

Forest Cover

a **Global Forest Coalition** newsletter on international forest policy

1.5°C

from a
community
perspective

In this issue:

Critiquing the IPCC's approach:
targets, pathways, bioenergy and BECCS
leading us down a dangerous road

Community conservation as a
rights-based, proven and effective
way of cooling the planet

Community efforts towards
a climate-friendly diet



About the Global Forest Coalition (GFC): We are an international coalition of 93 NGOs and Indigenous Peoples' Organisations, from 63 countries, defending social justice and the rights of forest peoples in forest policies. GFC organises joint advocacy campaigns on the need to respect the rights, role and needs of Indigenous Peoples, women and local communities in forest conservation and the need to address the underlying causes of forest loss.

Welcome to the **57th issue of Forest Cover**, the Global Forest Coalition's magazine. For free subscriptions, please contact: gfc@globalforestcoalition.org

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Editorial: Safe and effective carbon dioxide removal? Indigenous Peoples have been doing it for centuries

By **Hindou Oumarou Ibrahim**, AFPAT coordinator and vice-chairperson of the Global Forest Coalition, Chad

The IPCC Special Report on the consequences of global warming of 1.5°C is frightening in the threats it describes to the most vulnerable regions, such as the Sahel or the Pacific Islands. While indigenous communities around the world are already facing extreme weather events and irreversible changes to their environment, we must immediately react, collectively, and redouble our efforts to drastically reduce greenhouse gas emissions.

The science is clear. We need to restore balance to protect our climate as soon as possible. This is the only way to secure a future for the people on the frontlines of the climate crisis, where thousands of people a year are already dying because of it. Even 1.5°C will bring dramatic consequences for my people in the Sahel. The IPCC says **“Even if the mean global temperature anomaly is kept below 1.5°C, regions between 15°S and 15°N are projected to experience an increase in hot nights as well as longer and more frequent heat waves”**. In Chad,

we experience extreme heatwaves already. In 2016, temperatures rose to around 50°C in N'Djamena. No one, not even the elders, could remember such a heat wave in recent history.

Moving toward a “net zero emissions” planet will require not only reducing emissions, but also increasing natural carbon capture and storage through ecosystem protection. In the Sahel, indigenous communities contribute to ecosystem management through their traditional practices. My community of pastoralists, for

example, enhances soil carbon stocks through our seasonal migration, and has contributed to natural carbon sequestration for centuries. Our herds of cows fertilize land organically, and this subsequently allows farmers to enjoy better production. In the Sahel, a region that already faces dramatic climate change impacts, increasing food security is a top priority.

The articles that follow in this edition of Forest Cover highlight many other examples of community-based ecosystem

A herd of cattle in Chad. **Hindou Oumarou Ibrahim**



management solutions, that contribute to climate change mitigation and have multiple environmental and economic benefits. These are proven, safe and effective ways of removing carbon from the atmosphere, that also protect biodiversity and help to eradicate poverty. From forest communities that have developed

their indigenous knowledge and practices over centuries, to coastal areas where indigenous peoples have sustainably managed their natural resources for generations, people are protecting biodiversity, and maintaining their ecosystems' natural carbon sequestration capacity.

However, some people believe that industrialising Carbon Capture and Storage (CCS), through for instance BECCS (Bioenergy with CCS) or other geoengineering illusions, should play a major part in mitigating climate change. But, as Indigenous Peoples, we believe that this cure can be worse than the disease. Why? Because there

Community conservation cools the planet!

Over the past three years the Global Forest Coalition, working closely with our member groups and partner organisations, has facilitated the Community Conservation Resilience Initiative (CCRI)—a groundbreaking project that has documented the community-led conservation practices of over 60 communities in 22 countries around the world. The CCRI reveals a range of self-

protection and restoration, where local communities and Indigenous Peoples are stewards of the land around them. Through living in harmony with their environments for generations they have developed unique processes, techniques and knowledge for caring for forests and other ecosystems.

globe. But community conservation also faces multiple threats. In particular, a lack of legally-recognised rights over the land that they are stewards of constantly hampers these efforts.

Throughout the articles in this edition of Forest Cover examples of community conservation in action are highlighted, where community



organised community initiatives and other more formal processes and structures that provide good examples of ways that community forest/ecosystem conservation and regeneration can be facilitated.

Community conservation is a rights-based, bottom-up and gender-sensitive approach to ecosystem

With the current focus on the need to remove carbon from the atmosphere in order to avoid the worst impacts of climate change, policy-makers would do well to take note of the findings of the CCRI, and understand the fact that proven, safe and effective ways of sequestering carbon already exist, and are being practiced across the

efforts are making a direct contribution to cooling the planet. Also highlighted are the specific ways in which communities are prevented from doing this important work. All of the examples cited as well as many more examples of community conservation can be found here:

<https://globalforestcoalition.org/ccri-reports/> ■

are many examples of initiatives undertaken in the name of fighting climate change that have led to Indigenous Peoples being excluded from their ancestral lands, the disappearance of traditional indigenous knowledge, the adoption of destructive forest “management” practices, and a loss

of biodiversity. We cannot accept these so-called solutions.

