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J.S. Kemerink-Seyoum[a,b,*], T.M. Tadesse[a], W.K. Mersha[a], A.E.C. Duker[a], C. De Fraiture[a,c]

[a] IHE Delft Institute for Water Education, Delft, the Netherlands
[b] Governance and Inclusive Development Group, University of Amsterdam, Amsterdam, the Netherlands
[c] Water Resources Management Group, University of Wageningen, Wageningen, the Netherlands

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ABSTRACT

Despite euphoria at international level there is a growing concern that participatory forest conservation projects established with climate finance might not lead to the assumed win-win solution expressed in policy rhetoric of addressing both forest degradation and persistent poverty. Based on two climate financed forestry (pilot) projects in Ethiopia, this paper shows that the strong reliance on organizational blueprints and the focus on crafting institutions concealed the more pertinent issues at stake, in particular the unequal distributions of natural resources as result of the enclosure of the commons. The logic and rules on which the projects have been designed have been superimposed on existing social relations of power and prevailing organizational configurations, leading to aggravation of conflicts over resources as result of social exclusion, elite capture and even state-sanctioned land grab. This does not only points to the elusiveness of the quest for the best organizational model to implement such forestry projects, but also questions the faith in climate finance mechanisms at international level and the effectiveness of the efforts made by advocacy groups to establish safeguards to minimize possible negative outcomes at local level.

1. Introduction

Deforestation and forest degradation are considered a main source of carbon emission, especially in developing countries (Phelps et al., 2010). The Kyoto Declaration adopted in 1997 reinforced the universal need for reducing carbon emissions by using a neoliberal approach for addressing climate change broadly referred to as market environmentalism. This approach assumes offering the *"hope of a virtuous fusion of economic growth, efficiency, and environmental conservation: through establishing private property rights, employing markets as allocation mechanisms, and incorporating environmental externalities through pricing…"* (Bakker, 2007, p. 432). As part of this market-oriented approach, specific funding mechanisms have been designed to finance climate change mitigation interventions. These climate finance mechanisms allow industrialized countries to partially meet their Kyoto obligations by buying so-called carbon credits from developing countries who commit to reduce carbon emissions, or equivalent greenhouse gas, with one ton per credit. The Clean Development Mechanism (CDM) as well as the Reducing Emissions from Deforestation and forest Degradation and the enhancement of forest carbon stocks (REDD+) programme are two of the established climate finance mechanisms, which both aim (amongst others) to make forest protection economically attractive by paying for interventions that lead to forest conservation and rehabilitation in developing countries (Angelsen and McNeill, 2012).

Despite euphoria at international level, and the promise to pledge of large amounts of funding into these finance mechanisms, there is a growing concern that forest conservation projects established with climate finance might not lead to the assumed win-win solution expressed in policy rhetoric that it will both address forest degradation and persistent poverty. Even though relatively limited empirical data is available on how climate finance projects unfold at local level, particularly the poor and indigenous people are believed to be vulnerable as they are often highly dependent on forest resources for their livelihood (Luttrell et al., 2013; McDermott et al., 2013; Holmes, 2014). To address this (and other) concerns within climate finance projects, several safeguards have been established including the *"full and effective participation of relevant stakeholders, in particular indigenous peoples and local communities"* based on the principle of free, prior and informed consent (UN-REDD+, 2012, p. 2; see also Poudyal et al., 2016). It is for this

* Corresponding author at: Department of Integrated Water Systems and Governance, UNESCO-IHE Institute for Water Education, P.O. Box 3015, 2601 DA Delft, the Netherlands.
E-mail address: j.kemerink@un-ihe.org (J.S. Kemerink-Seyoum).

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reason that particularly existing (approaches to) community based forest conservation projects lend themselves for climate financed forestry projects as they aim to reconcile both livelihood improvement and ecological conservation through participatory methods (Streck, 2012; Chapman et al., 2014; Duker et al., 2018). The set-up of these projects is often shaped by neo-institutional thinking that assumes that institutions can be externally designed and locally crafted following certain principles to achieve a shared goal, namely sustainable management of the forest resource (see also Kemerink, 2015). As such these projects follow particular blueprints that stipulate unambiguous rules, explicit organizational structures and clear delineation of resource use. If these projects fail, for instance because of elite capture or illegal logging, it is often blamed on the organizational form selected and/or the inadequate rules stipulated for implementing these projects. As result, implementing agencies often seek the solution in trying to optimize the organizational structure and functioning of these projects to achieve the project objectives (Cleaver, 1999, 2002).

In this paper we show that the strong reliance on organizational blueprints and the focus on crafting institutions can conceal the more pertinent issues at stake, in particular structural inequities in society that lead to unequal distributions of natural resources and associated wealth, rights, responsibilities, costs and risks (see also Zwarteveen et al., 2017). For this purpose we have selected two participatory forest conservation projects in Ethiopia that make (or will start making use) use of climate finance mechanisms to fund their activities. Despite the fact that for each project a very different organizational blueprint was used, the empirical data shows that both projects lead to a similar outcome, namely aggravated conflicts over the use of natural resources in the case study areas. Based on this we argue that there is no simple relationship between institutional form and outcomes (see also Cleaver and De Koning, 2015). This does not only points to the elusiveness of the quest for the best organizational model to implement such projects, but also questions the rhetoric at international level in climate finance mechanisms as a tool for both achieving carbon emission reductions as well as socio-economic development (see also Duker et al., 2018). Moreover, it challenges the effectiveness of the considerable efforts made by advocacy groups to establish safeguards to minimize possible negative outcomes of climate financed interventions at local level.

