already insecure a sharing mechanism based on ownership and rights increases the conflict potential between groups. REDD+ projects implemented in National Parks use a more cooperative

approach since parks are mostly established in areas occupied by farmers and communities. Park authorities discuss and negotiate possible benefits with communities ensuring that economic as well as social development is fair and sustainable. Instead of evicting farmers, they co-manage the area and let the villagers themselves demarcate the boundaries of their lands (Awono et al., 2014). To ensure sustainable management of the forest ecosystem they focus on agricultural productivity and provide farmers with training, supplies and infrastructure (Simonet et al., 2020). Still, there are issues regarding transparency when it comes to financial benefits and REDD+ itself. Land tenure issues are not completely resolved either, but parks seem to provide a good basis for cooperation among actors already putting enforcement mechanisms in place.

In its REDD+ strategy Cameroon emphasizes the importance of including indigenous and vulnerable people in the process of developing and implementing REDD+ projects. Especially their needs and vulnerabilities are seen as essential parts for the development of benefit sharing mechanisms. To detect these, technical and financial consultations were implemented throughout the country. This led for example to including a chapter on gender mainstreaming acknowledging the precarious situation of women. Policies in Cameroon recognize that women are particularly dependent on forest resources and should therefore be better included in training and leadership forums to strengthen their position in production and marketing. Cameroon is also proactively approaching prevailing conflicts by setting up an "Adaptive Conflict Management Framework". The framework aims to deal with resource and complaint management by identifying possible conflicts and developing interventions at various scales (local, communal, national, global). With this in place the country expects REDD+ to deal with the insecure rights in ways that can improve the state of potential conflict as observed in registering and titling land (MENPSD, 2018).

4.4. Uganda: prevailing top-down with most benefits not reaching locals

In the case of Uganda, the distinction between types of benefit sharing becomes almost impossible because the state seems to be the deciding force regarding the creation of benefits for all and the allocation of funds to do so. Even though the state stresses the importance of involving communities and enabling them to manage forest areas it only provides them with a disproportionately small share of monetary benefits. In light of Uganda's experience with other carbon funding projects such as the Clean Development Mechanisms (CDM) and PES projects communities' concerns regarding equitable sharing of benefits might be an alarming signal (Ministry of Water and Environment, 2017; Namwaalwa et al., 2017). Uganda is located in the inland of Eastern Africa right at Lake Victoria and had 30% of its land covered by forest in 2018 (FAO, 2021b). Nevertheless, the country is among the two countries with the highest deforestation rate (Ministry of Water and Environment, 2017) losing 15% of its forest cover between 1995 and 2005 (IUCN, 2012). One of the main reasons for that is agricultural expansion and exploitation either for the production of energy or industrial processing (Ministry of Water and Environment, 2017). While the local population uses forest resources to sustain their livelihoods, the private sector and individuals within authorities usually accrue the benefits (Costenbader, 2011).

Forests in Uganda are managed under five regimes, which include central and local forest reserves, wildlife reserves, private forests, and community forests (Namwaalwa et al., 2017). Even though communities are granted the right to own their reserves, the management rights lie with the higher government authorities leading to insecure land ownership and disputes between ethnic minorities who lack access to land and resources (IUCN, 2012; Ministry of Water and Environment, 2017). These disputes in some cases are linked with intrusion and destruction of crops by people or livestock (Ministry of Water and Environment, 2017). REDD+ implemented projects using either the PES or a Forest Farm approach emphasize the importance of mediating and

solving conflicts through consultative meetings (Namwaalwa et al., 2017). The national strategy actively engages with communities as partners to achieve greater inclusiveness (Ministry of Water and Environment, 2017). Benefits provided by the projects focus mainly on the economic development of communities by promising employment and business opportunities, increased agricultural productivity and development of infrastructure for the provision of clean water and energy. Thereby the projects balance commercial, social, and environmental concerns of involved stakeholders ensuring provision of not only payments, but also materials, medical supplies, and the possibility to register land (Ministry of Water and Environment, 2017; Simonet et al., 2020). Nevertheless, the higher state authorities appropriate the funds to the local authorities (Ministry of Water and Environment, 2017). Concerning is that only 10% of carbon revenues go to local communities providing them with the power to appropriate the monetary benefits according to their needs and priorities (Simonet et al., 2020). This is also only under the prerequisite that they are deemed to have contributed to the success of REDD+ (Ministry of Water and Environment, 2017). With promised funds and financial means not finding their way to communities, the national strategy already falls short of its goal and increased

conflicts have to be foreseen.

