



**Carbon markets and the new 'carbon violence': A case study of plantation forestry  
in Uganda**

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## **Introduction**

In his recent book *To Cook a Continent* (2012), Nigerian environmental activist Nnimmo Bassey powerfully captured the social, ecological and economic impacts of climate change on the African continent. More broadly, anthropocentric and capitalocentric global warming (Haraway, 2014) is described as giving rise to a new order of impacts; including an estimated 185 million deaths on the African continent this century (Christian Aid (2006) in Bond 2011) and with an estimated cost of USD 36.6 billion per year (Health Poverty Action, 2015). In parallel, the ‘green economy’ and associated green forms of governance have become the foci of global responses to climate change; with the globalisation of trade and investments in the green economy driving the intensification of land appropriations and a radical reshaping of rural Africa (Fairhead et al., 2012). Green economic processes are increasing pressure to convert forests (and other landscapes) into alternative land uses related to so-called green economic activities; including biofuels, timber, pulp and paper, and agribusiness plantations (Mwangi & Wardell, 2012, p.341). Demonstrating this, since 2008 and the financial crisis, Africa has recorded significant land-based investments – covering approximately 15.5 million ha – including in agriculture, tourism, forestry and large-scale industrial and infrastructure investments. Many of these land deals have been termed ‘land grabs’ by human rights activists (Land Matrix 2013).

In this context, the aim of this paper is to make visible some of the diverse forms of violence associated with green economic activities. Specifically, this paper examines impacts associated with expanding plantation forestry carbon markets. We take the case of Green Resources, reportedly the largest plantation forestry operator on the African continent; claiming to have planted more trees than any other private company in the last 10 years – with over 40,000 hectares of standing plantation forestry – and to have invested over \$125 million in tree planting in Africa (Green Resources, 2014a). Drawing from in-depth research in 2012-2013 with affected communities in Uganda, we examine the diverse historical and contemporary structural violence on which expansion of this companies’ plantation forestry relies. While it is difficult to provide an accurate account of the number of people directly impacted by company activities, estimates range between 8,000 up to 40,000 people reportedly impacted (Lyons et al., 2014). Of significance, there are 14 villages directly adjacent to the company license area at Kachung, and four villages within the license area, and at least 12 adjacent to the land licensed to the company at Bukaleba (Lyons and Westoby, 2014). It is in these spaces – where there are reports of eviction, dispossession and marginalisation – that conflict between community members, the company and state actors has emerged, and where diverse forms of violence manifest. Building upon earlier literature on violence (for example, Galtung and Watts), we argue this demonstrates ‘carbon violence’ against local communities and ecologies, referring to the distinctive forms of violence occurring alongside burgeoning plantation forestry and carbon markets.

## **Carbon markets and the rise of plantation forestry**

There are a growing number of initiatives aimed at adaptation and/or mitigation against climate change, and many link investors and consumers from the global north with smallholder and peasant farmers in the global south. Plantation forestry carbon market

initiatives are one such initiative, and rely upon carbon sequestration; engaging calculative practices (see Miller, 1992) that measure and price the volume of carbon dioxide and other greenhouse gases (GHG) sequestered (or absorbed) from the atmosphere into wood, leaves, soil and organic matter (Bumpus, 2011; Nel and Hill, 2013). The premise of global carbon markets is that GHG emissions that occur in one part of the world can be offset by sequestration activities in another part of the world (Lohmann, 2011).

The ideology underpinning these initiatives is one of ecological modernization; premised on the assumption that economic growth and environmental protection can be achieved simultaneously (Schlosberg, 2007; Buttel, 2000). The interventionist form of this ideology can be termed market environmentalism, in which markets are extended to the regulation of human-environment relations and the global atmospheric commons. Specifically, carbon markets have been widely championed as ensuring green economic growth, and are a central pillar of the new green economy championed by the United Nations and others (see for example Borrás et al., 2012).

Despite enthusiasm from its champions, there are a number of challenges and issues related to global carbon markets. Amongst these includes questions related to the commensurability of carbon across sites of production and sequestration (Cavanagh and Benjaminsen nd), as well as issues of ‘leakage’ and ‘permanence’; including risks that stored carbon may be accidentally released through fire, disease, pests or human activities, as well as being released when fast growing timber is harvested (Wunder 2008; Bottcher and Lindner 2010; Galik and Jackson, 2009). Reliance on few primary species – often eucalyptus and pine – also establishes monocultures that present environmental problems, and there is a link between plantation expansion and a decrease in primary and other natural forests (Kroger 2014).