The empirical data presented in this paper is based on in-depth semi-structured interviews carried out with the residents of two case study areas in Ethiopia where climate financed forest conservation projects are being implemented, namely the forests near the town of Humbo and Bale Mountains forests near Dodola town. The interviewees were selected by a stratified random selection procedure to guarantee that the perspectives are captured of residents who participate in the project implementation as well as those who are not included in the process, but also to ensure a balanced representation of different age, class and gender groups. In addition, other relevant actors have been interviewed such as representatives of local authorities, regional and national government officials as well as researchers and staff members of non-governmental organizations (NGOs) active in the region. The findings of the interviews were cross-checked through focus group discussions, field observations and a desk-study of relevant databases, archives and project reports. In total 85 individuals have been interviewed during fieldwork between October 2015 and February 2016.

This paper will first discuss theoretical perspectives on institutions after which the two case studies are briefly introduced. This is followed by detailed narratives of how the projects unfolded, how this impacted livelihood strategies and the relationships between the residents of the project areas. The paper ends with a discussion on the assumptions made within climate financed forest conservation projects and what the implications are thereof.

2. Theoretical considerations

Most participatory natural resources management projects are based on neo-institutional thinking. This school of thought, as explained in the earlier works of Elinor Ostrom, assumes that institutions, here defined as the rules in use, can be externally designed and locally crafted to ensure optimal interactions among individuals as well as between individuals and common pool resources such as forests or water (Ostrom, 1990, 1993, 1999). It argues that, if certain design principles for institutions are followed, the shared goal of collectively managing a common pool resource in a sustainable manner can be achieved. As such it is assumed that optimal formats for participatory natural resources management are not only available, but also implementable and desirable for all actors. Within neo-intuitionalism, institutions are conceptualized as human produced constraints and opportunities within which individuals can make choices and which shapes the consequences of their choices (McGinnis, 2011). In this way, institutions are assumed to provide individuals the security that others will act in agreed ways or otherwise be sanctioned, which stimulate them to cooperate for mutual benefit. Because of the emphasis on tangible and identifiable behaviors and incentives, there is a focus on formalizing rules, establishing explicit organizational structures and clearly delineating resource use (Cleaver, 2012). Translating this theory into interventions on the ground often leads to the enclosure of common pool resources in the sense that organizations are set up with certain membership criteria and rules for engagement that determine, explicitly or implicitly, who can and who cannot use the resource and for what purpose (Kemerink et al., 2013).

Neo-institutional thinking is based on a particular understanding of human agency, here defined as the ability of actors to choose and act. It assumes that individuals make rational decisions based on *"the benefits and costs of actions and their perceived linkage to outcomes that also involve a mixture of benefits and costs"* (Ostrom, 1990: 33). This so-called notion of rational choice is core to market environmentalism as it assumes individuals will respond to financial incentives attached to nature conservation, including the reduction of greenhouse gas emissions.

Scholars drawing on critical social theory have critiqued this narrow understanding of human beings in which individuals are assumed to act unhindered by their social, material and political context as it ignores historic inequities and contemporary social struggles that shape human agency. They argue that a level playing field does not exist: actors cannot interact freely as they are always bounded in their actions by unequal social relations or inequities in access to resources (Zwarteveen, 2006; Ahlers and Zwarteveen, 2009). Focusing solely on rationality is thus problematic as it falls short in recognizing humans as social beings with multiple social identities and complex webs of affiliations that shape their choices and circumvent their actions (Cleaver, 2002; O'Reilly, 2006). As result, project interventions based on new-institutional thinking often fail because they assume they can introduce and optimize clear-cut institutions, ignoring empirical evidence that institutions are inherently ambiguous, multifunctional and partial outcomes of dynamic social processes in which authority is constantly contested, negotiated and reaffirmed (Cleaver, 2012; Kemerink et al., 2013; Cleaver and De Koning, 2015).

It is within this theoretical framework that we explore and compare how two different climate financed forestry projects have unfolded and what the implications are thereof for the relationships between people who depend on the same natural resource for their livelihood.

3. Setting the scence

These days Ethiopia has less than 4% natural forest cover, a tragic decline from around 40% in the early 20th century (Brown et al., 2011; Hailu et al., 2015). Despite endeavors at policy level to manage forest resources since the late 1930s, the efforts failed to conserve the natural forests (Mersha, 2016). Population growth and persistent poverty is the main driving force behind the clearing of land as most people are directly dependent on small-scale agriculture for their subsistence and need the biomass as a source of energy and construction materials (for

more details see Duker et al., 2018). Since the early 1990s the Ethiopian government has followed an agriculture-led economic policy in an attempt to increase the food security of the country, including the state-led expansion of agricultural land. Despite persistent chronic food shortages affecting more than 10% of the population every year (EPA - Ethiopian Environmental Authority, 2011), the government has shifted in 2011 towards a green economy policy that aims to combine economic growth with nature conservation. With this substantial change in policy, the Ethiopian government anticipates that the global carbon market will play an important role in availing financial resources.

