

Agri-business and logging investment, great ape conservation and poverty in Cameroon

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About the project partner

GREG-Forêts (also known as Cameroon PCLG) is an alliance of individuals who aim to exchange experiences and knowledge on forest governance, livelihoods and conservation issues in Cameroon, in order to improve poverty and conservation policy and practice. GREG-Forêts is convened by the Network for Environment and Sustainable Development in Cameroon (NESDA-CA). For more information visit: <http://povertyandconservation.info/en/pages/cameroon-pclg>

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ACRONYMS

AFR	Annual forest royalties
AMFN	African Model Forest Network
CAR	Central African Republic
CBD	Convention on Biological Diversity
CDC	Cameroon Development Corporation
CMNP	Campo Ma'an National Park
COMIFAC	Central Africa Forests Commission
ETFRN	European Tropical Forest Research Network
FCFA	Central African Franc
FEICOM	Special Council Support Fund for Mutual Assistance
FMU	Forest Management Unit
IIED	International Institute for Environment and Development
LWC	Limbe Wildlife Centre
MINADER	Ministry of Agriculture and Rural Development
MINFOF	Ministry of Forestry and Wildlife
NBSAP	National Biodiversity Strategy and Action Plan
NESDA-CA	Network for Environment and Sustainable Development in Central Africa
NTFP	Non-timber forest product
SAFACAM	Société Africaine Forestière et Agricole du Cameroun

EXECUTIVE SUMMARY

The close genetic relationship between great apes and humans, their global environmental importance and the threat of their global extinction, make great apes a priority among protected species. For over a decade, the Convention on Biological Diversity (CBD) has called for better global integration of biodiversity conservation and poverty reduction, and Cameroon has introduced biodiversity protection policies to establish this nationally (Eyebe *et al.* 2012). Cameroon revised its National Biodiversity Strategy and Action Plan in 2012, which states that “by 2020, endemic and threatened species of flora and fauna should be sustainably managed, and community-based biodiversity conservation and ecosystems management approaches should be promoted” (NBSAP 2012).

Great apes are among the key species maintaining forest ecosystems. Protecting great apes means conserving forests, and in turn assuring the livelihoods of communities that depend on forests. Yet, despite this inter-dependence, humans constitute the main threats to apes, most of which are endangered.

This report, produced by Cameroon Poverty and Conservation Learning Group details a study assessing the impact of private sector investments (in agriculture and timber) on both great ape conservation and local livelihoods in Cameroon.

The overall objectives of the study were to:

1. Investigate and analyse the positive and negative impacts of agri-industry and logging on conservation in general and on great ape conservation in particular
2. Investigate and analyse the positive and negative impacts of agri-industry and logging on local livelihoods
3. Investigate and analyse the challenges faced by industry and conservation organisations in a context where improving local livelihoods is a priority, and
4. Propose recommendations to promote sustainable resource use, boost great ape conservation and ensure improvement in local livelihoods.

The field study was carried out using participatory rural appraisal methods in two different forest regions of Cameroon over two weeks in July 2014, and was supplemented with further desk research.

Here, we present the work organised as two case studies of two great ape habitats in Cameroon.

Case study 1 examines agri-industry in general, but focuses on the Cameroon Development Corporation’s (CDC’s) agri-industrial zone in the southwest region. The CDC is expanding activities into forest areas in the region that are home to important wildlife. Our study provides first-hand, practical knowledge of the activities, behaviour and experiences of the CDC, its relationship with neighbouring communities (including the Limbe Wildlife Centre, an ape sanctuary), setting out the consequent positive and negative outcomes for these communities and for great ape conservation as well as the challenges facing the corporation.

Overall, this case study takes the position that, despite its huge role in the national economy, the CDC remains one of the major threat to great ape conservation in the south west of Cameroon and to the alternative livelihoods of the local Bakweri people.

We recommend specific activities for the CDC, including: targeted job creation, actions on pay and conditions, and actions on corporate responsibility such as continuation of the land surrender scheme, better pollution control, and more support for local conservation schemes.

We recommend: that the government should ensure CDC and other agri-industrial investors receive proper monitoring and control, especially in new sites; that the government should ensure proper transparency in the CDC’s land rights and resettlement scheme; that employment opportunities are relaunched within CDC; that MINFOR should increase support for the Limbe Wildlife Centre (LWC) and develop local and national communications strategies on its work.

Communities must also play their part, and we recommend youths looking for jobs should also seek relevant professional qualifications; that traditional authorities should stop the illegal sale of community land; that communities should 'call out' corruption when they see it, and that village councils should have a strategy to inform their communities about the opportunities and threats to local livelihoods.

Case study 2 is set in the Campo Ma'an National Park (264,064 hectares) in the southern region of Cameroon, where the timber industry (and community forest logging) constitutes a serious threat to biodiversity conservation, and to great apes in particular. We examine the effects of the WIJMA Timber Company in particular on biodiversity and on local livelihoods.

It is clear that, at present, resource managers' main objective when they plan development in productive forests is to produce wood, rather than conserve biodiversity or improve local livelihoods. We conclude that linking conservation with the development of communities around forest concessions must remain an ongoing aim. A successful outcome requires a genuine inclusion of communities when developing socio-economic projects and valuing communities natural and cultural heritage. While human activities present the greatest threat to great apes, ape conservation could be achieved with modest financial means: by mobilising resources, reorganising local economic activities to include tourism and artisanal activities, and carrying out an economic evaluation of forest products and the existing natural heritage.

We make specific recommendations, including taking wider socio-economic approaches to development, incentivising, supporting and promoting tourism (especially related to apes), balancing help for communities to develop farms with strengthening forest guards' capacities to tackle illegal hunting, and more in depth studies of how apes conservation might interact with local livelihoods.

INTRODUCTION

Cameroon, on the west coast of Central Africa, covers 475,400 square kilometres (183,695 square miles) and adjoins Nigeria to the northwest, Chad to the northeast, the Central African Republic (CAR) to the east, and the Republic of the Congo, Gabon, and Equatorial Guinea to the south. The 2005 census estimated Cameroon's population at over twenty million people.

