



**Experiences of host communities with carbon  
market projects: towards multi-level climate justice**

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## **Abstract**

The literature on equity and justice in climate change mitigation has largely focused on North-South relations and equity between states. However, initiatives such as the Clean Development Mechanism (CDM), the Reduction of Deforestation and Forest Degradation programme (REDD) and voluntary carbon markets (VCM) are already establishing multi-level governance structures that involve communities from developing countries in global mitigation efforts. This poses new equity and justice dilemmas such as how the burdens and benefits of mitigation are shared across various levels and how host communities are positioned in multi-level governance structures. We review existing literature and distil a framework distinguishing between four axes of climate justice from the perspective of communities. We then examine empirical evidence from African and Asian carbon market projects, assessing their distributive and procedural justice implications for host communities in light of our framework. The evidence suggests that host communities often benefit little from carbon market projects and find it difficult to protect their interests. We conclude that capacity building, attention to local power relations, supervision of business practices, promotion of projects with primarily development aims and an active involvement of non-state actors as bridges between local communities and the national/international levels could potentially contribute towards addressing some of the key justice concerns.

## **Keywords**

Justice, carbon markets, voluntary carbon markets, Clean Development Mechanism (CDM), REDD, host communities.

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## 1. Introduction

Equity and justice issues have been of paramount significance in international negotiations on climate change ever since the adoption of the 1992 United Nations Framework Convention on Climate Change (UNFCCC). Competing visions among parties over who should participate in global mitigation efforts have stood in the way of establishing an effective climate change regime for nearly two decades (Heyward, 2007; Dimitrov, 2010). While developing countries are reluctant to be bound to formal mitigation commitments, they are nevertheless willing to act at the domestic level (Bailey & Compston, 2012). The Clean Development Mechanism (CDM), the UN Reducing Deforestation and Forest Degradation (UN-REDD) Programme and voluntary carbon markets (VCM) are examples of vehicles for voluntary participation of developing countries in mitigation efforts.

A key characteristic of the aforementioned initiatives is the involvement of an increasing number of stakeholders ranging from industrialized and developing countries to businesses and non-governmental organizations at the international, national and local levels. Such multi-level governance arrangements have emerged because even though climate change is a global problem, its causes and impacts, as well as the efforts needed to address them, span from the local to global level (Adger, 2001). Consequently, decisions about the scales at which climate change policy is to be made are as important as the decisions on mitigation efforts themselves, because interventions at different scales have different advantages and limitations (Sovacool & Brown, 2009). For instance, relying solely on an effective and fair international solution for climate change could delay action, and might anyway not work well alone without adequate efforts at lower geographical scales (Ostrom, 2009; Paavola, 2011). Moreover, policies that are agreed at a global scale might not generate sufficient trust among citizens and organisations, which could compromise their effectiveness (Ostrom, 2009; Paavola, 2008).

Problematically, multi-level governance structures such as those for carbon markets are expanding faster than international negotiations can advance the overall institutional framework within which they operate. For example, after the UNFCCC Conference of the Parties in Cancun in 2010, parties have engaged in lengthy deliberations on the optimal design of a safeguard information system (SIS) that will track how REDD+ safeguards are being addressed and complied with (Visseren-Hamakers et al. 2012). However, host countries and non-state actors have not waited for the results of lengthy multilateral processes. They have instead made their own arrangements: the Gold Standard, Conservation Carbon and Biodiversity Alliance (CCBA) and Plan Vivo Standard have emerged to ensure that carbon

projects draw on principles of community-based natural resource management and focus on the delivery of socio-economic benefits alongside carbon sequestration.

This uncoordinated expansion of carbon markets has generated new justice dilemmas regarding the sharing of burdens and benefits of mitigation across scales, and the positioning of host communities and countries in multilevel governance structures. It is therefore vital to study justice issues across scales, as it has been acknowledged that different scales of analysis may lead to different interpretations of injustice; the choice of scale is inevitably political (Kurtz, 2003; Williams, 1999). The choice of scale is not only important for the analysis of injustice; it is also invoked by different actors to strategically construct injustice (Towers, 2000). Hence, the prevalent framing of climate justice at the international scale hinders alternative claims of justice rooted in the varied experiences of the diverse actors across multiple scales (Fisher, 2012). A climate justice analysis that seeks therefore to bring forth claims of diverse actors across multiple scales has the potential to contribute to a pluralistic understanding of climate justice (Fisher, 2012; Marion Suissey & Caplow, 2013).