For us, forests are our home, our pharmacy, our supermarket. We know that we need resilient ecosystems not only to mitigate climate change, but also to adapt to its impacts. That’s why it is

imperative that forest policies respect the essential rights of the people and communities that depend on access to healthy forests. Without forests, and

without forest biodiversity, the fight against climate change will be lost immediately. And without the stewardship of indigenous peoples and rural communities, there can be no hope for future forest protection and restoration.

We already have most of the tools we need to successfully limit global warming to 1.5°C, and as Indigenous Peoples, we will continue to manage the ecosystems we depend on, through our traditional practices, which are the legacy of hundreds of years spent living in harmony with our environment. This is the pathway we choose. Now governments must choose whether to give adequate support to indigenous-led forest and ecosystem restoration, or to go in the opposite direction. ■



Hindou Oumarou Ibrahim

Community conservation in: Kenya

In Kenya, the Nyekweri Kimintet forest borders the Maasai Mara National Park and is a significant breeding area for elephants from the reserve. Inhabitants of the forest there practice pastoralism as their main livelihood activity. In 2005, community members formed the Nyekweri Forest Kimintet Trust to strengthen their ability to conserve biodiversity. Approximately 80% of the land within the area has been allocated to individuals with the remaining land under communal ownership. The trust covers 6,000 acres, and helps to secure and ensure the continued protection of land dedicated to the conservation of biodiversity, preventing its conversion to other land uses. Community members assert that their area is an important

biodiversity hotspot with some of the only remaining indigenous forests hosting sacred sites, sheltering wildlife and providing wild fruits and medicinal plants.

Community members have identified a lack of legal protection of community forest by the county and by national laws as being a key external threat. The legal framework recognises the community forests’ role in biodiversity conservation and ecosystem services, but does not



Indigenous women gathering at a community meeting in Kimintet. Edna Kaptoyo/GFC

support communities to strengthen their conservation, and national and local forest and wildlife authorities do not work in community forest conservation areas. The increasing impact of drought has also resulted in a loss of biodiversity as well as water. ■

Local communities stuck between emissions targets and pathways

By **Simone Lovera**, Global Forest Coalition, Paraguay



The message is clear: We are formally in trouble. That is, according to the latest Intergovernmental Panel on Climate Change (IPCC) assessment report [1] that was published in October, Indigenous Peoples, local communities, and especially women all over the world will face death and destruction due to global warming and the extreme weather events it causes, even if we limit warming to the more ambitious target set out in the Paris Agreement. Furthermore, the impacts of 2°C will be worse still, and any pathway leading to an even warmer world will be an outright disaster.

Indigenous Peoples and local communities do not need the IPCC to tell them how devastating the impacts of climate change are. Storms, forest fires, floods and droughts have already devastated the lives of millions of people all over the world, and Indigenous Peoples and women are often the

ones who suffer most. Indigenous communities involved in the Community Conservation Resilience Initiative in Tanzania have lost their freshwater resources now that the snows of the Kilimanjaro have almost disappeared. [2] And recent research found that insect

populations and, consequently, lizard, frog and bird populations in a protected rainforest in Puerto Rico had declined 10 to 60 times since the 1970s as a result of climate change. [3] These examples also highlight the futility of using conventional protected areas as a biodiversity conservation tool in times of climate change.

Kilimanjaro's disappearing snow. **Simone Lovera/GFC**



So why did the Paris Agreement set a target of 1.5°C if there is convincing scientific evidence that the lives and livelihoods of millions of people, and many forests and other ecosystems, are seriously endangered even if this target is reached? Why has the IPCC invested years of research into the development of pathways to reduce emissions when they basically resemble roads to hell for millions of people? And what assumptions were these pathways based on, if they were not based on the ambition to actually halt dangerous climate change?

[1] <http://www.ipcc.ch/report/sr15/>

[2] <https://globalforestcoalition.org/wp-content/uploads/2018/06/TANZANIA-FULL-REPORT.pdf>

[3] www.pnas.org/content/early/2018/10/09/1722477115

Community conservation in: Tajikistan

In Tajikistan, traditional knowledge and practices are tailored to local ecosystems, and include respect for wild animals, and bans on hunting or collecting medicinal plants in cases of their depletion, to allow the local fauna and flora to regenerate. In Sarikhosor and Dashtijum some 20 local varieties of mulberry are carefully preserved. The berries serve as food for humans and domestic animals, the leaves for producing domestic silk, and the wood for carving utensils and musical instruments. But threats to sustainability were identified in all of the community assessments undertaken in Tajikistan. In particular, existing systems of administrative regulation and management result in the development of lands and the destruction of sacred forests.