The latest State of the Apes book (Rainer and Lanjouw, 2015) reports at least four ape subspecies in Cameroon's forests (including in 11 national parks). The Nigeria–Cameroon chimpanzee (*Pan troglodytes ellioti*) and the Cross River gorilla (*Gorilla gorilla diehli*) are found only in Nigeria and western Cameroon, and their populations are particularly threatened as a result. The central chimpanzee (*Pan troglodytes troglodytes*), and the western lowland gorilla (*Gorilla gorilla gorilla*) are also found throughout the lowland and montane forest zone of southern Cameroon, including the administrative regions of Northwest, Southwest, Littoral, Center, South, and East.

Agriculture provides the backbone of Cameroon's economy, employing 70 per cent of its workforce, while providing 42 per cent of its GDP and 30 per cent of its export revenue. The total land reserved for agriculture in Cameroon was 91,600 km² as of 2007 (NBSAP 2012). As largescale private agri-business has developed in Cameroon, tensions between commercial interests, local communities and conservation priorities have intensified.

Cameroon's land ownership practice has continued to recognise both customary and written laws. Post-colonial Cameroon land tenure and State land are now governed by written and customary law. Ordinance N° 74-1 of 6 July 1974 governs land tenure; Ordinance N° 74-02 of 6 July 1974 governs State land; Law N° 85-09 of 4 July 1985 governs expropriation for a public purpose and the terms and conditions of compensation; and Law N° 94-01 of 20 January 1994 lays down forestry, wildlife and fisheries regulations and decrees.

Modern industrial logging has transformed central African forests over the past four decades. Nearly 23.5 per cent of these forests are primarily designated for productive use. Yet in Cameroon, most forests are habitats for the great apes. Conservation policies extend protection measures beyond logging concessions and protected areas to other types of forest and land, including that allocated to communities for activities such as farming, hunting, habitats and the harvest of NTFPs (Morgan *et al.* 2011 cited in COMIFAC 2015-2025).

Despite laws to improve the management of forest resources, enforcement remains problematic. Wildlife, and particularly great apes, continue to suffer from various impacts. According to a study carried out by the European Tropical Forest Research Network (ETFRN 2010) pressure on primary forests from logging is displacing wildlife, and concession owners find it difficult to manage displaced large mammals and control illegal hunting. This is particularly the case of forestry activities in the Campo area where logging is carried out in close proximity to the national park and to local communities.

Given the strong pressure to expand plantation agriculture and the timber industry, conflicts between conservation and agriculture / logging look set to rise. Concerted efforts are required on all sides to minimise the damage to Cameroon's biodiversity, and great apes in particular.

CASE STUDY 1: AGRIBUSINESS'S IMPACT ON CONSERVATION AND LIVELIHOODS IN CAMEROON (FOCUSING ON THE CAMEROON DEVELOPMENT CORPORATION)

Context

Cameroon has several firms owning large-scale plantations: the Cameroon Development Corporation (CDC), HEVECAM, PAMOL, SOCAPALM and SAFACAM. Put together, the large-scale plantations use about 62 per cent of the total land under oil palm production in Cameroon, contributing about 65 per cent of the output.

The Cameroon Development Corporation (CDC) is Cameroon's largest and most established agribusiness in terms of its size and number of jobs created. It was created by British colonial rulers after World War II, who subsumed plantations set up by earlier German colonists into a parastatal enterprise. The CDC is still largely government-owned but also attracts international capital through increasing privatisation. The CDC is one of the biggest agro-industrial contributors to the state economy and is the second largest employer (after the state), employing over 15,700 people, including seasonal workers (but this is down from an estimated total of 25,000 employees in 2000). CDC plantations cover approximately 41,000 hectares, 38,000 hectares of which are mature and at production stage, growing palm oil and palm nuts, tea, rubber and banana (makossa and sawa banana). It has a share capital of 15,626 billion FCFA (Hoyle and Levang 2012) and its activities affect conservation and local livelihoods across the southwest region of Cameroon.

CDC is the focus of this case study, but alongside that we have also reported on the Limbe Wildlife Centre (LWC) – a well-known sanctuary for rescued apes and other wildlife. Although the LWC works with rescued animals, its outreach activities, designed to stop animals needing rescuing in the first place, encounter similar challenges to those facing organisations working with apes in the wild. In addition, working with, and learning from, such centres could be one strand of a potential approach agri-industry might take to partially mitigate its impact on biodiversity (and CDC already has informal links with the Centre). However, our approach should not be interpreted as implying apes can be effectively conserved just through sanctuaries.

Box 1. Major crops grown in Cameroon

Bananas

Cameroon's banana production for the export market has risen dramatically during the past decade, increasing from 197,800 metric tonnes in 2000 to 250,000 metric tonnes in 2011. The Ministry of Agriculture and Rural Development (MINADER) expects yields to increase to 300,000 metric tonnes through improving farming methods (Cameroonian farmers also produce about 700,000 metric tons of bananas for domestic consumption). Banana exports are produced primarily by CDC (2,908 hectares) and the Marseille Fruit Company in the southwest region.

Cotton

SODECOTON, based in Garoua, employs over 1,527 workers and operates eight factories which produce 152,815 tonnes of cotton, 62,808 tonnes of fibre, 76,340 tonnes of triturerated grains and 11,345 million litres of oil on average per year. Nationally cotton yields increased to 221,000 tonnes in 2013. More than 300,000 farmers cultivate 172,000 hectares to produce 60-80,000 metric tons of cotton fibre a year. SODECOTON supplies them with training, fertilizer and insecticides, and buys the crop.

Palm oil

Cameroon's large-scale producers currently only meet local demand for palm oil (there is still a large excess of local demand for palm products). Cameroon Palm Oil Company (SOCAPALM) produces more than 50,000 tonnes of palm oil and more than 9,000 tonnes of palm nuts per annum. Palm Oil Plantation (PAMOL) based in Lobe, in the southwest region, produces palm oil, laundry soap and, to a certain extent, rubber. Herakles Farms is in the process of establishing a new palm plantation of approximately 60,000 hectares; however conflicts with the government have halted progress and a review of the agreement is pending. CDC's palm oil plantations occupy 21,601 hectares.