In this paper we focus on examining the experiences of local communities with carbon market projects and their interactions with other scales of carbon market governance in order to understand their positioning within these structures from a justice perspective. We contribute to the emerging body of literature that examines the experiences of communities' participation in carbon governance either through desk-based studies (for example, Marion Suissey & Caplow, 2013; Olsen, 2007; Subbarao and Lloyd, 2011, Visseren-Hamakers et al., 2012) or through case study evidence (for instance, Bohm and Dabhi, 2009; Boyd et al., 2007; Brown and Corbera, 2003; Schroeder, 2010; Gross-Camp et al., 2012). The next section discusses the key axes and dimensions of climate justice in relation to the positioning of local communities in the multi-level governance context. We then examine case studies of CDM projects from India, a REDD project from Tanzania and a VCM project each from Mozambique and the Democratic Republic of Congo to further substantiate social justice issues that pertain to the axes. Our case studies draw on empirical data collected *inter alia* through qualitative in-depth interviews with multiple stakeholders, analysis of project documents and review of existing studies. Finally, we discuss our findings and conclude with the key justice implications of carbon markets governance across multiple scales.

## **2. Justice and local communities' positioning in carbon governance**

A number of commentators have questioned the possibility of reconciling the pursuit of justice with neoliberal environmental governance (Lohmann, 2008; Okereke, 2008). Our intention is

not to engage with this question at the theoretical level; yet we consider it important from an empirical point of view to critically examine injustices experienced by communities in existing carbon projects and to consider whether and how some of them could be overcome.

Ensuring justice for communities hosting CDM, VCM and REDD+ projects is important for at least three reasons. First, all these initiatives have dual objectives of generating low-cost emission reductions and contributing towards sustainable development in the host communities (UNFCCC, 1997; Forest Trends, 2011; Stringer et al., 2012). Second, host communities will have to live with the projects, thus being vulnerable to their impacts. Third, growing evidence suggests that affected communities can find themselves marginalised due to the technical complexity, limited capacity and relative lack of power to influence important decisions (Bohm and Dabhi, 2009; Corbera, Brown and Adger, 2007; Lövbrand, Rindeljäll and Nordqvist, 2009; Minang et al. 2007; Schroeder, 2010).

Theories of justice fall into several distinct types – utilitarianism (maximum benefit overall), contractarianism (greatest benefit for the poorest), egalitarianism (reduce inequality) and libertarianism (fair share of benefits and burdens) (see Liu, 2000). It is not possible to objectively or impartially decide between competing claims of justice that are based on different principles (Sen, 2009). Hence, pursuit of justice requires an accommodation of a plurality of reasons (ibid.). Moreover, although there is no single definition of justice, the core idea of justice is that “no one should be preferred if others are thereby put at a disadvantage, and that no one should be harmed for someone else’s advantage” (Sachs and Santarius, 2007: 125). Hence, examining justice from the perspective of host communities requires attention to their position relative to other actors across multiple scales in terms of: 1) global priorities versus local concerns; 2) national/regional objectives versus local aspirations; 3) business versus community interests; and 4) position of actors within host communities.

Distributive and procedural justice are pertinent in each of the above four axes of justice. Distributive justice has received more attention to date in the literature, but there is increasing recognition of the importance of the procedural dimension of climate justice (e.g. Paavola and Adger, 2006). The claims of injustice arise not just from inequitable distribution of burdens and benefits, but also from lack of recognition, representation and opportunities for participation (Fraser, 2009; Paavola, 2005; Schlosberg, 2004). Pre-existing power relations and inequalities between actors do shape access to distribution and participation (McDermott, Mahanty and Schreckenberg, 2012). They may be seen as distinct from procedural justice (Fraser, 2009; McDermott, Mahanty and Schreckenberg, 2012; Schlosberg, 2004) or be considered aspects of procedural justice (Paavola, 2005). We follow the latter approach in which recognition,



participation and pre-existing power relations together form the core concerns of procedural justice (Paavola, 2005).