In its climate resilient green economy strategy, the Ethiopian government estimates that "Ethiopia can offset… 320 million tons of carbon a year. Even with the current low price of US$10-20 per ton, that could generate billions of dollars for the country" (EPA - Ethiopian Environmental Authority, 2011, p. 16). The Ethiopian forest sector is supposed to take the lion share of the carbon sequestration needed to achieve the objectives (Moges and Tenkir, 2014), mainly through community-based rehabilitation of degraded ecosystems and community-based carbon sequestration projects (Tadege, 2007). In particular, CDM and REDD+ are targeted as climate financing mechanisms to source funding for the new development strategy of the government. However, in practice attracting climate finance has been minimal so far. To implement the climate resilient green economy strategy an estimated investment of US$ 258 million per annum is needed (Bekele et al., 2015) but the actual inflow of finance for climate-related activities was approximately US$ 430 million for the period between 2010 and 2017 (Zewdu et al., 2014).

This paper discusses two case studies in Ethiopia in which climate financed participatory forest conservation projects have been initiated, each project with a different organizational set-up. The first case-study is located in the Bale Mountain region in central Ethiopia (see Fig. 1), which is considered as one of the Eastern Afro-Montane biodiversity hotspots and is the sanctuary of more than 1500 endemic species. Over the last two decades the Ethiopian government, in collaboration with several development agencies, has initiated various projects in this region to reduce deforestation and to introduce sustainable management of natural resources. The validation process of the newest initiative, the REDD+ Bale Mountain Eco-Region Sustainable Management Programme, has recently been completed as part of pilot phase in preparation of rolling out the REDD+ programme at national level. Currently the consortium of NGOs in charge of managing the programme are searching for an investor who will buy the certified carbon credits. The aim is to reduce the deforestation on the 260 thousand hectares of land from the business-as-usual scenario of 4% per year to 1% per year by the year 2031. This REDD+ pilot project builds on an existing participatory forest management project, including the adoption of the institutional arrangements, organizational structures and mechanisms for benefit sharing. In 2000, as part of the participatory forest management project, associations of forest dwellers have been established. Each association has a maximum of 30 members and manages a total forest area of 360 ha. This is based on an assumed carrying capacity of the land, in which the productivity of 12 ha of forest land is considered equal to 3 ha of farm land. The members of the forest dwellers association benefit in several ways from the forest products, including regulated logging of timber, fodder and grazing of cattle, fuelwood collection, bee-keeping and limited agricultural activities inside the forest. It is anticipated that the initiation of the REDD+ programme in this area will considerably increase the (financial) benefits to the