Rubber

Rubber is produced primarily in the forested region of Niété, north of Yaoundé, by CDC, HEVECAM and SAFACAM. Rubber yields have varied over the past decade, plummeting from 58,000 tonnes in 1998-1999, to 32,000 tonnes in 1999-2000; then increasing from 45,892 tons in 2004, to 62,200 tons in 2006 and decreasing again to 56,000 tons in 2012. But in 2013 HEVECAM announced it would be expanding its plantations by approximately 20,000 hectares. CDC has 19,274 hectares of rubber plantation.

Research methodology

In July 2014 a researcher and locally-recruited field assistant spent four days interviewing senior CDC officials and field workers in five of CDC's rubber, banana and palm plantation camps in Fako division. They collected information on the corporations' approach to social responsibility and impacts on local communities through open-ended interviews with key stakeholders. Two days were spent interviewing local communities living around the CDC camps. Focus group discussions of 3-5 people covered key agro-industrial activities, and how these affect conservation and local livelihoods. Participant observation methods were used and informal discussions were encouraged, allowing interviewees to raise issues that were important to them. A further day was spent interviewing senior officials at the Limbe Wildlife Centre (LWC).

The researchers assembled and analysed their field information, supplemented it with online sources on relevant socioeconomic impact studies, and produced an analysis of agro-industrial and

conservation activities and their impacts on livelihood improvement. This was presented as a draft report to the Groupe de Recherche et Etudes sur la gouvernance forestière (GREG-Forêts) team for inputs and was finalised during a stakeholder workshop.

The agri-industry's impacts on conservation (especially on conserving great apes)

Given Cameroon's agricultural potential and the demand for agricultural commodities, it is unsurprising that MINADER's agricultural policy (1994) calls for increased investment in agri-industry: by privatising public institutions and creating new agri-industrial plantations. Following privatisation, the CDC is facing pressure to raise productivity and profits. New agricultural techniques could raise palm oil yield per hectare from 7 tonnes/ha to 15-20 tonnes/ha. The CDC plans to develop 6,000 hectares of rubber fields in the near future, and in response to government policy to double banana exports, CDC has expanded its production in the Tiko plain. This ongoing challenge of expansion means conflict between agri-industry and conservation looks set to increase on several fronts:

Land acquisition

Land development for agriculture is an ongoing challenge for CDC. The corporation wants to acquire more land to ensure its growth, increase crop quality and quantity, and ensure food security for the local market. CDC has expanded initiatives such as the Boa plain oil palm development project, the Matouke rubber and the Tiko plain banana projects. The corporation has also acquired new land in other divisions in the southwest (Ndian), in the northwest, and recently in the south region.

Land development is one of the principal forces driving biodiversity loss in Cameroon (for a discussion, see Rainer and Lanjouw, 2015). Forests (see case study 2) but also savannahs, and even semi-arid lands are increasingly being converted to mono-culture plantations. Clearing vast expanses of vegetation changes the balance of local biodiversity, and risks eliminating certain endangered fauna and flora (NBSAP 2012). Plantation farming puts pressure on all biodiversity, and great ape conservation in particular. For example, staff at the Limbe Wildlife Centre in Fako District (where CDC owns large plantations), report difficulties in finding space even for their rescued animals, many of which have been displaced by plantation agriculture. Some threatened species in the centre that could have bred are not allowed to reproduce because of space constraints.

Loss of forests and biodiversity

Because of the high demand for land in Cameroon, and the proposed investments in agri-industry, there is growing pressure to convert the national forest estate to farming, including forest management units, council forests and even protected areas. Converting forests brings cash into state coffers. In 2009, the government of Cameroon signed a convention agreement with a foreign palm oil investor, paving the way for the company to gain access to 70,000 hectares of forested land to develop an oil palm plantation, with an agreed land tax of US\$ 0.5 per hectare per year (approximately FCFA 250/ha/yr) for undeveloped land, and US\$ 1.0 per hectare per year once developed (approximately FCFA 500/ha/yr). In Cameroon, logging concessionaires are paying the state an average land tax of US\$ 5.0 per hectare per year, and some as high as US\$ 16.¹

The southwest region of the country is particularly suitable for oil palm production and the CDC is installing new sites there (Ndian division-Korup and Bayang-mbo Parks and the south region have been earmarked). These areas are covered in intact tropical rainforest, are rich in biodiversity and are therefore important for national and global conservation as they hold threatened species, such as gorillas, chimps, drills etc. Over recent decades only a small part of this area has been converted for human settlements and production. This relatively undisturbed situation appeals to palm oil investors,

¹ Joint order No.0520/MINTATD/MINFI/MINFOF of 28 July 28 2010

who generally try to avoid developed areas where they would need to negotiate access and pay compensation to affected people (as in the Herakles palm oil development in the southwest – see later). New plantations directly displace flora and wildlife habitats while their influx of workers also drives up the pressure from hunting for bushmeat (for an example, see below).

Threats to Mount Cameroon National Park

CDC's presence in Fako is driving population increases in the main towns of Buea and Limbe. Thousands of CDC workers come from the northwest and west regions. As the population increases, so too does the demand for food and animal protein. In the Mount Cameroon region, hunting wild animals for subsistence and income has always been common practice, but it has now become a lucrative business employing thousands of men, women and young people. The outcome is that agri-industry is indirectly driving indiscriminate hunting activities that threaten protected species including gorillas and chimps.

Water and air pollution

Poor waste management at CDC processing factories in Fako Division causes water and air pollution. Waste that should have been dumped into pits is apparently left to rot when the pits are full. The smell of the processing factory is noticeable several kilometres away. Although all wastewater should pass into a waste pond, local people say some is discharged straight into the Limbe River (incidentally, also the main supply of drinking and washing water for animals at the Limbe Wildlife Centre). The thousands of CDC workers living around the Limbe River add more pollution when they wash clothes and household materials in running streams. In addition, CDC's crop spraying, while ensuring better yields, is polluting the environment, and water sources in particular.

The agri-industry's impacts on livelihoods

Agri-industries have both beneficial and damaging influences on people's livelihoods, and we divide this section into positive opportunities and negative impacts.

Opportunities

Employment

The CDC does offer thousands of jobs, including grass cutting, seedling planting, harvesting, driving, domestic work, work as security officers etc. According to official figures found on the corporation's website, CDC employs about 15,700 people of whom approximately 11,500 are paid on an hourly basis, 500 are supervisory staff, and 175 are management staff, while 3,000 are seasonal.