### *2.1. Key justice issues across axis 1 - global priorities versus local concerns*

The key distributive issue with respect to carbon markets on this axis is the balance between global mitigation benefits and local sustainable development contribution. Desk-based analyses of CDM projects (Olsen, 2007; Sirohi, 2007; Subbarao and Lloyd, 2011; Sutter and Parreno, 2007), as well as case studies of CDM projects (Bohm and Dabhi, 2009; Boyd et al., 2009; da Cunha, Walter and Rei, 2007), have concluded that they have often failed to contribute to local sustainable development. Studies of projects in the Gold Standard scheme which was launched to reward projects that make a clear contribution to sustainable development suggest that their contribution to sustainable development is not significantly bigger than that of ordinary projects (Nussbaumer, 2009; Drupp, 2011). VCMs have been expected to be better able to deliver higher sustainable development benefits than the CDM because of their ability to accommodate a wider range of project types. However, in reality the experience with VCM projects has been comparable to that with the CDM (Estrada, Corbera and Brown, 2008). A desk-based review of Gold Standard (GS) and Climate Community and Biodiversity (CCB) Standard projects concluded that it still remains to be seen whether the adoption of these standards leads to additional sustainable development benefits, as most studies to date have relied on project documents (Wood, 2011). Emerging evidence suggests that the REDD+ mechanism faces similar challenges (Blom, Sunderland, & Murdiyasro, 2010; Mustalahti et al., 2012).

For procedural justice, it is critical that communities are recognised as key actors and have opportunities to shape the design of these mechanisms. Studies have highlighted how communities hosting CDM projects may have other understandings and priorities than the global emphasis on emission reductions (Bozmoski and Hultman, 2010; Parnphumeesup and Kerr, 2011). That is, global managerial priorities may marginalise local understandings and practices within climate change mitigation mechanisms such as the CDM (Boyd, 2009). Similarly, negotiations on REDD offer limited opportunities to challenge the prevailing neoliberal agenda emphasising market-based solutions (Long, Roberts, & Dehm, 2010; Okereke and Dooley, 2010). This lack of openness in international negotiations can be a barrier to procedural justice. For instance, indigenous or forest communities are highly vulnerable to the impacts of climate change, as well as the design of REDD+, but despite indirect participation through trans-national advocacy coalitions, their ability to influence the design of REDD+ is weak (Schroeder, 2010). From a procedural justice perspective it is

crucial that these mechanisms of global carbon governance both respect and accommodate local differences (Jasanoff and Martello, 2004).

## *2.2 Key justice issues across axis 2 - national/regional objectives versus local aspirations*

The CDM and REDD+ award a prominent role for national governments. In the CDM, host country governments set up Designated National Authorities (DNAs), which define what counts as “local sustainable development” and are responsible for host country approval of projects (Lecocq and Ambrosi, 2007). However, what counts as sustainable development contribution at the national level is not necessarily in the interest of local communities. For example, large hydropower CDM projects may contribute renewable energy to the national or regional electricity grid, but also create environmental and social burdens at the local level (Erlewie and Nusser, 2011).

Rindejall et al. (2011) highlight that Chile has used CDM projects mainly to attract foreign investment and has not made much effort to ensure sustainable development outcomes. The Indian government’s approach to CDM is similarly considered primarily as that of a “business-friendly market facilitator” (Benecke, 2009: 362). In the context of REDD+, national governments are expected to benefit from increased investment, development of physical infrastructure, reduced spending in certain sectors and promotion of national environmental objectives (Peskest, 2011). For their part, host communities are expected to benefit from increased employment and local incomes, as well as from improvements in the local environment (Peskest, 2011). However, experience with environmental instruments marketed as win-win solutions suggests that there are likely to be tensions and trade-offs between the different potential benefits (Muradian et al., 2013). It is then important from a justice perspective to examine how local impacts are balanced with national level benefits.

There are important procedural justice dimensions along this axis as well. In the CDM case, most countries assess contribution to sustainable development without direct engagement of local stakeholders. The exception is the Peruvian DNA, which conducts site visits and interviews local stakeholders to assess the level of local consultation and participation in projects (Disch, 2010). This raises serious concerns regarding the opportunities available to local communities to participate and influence projects (Bohm and Dabhi, 2009; Parnphumeesup and Kerr, 2011). With regard to REDD+, there is limited understanding on which actors are able to participate in shaping national strategies; hence making it important to investigate the extent to which local communities have agency at influencing the governance at national levels (Corbera and Schroeder, 2011).