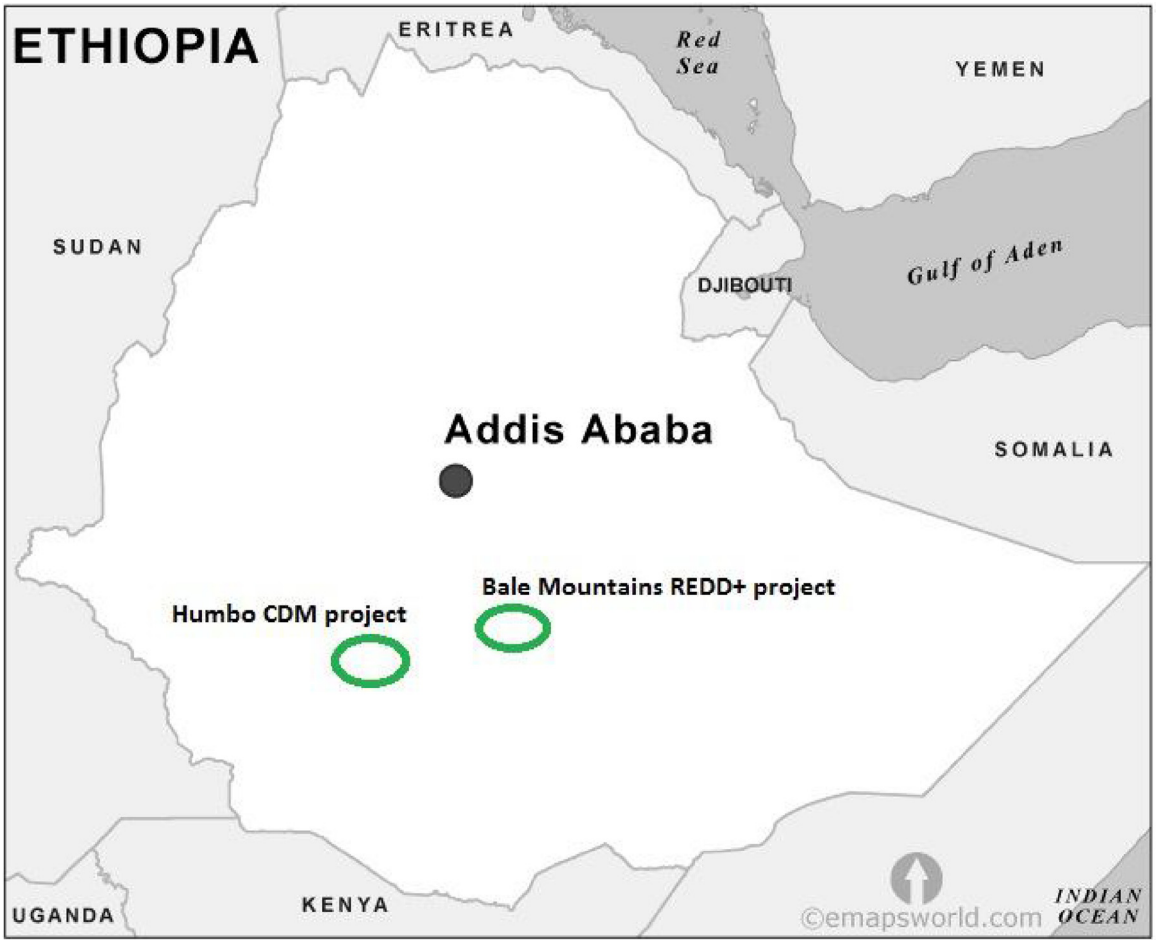

Fig. 1. Map of Ethiopia with the approximate locations of the case study project sites.

members of the association in return for protecting the forest. Members pay a small membership fee and provide labour to plant seedlings and patrol the forest to prevent illegal logging of trees. Those who are not a member of the forest dweller association have no longer access to the forest and cannot make use of forest products.

The second case-study is the CDM project near the town of Humbo (see Fig. 1). It involves the reforestation of approximately 2,700 ha of degraded land through a Farmer Assisted Natural Regeneration method. Previously this mostly communal land was used by residents of seven *Kebeles*, the lowest administrative division in the Ethiopian government system, for cattle grazing, growing subsistence crops and collection of firewood. The CDM project was initiated in 2004 by an international NGO through a participatory appraisal method which aimed at involving local farmers. Under the project the designated land was enclosed and seven forest cooperatives were formed, one per *Kebele*. The cooperative members were granted user rights that are restricted to pruning activities that stimulate the forest regeneration process and limited collection of dry wood. All local residents above the age of fourteen could apply for membership of the cooperatives conditional to paying the membership fee and purchasing at least one share. In 2006 the planting of trees started with support of the farmers and by 2015 the forest was considered relatively restored. In turn for their nature conservation efforts, the cooperatives received approximately USD 330,000 in five instalments from the World Bank, who served as a broker. The payments are based on a price of USD 4.40 per certified carbon credit and the generated income is supposed to be invested in community assets and serve as micro-credit scheme. In this CDM project all the money generated from the selling of the carbon credits is earmarked for the cooperatives and no vertical benefit sharing takes place in the sense that no climate financing will go to (local) government. In 2017, the agreements have expired and new benefit sharing arrangements are currently negotiated, including the price for the carbon credits.

The two case-study projects are very different, not only in terms of which climate finance mechanism they utilize and the status of the projects, but also in the sense of the organizational blueprint they have adopted (see Table 1). Cooperatives and associations are both collectives of individuals who unite for a common objective and which are governed based on democratic principles and in accordance with the agreed by-laws. However, a cooperative has a legal entity of a jointly owned enterprise which is allowed to pay dividend to its shareholders, while an association is generally not considered a legal entity but a voluntary collective that pool labor and resources together to undertake initiatives or provide services on a non-profit basis to themselves or others.

4. Unfolding the climate finance projects

Despite the differences between the two climate change mitigation projects, the empirical data indicates that both interventions have led to a similar outcome, namely aggravated conflicts, in some cases even violent conflicts, over natural resources among different actors involved in the projects. The next section will describe how these projects unfolded and what the implications are for social relations among actors and their livelihood strategies.

4.1. The exclusive structure: the Bale Mountains REDD+ project

4.1.1. Membership and forest enclosure

The Bale Mountains REDD+ initiative builds on a former Participatory Forest Management project of which it inherited its rigid and exclusive structure of the forest dwellers associations. This structure proves a major source of tension and conflicts. Each association has a maximum of 30 members, but the basis on which the members have been selected is rather ambiguous and allegedly influenced by socio-political relations. Traditionally the farmers in this part of Ethiopia practiced small-scale rotational agriculture in forested areas, leaving the land fallow every few years and clearing new pieces of land. During the last century the farmers were either forced out of the forest or back into the forest by various oppressive regimes depending on their ethnicity and political affiliation. Nevertheless, when in 2000 the participatory forest management project was initiated, the main eligibility criteria for membership of the associations became the residency of the forest area that was demarcated for the REDD+ project by the local government and the development agency responsible for the project implementation, in consultation with elder people from each *Kebele* in the project area. The delineated area was further divided into forest blocks, each to be governed by one forest dwellers association. Assuming a carrying capacity of 12 ha per household, the forest blocks were demarcated in such a way that they cover approximately 360 ha of forest land to be collectively managed by association members to sustain their livelihood. This rigid approach especially caused problems in forest blocks where more than 30 families resided at the start of the Participatory Forest Management project. Additional criteria were set up on advice of the elder advisors to determine who was eligible as association member. Priority was given to households who permanently resided in the forest for a longer period of time (at least two years) and who were considered good caretakers of the forest. Nevertheless, in the selection criteria not only the current generation of residents was considered, but also the ancestral residence, despite the absence of records. This meant that newly established households whose forefathers were assumed to have lived in the forest, were given priority over households who were residing in the forest for a longer period but whose ancestor were believed not to have roots in the forest area (see also Yemiru, 2011). This ambiguous process forced ineligible households to evacuate from the forest, either to farmland in the *Kebele* or to their place of origin in case they came from another district. At the same time, in less densely populated parts of the forest some of the associations have been granted more than 600 ha of forest land or have