However, employment levels have fallen during CDC's slow-moving privatisation process. Privatisation was announced at the end of the 1993/94 financial year but effectively started with the takeover of the Tea Department in 2002 by Cameroon Tea Estates. While awaiting further privatisation, the corporation's management is striving to manage the remaining crop groups and service departments as profitably as possible. However, it has stopped recruiting staff. With fewer employment opportunities, youth in the communities around the CDC are particularly affected, even those with university and other higher qualifications.

Fluctuating prices are part of CDC's ongoing challenges, and have 'knock on' implications for employment. The price for rubber and bananas are determined by the world export market while products sold on the national markets, such as palm oil, are determined by the government. Often, prices are very low [nationally and internationally], leaving the corporation unable to cover production costs and manage its day-to-day running effectively.

Nevertheless, new agricultural techniques could raise palm oil yield per hectare from 7 tonnes/ha to 15-20 tonnes/ha, and this should create more jobs for local communities. The CDC's plans to develop 6,000 hectares of rubber fields include about 1,800 hectares for smallholder development schemes that would benefit local communities and could create 1,500—2,000 new jobs.

The CDC also indirectly drives local employment. For example car wash stations, snack and drink bars have sprung up around its camps and there are jobs in processing and transporting agricultural produce and in constructing and maintaining buildings etc. However, very poor working conditions have been reported, in some cases referred to as near slavery (Ndienla 2009).

Land surrender scheme

Towns are fast growing in Fako division and this has led to Fako chiefs filing a complaint to the International Court of Justice (ICJ). They alleged that German and British colonial masters never paid taxes to local communities for the land they obtained for the corporation, and that the terms of privatisation of the CDC have not been respected. Interviewees told us the ICJ passed a ruling in favour of local communities obliging the CDC to surrender some land to them. To obtain land, communities are expected to file an application to the lands consultative board which is chaired by the Senior Divisional Officer of the area. Once the application has been dealt with, land is released to beneficiaries. Examples of CDC farms surrendered to communities include: banana farms in Buea, Bomaka, and Lissoka.

Managing this land surrender is one of CDC's continuing challenges. Franklin Ngoni Njie, the General Manager of CDC, acknowledges the importance of the flora and fauna in these areas, alongside the importance of local livelihoods. CDC is therefore considering various uses for surrendered land – human settlements, community farms, smallholder plantations and forest reserves.

Similarly, villagers in affected communities told us not all land surrendered by CDC should be sold or given to individuals. The community is supposed to keep part of this land for public use (to construct schools, hospitals etc). The CDC also surrenders land for government and private venture activities: the Limbe Artisanal Centre and some low cost houses in Limbe are constructed on CDC surrendered land. To relieve the pressure from rapid urbanisation on communities, the CDC is moving out of township areas to suburbs, and new farms have been acquired in different parts of the country (Manyu, Donga-Mantung division and Ebolowa in the south region).

Land rental and land offer for cultivation of crops

The CDC encourages smallholder schemes. Individuals and Common Initiative Groups, most of whom come from local communities, obtain land from the CDC to cultivate palms, banana and rubber which in return is sold to the CDC. A recent study concluded that "palm oil production is very attractive to smallholders: with few pest and disease threats (so far), low input requirements, and employment of large numbers of workers all year round. The CDC also rents out parts of its fertile farmland (and sometimes offers it rent-free for local communities or CDC staff) for growing food crops such as plantain, maize, beans, egussi etc. These food crops help ensure food security and contribute to the local economy.

Social development programmes

All schools in and around CDC camps are government-owned, but the CDC recruits and pays teachers. The CDC sometimes provides clean drinking water, for example at Mundongo village in Limbe, although communities are responsible for keeping the water points clean. CDC supplies electricity to some communities. The corporation also operates a number of health centres for its staff, such as the renown Bota and Tiko-cortege hospitals.

Infrastructure and markets

The CDC technical department builds and maintains the roads in and around its farms. Upon request, the technical department provides assistance to nearby communities. It has built several community halls and sometimes provided chairs (for example in the Mundongo community hall). The corporation has constructed many small local markets where community members can bring palm oil, palm nuts, bananas and other food crops for sale. Living close to CDC farms makes farm produce easily accessible and cheaper.

Negative impacts

Loss of land ownership rights

Land used to establish plantations is usually land that was previously owned by local communities. Many cases of social conflict and human rights violations have been reported, such as the expropriation of land from neighbouring communities, the forced displacement of indigenous people, the loss of cultural heritage and agriculture, etc (Tande 2006). In addition, the population expansion that accompanies agri-industrial development, and the need for social amenities (such as football pitches, schools, health centres) as well as the need to grow local food, is intensifying conflict over available land, particularly around urban areas.

In our interviews, CDC itself admitted to such conflicts, even in cases where individuals had been paid for land used to expand plantations. It seems individuals who may willingly relinquish their land for cash today may be under pressure tomorrow to access that land. There are various examples of land conflicts in the CDC industrial zone that are linked to 'land grabbing'. One local land conflict has led to the formation of a pressure group called the Bakweri Land Claim Movement. This group is claiming rights over land originally appropriated by the colonial and post-colonial government for CDC in southwest Cameroon. Elsewhere in the southwest region, a local non-governmental organisation (Greenpeace) filed a complaint to local government authorities over a Herakles Farms' project, alleging the company failed to obtain proper 'free prior and informed consent' from local communities for use of the land; resorted to intimidation and corruption to acquire land; and has been illegally exploiting timber from the site. Given Cameroon's planned agricultural development (by large multinationals and by medium-sized growers), such conflicts are expected to intensify.

Other social costs

Large industrial plantations often have damaging social impacts on the indigenous populations, as well as on the migrant populations (see Hoyle and Levang 2012). While company employees may have good working conditions, workers hired ad hoc by subcontractors often earn extremely low wages and suffer poor working and living conditions.

Loss of alternative revenue

Converting land into plantations (such as in the CDC's Bakweri area and the Herakles Farms project in the southwest region) means local people pay a huge opportunity cost because they can no longer use that land for alternative livelihoods activities. These might have included building homes, collecting non-timber forest products, hunting, managing conservation concessions, generating payments for environmental services, REDD+ etc. All these activities can generate substantial income for local people but also for the State and local authorities (set out under the Forestry Law 1994).