Government programmes also contradict each other. For example, the Forest Programme aims to

plant and maintain forests, but the Agricultural Program aims to exploit territories. ■

Harvesting mulberries. Noosfera/GFC



The term 'feasibility' goes a long way to explaining the lack of ambition in current climate targets and pathways. The main reason countries agreed to a 1.5°C target when they finalised the Paris Agreement was that they felt a more ambitious target was not 'feasible' in light of current economic development trends. Instead of taking scientifically proven, ecological planetary boundaries and socially desired outcomes as a basis for climate policies, economic growth was embraced as a goal rather than an instrument for sustainable development.

The highly imbalanced participation of stakeholders and rightsholders in climate policy-making has been a key cause of this focus on economic

feasibility rather than scientific fact and human rights. Since the beginning of this century in particular, business and industry has rapidly gained influence over international environmental policy-making. Despite the good intentions of some of the actors involved, in a capitalist system, corporations will always prioritise economic growth above all else. As a result, the economy has become one of the pillars of sustainable development, putting it on a par with ecological considerations, and the desirable social outcomes that are actually 'feasible' in light of these ecological considerations.

The pathways modeled by the IPCC clearly reflect these power imbalances. Rather than presenting a sound assessment of

the ecological risks of climate change and the socially desirable outcome of preventing it, the pathways are strongly influenced by assumptions of what is considered economically feasible under a business-as-usual or business-as-more-or-less-usual scenario. As a result, pathways that would have numerous multiple benefits, such as natural forest restoration and a significant reduction in meat and dairy consumption, but that might negatively impact the economies of powerful elites, are overshadowed by pathways that have multiple negative impacts. Unsurprisingly, these negative impacts also disproportionately affect economically and politically marginalised social groups like Indigenous Peoples, poor rural

communities and women. Often these negative impacts are euphemistically referred to as 'trade-offs', as if marginalised groups of people would be in any position to trade with the powerful elites that determine climate policy.

For this is the most serious problem with the IPCC's scenarios as far as the land sector is concerned. By definition, lands are inhabited and used by people, but local rural communities tend to be marginalised in climate policies that are dominated by the targets and pathways designed by global, often urban, and very often corporate, elites. So when land is being used to reach global targets, there is an inherent risk that policies and pathways will be designed that

overlook the rights, needs and even the roles of the Indigenous Peoples, local communities and women that live on those lands.

This also explains why very expensive, highly problematic policy proposals like Bioenergy and Carbon Capture and Storage and large-scale afforestation are on the table, because rich corporate elites know that rural communities will not be in a position to defend their rights in the 'trade-offs' that these policies will trigger. At the same time, very straightforward and cheap policies that would have numerous positive side effects like the reduction of subsidies for and consumption and production of meat and dairy are considered 'politically unfeasible', simply

because they are not in the economic interest of these rich, corporate elites.

This brings us to an old conclusion: We need system change, not climate change. Yet this old conclusion also leads us to a more contemporary conclusion, that globally designed targets and pathways are inherently problematic for local communities, and that the deductive 'cap and trade' policies that are a logical result of such global targets need to be replaced by much more comprehensive, rights-based, gender-sensitive and bottom-up approaches, that are designed and implemented in the forests and other lands that they govern the use of. ■

Marginal? Abandoned? Degraded? Land set aside to meet global land use targets is usually inhabited and used by people who are marginalised in the process. **Sahejeevan/GFC**





The IPCC's pathways to 1.5°C: BECCS and bioenergy

By Rachel Smolker, Biofuelwatch, USA

The Intergovernmental Panel on Climate Change (IPCC) pathways to 1.5 report makes clear that there are dire consequences for all if climate change advances unchecked. They also make the point well that achieving 1.5°C will be much harder than 2.0°C, but will be well worth it, given that the impacts of 2.0°C will be so much worse.

But the treatment of bioenergy in the IPCC report remains muddled, with far-reaching consequences for their overall analysis. It is worth focusing on this, because bioenergy has taken a position front and center in debates on climate change. While the need to move away from fossil fuels is well appreciated, bioenergy remains a prominent “alternative”, in spite of many peer reviewed studies

showing that most bioenergy contributes more, not less greenhouse gas emissions even than the fossil fuels it replaces. Meanwhile, due to the large land area requirements, it undermines the well-recognised necessity to protect and restore forests and ecosystems. In simplistic terms: you cannot grow trees and burn them too.