### *2.3 Key justice issues across axis 3 – Business versus community interests*

The prominent role of the private sector in the CDM has received attention in the literature. On one hand, it has been claimed that CDM “breaks new ground in international environmental law” (Streck, 2004: 298) because of its emphasis on the involvement of the private sector. On the contrary, it has been argued there is a need for a supervisory body as – unlike the public project cycle – the private contracting cycle, which includes the commercial terms in CDM projects, is non-transparent (Klijn et al., 2009). The literature has highlighted a bias towards business interests at the cost of those of host communities (Benecke, 2009; da Cunha et al., 2007, Gilbertson, 2009). In some cases, polluting industries have benefited from additional revenue offered by the CDM while continuing to pollute, and CDM projects have also been implemented despite opposition from local communities and NGOs (Böhm and Dabhi, 2009; Ghosh and Sahu, 2011). In this regard, certain waste gas projects from refrigerant and nylon industries have proved rather controversial (Estrada, Corbera and Brown, 2008; Wara, 2007). Although such projects have been discontinued from the CDM, they are still included in certain VCM standards (Estrada, Corbera and Brown, 2008).

A range of private sector and business actors play important roles in these mechanisms. Private sector actors seeking additional revenue typically develop CDM projects. In VCM and REDD+, the private sector may be involved in developing projects or in funding them (depending on the specific context). Procedural justice demands that local communities have voice and influence on projects alongside the private sector. In CDM, procedural injustices are created due to the host communities’ inability to influence important decisions, which are taken by project developers, host country governments and investors (Lövbrand, Rindeljäll, & Nordqvist, 2009). Of course, this tends to be the case with environmental governance more generally, thereby necessitating a careful analysis of participatory processes (Wesselink et al., 2011).

### *2.4 Key justice issues across axis 4 – within the local communities*

Even when projects do create local benefits, these may not be distributed fairly among the members of local communities. Community-driven development projects often do incorporate principles of ‘good governance’ advocating the equitable distribution of benefits accruing from these projects (Fritzen, 2007). However, many such projects do not benefit the poor and are susceptible to elite capture (Mansuri & Rao, 2004). Weak formal and informal institutions allow benefits to be appropriated by local elites (Iverson et al., 2006). A growing number of studies on carbon markets or payment for ecosystem services projects are highlighting how their local

benefits may be distributed in an unjust manner (Brown and Corbera, 2003; Gross-Camp et al., 2012). In some cases, this could worsen local conflicts (Brown and Corbera, 2003). However, focus on formal institutions, such as requirements for participatory processes or constitution of representative committees, ignores the embedded-ness of institutions in complex social processes and the role of informal institutions (Cleaver, 2002). Hence, an approach that recognises heterogeneity within local communities and focuses on cross-scale social processes is needed (Mehta, Leach, & Scoones, 2001).

It is important that all those who are impacted by the project have opportunities to participate and power to influence. However, existing research has highlighted how selective inclusion of participants for stakeholder consultation can undermine both procedural and distributive justice (Boyd, 2009; Cole, 2007; Corbera and Brown, 2008). Hence, from a procedural justice perspective, it is important to assess who within the local communities have opportunities to participate and influence the projects. This requires attention to local power relations and existing inequalities within the host communities.

### **3. Evidence from case studies**

We now will review empirical evidence from the experience of host communities with varied carbon market projects. The cases we examine below are from our recent and on-going research in Africa and Asia and are chosen to provide a range of experiences across diverse institutional contexts from predominantly negative to relatively encouraging. They offer useful insights into how some key justice concerns of host communities could be potentially addressed.

#### *3.1 Biomass based renewable energy CDM projects, Gorakhpur, India*

India Glycols Limited (IGL) and Rayana Paper Board Industries Limited (RPBIL) added biomass-based co-generation to their existing industrial units at Gorakhpur in the state of Uttar Pradesh in North India. IGL distillery will use biomass residue from the distillery and rice husk sourced from the vicinity to generate steam and electricity for use within the distillery, with surplus electricity being sold to the grid. RPBIL factory will use rice husk for combined heat and electricity generation for internal use. These 'energy from waste' projects were registered with the CDM, as they reduce fossil fuel use and contribute to reducing carbon emissions. The IGL distillery and the RPBIL factory are expected to reduce 110,157 and 10,100 tonnes of carbon dioxide emissions respectively on an annual basis over a period of ten years (UNFCCC, 2012a; UNFCCC, 2012b). The projects aimed to create direct local benefits in

terms of employment and opportunities to sell rice husk for use as a fuel. Both projects conducted consultation meetings with stakeholders, including local communities, as part of the CDM process to inform them of the project and seek their feedback (UNFCCC, 2012a; UNFCCC, 2012b).