Health risks

Local communities are aware the fertilisers and pesticides routinely used on the CDC banana, rubber and palm oil plantations carry many health risks. Penda, a CDC worker in Bota, told us "inhaling some chemicals sprayed by CDC small jet sprayers, or simply coming into close contact with some of them, may cause cramps, vomiting, fainting and can even cause sterility in men". Communities have not made this an issue with the company or the local authorities because they consider it pointless to do so

as little attention is given to environmental impact assessments. Moreover, land rights remain a higher priority for communities. However, some of the most common nematicides and herbicides used on bananas are known to be hazardous to humans. While pesticides such as Dithane, Counter 15G, Mocap and Furadan kill borers, weevils and other nematodes that damage bananas' root systems, these chemicals may also slowly and stealthily harm labourers and local communities.

Environmental damages

Erosion on steep slopes in the south west region is an obvious environmental cost in the CDC zone, increasing pollution by pesticide run-off and effluent discharge from rubber and palm oil mills. Mill wastes release climate-damaging methane and can account for approximately 70 per cent of total greenhouse gas emissions from a plantation and mill, unless digesters are in place so the methane can be used (Hoyle and Levang 2012). Land use changes, such as establishing new plantations, also bring significant greenhouse gas emissions.

Conservation at the Limbe Wildlife Centre

As discussed above, by converting forests to farms agri-business displace great apes from their habitats. One of the things that the CDC, and similar corporations, could do in recognition of their negative conservation impact is to support animal's sanctuaries, like the Limbe Wildlife Centre, which host many of the great apes displaced by CDC's activities. Indeed, the CDC already supports the Centre with informal donations of banana 'rejects' and by selling it palm nuts at reduced prices. The Limbe Wildlife Centre (LWC, see www.limbewildlife.org), founded in 1993, is a collaboration between the Pandrillus Foundation (www.pandrillus.org) and the government of Cameroon (via the Ministry of Forests & Fauna – MINFOF). The centre, which gets more than 50,000 visitors annually (over 35,000 of them Cameroonian), is home to 15 primate species native to Cameroon, including gorillas, chimpanzees, drills, mandrills, baboons, three mangabey species, and seven guenon species. With 16 gorillas, including the only known Cross River gorilla in captivity, LWC has Africa's best record for gorilla rehabilitation and care. The centre also cares for other rescued wildlife, most of which is later released back into Mount Cameroon National Park.

The wildlife rescued at LWC may often have been disrupted and disturbed by plantation agriculture. In other words, CDC's activities are driving the need for the LWC. However, agri-industry is not the only such pressure. The people of the Mount Cameroon area, and particularly those of Limbe-Batoke, have always used wild animals for protein and income. These cultural practices put significant pressure on biodiversity but can only be changed by introducing alternatives. To address this, the LWC has developed several projects to divert villagers from hunting by providing alternative and sustainable sources of income, and giving wildlife in the National Park an economic value to locals.

LWC's Aframomum project

This is an ongoing scheme that redirects hunters towards alternative agricultural livelihoods. Over 30 ex-hunters are employed to sustainably harvest Zingiberaceae from secondary forest for the animals cared for at LWC. Zingiberaceae, which is important to captured primates' diets, only grows in secondary forest. The ex-hunters see the need for maintaining such areas and the value that they provide, and through this unique partnership with LWC, come to appreciate Cameroon's endangered species.

Green leaf vegetable scheme

This scheme currently provides eight women and their families from a hunting village with an alternative to preparing and selling bush meat. Green leaf vegetables (including elephant stalk, potato leaves, papaya leaves, and cassava leaves) are harvested three times a week and sold to LWC as food for the rescued animals.

Environmental education

The LWC organises frequent educational workshops for communities, school children and the general public. Shortly before our research visit, LWC had run a workshop on the Aframomum project and Green Leaf Vegetable Scheme at the community centre in Batoke. Forty-two people came, including the five village elders. Such workshops show participants the similarities between non-human and human primates and explain LWC's mission and the effects of the bush meat trade. They help change attitudes to hunting and capturing endangered species.

Other ongoing challenges

Despite its success, LWC faces many internal challenges above and beyond the huge external challenge of promoting conservation in the wild. Frequent floods within the Centre mean climbing equipment and other facilities for the animals needs ongoing repairs and replacement. The Centre is under staffed and under resourced. The local delegation of MINFOF manage the Centre, which is headed by a conservationist from Pandrillus. In total, there are only about 45 staff, 12 of whom work for Pandrillus. There is only one vehicle, which is used for administrative tasks and for transporting food for animals. At the time of our visit, it was in a bad condition and needed urgent repair. New animals come in often, many with critical health conditions. The Centre needs considerable financial resources to care for these animals and relies on donations from individuals and partners.

Yet the Centre continues to aim high. It wants to establish an extension site within Mount Cameroon National Park to ease the release of captured animals. It has also started a new project, the Limbe WILDLAB, which is intended to become a multi-disciplinary veterinary diagnostic facility dedicated exclusively to improving the healthcare and survivorship of wildlife native to Africa (including animals in the wild). Infections frequently threaten the health of the Centre's animals. The LWC has a laboratory, but it is not well equipped, so samples are sent abroad for screening, and more often than not, sick animals end up dying before the results come back.

Recommendations

Overall, this case study takes the position that, despite its huge role in the national economy, the CDC remains one of the major threat to great ape conservation in the south west of Cameroon and to the alternative livelihoods of the local Bakweri people.

Nevertheless, with the full collaboration of all stakeholders, the conflicts between agri-industry, conservation and livelihoods improvement can be overcome – or at least reduced. This section looks at ways forward and suggests action points for the main stakeholders.

Action to be taken by the CDC

- Provide job opportunities for youth in the area to improve their living conditions and tackle increasingly high crime levels
- Improve the living and working conditions of CDC's field workers and administrative staff
- Increase pay (proposed starting pay of 50,000 FCFA per month) for field staff
- Diversify crop production to cater for local needs
- Increase and improve on corporate responsibility to local communities
- Continue the land surrender scheme to other villages in Fako division
- Use environmentally-friendly insecticides, pesticides and fertilisers on crops
- Support conservation projects
- Respect village farms, forest and sacred forests

- Treat waste before disposal
- Increase and formalise the food aid given to animals in the LWC, and
- Develop a communication strategy to inform communities of the corporation's activities and events on an ongoing basis.