Special about the Ugandan case is that the national strategy is rather a soft action plan aiming at combating the drivers of deforestation than strategically defining the implementation of REDD+ projects (management, exclusion, alienation rights). This might be a result of using already existing projects for carbon funding, in particular PES, projects. The defined action areas include the agricultural, industrial, energy, livestock and forest sector broadly determining tasks and the legal framework for each ministry to ensure equitable and successful implementation. Noteworthy here is that the national strategy particularly addresses cattle ranching as a driver not only of deforestation, but also conflict. The strategic approach to this particular conflict involves improved grazing as well as stall-feeding which decreases damage of crops and therefore could lower the potential of conflict between farmers (Ministry of Water and Environment, 2017).

5. Discussion

As stressed earlier, benefit sharing in REDD+, particularly the provision-oriented type, indeed can be a promising platform to

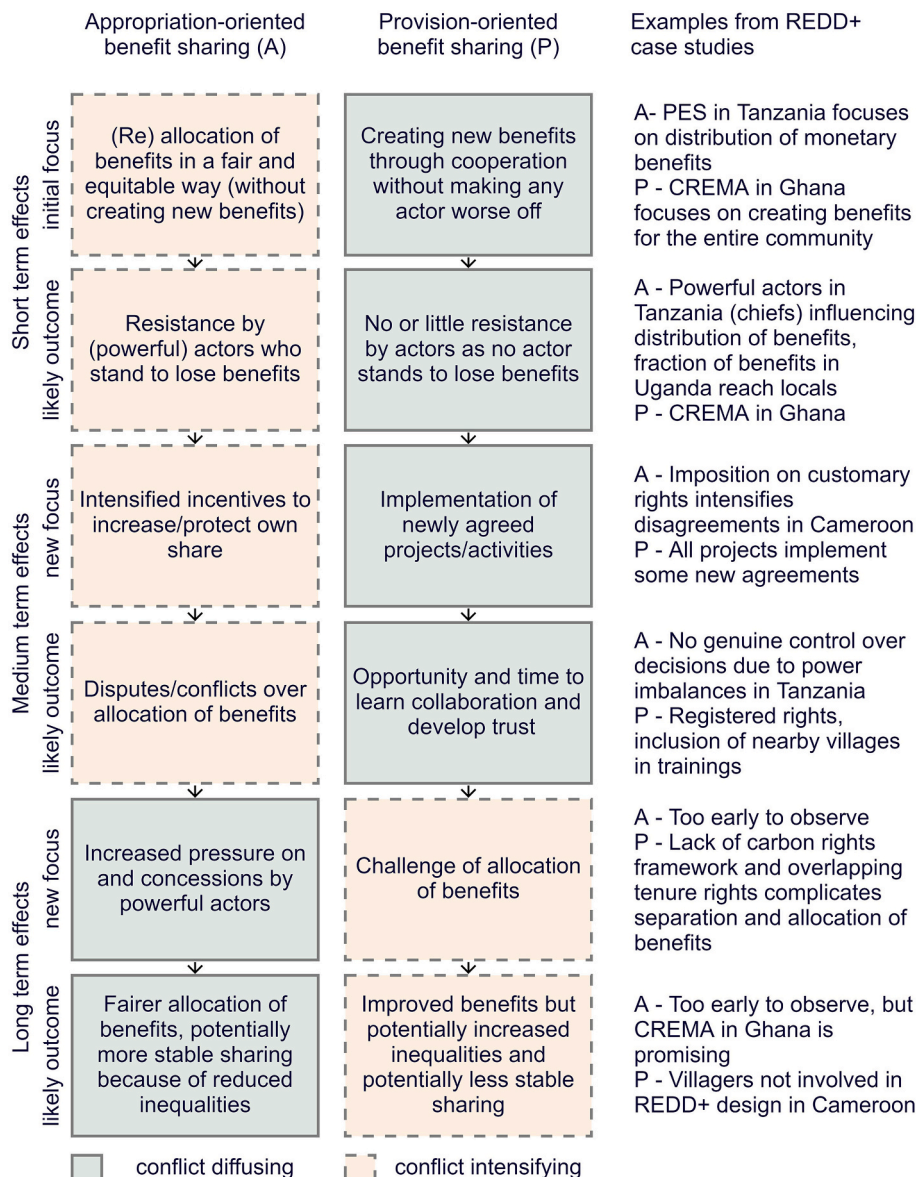


Fig. 1. Synthesis and conceptualizing benefit sharing and conflict transformation.

transform potential conflicts. For this, formal documents within the case studies universally stress the importance of participation of affected actors. Ghana, Cameroon and Uganda emphasize the importance of including indigenous people, the most vulnerable and communities with de facto rights in the process of tackling deforestation. Ghana acknowledges that communities are carrying the main burden of adapting and complying with measures (Forestry Commission of Ghana, 2020), Cameroon highlights the needs and vulnerabilities, of women in particular (MENPSD, 2018), and Uganda tailors benefits according to preconditions of target groups in population (e.g. considering affordability of technologies) (Ministry of Water and Environment, 2017). As pointed out by Holmgren (2013) forest dependent communities are the main actor since their livelihoods depend on forest resources and therefore should be considered the main group of beneficiaries. The national forest policy document in Tanzania does not specify any groups but rather focuses on drivers of deforestation, while scholars and NGOs report genuine empowerment of local communities on the ground is not in sight (Nantongo et al., 2019). Even though we proposed that equitable benefit sharing mechanisms would lead to less conflict in the long run, it is too early to establish whether or not benefit sharing within REDD+ projects have a long-lasting effect on existing conflicts.