Even with such substantial risks, the sector is expanding, and by 2011 the global carbon market was valued at over \$100 million, a figure that is predicted to rise in the coming years (Lohmann 2011). The FAO estimate plantation forestry, in particular, has grown by 48.1 percent between 1990 and 2010, including dramatic growth on the African continent. These conditions have led some to conclude that Africa will be the central hub for plantation forestry by 2022 (Kroger, 2013). And given the increasing allocation of concessions to private sector international interests, it can be expected that global private interests will dominate the governance and management of African plantation forestry; conditions Kroger et al. (2014) describe as a ‘Forestry Empire’, with outcomes that shift land rights, access and livelihoods.

### **Uganda’s carbon economy**

The Ugandan Government demonstrates a strong commitment to expanding Uganda’s capacity and participation in the global carbon economy. The Uganda Carbon Bureau, for example, was established in 2006 to assist Uganda to “continue to play a leading role in East African carbon markets” (Uganda Carbon Bureau 2013). The Uganda Investment Authority was also established to promote economic growth via international investor participation, including investment in carbon initiatives, such as forestry for timber and

carbon offset. In recent years, too, Uganda has begun readiness for participation in the REDD+ market.

Initiatives to price carbon and participate in international carbon markets started relatively early in Uganda, particularly compared with elsewhere on the African continent, and certainly before many national and international initiatives and frameworks were in place (Cavanagh and Benjaminsen n.d.). Beginning in the early 1990s – and prior to the Kyoto Protocol’s Clean Development Mechanism – the Forest Absorbing Carbon Emissions (FACE) Foundation approached the Ugandan Government to re-afforest what was described as ‘severely deforested’ Mt Elgon National Park, thereby enabling FACE to sell voluntary carbon credits in the international market (Cavanagh and Benjaminsen n.d.). While this initiative was framed as delivering benefits to ethical consumers – by enabling passengers to offset carbon emissions associated with airline, bus and rail travel – its implementation has been recorded as delivering wide scale human rights abuses, with an estimated 150,000 people violently evicted from their lands by Uganda National Park rangers and the National Resistance Army (see Himmelfarb 2012; Lang and Byakola 2006).

While this controversy led to the hasty withdrawal of FACE from Ugandan carbon markets, other companies have followed in their path; as part and parcel of the neo-liberal approach to forestry governance that is driving public-private partnerships in carbon forestry (Nel, 2015). These public-private approaches are also tied to reports documenting evidence of forced evictions and land clearing to make way for plantation operations (Oxfam International 2011; Friends of the Earth International 2012; Nel, 2015). These cases demonstrate the extent to which forced evictions and the denial of basic human rights, as well as local agency and resistance, are central to Uganda’s carbon market and plantation forestry industries.

### **Violence – The conceptual framework**

There is a long history of violence associated with international development interventions. Such violence has been conceptualized in different ways, focused on what can be thought of as either direct violence or structural violence. Whilst our study draws on people’s experience of direct violence our conceptual focus is on the idea of structural violence (Galtung 1990). Galtung (1990) explains this form of structural violence as tied to the strategic manipulation of the economy and power relations, and with outcomes that impose economic and/or political constraints upon peoples lives.

Referring to previous similar work, Watts (2001 p. 273) has documented the deeply entrenched structural violence embedded in expanding the oil industry in Nigeria, tying petro-capitalism with “naked aggression, genocide and the violent law of the corporate frontier”. He identifies the ontology of oil – including both its material form and discursive meanings – as enabling and/or legitimizing what he describes as ‘petro-violence’ (Watts 2001). Yet alongside the material and discursive properties and form of oil (and other commodities, including carbon), Watts (2001) argues that violent environments are also borne from the structural conditions – including the local histories and socio-political relations – in which commodities are produced and traded.

While there are various forms of violence (Scott 1998; Watts 2001; Bohle and Funfield 2013; Allen 2013), of particular importance to our case study is the structural violence *associated with expanding carbon markets*. Such forms of violence are related to the ways in which new constraints are imposed upon local people so as to expand the carbon economy. Structural violence provides an analytical framework to examine the forms and forces that expose people to new forms of vulnerability, as well as for making sense of their sensitivities and coping capabilities (Bohle and Funfeldt 2007).