Table 1
Comparative overview of the case study projects.

Climate finance mechanism	Case study in Bale Mountain REDD+	Case study in Humbo forest CDM
Aim of the project	Avoiding carbon emission by decreasing deforestation	Carbon sequestration through reforestation
Project phase	Validation phase completed, expected to be operationalized in 2018	Operational since 2006
Organizational structure	Association	Cooperative
Membership criteria	On condition of vacant seat in association, on request of existing members, payment of membership fee	Resident with minimum age of 14, payment of membership fee, purchase of at least one share in cooperative
Number of members	Maximum of 30 members	Unlimited
Use of the forest and forest products	Restricted use	Not allowed
Responsibilities of members	Tree planting, patrolling of forest	Tree planting, pruning, patrolling of forest
Benefits for members	Regularized use of forest and forest products, cash payments	Micro-credit schemes
Benefits for non-members residing in the area	None	Community projects paid with climate financing

Table 2
Overview of forest dwellers associations in the Bale Mountains REDD + project.

Kebele	Name of Forest Dwellers Association	Number of members Total	Size of forest block (ha)	Forest size per member (ha/member)
Berisa	Ali	30	350	11.7
	Mudhi	30	338	11.3
	Sokora	30	634	21.1
	Susula	27	368	13.6
Deneba	Shushi Shifa	26	313	12.0
	Changiti	26	554	21.3
	Birbirsa Guta	30	370	12.3
	Edo Sibilo	30	372	12.4
Total		229	3,299	14.4

less than 30 members (see Table 2). However, evicted households were not offered relocation and membership to these associations. In addition, a few associations have been allocated less than 360 ha of forest land, yet they have 30 members. This shows that the assumed carrying capacity is not only rather arbitrarily defined but also inconsistently applied. Moreover, records show that a considerable part of the forest association members have several hectares of farm land near the villages outside the forest, which privileges them to use both types of land as their source of livelihood.

The establishment of forest dwellers associations divided the residents of the project area in those who are members and those who are not. In particular the enclosure of the forest, previously used as common pool resource, despite government attempts to conserve it (FDRE, 2007), has led to tension between members and non-members. While the members of the association can still use forest products, albeit under restrictions, the non-members are no longer allowed to enter the forest and no longer consulted in decisions regarding the forest. In this way, they have not only been deprived from access to various forest products such as fodder, fire wood, construction materials, honey and herbs, that they need for their subsistence, but also from the anticipated revenue from the REDD + project. Especially the youth, who are largely excluded from association membership, is challenging the current division of forest based benefits. Cases are recorded of organized gangs of youth who illegally cut trees sold as timber, in some cases with active support and protection from members of the forest dwellers association. One of these documented cases narrates the story of eight unemployed young men, all sons of association members, who organized themselves for regular illegal logging. The fathers of four of these men are member of the association that is responsible for the protection of the forest area where this gang commits its crimes. These particular gang members have inside information on when and where to cut trees, for instance on moments when the guards are off duty or when the residents have left their homesteads for weddings or funerals. Often they cut trees around lunch time when the guards go home to eat lunch and then hide the timber in the forest. After sun set they carry the timber out of the forest on donkeys and sell it to carpenters in nearby towns, providing them with a relatively steady source of income. The members of this gang arm themselves with sticks and knifes to intimidate and attack forest guards when they are caught. Several times this has led to violent clashes, causing severe injuries and lasting mental distress. Often this violent attacks do not lead to prosecution since this gang is feared by most residents and hardly anyone dares to testify. They also have been caught several times by the police carrying timber out of the forest without license yet upon payment of a small bribe the police turned a blind eye. One time the members of this gang were sued in court for illegal logging though managed to avoid their verdict as their fathers stepped in to provide them a credible alibi, forcing the court drop the case on the basis of a lack of evidence. This was followed by a traditional ceremony used for reconciling conflicts among residents. Occasionally the forest dwellers association fines the fathers for trees stolen by their sons. In these cases the gang refunds the fathers as the money they earn from selling timber outweighs the fines that need to be paid.