At the same time, across the case studies, we can observe that indeed, one can make a distinction between appropriation-oriented and provision-oriented benefit sharing (Fig. 1). The findings are in line with the theoretical considerations that provision-oriented benefit sharing is likely to facilitate action and transform potential conflicts in the short run, yet particular underlying and context-specific factors have to be addressed to make benefit sharing in REDD+ work in the long run.

It should be noted that neither of the two types of benefit sharing is used in isolation in REDD+ policies and projects. It is also likely that no single policy or project will follow a linear representation of effects from benefit sharing on conflicts as conceptualized here. At every stage, many processes can go not according to plan and thus change the likely outcomes. For example, we find that purely focusing on reallocation of benefits tends to intensify conflict or creates a new conflict potential. Yet, such a reallocation might also be accepted, although often at a later stage after some discussions already took place, in which case it can be seen as a conflict diffusing process. However, the findings are in line with both advantages and disadvantages of each type of benefit sharing in relation to conflict transformation. We continue our discussion by looking at direct benefit-sharing-related observations that we can decipher from our findings first and then some of the key facilitating and inhibiting factors beyond benefit sharing.

5.1. Appropriating monetary benefits versus providing non-monetary benefits for all

The REDD+ policies and projects use a wide variety of benefit sharing mechanisms with mixed elements from both appropriation-oriented and provision-oriented benefit sharing (Schlager and Ostrom, 1992). While Payment for Ecosystem Services (PES) projects tend to focus on appropriation of financial benefits from carbon sink (Awono et al., 2014; Namwaalwa et al., 2017), Community Resource Management (CREMA), Community-Based Forest Management (CBFM) and Participatory Forest Management (PFM) projects stand out as provision-oriented benefit sharing by creating new benefits for communities and in some cases neighboring villages (Asare et al., 2013; Nantongo et al., 2019). In appropriating the monetary resources at the national scale, authorities use various approaches to ensuring equitability and distribution of finances based on commitment and contribution or land tenure and ownership rights. While authorities in Ghana want beneficiaries to demonstrate commitment and then reward their efforts proportionately, Tanzania applies a specific rate (e.g. \$/tCO₂e) to define payments (Forestry Commission of Ghana, 2020; Vice President's Office, 2012). In the case of Cameroon, it is mixed, while the PES projects pay compensations to stop deforestation (Awono et al., 2014) and thereby ensure

sustainable use of resources (Hassan et al., 2019), the national strategy applies a mix of legal and customary rights to define beneficiaries (MENPSD, 2018).

Thus, although with various emphasis, all countries still apply provision-oriented benefit sharing by providing additional social and environmental benefits in addition to financial compensation payments. National governments and projects take the criticism by NGOs into account and acknowledge the ecological and social functions of the forests (den Besten et al., 2014). Non-monetary benefits or in-kind compensations mostly include the improvement of land tenure systems, infrastructure (e.g. water, roads, health, education), conservation and improvement of agricultural productivity. As pointed out by Soliev and Theesfeld (2017) transaction costs of in-kind compensations are rather high requiring a collaborative approach to help avoid conflicts, yet they create means and time for trust building between actors. Tanzania, Cameroon, and Ghana not only sought consent at the national scale during the development of the national strategy (Vice President's Office, 2012; Forestry Commission of Ghana, 2020; MENPSD, 2018), but also organized meetings at the local scale to let villagers decide on the allocation of received payments (Nantongo et al., 2019; Asare et al., 2013), co-manage specific areas with communities (Awono et al., 2014), and set up land-use plans to create more sustainable outcomes (Asare et al., 2013). Agriculture is one of the main drivers of deforestation in all assessed countries. While Ghana's national REDD+ strategy is built around cocoa farming and increasing agricultural productivity that would make deforestation unprofitable (Forestry Commission of Ghana, 2020), Uganda and Tanzania developed an entire action plan tailoring their interventions to main drivers (e.g. agriculture and cattle ranching) (Ministry of Water and Environment, 2017; Vice President's Office, 2012). In addition, as described by Nantongo et al. (2019), REDD+ projects in Tanzania include villages outside the original project area to train them on agricultural practices. All countries in the end use predominantly the provision-oriented benefit sharing—albeit not always successfully—and thereby aim to improve net benefits for all (Derkyi et al., 2014). Thus, findings indicate that the policies and projects in REDD+ use elements of benefit sharing found in both global biodiversity and international freshwater regimes; however, with implicit prevalence of the latter where provision-oriented benefit sharing is dominant.