The expanding carbon markets and plantation forestry industry is enabled via a number of socio-political, economic and cultural relations, including new regulatory frameworks and social norms, such as the national and international frameworks and mechanisms on which participation in the carbon economy relies. A growing body of literature is documenting the often violent take over of land and dispossession directly tied to these interventions, as well as the impacts of this for resource access, use rights, and local and indigenous peoples' livelihoods.

Amongst this early work, Scott (1988) has identified attempts to increase the productivity of timber yields in the 19<sup>th</sup> century with the violent removal of people from plantation forestry landscapes. Plantation forestry, as well as other carbon market (and broader conservation) initiatives, have been widely documented as associated with the direct displacement of local and indigenous peoples' – what many have referred to as an environmentally justified 'accumulation by dispossession' (see for example Daniel and Mittal 2010; Benjaminsen and Bryceson 2012; Fairhead et al. 2012; Bottazzi et al. 2013; German, et al. 2014). Scholars have also conceptualized carbon markets (and other market based environment initiatives) as part of the neo-liberalisation of nature (Fairhead et al. 2012), with outcomes that are enabling new forms of green grabbing (Borras et al. 2012; Fairhead et al. 2012).

In terms of the impacts of the expanding carbon economy, many scholars have scrutinized the local level impacts associated with integration in global carbon markets. Cavanagh and Benjaminsen (2014), for example, have described the disconnection between the markets in which carbon credits are sold and the lived realities for communities directly affected by ecosystem services' interventions. Research has highlighted environmental, economic and social costs of this carbon colonialism (Lyons et al., 2014; Lyons and Westoby, 2014a), including erosion of biodiversity, and eviction and dispossession of peasant farmers and indigenous peoples and the militarization of conservation (Büscher, 2013; White et al., 2012; Cavanagh et al. 2015; Benjaminsen and Bryceson 2012; Fairhead et al. 2012; Bottazzi et al. 2013; German et al. 2014).

Land deals on which the carbon economy relies are increasingly characterized as eliciting structural and direct forms of violence (German et al., 2014; Dressler and Guieb III, 2015; Lyons and Westoby, 2014b), with outcomes that often criminalise the livelihood activities of subsistence farmers and indigenous peoples. In this paper we introduce the term 'carbon violence' to define the structural violence tied to the carbon economy. We demonstrate that carbon violence is connected to the socio-political, economic and cultural contexts in

which carbon markets are located. Our use of the term carbon violence captures and seeks to make visible the often exploitative and violent relationships that underpin carbon market initiatives, with outcomes that often (re) produce structural disadvantage for local communities. At the same time, our approach enables a nuanced understanding of the diverse livelihood responses emerging in response to carbon violence.

## **Methodology**

### ***Green resources as case study***

We are using a case study methodology to examine the activities of Green Resources<sup>1</sup> (Nel and Hill 2013). Green Resources is a private Norwegian company engaged in forestry plantations, carbon offset, forest products and renewable energy on the African continent, and has a stated objective to “contribute to mitigating climate change while meeting the growing demand for quality wood products from well managed plantation forests and contributing to sustainable environmental management, community development and poverty alleviation in Uganda” (Green Resources nd).

In Uganda, Green Resources has obtained 50 year licenses to engage in plantation forestry in two Central Forest Reserves; the Bukaleba Forest Reserve in Mayuge District on the shores of Lake Victoria in eastern Uganda, and the Kachung Forest Reserve in Dokolo District, northern Uganda. Green Resources was awarded the license in Mayuge district in 1996 for 4500 hectares<sup>2</sup>. This plantation is certified by the Forest Stewardship Council (FSC), and was validated and verified as an Afforestation and Reforestation project under the Verified Carbon Standard in 2012 (Green Resources, nd). Green Resources have also established a charcoal plant they plan to sell additional carbon credits from in coming years. Green Resources was also issued a 2800 hectare license in 1999 in Dokolo district. This is Green Resources’ first Clean Development Mechanism (CDM) project, and carbon credits have been sold to the Swedish Energy Agency with a contract that spans between 2012 and 2032 estimated to be worth over US \$4 million. The Kachung Project was validated under the Climate Community and Biodiversity Standard (CCBS) in 2011 (Green Resources Representative, 2013). According to its Environmental Impact Assessment Report (Mugambe 2007), 1.5 million tonnes of carbon dioxide will be sequestered by this project over a 25-year period, or an average of 60,000 tonnes each year.