4.1.2. Benefit sharing

Also within the forest dwellers associations conflicts emerged on the distribution of benefits among members and signs of elite capture have been recorded. Especially, the allocation of trees that members are allowed to harvest is contested with well-connected, often wealthier, members receiving more timber than other members. On paper each forest dwellers association is allowed to cut a maximum of five trees per year and the general assembly of the associations determines which trees can be harvested and for which purpose. The timber is either sold to the cooperative of the *Kebele* or the members are each given a share of the timber, which they can either sell individually or use for their own purposes. Nevertheless, the empirical data shows that in all forest blocks more than five trees per year are cut with approval from the general assemblies upon request by individual members. Commonly the assemblies approve requests from its members in case they need to build a house or in unfortunate events such as crop failure or serious health issues. Also members are allowed to cut trees to cover the costs of weddings and funerals. In some of the forest blocks the assembly allows all members to harvest one tree a year plus trees that they get allocated based on individual requests. Especially the approval of cutting trees for construction purposes advantages the wealthier members of the associations as some of them have built several houses on their property outside the forests with timber for free. After an assembly has approved a request the executive committee of that particular association decides which tree can be harvested, which formally should only be old or fallen trees. Interviewees claim that this is a controversial process because well-connected members get allocated larger and better trees than other members. One recorded case indicates how a member who requested permission to cut a tree, was asked by an executive committee member to pay a bribe of 300 Ethiopian Birr (circa US$14, March 2015) for allocating him a tree of his liking. A year later he had not paid the money yet and had not been allocated a tree either. Interviewees also claim that the executive committees of some of the forest dwellers associations sell fodder and charcoal that they obtain from the forest without receipt, which means the money goes to their own pockets rather than to the records of finance of the association. Another way in which wealthier, often well-connected, members disproportionally benefit from the forest is through their engagement in livestock production. Members have the exclusive right to let their cattle graze in the forest. However, the number of cattle per member are restricted to avoid overgrazing. Nevertheless, members who have the capacity to get involved livestock breeding for commercial purposes let more cattle graze inside the forest than permitted, without penalty. Several attempts to prosecute illegal practices by members of the association, such unpermitted logging, selling of forest products or demanding bribes, has so far not led to verdicts as other members are often afraid to testify. These influential members intimidate their accusers by threatening to not approve their future requests, and in some cases even with violence. Moreover, they have close relations with the *Kebele* administration and police, so when a case appears in court they get backing, allegedly after bribing the officers, which forces the court to drop the case on the basis of a lack of evidence.

4.2. The inclusive structure: the Humbo CDM project

4.2.1. Membership and forest enclosure

Although *de jure* all residents above the age of fourteen can become member of the cooperatives and earn revenue from climate finance, not all residents of the *Kebeles* support this intervention. The residents who opposed the initiation of this project state that they have been threatened and silenced, mainly by fellow residents and (accomplices of) the *Kebele* administration, and in some cases even been detained without being convicted by a court of law (see also Gashaw, 2012). Their resistance consisted of public protests and marches to offices of the NGO

and the forest cooperatives, which in a few occasions turned into violent clashes with other residents and the police. Their main concerns regarding the project relate to the loss of communal forest used for their subsistence (such as fodder and charcoal for household use). Several residents indicated that they were threatened with exclusion from accessing public services such as food assistance, fertilizer and seed supplies, and credit schemes, if they would undermine the implementation of the project. In their official reporting and during interviews the involved staff members of the NGO claim that they followed a participatory approach by organizing several pre-project consultative meetings and focus group discussions for which they invited representatives of each *Kebele* in the project area. It remains unclear, however, how and by whom these representatives were selected and on which basis. Nevertheless, the NGO and local government claim that the residents that live in the proximity to the project area have given their prior consent and no reference is made to any of the public protests. The few people who raised their voice during the consultation meetings about the loss of livelihood as result of the enclosure of the communal land were relinquished by the promise of more jobs and income from climate finance.

A review of court files paints a less rosy picture than the proclaimed approbation. Some residents took, individually or collectively, legal steps against the implementation of the CDM reforestation project. Four of the reviewed court files relate to individual farmers who complained against eviction from their land by the *Kebele* administration to free up land for the project. The court ruled that the farmers are legal tenants and that they should be allowed to return to their land. The Ethiopian government did not appeal against this decision, but thus far the court decision has not been enforced nor did farmers receive any land elsewhere as compensation. Another court file relates to a claim of eighteen farmers who collectively sued one of the forest cooperatives for evicting them from their land, one hectare each. The local court ruled in favor of the farmers, but after appeal this was reversed by a higher court. The files show that both courts agreed that the farmers were legal tenants, evidenced by landholding tax receipts issued in their names and witnesses reports. However, the higher court ruled that the farmers lost the usufruct rights because they left the land fallow for more than two consecutive years. l. Surprisingly, the court file does not mention the *Kebele* administration's failure to give (written) warnings before taking the land from the farmers while this is obligatory according to the same law (DFRE, Regulation No. 66/2007:11).