5.2. Key inhibiting and facilitating factors beyond benefit sharing

According to the analyzed documents and sources, insecure land and forest tenure systems can be identified among the strongest inhibiting factors when it comes to the successful implementation of conservation projects in REDD+. All analyzed national policies acknowledge the vulnerability of people with de facto rights and include some targeted interventions in their national strategies. The national policy in Uganda tries to solve the issue of land insecurity and encroachment by handing out certificates and further demarcating the land (Ministry of Water and Environment, 2017). Nevertheless, the projects do not mention this and based on the existing evidence it is not possible to detect to what extent communities are truly involved in the process of land-use planning in ways that could protect their benefits (Namwaalwa et al., 2017; Simonet et al., 2020). In Cameroon, even if communities and villagers seem to be actively engaged in the process of land-use planning and demarcation of boundaries, they consider REDD+ to be weakening their de facto land rights by not acknowledging their previous arrangements and traditions (Awono et al., 2014). The question of how land tenure should be improved is still unanswered by the national strategy of Ghana. The Ghanaian state expects that illegal encroachment will stop once agricultural productivity is improved (Asare et al., 2013). Land-use planning teams in Tanzania consist of officials and villagers to demarcate boundaries together, yet, as discussed, there is a serious discrepancy between paper and practice (Nantongo et al., 2019). The strategy supports the efforts to change the open forest regime and stop deforestation (Vice President's Office, 2012).

The analysis shows that participatory approaches leading to genuine empowerment are crucial in whether the new policies will achieve their goals or remain on paper. Even though both Cameroon and Tanzania emphasized inclusiveness in their strategies and during implementation of REDD+, local communities contest the decisions (MENPSD, 2018; Vice President's Office, 2012). Participants of PES projects in particular contest collective rights imposed on them seeing them as discriminating and inhibiting them from providing food for the growing population. These fears are fostered due to previous negative experiences with conservation projects that lacked transparency and created the widespread perceptions of mismanagement (Awono et al., 2014). Powerful economic and political interests have been compromising the implementation of REDD+: even the decision-making processes at the local scale within villages are not transparent. Village leaders for example, fearing not being re-elected, systematically influence decision-making in their favor (Nantongo et al., 2019). This form of appropriation is an example of the described weaknesses of benefit sharing approaches when more powerful actors can take advantage of weaker ones, inequalities exacerbate, and sustainable outcomes become difficult (Soliev and Theesfeld, 2017). It is therefore important to carefully structure the design and implementation of benefit sharing from the outset in order to enable successful REDD+ policies and projects (Pham et al., 2013).

6. Conclusion

We analyzed the discourse on benefit sharing as a governance approach emerging in the context of various global environmental regimes to inform benefit sharing scholarship and practice in forest governance under the banner of REDD+ adopted within the UNFCCC. Looking at the findings, particularly from the perspective of bundles of property rights theory, we proposed distinguishing appropriation-oriented and provision-oriented benefit sharing in REDD+ for better understanding the effects from benefit sharing on conflict transformation.

Our findings from the case studies are in line with the arguably more-mature but less-funded discourse of benefit sharing in global biodiversity and international freshwater regimes. While appropriation-oriented benefit sharing is necessary for achieving more equitable and fair sharing and therewith more stable resource sharing systems in the long run, it is often difficult to take action when focus is on appropriation as existing right holders are likely to resist reconsidering their shares. In contrast, provision-oriented benefit sharing is indeed likely to galvanize action by circumventing the distributional dilemma and instead focusing on creating new benefits. Therefore, provision-oriented benefit sharing might be well-suited to transform conflicts in the short term, although it will have to face the question of appropriation at a later stage as benefits will have to be shared once they are created. Thus, in the long run, provision-oriented benefit sharing does not provide the full solution. However, by directing the attention towards development and creating new benefits for all involved parties, provision-oriented benefit sharing offers the chance to create means and time for trust building and cooperation potentially useful for dealing with conflicts later.

Projects using a community approach and collective tenure mechanisms tend to be more successful in creating and provision of additional benefits and diffusing conflicts, since they empower stakeholders to discuss and negotiate terms. Projects appropriating monetary benefits based on fixed performance indicators such as in PES projects are unlikely to create sustainable commitments to the cause of reducing deforestation in the long run. The high dependence on finances can even increase conflicts once payments fall short. Nevertheless, all REDD+ projects and possible improvements face challenges of policy-procedural nature, such as weak land tenure arrangements and absence of carbon rights framework, but also more fundamental challenges of agency nature, such as conflicting interests vested in agriculture, and tendency of concentration of benefits in the hands of few powerful actors.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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