### ***Research methods***

Primary data collection took place at both Bukaleba and Kachung Central Forest Reserves during two main field visits, and split over a year. The first phase of fieldwork involved interviews and focus group discussions between June and July in 2012. The second phase involved interviews and focus group discussions between July and September 2013.

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<sup>1</sup> The company was previously registered in Norway as the Norwegian Afforestation Group and is also registered in Uganda under the same name. In 2006, an agreement was reached between the Norwegian Afforestation Group Norway and the chairperson of Tree Farms (now Green Resources) to establish plantations through the Ugandan subsidiary, Busoga Forestry Company (Mugambe, 2007). While Green Resources operates under a number of names, for simplicity, in this paper we will refer to all company activities as Green Resources.

<sup>2</sup> Alongside Green Resources, the German company Deutche Forst Consult has also acquired a 50 year license to plant in Bukaleba Forest Reserve (Busoga Forestry Company 2007).

Research methods included both primary and secondary data collection. Our primary data collection included focus group discussions in nine villages affected by Green Resources' forestry plantation activities. Three of these villages are located within the boundary of the license area at Bukaleba, while six villages are located on the edges of the plantation at both Bukaleba and Kachung. In total at least 150 community members living alongside the plantation forestry sites were talked to. A number of villages were visited twice, and sometimes three times.

Primary data collection also involved interviews with 22 representatives from government, environmental non government organisations, a number of journalists writing on the topic, company representatives and local community health officers. In terms of secondary data, it included the collection and analysis of documents (annual reports, policy documents and company publications).

There are a number of ethical issues that arise in conducting research with communities affected by the often violent take over of lands. For example, a number of community members engaged in detailed deliberations prior to agreeing to speak with us, raising concerns about the potential adverse impacts for them from the company if it were to become widely known they had spoken with us. Other members of the community also held mis-trust for outsiders, and wanted assurances we were independent researchers before interviews/focus group discussions could begin. With this as context, our primary data collection was often informal, and on terms that were most comfortable to our participants. The presentation of our findings is also undertaken to ensure the anonymity of participants. As such, we do not refer to the village that participants reside, or other aspects that might reveal participants' identity. Finally, The University of Queensland Ethics Committee provided ethical approval for this research project.

## **Findings**

We present two sets of findings here. First, we document the violent forced evictions of people and livelihood activities to make way for the expansion of plantation forestry. We demonstrate the convergence of state and private sector interests in driving evictions, as well as the militarized conflict and violence that have occurred in these regions.

Second, we detail the diverse forms of violence experienced in the contemporary lives of those living in, and adjacent to, Green Resources' forestry plantations. We report on the various ways in which the privatization of forestry plantations is associated with the violent destruction of crops and confiscation of animals, thereby exacerbating food insecurity; the denial of access rights fundamental to sustainable livelihoods; the destruction and disconnection from sites of cultural significance; as well as the violent destruction of ecologies and landscapes.

Our discussion section then links these findings back to the initial literatures strengthening our argument for structural violence generally, and carbon violence specifically.

### **Privatisation of public lands and violent land evictions**

In reporting on the first set of findings it is necessary to detail some of the colonial and postcolonial laws that shape contemporary land tenure systems. This historical account demonstrates the various ways contestation has arisen related to local people's access and use rights, as well as understandings of trespass and encroachment. The findings presented here demonstrate two somewhat contradictory trends. Firstly, they point to an extension of colonial law that has facilitated community access to land in Uganda, including on public lands (such as Central Forest Reserves). Secondly, however, they also demonstrate a rupture in the articulation of laws in ways that have granted unfettered access by foreign private sector actors. At the same time, the rights of local people to use and access public lands has been marginalized and/or eroded.

Uganda was declared a British protectorate in 1894. Colonial rule, similar to elsewhere on the African continent, was effective in disrupting customary land tenure. Demonstrating this, for example The Buganda Agreement (1900) introduced *mailo*, native freehold, leasehold and Crown forms of land ownership. While this agreement enabled 'waste and uncultivated land' to be allocated – either for lease or sale – to non-Africans, by 1950, less than 300 square miles was alienated to non-Africans. Despite increasing demands from foreign interests, a number of laws were introduced to constrain the foreign acquisition of land, demonstrating the colonial government's resistance to foreign land speculation (Olanya 2014).