4.2.2. Benefit sharing

Besides dispossession of land, there is also disagreement about climate finance benefit sharing between the *Kebele* administration and NGO on one side and the members of the Humbo forest cooperatives on the other side. The members claim that during the initiation of the project they have been promised cash payments based on their shares in the cooperative and that this motivated them to agree with giving up access to the communal land. However, under pressure of the NGO and local government, the climate money is reserved solely to invest in activities benefiting all residents of the *Kebele*, such as the construction of grain stores and installation of flour mills. The rationale of these investments is that they allow cooperatives to make profit from charging fees for grinding and from purchasing grains during the harvest season and reselling at higher prices during other seasons. As such these investments do not only contribute to the development of services in the *Kebele* but also ensure the longer term viability of the cooperatives.

The roles of the NGO and the World Bank as brokers in this process complicates the disagreements. During the initiation of the project the cooperatives have signed an agreement with the NGO in which they delegated to the NGO the right to negotiate and sign a purchase agreement on their behalf for the selling of the carbon credits to a willing buyer. Through a rather ambiguous process, the World Bank, who was already involved in the preparation phase of this CDM project, bought up the carbon credits and in turn sold these emission rights through its BioCarbon Fund to industries and/or governments in developed countries. The forest cooperatives do not have a copy of the purchase agreement between the World Bank and the NGO and have no insight in what the World Bank receives for selling the carbon credits on the global market. Since the amount of carbon sequestered by the forest is rather arbitrarily calculated, and thus difficult to monitor and verify for the cooperatives, they have little insight in actual financial flows within the project except for the payments made to them by the NGO. The NGO has the right to withhold money received from the World Bank for the purpose of community development projects. However, cooperatives' attempts to get insight in how much money the NGO has reserved for such projects has been unsuccessful. Because of different carbon prices mentioned by various actors involved in the project (see also Gashaw, 2012), and the public knowledge that another similar CDM forestry project in Ethiopia receives twice as much per carbon credit, the members of the cooperatives have become suspicious of the motives of the brokers involved in the project implementation.

In the meantime several forest cooperatives have taken the unilateral decision to start paying cash to its members under the pretext of micro-credit services. These payments are supposed to be based on investment plans and need to be paid back according to the by-laws of the cooperatives, yet in reality these criteria are hardly met. This development however brings its own controversies. In one of the cooperatives all members have received an equal payment of 1100 Ethiopian Birr (circa US$51, March 2015), which accumulates to an amount that is close to carbon revenue generated by that cooperative so far. Yet in other cooperatives members claim that only well-connected members of the cooperatives can benefit from this service, leading to inequities in the distribution of the revenue. Even though most interviewees indicate that the rehabilitated forest has improved the micro-agroecology and weather conditions, as was promised by the project, most of them complain about the strong decline in the supply of fodder in the area and the associated increase in price for fodder. As coping strategy farmers feed their livestock crop residue and weeds during the farming season. However, since yields are barely enough for their own subsistence, the shortage of fodder also forced farmers to reduce the number of cattle they own. This has consequences for the daily household nutrition and their resilience to deal with unfortunate events since livestock serves as an asset that can be sold when needed (Gashaw, 2012). Another source of frustration is the deficiency of firewood as result of the enclosure of the forest. The farmers now have to buy relatively expensive charcoal in nearby villages or travel to communal areas, sometimes three to four hours away, to collect fire wood themselves. These coping mechanisms question the additionality of this CDM project because, while sequestering carbon in the Humbo forest, it most likely leads to an increase of deforestation elsewhere due to unchanged demand for fodder and charcoal. Moreover, due to fodder and firewood shortage, farmers indicate that they feel forced to illegally cut trees or send their cattle into the Humbo forest for grazing. This has forced the cooperatives to hire guards so that trespassers can be fined when caught redhandedly according to the by-laws of the cooperatives. The costs involved for hiring these guards varies per cooperative depending on the size of the forest that they need to protect, but can go up to 900 Ethiopian Birr (US$42, March 2015) per month.

The limited restrictions made many people apply for membership of cooperatives, especially after hearing that actual money from climate finance revenue had been transferred to the bank accounts of the cooperatives. In 2015 the seven forest cooperatives had in total 5168 members, ranging from circa 500 to 900 members per cooperative (see Table 3). The result of this relatively large number of members is that the capital shares of the cooperatives have become practically worthless. In the nearly ten years since the CDM project is active, the cooperatives have received on average approximately US$64 per capita from the NGO as compensation for giving up communal land and investing labor to regenerate the forest. However, because the amount of climate finance received by cooperatives is proportional to the size of

Table 3
Overview of cooperatives in the Humbo CDM project.

Name of Cooperative	Forest Area (ha)	Number of Members			Climate Financing (US$/ member)	Average forest area per member (ha/ member)	Number of households in Kebele Total	Average number of cooperative members per household (member/ household)
		Male	Female	Total				
Abella Gefeta	176	459	116	575	37	0.31	955	0.60
Abella Longena	1043	760	143	903	140	1.16	1330	0.68
Abella Shoya	110	367	138	505	26	0.22	485	1.04
Bolla Wanche	344	439	286	725	57	0.47	541	1.34
Bossa Wanche	342	628	181	809	51	0.42	1021	0.79
Hobicha Badda	372	745	103	848	53	0.44	2158	0.39
Hobicha Bongota	340	663	140	803	51	0.42	2022	0.40
Total:	2727	4061	1107	5168			8512	
Average:					64	0.53		0.61