The villages of Bhabsa and Judiyan are located in close proximity to the IGL distillery, while Dhaurahra is located close to the RPBIL factory. Our case study is based on analysis of project documents and primary data collected in these project sites. Twenty one semi-structured interviews were conducted with residents, village leaders and representatives of the industrial units. These were supplemented with on-site observations to generate evidence related to local pollution impacts and physical infrastructure development. Important distributive and procedural justice issues emerge across three of our axes, i.e. within the local communities, between community and business interests, and between local and national level.

Residents of all three villages find it difficult to differentiate between the benefits from the CDM projects *per se* and those from the industrial units (Singh, Paavola, & Mathur, 2013). Even the IGL distillery's management agreed that employment created by the CDM project could not be distinguished from the overall employment at the distillery. The relations between the IGL distillery and the Judiyan village have been hostile because of an earlier conflict; for this reason the distillery did not offer jobs to the residents of Judiyan or buy rice husk from them. Bhabsa has benefited more from the distillery, but few individuals with close relationships with the distillery have captured most of the benefits. Similarly, few Dhaurahra residents were employed at the RPBIL factory, which was in addition not buying rice husk from the village. Moreover, all RPBIL employees from the village belonged to the same caste, raising suspicions of discrimination in the village.

Local power relations shaped the projects' consultation processes. Bhabsa and Dhaurahra individuals who had close relationships with the industrial facilities were the ones informed about the projects and included in the consultation process. Bhabsa and Judiyan villagers also had concerns about the IGL distillery's negative impacts on the local environment and their livelihoods (Singh, Paavola, & Mathur, 2013). They complained of untreated effluent discharge to the local stream, high concentration of ash in the air, as well as of smell and noise. Residents of Dhaurahra also complained of air, noise and water pollution from the RPBIL factory.

As noted, DNAs in host countries are responsible for assessing the local sustainable development contribution of a CDM project before approving it. In the case of India, the DNA assesses local sustainable development contributions of projects based on very broad set of criteria without having procedures for verification on the ground. These cases therefore highlight the challenges for ensuring both distributive and procedural justice between the local and the national level in CDM settings.

### *3.2 N'hambita Community Carbon Project, Mozambique*

The N'hambita Community Carbon Project (NCCP) in Sofala District, Mozambique was initiated in 2003 with project communities who had been displaced by the civil war that affected the region. The project has been co-ordinated by a private-sector company, Envirotrade Ltd, with the aim to improve rural livelihoods, engage in habitat restoration and forest management, and conserve biodiversity, while generating verified emission reductions (VERs) as a funding mechanism through the voluntary carbon market (Goodman, 2010). The Project has been endorsed by the Rainforest Alliance and Plan Vivo Foundation and was validated for the second edition of the Climate Community and Biodiversity Alliance (CCBA) standard at the Gold level in all three evaluation areas of climate, community and biodiversity (Rainforest Alliance, 2010), leading to its portrayal as a model project for others to learn from. In terms of climate change mitigation, the aim of the project is to sequester more than 250,000 tonnes of carbon dioxide (WRI, 2011). A series of academic analyses have examined the impacts of this project on land management practices (Palmer and Silber, 2012), household decision-making in terms of labour allocation (Groom and Palmer, 2012) and local institutional structures for project design and implementation (Dougill et al., 2012).

While some local-level successes are acknowledged in the above-mentioned reviews, the project has been beset with difficulties arising from the limited possibility to fund forestry and land-use carbon sequestration activities through compliance markets (Kill, 2013). These activities have only been funded to date through the voluntary carbon market, which has delayed community level payments. There have been reports of elite-capture of benefits with male-headed, high-income households perceived to be favoured as project participants (Hegde, 2010). The difficulty of needing to provide formal evidence of land ownership has added to the difficulty of addressing this justice challenge within communities (axis 4).

Semi-structured interviews, community focus groups and expert interviews with private sector and Government staff were undertaken across three project communities in 2012 (Dyer et al., submitted) and highlighted that many respondents remain positive about the project's impact

on livelihoods. However, there is evidence of communication breakdowns, particularly in the communities further away from the N'hambita headquarters. The voluntary carbon market has shrunk in recent years with economic downturn and the anticipated carbon offset compliance market is yet to be realised, making communication with communities vital given that carbon credit trading has not met the demand from local communities for involvement in the project. This means that communications to explain project co-benefits in terms of increased agricultural production and resilience of agroforestry and conservation agriculture systems is particularly important.