Continuing in the post-colonial period, a combination of legislative change and political instability extended the privatization of land. The *Crown Act* of 1962, for example, converted Crown land into public land, with leaseholds able to be granted for 99 years (Olanya 2014). Meanwhile, the 1962 *Public Land Act* and the 1969 *Public Lands Act* enabled farmers to deforest unoccupied lands for agricultural purposes, and without prior consent from the government (Mugambwe 2007; Petracco and Pender 2009). Supported by these Acts, farmers were encouraged to occupy land, including forested land, to improve household self sufficiency, thereby reducing pressure for service provision upon the failing state. The Idi Amin government (and later followed by Milton Obote during his second regime), also reportedly distributed portions of protected areas to communities (Okuku 2006; Turyahabwe and Banana 2008). Central Forest Reserves (gazetted between the 1930s – 1950s) were amongst the land holdings distributed by Amin. For example, the Amin Government established a beef project within the Bukaleba Central Forest Reserve in 1974, encouraging people to relocate into what is now part of Green Resources' license area to live and work (Nel and Hill 2013). A number of people from Bukaleba village with whom we spoke substantiated this, and claimed there were at least 38 people still residing in Bukaleba village employed by the Government between the 1970s and 1990s, and to whom outstanding payments were owed. Some villagers with whom we spoke described their unwillingness to leave the village – despite regular violence and intimidation they and

their families endured – due to concerns this would enable the government to escape overdue payments<sup>3</sup>.

It was not just Bukaleba village where people described a long-standing connection to land now licensed to Green Resources. In a number of villages people described familial connections that date back to the 1950s; discussing burial grounds and cultural sites, as well as housing and trading centres, as evidence of their long-term connection to place. Some of these claims are backed by Green Resources, who installed a number of ‘burial ground’ signs within their license area in late 2013; thereby acknowledging and demarcating sites of cultural significance to local communities who have resided in this area.

While colonial and postcolonial law, as well as contemporary political conflict, has extended the private occupation of public land, a significant shift in land (and natural resources’) laws emerged in the early 1990s. This included both the wider scale privatization of public lands – and backed by claims that private sector actors were strategically placed to undertake environmental restoration and other capital intensive activities – as well as an increased focus on encouraging foreign investors. The 1993 Tree Planting Act, for example, stipulated investors were able to acquire land within forest reserves to plant trees. The privatization of public lands was further enabled through subsequent policy frameworks, including the National Forestry Policy (2001) and the National Forestry and Tree Planting Act (2003), both of which articulated a commitment to the privatisation of forestry in Uganda (Mugambe 2007). More recently, the New National Land Policy (2011) granted radical title to citizens – not the state – thereby exercising sovereignty over land on behalf of Ugandan citizens.

This brief overview provides a legal and policy setting to understand how local people have come to occupy public lands for livelihood activities. It also traces the political turn; towards the privatization (often through public-private partnerships) of public land and granting of sovereign rights to foreign private sector actors. This legal and political context has provided the mandate to license public land to Green Resources, the outcome of which has driven widescale evictions.

At both areas licensed to Green Resources we heard frequent accounts from local leaders and community members of people being ‘chased away’ and ‘thrown out’ to make way for establishment of the privately owned forestry plantations. These evictions appear to have occurred mostly between the late 1980s and early 1990s, although there are on-going accounts of forced relocations and company encroachment onto community land as Green Resources extends its plantation activities. Community members described a mix of government staff (including from the National Forestry Authority), as well as the army, military and police, as responsible for their forced eviction from the land. It is difficult to obtain an accurate account of the number of people affected, with claims from between 8000 (Garberg 2012) and 40,000 (independent journalist 2013).

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<sup>3</sup> In a contested version of this history the Busoga Forestry Company (2007) reports an agreement was reached in 1996 to hand this land back to the Forest Department, resulting in the subsequent request that communities stop crop cultivation and occupation of this area.

One local government representative who was also a long term resident described the eviction process as a “violent take over of land”, with people forcibly evicted from lands they relied upon for their livelihoods. Reflecting this, one affected person explained; “we were scared, fearing we would be put in prison.” Similarly, many community members described the police and NFA staff, and later the company, as using considerable force, especially with those people who wished to stay. In one village at Bukaleba Central Forest Reserve, community members described a violent eviction process that was driven by people with guns, and which resulted in the imprisonment of some community members for trespass.