the forest they manage, the actual amount per capita differs considerably per cooperative, ranging from US$26 to US$140 (see Table 3). These relatively low amounts of money are a direct reflection of the small size of protected forest per member, ranging from 0.22 to 1.16 ha per member. To avoid a further devaluation of the capital shares, several cooperatives have sharply increased their membership fees to discourage new members and protect the financial interests of its current members. For instance, the Abella Longena cooperative, where the capital shares are still relatively high, has increased the minimum fee for new members, covering registration fee and one obligatory share, from 15 to 250 Ethiopian Birr (circa US$0.7–US$11.90, March 2015). In this way the intended inclusive structure of the cooperative has become a mechanism to differentiate who can and who cannot benefit from the climate financing project, and *de facto* excluded poorer households from membership. Moreover, that the inclusive structure did not lead to equal sharing of benefits among the residents also becomes evident when comparing the number of cooperative members with the number of households in each *Kebele* (see Table 3). In some *Kebeles* less than 40% of the households are associated to the cooperative, while in other *Kebeles* households have on average more than one person who is a member of the forest cooperative. These figures do not yet take into account that members can buy more than one capital share in a cooperative nor that some households might have several members of the cooperatives while other households have none. Consequently, the accumulation of capital among members within each cooperative, and among households in each *Kebele,* possibly shows an even more unequal distribution of climate finance benefits. Further, the vast majority of the members of the cooperatives is male (see Table 3), which also questions the gender inclusiveness of the cooperatives in practice.

5. Discussion and conclusions

Market based environmentalism, and climate finance mechanisms in particular, are based on the assumption of rational behavior in which individuals respond to financial incentives. In this thinking, specific institutional arrangements are necessary to ensure that individual actions lead to desirable outcomes for collective management of natural resources. In this paper we illustrated how this thinking played out in two different participatory forest conservation projects in Ethiopia, funded by REDD+ and CDM respectively. While the organizational structures of these two projects differ, the outcomes were similar. The introduction of climate finance principles in which residents of the project area are (or will be) compensated per unit of carbon sequestered, resulted in both cases in aggravated conflicts over resources as result of exclusion, elite capture and even state-sanctioned land grab. Based on empirical research done elsewhere, we believe that these finding are not unique to the cases discussed in this paper (see amongst others Beymer-Farris and Bassett, 2012; Poudyal et al., 2016; Duker et al., 2018).

Causes for these adverse implications of projects are typically sought in inadequate institutions and a common response of implementing agencies, in particular NGOs, is to engage in crafting 'optimal' institutions and to ensure enforcement (see also Cleaver, 1999). However, this approach is mostly ineffective as it is based on simplistic understanding of human agency and institutional functioning. Participatory natural resources management projects are never implemented in an institutional vacuum and, as this research has shown, the multiple social identities of actors and their complex webs of affiliations shape their choices and circumvent their actions. Climate financed projects with their inherent logic and rules are thus superimposed on existing social relations of power and prevailing organizational configurations, leading to ambiguous and partial institutional hybrids that do not solely attain conservation of natural resources but often also reinforce inequities (see also Cleaver, 2012). This is why, as this empirical research shows, organizational blueprints in the implementation of climate financed projects matter less than the underlying, pre-existing, power structures.

We argue therefore that there is no simple relationship between institutional form and outcomes and that the elusive quest for the most adequate organizational blueprint in participatory natural resources projects conceals the more fundamental struggle over access to and control over resources (see also Kemerink et al., 2013). Regardless of the organizational set-up, climate financed forest projects often lead to the enclosure of *de facto* common pool resources and, explicitly or implicitly, determining who can and who cannot use these resources and for what purpose. Even an inclusive organizational blueprint, as in the case of the 'open to all' cooperatives in the Humbo reforestation project, leads to processes of social differentiation and inequities in the distribution of natural resources and associated wealth, rights, responsibilities, costs and risks (see also Zwarteveen et al., 2017). The implications of the enclosure of forest resources is greatly overlooked within climate finance initiatives (Beymer-Farris and Bassett, 2012). Many residents in project areas depend on agro-forestry activities without viable alternatives (Duker et al., 2018) and compensation by climate financing is insufficient to cover livelihood losses. Moreover, while participants are promised monetary compensation for foregoing forest benefits and providing labor to protect the forest, they are offered 'development' benefits such as grain stores and flour mills. It is not surprising that this leads to illegal practices and even violent clashes.

Based on this empirical research we question the prevailing rhetoric at international level that climate finance mechanisms could lead to a 'win-win' situation in which both climate change and poverty alleviation are being addressed simultaneously. This positive yet rather simplistic narrative sounds appealing on paper, especially for developed countries as it evades the need for a more fundamental discussion at global level on who has the right to pollute and who has the responsibility to protect (see also Di Gregorio et al., 2017; Reinecke and Blum, 2018), yet in practice it shows the adverse consequences of adopting a neoliberal approach for dealing with environmental issues. This also

means that efforts of advocacy groups at local and international level to demand safeguards to protect indigenous people and local communities, despite good intentions, is at best managing in the margin and at worst legitimizing a structurally unequal process (see also Poudyal et al., 2016).

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