Currently the project is unable to sell enough carbon to be financially viable and its continuation has been based on donations from the Envirotrade founder and board members, displaying justice concerns across axis 3 (business – community) outlined above. Payments for project participants have been delayed and frustrations have begun to surface. Focus group participants said that there had been little communication on the issue and one extension officer also noted that he did not know the reason for payment delays and that there is now community mistrust of project staff (Dyer et al., submitted). Lessons from this project demonstrate the role of international-level factors over which a community project has no control, and the necessity to adapt community engagement practices and communications to a dynamic situation and to focus on local-level benefits of changes to land management practices (Stringer et al., 2012).

### *3.3 The Angai Villages Land Forest Reserve, Tanzania*

A community-led REDD+ initiative in the Angai Villages Land Forest Reserve (AVLFR) in the Liwale District of Lindi Region in Tanzania highlights how distributive and procedural justice issues complicate the ability of host communities to develop community-led projects (Mustalahti et al, 2012). The AVLFR is one of the largest Participatory Forest Management (PFM) sites (139,420 ha) in Tanzania, owned by 13 villages. A union of the 13 villages (MUHIMA) was created to protect the villages' interests and to coordinate negotiations with district officials. According to the Clinton Climate Initiative that run the feasibility, the project's carbon offset potential is 820,000 tCO<sub>2</sub>/hectare (CCI, n.d). In two of the Angai Villages, Mihumo and Lilombe, local goals for REDD+ included that 1) the AVLFR should be managed and controlled by the villages themselves; 2) the forest should be preserved for future generations, and; 3) funds generated from the AVLFR should be used to improve social services and infrastructure in the villages (Mustalahti et al, 2012). Yet the Angai villages' ability to pursue these goals is limited.

Our case study is informed by extensive data collected through multiple methods at the project level as well as in-depth data collection in two of the Angai villages. Overall, twenty-five semi-structured interviews with key informants at village, district, national and international levels were conducted. Participant observation was conducted at village, inter-village and assembly meetings. Participatory Rural Appraisal (PRA) techniques such as focus group discussions, transect walks, pair-wise rankings, pathways and scenarios exercises were conducted at village level. Based on the analysis, two key findings related to distributive and procedural justice emerge.

Firstly, weak local institutions and lack of trust limit the ability to act collectively. For example, participation in meetings is customarily rewarded with allowances to cover transport and opportunity costs, but people understand them as benefits that have to be shared. Yet allowances only barely cover expenses and thus the pressure to share them creates a disincentive to participate and to disseminate any information gained from meetings. For example, MUHIMA has rarely convened and has had little impact to date. The disincentives to participate limit the number of people to those who can afford to do so and thus create a risk of elite capture. For example, if those few people who currently benefit from timber harvesting represent their village in MUHIMA there is a conflict between their interests and the pursuit of sustainable forest management. This raises critical procedural and distributive justice concerns along our fourth axis, i.e. within the local communities.

Secondly, the setup costs of carbon market projects are substantial, typically beyond the means of poor rural communities. This leaves them dependent on external support and expertise. The Angai villages have received sporadic donor support for forestry-related activities for over 15 years. Yet the PFM and the operation of the inter-village union MUHIMA have not progressed much over this time due to the on/off nature of the support. When externally supported and led activities cease, progress halts because of local lack of resources and expertise needed for taking action. This leads to significant barriers to procedural justice from the perspective of local communities vis-à-vis the national level and the international donors.

The experiences of Angai villages suggest that while community-led projects could offer the best way for host communities to benefit from carbon market projects, there remain substantial challenges in making them actually happen. The gap between the local level and national level remains often too big to be closed by bottom up action. Linking solutions are therefore needed, and in Tanzania the emergence of MJUMITA, the Tanzanian community forest network of forest owners and managers may be one such solution. MJUMITA has a capacity building program (training academy) and a carbon cooperative to help communities reduce



transaction costs, engage with buyers in the voluntary carbon markets, and manage and distribute funds to participating communities.

### *3.4 The Kamoia Sustainable Livelihoods Programme, Democratic Republic of the Congo*

The Kamoia Sustainable Livelihoods Programme (KSLP) is a pilot integrated community development and environmental conservation project initiated by the mining company African Minerals (Barbados) Ltd, a subsidiary of Ivanplats. Much of the forested area around the site will be destroyed by the new copper mine, exacerbating the significant poverty already existing across the area in southern Katanga Province. The KSLP seeks to build a sustainable, independent economy in communities that live in the project's concession areas aiming to limit the climate change contribution of the forest loss and to enable community development from the agricultural sector. The project has three phases (Ecolivelihoods, 2012). The first phase establishes conservation agriculture, an indigenous tree nursery, rehabilitation of drilling sites, market gardens and a composting unit. The second phase focuses on vegetable and honey production, aquaculture and improved food processing. Finally, the third phase encompasses the introduction of draft power, poultry production, micro-enterprises with a gender focus, and seed storage and processing infrastructure such as solar driers. The KSLP is now (in 2013) preparing to apply for accreditation to allow the communities to benefit from trading carbon credits on the VCM.