Many people who lived in permanent settlements within the licensed areas described leaving many things behind as they were chased away. People described losing property, including houses, chickens and goats, as well as losing access to burial sites, many of which were destroyed to make way for the tree plantations. Most people described receiving little or no notice of their forced relocation, or of the new constraints in access and use of landscapes to which they had previously relied for their livelihoods. These stressful circumstances were described as directly attributed to a number of suicides within affected communities.

Alongside the eviction process described above, community members from one village described how company staff arrived, without notice, and “just started planting trees on top of our crops ... we were evicted without discussion” (focus group discussion 2012). Media reporting of the companies’ arrival backs this, with an article by a New Vision journalist Phillips Okole (2013) providing first hand accounts of the destruction of crops and buildings.

According to staff from Green Resources themselves, the eviction process was problematic, and more so at Bukaleba Central Forest Reserve. In response to community backlash and opposition to the companies’ arrival, a Green Resources staffer described the military as being brought in to “force people who were grazing and cultivating (in the license area) to leave”. This staff member added the company had also more recently “sponsored police near the forest reserve” to manage encroachment issues, though he explained this was an arrangement he personally did not approve.

On the one hand, company staff recognized that some community members had a long-standing connection to land licensed to Green Resources. On this basis, one staff member explained Green Resources had a responsibility to “go slowly, (and to) help people to adjust, and help them to plan for alternatives”, as well as emphasizing the “need to avoid the conflict that comes with enforcement. These are not military states, there are problems with the enforcement approach”. Yet at the same time, this staffer also expressed frustration and impatience in working with communities; “they (community members) have no reason to complain, they are illegal, we gave them an amnesty”, referring to giving notice of their impending eviction. This was backed by other Green Resources staffers, who described community members in proximity to their plantations as “trespassers” and

“encroachers”; labels they appear to utilise to justify the heavy handed approach to evicting landscapes of people and livelihood activities. Most recently, in late 2013 Uganda Radio Network journalist Walukamba (2013a; 2013b) documented attempts to evict around 3000 people from part of the Bukaleba Forest Reserve license area utilized for community food growing to make way for plantation expansion. Despite strong opposition from community members, the army was deployed to remove 800 families from Buyobo and Buwolomela villages (Walukamba 2013a and Walukamba 2014).

### **Contemporary forms of violence**

We now turn to the second set of findings related to this paper; the diverse experiences and impacts experienced by those living in, and adjacent to, Green Resources’ forestry plantations. We describe the violence associated with the destruction of food systems and farming, the denial of rights and livelihoods, the denial of access to sites of cultural importance and environmental problems.

#### ***Destruction of food systems and farming***

Many people living in and adjacent to both plantation sites report practicing cultivation and animal grazing within, as well as nearby to, the current license areas over the long term. Parts of the licensed areas were widely described as land that was vital to ensure sufficient food supplies for households. Changes in land access and utilization associated with the arrival of Green Resources has therefore had profound impacts for local food security, with local leaders describing “a coming food crisis” on the basis of land shortages.

As well as being denied access to land once pivotal for food growing, many people described having their crops destroyed and/or animals confiscated by company staff and local police officers. Sometimes this occurred on land demarcated within the company license area, but in many instances this was reported as occurring on designated community land. A number of villagers, as well as a local leader, described this as a deliberate strategy by the company to intimidate local communities, thereby encouraging them to relocate away from the license area. One elected leader described this as a culture of intimidation that left local people “worrying from day to day”.

In addition to losing land, numerous local community members reported food crops being sprayed with chemicals by those they believed to be company staff - creating a precarious and unstable environment for ensuring household food security. One elderly woman explained: “some crops were slashed down, and they used chemicals to spray crops. Even the animals fed on the crops sprayed died”. In a different village another community member described the company as having no interest in the on-going viability of the villages, and argued, “The Company doesn’t care about killing animals, they only care about killing weeds”. Another woman explained: “We are now struggling with life. We are forced to eat sweet potato from others... Life has become more difficult now. It is more difficult to survive, we survive on handouts.”

Many people described the ‘taunga system’, referring to the mixed cultivation of food crops amongst the plantations (a form of agro-forestry), as allowable in the early days of the

company's arrival. The company concurred with this, but explained they phased out the practice due to concerns that human intervention in the plantation might cause fire, or introduce weeds or other activities that may jeopardize carbon sequestration, as well as Forest Stewardship Council compliance.