Action to be taken by the government

- Ensure continuous monitoring and control over the CDC and other agri-industrial investors in the southwest region and in Cameroon as a whole
- Carry out regular consultations and closely follow-up impact assessments of the corporation, especially in its new sites
- Follow up the land rights and resettlement scheme of the CDC and ensure transparency on the part of local administrative and traditional authorities
- Provide the necessary assistance to MINFOF staff working in the LWC
- Facilitate the necessary administrative, material and financial assistance needed for the proper functioning of the LWC
- Re-launch employment opportunities in the CDC to contribute to improving rural livelihoods in neighbouring communities, and
- Develop a local and national communication strategy to inform the public about the LWC's activities.

Action to be taken by local communities

- Youth to gain relevant professional qualifications so they can qualify for new job opportunities (eg jobs offered by agri-business, jobs in the tourism industry, etc)
- The traditional authorities in Fako should stop the illegal sale of community land for personal use
- Communities should immediately report to the competent authorities any corruption by traditional and local administrative authorities in the sharing of land, and
- Village councils should put in place a communication strategy to inform the public of any opportunities and/or threats that could lead to an improvement/worsening of local livelihoods.

CASE STUDY 2: LINKS BETWEEN LOGGING, CONSERVATION AND POVERTY IN FIVE COMMUNITIES ALONG THE CAMPO-MVINI STRETCH

Context

This case study reports a survey of communities living in villages along the Campo-Mvini stretch near Campo Ma'an National Park (CMNP) and the 09025-Forest Management Unit (FMU). The major ethnic groups in the area are the Yassa, Bulu, Mvae and Bagyeli, and these people are traditionally dependent on the forest. Both the Park and logging activities have imposed restrictions on these peoples' land use patterns, and changed their lifestyles. Today, the villages around FMU 09-025 faced new challenges including:

- Population growth
- Increase in prostitution rate and the spread of sexually transmitted diseases
- Increase in school dropout rates
- Respiratory diseases caused by dust particles from timber trucks, and
- Risk of accidents caused by trucks and other vehicles speeding through the villages.

Restricting traditional activities such as hunting and the free harvesting of non-timber forest products (NTFPs), without providing effective and sustainable alternatives, is a major risk. When logging disrupts wildlife so that it impinges on local farmland, the villagers suffer yet more hardship if they are unable to take up alternative traditional activities. Now, both logging companies and great ape conservation organisations have a vital role to play in improving people's living conditions and reducing poverty.

Research methodology

This case study's overall objective is to explore how forest exploitation does and might affect great ape conservation and local livelihoods now and in the future. It is relevant to policy makers interested in sustainable livelihoods and poverty reduction, and its baseline data will be useful to other rural development research initiatives around forest concessions. It should also help establish funding priorities for sustainable ecotourism projects. Its specific objectives are to:

1. Assess the impacts of logging on the conservation of great apes and local livelihoods
2. Identify and analyse development options, with a view to reducing poverty among communities living around the FMU 09025 and the Campo Ma'an National Park, and
3. Propose recommendations.

In July 2014 researchers spent six days conducting visits and discussions and using structured and semi-structured group and individual interviews to ask about:

1. Communities' perceptions of great apes
2. Alternative activities to hunting
3. The different types of support offered by the logging company to the communities
4. The relationship between the company and the communities, and
5. The communities' expectations.

The researchers also analysed secondary data and made observations in two villages that had easy access to the forest.

Logging's impacts on great ape conservation and local livelihoods

The WIJMA Cameroon SA Timber Company, which owns FMU 09025, has a capital of 1,935 million FCFA (approximately US\$ 3,360,000) and is one of the Cameroonian companies affiliated to the Dutch Timber Company Koninklijke WIJMA. It is the first timber company to have been certified by the Forest Stewardship Council (FSC) in the Congo Basin. The company was created in 1967 in Douala, where its headquarters are based. As well as logging, it also owns sawmills (one is in Ipono). The company handles approximately 80,000m³ of logs per year (73,500m³ in 2010).

FMU 09025 is home to abundant and diverse fauna wildlife. Inventories record 26 species of medium and large mammals, including the 'big six' of the forest: the elephant (*Loxodonta gigantea cyclotis*), buffalo (*Syncerus caffer nanus*), gorilla (*Gorilla gorilla gorilla*), chimpanzee (*Pan troglodytes*), leopard (*Panthera pardus*), and the giant pangolin (*Smutsia gigantea*). It should be noted, however, that the population of the large primates (gorillas, chimpanzees) is relatively low in the FMU compared to other national parks.

We discuss the impact logging has on conservation and livelihoods in the subsections below. Unlike Case Study 1, these are not grouped into positive and negative aspects, but are considered together.

Disruption of wildlife habitat

Commercial logging threatens great apes by destroying their habitat, changing their migration and movement paths, their nutrition and their leisure grounds. Consequently, these mammals tend to find themselves out of their natural habitats and/or in landscape corridors where they cause enormous damage to family farms. This can be particularly true where logging roads trigger the creation of new villages.

Restricted access for people

At the same time, both logging and protection for great apes and other large mammals has reduced the proportion of land communities can access. Ongoing traditional practices are curtailed when access to land is restricted. Our questionnaire established collecting NTFP as the most frequently reported traditional occupation (closely followed by agriculture and small livestock rearing), but the rules governing land use around the FMU is not favourable for the villagers—whose activities are essentially linked to the forest. As the Akak Village Chief told us: “All development projects in our village are linked to land; when our crops are destroyed by animals of the park, or even when our movements in the forest are restricted, development projects and the secondary activities relating to them are compromised”.

Impacts on farming

Family farms tend to be confined to around villagers' huts – but this leaves them very exposed. Formerly, the villages located on the Campo-Mvini stretch served as 'breadbaskets' for the entire area. Traditional hunting scared away animals from farmlands, and this usually gave crops the opportunity to germinate without being trampled. Villages on the Campo-Mvini stretch supplied food for all villages on the two main stretches of the Campo sub-division, near the National Park and FMU 09-025. However, more recently, human-monkey conflicts that devastate farmland have combined with other factors (such as population increases) to cause a serious food shortage.