Our case study research involved community focus group meetings in 4 villages within the project area and interviews with tribal/village leaders, private sector representatives and community extension officers for each study village (Dyer et al., submitted) with an emphasis on exploring community engagement and the benefits (both perceived and realised) by the project. The KSLP pilot began in 2010 by using traditional authorities to approach the communities. The KSLP's community development and environmental management contractor, Ecolivelihoods, has invested in capacity building, training and building appropriate local institutions, starting with the structures that were already there. The project has usefully been framed as a community development activity, not as a climate change mitigation initiative, thus helping to dispel justice concerns on the relation between the international company and local communities (axis 3). Interested community members have grouped together to decide on an activity that delivers development benefits but which also benefits climate change mitigation.

Some groups opted for vegetable production through conservation agriculture in which proceeds from the vegetable garden are wholly controlled by the groups. Alternatively, another village group has invested its initial earnings in planting groundnuts, while another hired a trac-

tor to plant maize. Groups receive regular support from project representatives, and extension officers trained in conservation agriculture paid directly by the mining company are also placed within the communities. Visits to a demonstration garden have been used to further train community members in horticulture and conservation agriculture approaches (including the use of bio-char). Such constant engagement means the communities have been able to access help and advice at any time. Trees are also provided from a nursery for use in agroforestry and for the rehabilitation of drilling sites, as well as to establish woodlots for timber and use in charcoal production.

The positive experiences so far in this case suggest that investment in building capacity of communities and extension officers and engagement through traditional authorities has fostered community engagement (improving community links across axis 4) and acceptance of the industry support (axis 3). This bridging of international and local scale needs will be particularly important when the project moves forward to engage in carbon market payment schemes. The key lesson from this project is its framing as a development initiative with potential carbon benefits, rather than as a carbon project with potential development benefits. This framing allows local-level benefits to be delivered independently from the dynamics of the global carbon market and focuses on the co-benefits associated with carbon storage (Stringer et al., 2012).

#### **4. Discussion**

Climate justice would demand that developing country communities who host mitigation projects are able to successfully advance their claims and interests relative to other important actors across multiple scales. Recognising the multi-level, multi-actor governance of the carbon markets, we have proposed a framework that comprises of four axes for examining justice concerns from a local community perspective. Examining our case studies using these four axes has allowed us to assess local communities' positioning in a comprehensive way. Several existing studies have empirically examined justice issues across one or two of these axes (Olsen, 2007; Schroeder, 2010), whereas a few have developed conceptual or theoretical frameworks for the thorough assessment of justice from the perspective of host communities (McDermott, Mahanty and Schreckenber, 2012). However, few studies have attempted to empirically examine local communities' justice concerns across-the-board.

Our framework has allowed us to identify key justice concerns of local communities across multiple scales as well as to understand how these issues across different scales interact with each other. For instance, in our CDM cases in India, local communities are positioned

unfavourably in relation to business interests; which is in turn linked to the fact that the national level actor does not reach out to them, denying them any say or influence at the national level governance of the CDM.

Our case studies suggest that carbon market projects have a varying capacity to deliver benefits to local communities. Our CDM cases from India prioritize carbon emission reductions and business interests and offer only minimal contribution to sustainable development in host communities. On the other hand, KSLP in DRC, which is preparing for VCM registration, is primarily a development initiative focusing on capacity building and livelihood support in host communities. The AVLFR REDD+ project in Tanzania seeks to support local communities' control and management of forests as well as improve facilities and infrastructure in the villages but these are difficult to realise without support or access to finance from carbon markets. While the N'hambita VCM project in Mozambique has already offered some co-benefits to host communities, vulnerability to the fluctuations in global carbon market prices raises questions as to whether these will be endured over the longer term.

Our observations resonate with the findings of desk-based studies suggesting that carbon market projects are not necessarily able to support local sustainable development in host communities (Estrada, Corbera and Brown, 2008; Olsen, 2007). In order to do so, carbon market projects should focus more on capacity building in host communities. Alongside fostering of local capacities, however, it is important to recognise that efforts are also needed to address the relative power businesses sometimes enjoy, at the cost of local communities. This may necessitate stronger norms and supervision of business practice. Moreover, community-based projects that explicitly seek a broader development agenda could be preferred from a climate justice point of view to projects that primarily seek emission reductions.