### ***Denial of rights and livelihoods***

Re-defining central forest reserves as privately licensed areas provided a legal framework to justify the removal of people and livelihood activities. It has also transformed people with historical access and use rights into “trespassers” and “encroachers”. This has resulted in “isolation” and “fear” amongst those affected, with many describing themselves as having become “the enemy” and “non-citizens”.

Losing access and use rights have had a profound adverse impact upon people's livelihoods, with one man explaining: “for me, I am now the poorest”. He explained how he had previously been able to generate an income through the collection of sand from within the central forest reserve - enabling him to provide for his family through the sale of the sand. In losing access rights to the forest, he has lost his income. Others described losing access to forest products (including medicines and firewood) as well as watering holes for animals. Another man concluded that such circumstances made life “very dangerous”, and lamented that if the current conditions prevail “(our) life will be gone”.

While company representatives recognized the struggles some community members faced as a result of establishing the forestry plantations, they also expressed little tolerance to what they described as illegal activities within their licensed area. One company staffer demonstrated his growing impatience with those he described as “trespassers” on company land stating that, “These are poor people. So, we are trying to encourage them, once they have finished their season of planting, to go back from where they came, as much as possible. We will try everything possible to make sure they don't come back”.

The non citizen status of those living in and adjacent to the forestry plantations is also evident in the justification of poor (and non existent) service provision and depressed living conditions in many of the villages we visited. This included no sanitation or electricity, limited water access, as well as little or no transport options (with many villages having no means of public transportation). In explaining these conditions, a government employed community development officer explained villages were not recognized as permanent communities, and therefore did not fall under the mandate of government. This officer lamented that villages did not receive adequate services from the district; a concern repeatedly raised by residents themselves.

### ***Denying access to sites of cultural importance***

The privatization of central forest reserves to establish forestry plantations has also constrained or denied local people's access to cultural sites of significance. A number of villagers described the company as imposing limits upon access to places of ancestral worship, as well as upon sacrifice and other cultural sites, with one man stating despairingly “there are (now) no places to pray to our gods”. Some community members also described

cultural sites as being disrupted or destroyed by the arrival of Green Resources' plantations, including the removal of indigenous trees. One man explained; "the original set up (of cultural sites) was disorganized and disturbed".

In Mayuge district, a giant Mvule tree – referred to as the 'Walumbe Tree', based on the belief it houses the spirit of Walumbe (meaning death in Luganda) – is believed to be an important ancestral place of worship. The Walumbe tree was regularly cited as an important cultural site that has been disrupted by Green Resources' plantation activities. Such disruptions include the planting of trees in close proximity to the Walumbe Tree, as well as the relocation of local communities that had previously resided nearby, thereby reducing access and use. A number of local leaders described communities as being now distant from the sacred site, including one local youth leader who stated he couldn't remember when he last visited the tree. More broadly, he described a trend of declining importance of cultural practices amongst young people in the district, and saw this as connected to the social and ecological disruptions associated with the arrival of the company.

The impacts associated with constrained access to cultural sites were understood as being profound. For example, many people lamented they were no longer able to engage in cultural practices, including manhood and blessing initiations. This was understood as having significant adverse impacts on family health and happiness, as well as for the environment.

### ***Environmental problems***

Despite Green Resources' engagement in forestry plantation operations in Uganda since as early as 1996, the Environmental Impact Statement (EIS) was only approved in 2008. And while the EIS requires Green Resources to work to a Forest Management Plan, a local environment officer (and others) lamented the company was in breach of this plan – and the broader EIS – on a number of substantive issues.

There were a number of examples of poor environmental management, including breaches in the management plan. To begin, numerous villagers and journalists cited the company as regularly encroaching into fragile ecosystems, including spraying chemicals and tree planting within the 200-metre buffer zone adjacent to Lake Victoria, as well as in other riparian zones. This is in direct breach of the Forest Management Plan, which states the company is required to maintain ecologically significant zones, including riparian and wetlands. Chemical use was also described by many community members as causing runoff into rivers and lakes, creating adverse downstream impacts, as well as killing vegetation and animals. In one village, community members had documented the deaths of 32 goats and seven cattle in recent years as an outcome of chemicals sprayed by the company.