Other pressures

There are other problems too. Local populations are rising because of the logging industry, and this encourages illegal hunting (which supplies the bushmeat trade) and collection of NTFPs. Cutting and trimming logs is dangerous work and also highly polluting, affecting the quality of water in the logging area and causing noise, air and water pollution that disrupts ape populations. These problems are bound to increase across Cameroon in the future as planned government-initiated construction gets underway, including not just logging but mining and infrastructure development such as dams, seaports, railways, motorways etc (see MINFOF's Forest and Fauna Sub-Sector Strategy and Action Plan 2013-2016).

Community support

The logging company does support some local development. Company roads tracks and bridges help communities link up. And WIJMA offers local villages a list of community projects from which each village can choose one. Examples include a pig rearing project (implemented in Akak and Bibabimvoto), provision of drinking water points, support to construct guest houses or classrooms, and health awareness projects (for example on AIDS and other sexually transmitted diseases). The company's pig rearing project indirectly helps conservation efforts as it makes local communities less dependent on hunting for protein and income.

Limited roles for local people

However, the company provides only very limited direct employment to local people. The sawmill in Ipono employs mostly workers from nearby towns. WIJMA has 44 people working in forest operations within the FMU (10 in exploration, 9 in wood felling, 16 in the preparation of logs, and 9 on road projects²), but only two are Bagyeli. From all the villages we visited, only five youth were said to have been recruited (four were from Nkoelon and one from Afan Essockye). This is despite forestry policy in Cameroon stating that one objective is "to improve the participation of populations in the conservation and management of forest resources, so that this contributes in raising their living standards". Indeed, all the village heads we contacted said they have very little knowledge of the FMU management plan. Yet involving local populations in biodiversity conservation is realistic and valid, given the restrictions imposed on their activities, in particular on hunting and on gathering NTFPs.

A share of land tax

Law No. 94/01 of 20 January 1994 allocates a portion of land tax from logging sites to local communities. This is supplemented by joint order No.0520/MINTATD/MINFI/MINFOF of 28 July 2010, which says annual forest royalties (AFRs) shall be distributed as follows: 50 per cent to the public treasury, 20 per cent to the local councils, 10 per cent to communities, 20 per cent to a Special Council Support Fund for Mutual Assistance (FEICOM). This Decree has since been updated, and superseded by Decree No. 0076 MINAT/MINFI/MINFOF, which takes gender and vulnerable social groups into consideration and says women, youth, and indigenous people may be elected as village representatives to the council committee, and they may be mandated as members of the management committee. However, people in the villages we visited say that development projects are prepared in advance and imposed on communities without consultation. Notably, our informants were not able to tell us the amount allocated as AFR for development projects, perhaps indicating some lack of transparency.

² Evaluation report WIJMA, 2013

Development options

The villages in the conservation area near the Campo Ma'an National Park have real potential for local development. However there is a lack of support and mentoring for alternative income-generating activities. Family livestock initiatives, and support for well-supervised community farms could be very beneficial. But perhaps the main opportunity is tourism, which could be developed around artisanal activities, could include training youth as tourist guides, and could create reception areas for tourists (for example in Akak and Afan Essockye).

Overall, an economic evaluation of the area's natural heritage that takes ecotourism into account could be very beneficial to local communities. At present, tourism is poorly developed here. Over nearly 80 km, only one tourism activity is visible (in Mvini, the village closest to the entrance of the park from Campo).

Apes are the main tourism asset available, yet very few locals see great apes as a heritage or a natural wealth worth preserving, either for themselves or future generations. Our questionnaires revealed that most villagers consider apes as enemies. This perception is particularly true of gorillas and gets stronger with proximity to the national park.

This is because apes frequently damage farms and villages here. There is a project under development to create gorilla habitats in the Campo area, but villagers give it little attention because it seems to offer them no direct benefits. To quote the village chief of Akak again: "The communities do not feel the impacts of these initiatives because the villages are not engaged in such activities, and tourists go directly into the forests without being accompanied by guides recruited in Campo". However, the gorilla project, which would focus on a gorilla family living near the island of Dipikar, could employ 20 youth near to the park.

Furthermore, economic development in general could help keep a higher proportion of the timber company's wages circulating in the local community. The company's sawmills pay 550,000,000 FCFA annually (according to WIJMA's 2013 evaluation report).

Recommendations

This case study has explored the links between logging, great ape conservation, and efforts to reduce poverty. It is clear that, at present, resource managers pay little attention to conserve biodiversity or improve local livelihoods when they plan development in productive forests.

Yet all these factors are interlinked. The villages visited showed how forest biodiversity is crucial for the well-being of forest communities. Indigenous peoples like the Bagyeli, despite increasingly sedentary lifestyles, depend heavily on certain forest products. Therefore, restricting their activities in the forest is not good for their development. Similarly, other local populations depend on gathering NTFPs to increase their food supply, alongside production of starchy foodstuffs and vegetables from small family farms.

We conclude that linking conservation with the development of communities around forest concessions must remain an ongoing aim. A successful outcome requires a genuine inclusion of communities when developing socio-economic projects and valuing their natural and cultural heritage.

And while human activities present the greatest threat to great apes, ape conservation can be achieved with modest financial means: by mobilising resources, reorganising local economic activities to include tourism and artisanal activities, and carrying out an economic evaluation of forest products and the existing natural heritage.

More specifically, we recommend:

Tourism

- Change relevant sector policies so that the policy environment enables the development of tourism enterprises.
- Launch and facilitate eco-tourism campaigns that gain value from biodiversity (especially the great apes) and help preserve Cameroon's natural heritage for current and future generations.
- Do more to promote great apes tourism in the media (inside and outside Cameroon) to attract national and international visitors and to make Cameroonians more aware of great apes.
- Develop tourism initiatives in collaboration with local communities.
- Engage in advocacy with the government to implement policies and initiatives that raise awareness of the great apes by:
 - Carrying out an inventory of great apes
 - Filming documentaries, and
 - Promoting a tourism vision.