One key challenge highlighted by our case studies relates to bridging the local, national and international levels. The AVLFR project in Tanzania and the Indian CDM cases highlight how local communities are unable to protect their interests without support and facilitation from the national level or civil society. In case of the CDM, the DNAs seldom directly engage with the communities hosting projects (Disch, 2010). In Tanzania, other emerging initiatives highlight the potential role that carbon cooperatives or peer networks can play in bridging the gap between the local and the national levels. The N'hambita project from Mozambique demonstrates the vulnerability of local communities to carbon market fluctuations at the international level. In contrast to other case studies, KSLP from DRC is a project which manages to protect the interests of the local communities from the uncertainties in carbon

markets at the national and international levels through the bridging role played by a community development and environmental management contractor through extensive efforts on capacity building and strengthening of local institutions. These findings highlight the relative lack of power that communities have vis-a-vis the national and international levels, and the importance of bridging the gaps between them. A better recognition of local communities' position and concerns is necessary to address these power imbalances.

The existing literature has paid some attention to spatial distribution of carbon market projects across developing countries as well as within them, and its implications for uneven patterns of development and investment (Boyd et al. 2007; Hamilton et al., 2007; Cerbu, Swalloe and Thompson, 2011). We have drawn attention in our cases studies to the distribution of benefits and burdens within host communities – an issue which has so far received limited attention. Our findings highlight the susceptibility of carbon market projects to elite capture. In the Indian CDM cases, most benefits are appropriated by a small number of well-placed local actors. In the case of the N'hambita project, male-headed, high-income households have been favoured participants. In the AVLFR REDD+ project in Tanzania, the disincentives associated with participation can disadvantage the poor, thereby again opening up the possibility of elite capture. Thus, it is crucial that any efforts to build capacity of local communities or bridge the gap between them and the national or international level pay adequate attention to these power relations within communities.

Finally, CDM, REDD and VCM should provide opportunities for local communities to shape projects and to participate in the governance of carbon market activity in order to address procedural justice concerns (Chapple, 2008; Corbera and Brown, 2010; Lövbrand, Rindeljäll, & Nordqvist, 2009). This is not only important for ensuring outcomes that reflect diverse local interests but more importantly to ensure transparent and inclusive decision making processes which do not marginalise those in local communities that may already be locally under-represented.

Our case studies demonstrate the varying extents to which carbon market projects ensure meaningful and inclusive participatory processes. In the Indian CDM case studies, local consultations were limited to a few actors while most members of community were not informed about the projects and their impacts. The N'hambita project in Mozambique demonstrates how a breakdown in communication can create mistrust between local communities and projects. Similarly, lack of trust and weak local institutions in the AVLFR project in Tanzania pose challenges to procedural justice. The KSLP example from DRC demonstrates the value of an approach that allows a diverse range of project activities based

on the preferences of community members, and provides a greater voice to diverse actors within host community.

## **5. Conclusion**

Our findings highlight challenges that carbon market projects face in ensuring that host communities in carbon market projects are positioned in a just manner relative to other actors across multiple levels. They also draw attention to some relative successes that allow us to identify factors that can enable carbon market projects to address, up to an extent, some of these challenges. Through examining how host communities in developing countries are positioned in relation to businesses, as well as the national and international levels, we contribute towards addressing the existing gap in our understanding of justice in climate change which often does not pay adequate attention to the multi-level, multi-actor governance of carbon markets.

Four axes of justice emerge as crucial in relation to carbon markets and projects undertaken in them: global versus local; national versus local; business versus community; and position of actors within host communities. Important distributive as well as procedural justice issues emerge across all four axes. Our diverse cases have enabled us to analyse how, in different context and depending on the specific project circumstances, concerns across some of these axes may be more critical than others. However, in order to capture these differences, it is important to consider all four axes.

We have highlighted that local communities, and in particular the already disadvantaged sections within them, are often positioned within these complex multi-level structures in an unjust manner with limited opportunities to protect their interests. However, our research also indicates some of the possible ways in which this gap might be overcome, such as an emphasis on capacity building of local communities; attention to local power relations, stronger supervision of business practices; promotion of projects with primarily development aims and emission reductions as supplementary objective; and an active role from non-state actors that can act as bridge between local communities and the national/international levels.

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