Concerns were also raised about Green Resources' reliance upon two non-indigenous tree species (pine and eucalyptus), planted in large monoculture stands. Some community members cited the company as clearing indigenous (and culturally significant) trees to make way for their monoculture plantings. A local environment officer described this

practice as imposing “environmental shock”. And after clearing the land to make way for the monoculture plantations, he explained the company then imposed further shocks by proceeding to cut down plantation timber; thereby constraining options to establish diverse and resilient ecosystems that could provide habitat for insects, birds and other animals.

### **Discussion – The new carbon violence**

Our case study has documented the lived reality on the ground for communities affected by activities of one of the largest plantation forestry operators on the African continent. Our findings, based on an analysis of Green Resources’ activities in Uganda, demonstrate significant loss for local communities and ecologies. These include: adverse impacts on food systems and farming; constraints upon local rights and livelihoods; difficult or denied access to sites of cultural significance and adverse environmental impacts. This combination of impacts demonstrates the imposition of profound constraints upon peoples’ lives. We argue the imposition of these constraints is demonstrative of the structural violence systemic to carbon markets.

We have given the name carbon violence to this specific structural violence, given the unique ties between the forms of violence documented with the establishment of forestry plantations for carbon markets. Carbon violence gives a name to the specific forms of violence that are embedded in the socio-political relations that underpin plantation forestry and carbon markets.

The flexibility of plantation timber – including as an industrial input and carbon store – provides diverse sites for accumulation for foreign private sector actors, including Green Resources. It is this ontology of plantation timber as a flex crop that drives diverse forms of violence, as private sector actors seek to empty landscapes to ensure compliance with national and international forestry and carbon market governance regimes.

Uganda’s colonial and postcolonial history is important to understand the socio-cultural context in which this carbon violence takes place. While the earlier legal and political context set the stage for local people’s occupation of public lands, in the last few decades, and alongside the broader neoliberalisation of Ugandan development policy, there has been a growing emphasis on private foreign investment (and public-private partnerships) for development. There has been a particular interest in private investment in environment-related development initiatives, including carbon markets.

Our case study of Green Resources gives specific insights, showcasing the lived reality for local people affected by this company’s operations. Yet given the scale of Green Resources’ activities on the African continent (with plantations in Mozambique and Tanzania) these findings provide insights into future scenarios as plantation forestry and carbon markets expand elsewhere.

In mapping the various forms of carbon violence, including both the earlier violent evictions as well as contemporary forms of violence related to Green Resources activities

in Uganda, this paper contributes to the work of others exposing the political ecological relations of production and exchange in the carbon economy. Such efforts de-fetishize and de-spectacularise carbon markets, by making visible the social and ecological costs of carbon as a commodity. This may, in time, reduce the use value for consumers, as carbon credits based on the violation of social and environmental rights can be expected to rapidly lose their value in the market place. What the impacts of growing consumer understandings of the carbon ‘value chain’ will be is yet to be seen.

Whilst not the focus of this paper the research has also illuminated that villagers are not passive recipients of carbon violence. Rather, they are engaged in diverse livelihood strategies, demonstrating agency and resilience in the context of carbon violence we have outlined above. Many villagers – including those living both inside and directly adjacent to the plantations – describe various strategies for survival at the margins of a landscape that remains central to their ecological, cultural and social lives.

### **Conclusions**

The proposed concept of carbon violence draws on the lineages of a number of literatures related to structural violence and the emergent green economy. The concept represents the violence embedded within expanding carbon markets. Of note and in conclusion it should be said that no people talked to within our fieldwork were conscious at all of the big driver of development (green investment with carbon trading). Their exploitation was rendered totally invisible. This has significant implications for people committed to ‘development’ that takes social justice seriously. In such a context community activists, journalists, and development practitioners are challenged with making a whole new set of invisible relations between development actors and local communities visible to both the public at large (potential consumers of such market services) and communities who live with the consequences of such development models.

Given the structural violence associated with the expanding carbon markets, we conclude by adding our voice to the growing chorus that calls for a move beyond markets to address the global social and ecological injustices in a climate change world. Given the structural violence associated with our selected case study, we conclude that the costs of plantation forestry as a market based strategy for sequestering carbon to address climate change outweigh the benefits. Addressing the unequal distribution of costs and benefits associated with the burgeoning carbon economy, including the social and ecological justice issues highlighted in our case study analysis, will be vital if plantation forestry is to play a future role in climate change mitigation strategies.

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