Protecting wildlife

- Conduct a more in-depth study to assess the impacts of great ape conservation projects on local and indigenous communities' livelihoods, using quantitative approaches.
- Help communities acquire well-protected community-owned farms in order to resolve the problems of famine and human-wildlife conflict in the villages bordering the timber company and the Campo Ma'an National Park.
- At the same time, strengthen forest guards' capacities to confiscate game from villagers who hunt wildlife illegally.

Wider socio-economic approaches

- Implement socially inclusive policies which take socio-economic rights, sustainable resource management and conflict reduction into account.
- Train communities in initiating, writing and managing projects.
- Create jobs in local community social development projects. These should take traditional knowledge into consideration.

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ANNEXES

Annex 1: List of persons interviewed in CDC and LWC

Name	Plantation	Village
Kum Nestor	Palms	Batoke
Ngambo Felix	Palms	Batoke
Ngeka Clement	Palms	Bota
Kally Anthony	Palms	Bota
Ngaw	Palms	Bomaka
Penda	Banana	Tiko
Array	Banana	Lissoka
Chater David	Banana	Lissoka
Kum Stephen	Banana	Lissoka
Menchem Lucas	Banana	Lissoka
Ndoko Felix	Rubber	Matouke
Ndiwang Joseph	Rubber	Matouke
Moses Kechem	Rubber	Matouke
George Shaka	Rubber	Bomaka
Ako Moses	Rubber	Bomaka
Ndi Abraham	Rubber	Tiko
Name	Community	Town
Eduard Ekema	Bota	Limbe
Penda	Tiko	Tiko
Lyonga	Bomaka	Buea
Tanyi Jamas	Matouke	Tiko
Ofon Vincent	Batoke	Limbe
George Shaka	Bomaka	Buea
Atosoh Collette	Moliko	Buea
Ngomba	Ewongo	Limbe
Name	Institution	Town
Nkeng Philip Fonju,	LWC/conservator	Limbe
Dr. Kiyang John Anyam	LWC/Veterinary officer	Limbe
Lyonga Francis	CDC/ head of communication dept.	Limbe
Penda James	CDC/communication	Bota/Limbe
Nganje John	CDC/Communication	Bota/Limbe

Annex 2: List of interviewees in each village visited along the Mvini – Campo stretch

No	NAMES & SURNAME	AGE	PROFESSION	ETHNIC GROUP
NKOELO VILLAGE				
1	Ndongo Martin	48	Notable	Mvae
2	Eto'o Jean Claude	46	communal Agent	
3	Mme Obate Anne	50	Cleaner	
4	Zua Luc	38	Farmer	
5	Edjoh Endaman Michèle	26	Not employed	
6	Essono Florent	//	//	
7	Obate André	34	Notable	
AFAN ESSOCKIE I VILLAGE				
8	Ekouma Hubert	//	Unemployed	Mvae & Bagyeli
9	Ndo Mireille	30	//	
10	Ndjeffi Yerobin	25	//	
11	Obam Patrick	34	//	
12	Mba Aloa Gérémy	64	Village Chief	
13	Mba Serge	50	Farmer	
14	Mabaly Mendo Xavier	//	Farmer	
15	Ekouma Benoît			
VILLAGE AKAK				
16	Ngoh Esther	//	Farmer	Mvae & Bagyeli
17	Evina Ango	52	Village Chief	
18	Ntyam Joelle	33		
19	Afan Eteze	65		
20	Ba'ana thérèse	45		
21	Angon Odile	34		
22	Bedibi Florence	34	Unemployed	
23	Ambang Clodine	53		
24	Etong Antoine	68		
25	Odjo'o Charles	60		
26	Evina Francine	40		
27	Assoum	45	Farmer	
NKOADJAP VILLAGE				
28	Atouba patrice	34	Village chief	
29	Thérèse	30		

BITANDE ASSOCK VILLAGE

30	Ondo Pie Parfait	44	Village chief
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VILLAGE BIBABIMVOTO

31	Zeh Mva Suzanne	42	Farmer	Mvae
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32	Akono Paulin	35	Unemployed
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DOUM ESSAMEBENGA (Observation) VILLAGE

IPONO³ (Observation) VILLAGE

33	Mpoth David	42 or there about	Cartographer
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Note that the villages of Mintom, Mvas, Nazareth Nyamlande, and Mabiogo were not visited.

³ Headquarters of the logging company.

Annex 3: Sample questionnaire

NAME OF INTERVIEWEE:

Tel:

ROLE:

VILLAGE/LOCALITY:

Sub-division:

Division:

REGION

Questionnaire No. : /Ref Nr:

Date of Interview: Day Month 2014

Sex: Male Female Age (years):

- 1) Have you ever heard about protected animals? Yes No
- 2) Do you know that great apes are among these protected animals? Yes No
- 3) What do they represent to you?
- 4) What is their contribution to life in the community?
- 5) Are you aware of logging activities in your community? Yes No
- 6) Have you been informed of the management plans of the logging company? Yes No
- 7) What is your relationship with WIJMA? Are the company officials good? Yes No
- 8) Is hunting part of your activities? Yes No
- 9) If yes, where do you carry out this activity?
- 10) If not, do you have alternative activities to hunting? Yes No
- 11) What problems do you encounter?
- 12) What have you done to resolve these problems?
- 15) Do you have any suggestions? Yes No
- 16) If yes what are they?
- 17) If not why not?
- 18) Do logging activities and the conservation of great apes contribute to your well-being? Yes No
- 19) What would you prefer?
- 20) What kind of initiatives could improve your life in the community today?

For foresters

- 1) What are the priorities of the company?
- 2) Can you give us information on the geographic situation of the community in which you live?
- 3) How many villages are located around your area of activity?
- 4) Do you have a plan of assisting or facilitating community activities?
- 5) Are these communities involved in drawing up development plans?
If yes, how?

If not, how are their priorities taken into account in your actions?

6) What problems do you encounter with the communities?

7) How do you ensure the protection of great apes in your area of the forest?

8) What, according to you, are the perceptions of the communities on this subject?

9) Are there any development projects in the area and how are they selected?

10) What is the relationship between these projects, the conservation of great apes and the well-being of communities?