The report is based on analysis of Integrated Assessment Models (IAMS). Understanding how the IAMS work, and what assumptions are built into them is key to interpreting the results. In the summary for policy makers, IPCC provides 4 “illustrative pathways”, P1-P4. These pathways are meant to illustrate the range of pathways that were modeled. The pathways, graphically plotted, are not always straight lines from here to 1.5°C. Rather, they often assume that emissions will exceed (overshoot) the level required to stabilise climate in the near term, with later implementation of some means of removing greenhouse gases from the atmosphere (also referred to as “carbon dioxide removal” or CDR) to compensate for the excess.

Of the 4 illustrative pathways, the first 3 are “no or low overshoot” pathways, whereas the fourth is a “business as usual” pathway, which would result in a very large overshoot, and therefore rely on some later technofix to remove the excess from atmosphere.



Wood pellets for bioenergy generation are touted as a green, renewable fuel, but in reality are at least as carbon-intensive as the fossil fuels they replace.
Oregon Department of Forestry/Flickr

Community conservation in: Malaysia

In Mengkawago, in Malaysia, the forest-dependent Sungai Rumanau community harvests wild honey from bees that establish their hives in a particular tree species (*Menggaris sp.*). By harvesting honey sustainably, the community also protects the surrounding forest area, which provides broader environmental benefits. They are in the process of documenting their traditional practice of honey collection as an example of

traditional community forest stewardship. The community is hopeful that through this, they could reach a formal agreement with the Forestry Department as a form of mutually beneficial conservation of the forest area. This agreement could also pave the way to addressing existing tensions between the Forestry Department and the community over agroforestry activities. ■

Mengkawago community member harvesting honey. PACOS Trust/GFC



It is good to see the inclusion of low or no overshoot pathways in the report, since earlier drafts failed to do so. A letter demanding inclusion of no-overshoot pathways was delivered from civil society groups during the drafting stages, and meanwhile some low or no overshoot models/studies were published in the peer reviewed literature. [1]

Overshoot is key to how bioenergy is treated. In those pathways that include a large amount of overshoot, the main approach for later compensating—i.e. withdrawing the excess greenhouse gases from the atmosphere—is BECCS (Bioenergy with Carbon Capture and Storage), along with afforestation and reforestation. IPCC is clear that there are serious uncertainties and concerns about the effectiveness of BECCS, and its land area implications. They also raise concerns about the viability of CCS—for fossil fuels or bioenergy.

But BECCS remains featured in the majority of the models that IPCC used for its pathway analysis. IPCC does point to the importance of other approaches, including ecosystem restoration and improved soil management, reduced livestock production and shifting diets, but those are not incorporated into the models, perhaps reflecting their weak representation in the literature on which the models are based.

IPCC explicitly states: **“Integrated assessment modelling has not yet explored land conservation, restoration and management options to remove carbon dioxide from the atmosphere in sufficient depth, despite land management having a potentially considerable impact on the terrestrial carbon stock. Moreover, associated CDR measures have low technological requirements, and come with potential environmental and social cobenefits. Despite the evolving capabilities of IAMs in**

accounting for a wider range of CDR measures, 1.5°C-consistent pathways assessed here continue to predominantly rely on BECCS and afforestation/reforestation.” [2]

Thus, BECCS does continue to feature as the predominant method for “CDR” in models. Perhaps the real key to BECCS’s ongoing prominence lies here: IPCC states that **“IAMS consider both the value in the energy system, and the value of BECCS in removing CO₂ from the atmosphere.”** In other words, BECCS serves double duty in the models, both generating power and reducing emissions at the same time. The same cannot be said for afforestation/reforestation or ANY other proposed technology for removing greenhouse gas from the atmosphere. Producing energy and removing CO₂ from the atmosphere simultaneously may seem to defy basic physical laws, but it is very handy for modelers and politicians.

[1] Also, a study in 2017 revised the atmospheric carbon budget such that the time frame for reducing emissions was apparently extended. See: R. J. Millar et al. Nature Geosci. 10, 741–747; 2017

[2] 2.3.4.1: CDR technologies and deployment levels in 1.5°C-consistent pathways

The “P1” illustrative pathway is worthy of note, as it is a no or low overshoot pathway that would also decrease the contribution of biomass to renewable energy (relative to 2010 levels). In short, that is the sensible pathway, even though difficult to achieve. It would require drastic energy and material demand reductions, and a “greater reliance” on land use practices that sequester carbon effectively.

But the role of bioenergy, in spite of concerns about land use impacts remains confusing and inconsistent. In a very useful analysis Tim Searchinger and colleagues [3] lay out clearly how accounting for bioenergy emissions has been profoundly flawed, in failing to account for the “foregone” sequestration that occurs when a forest or other ecosystem is cleared/harvested or converted to bioenergy crops. Further, any emission accounting would depend on a point of comparison. For example, they show that emissions would be reduced far more by installing solar panels on a small piece of land, rather than growing bioenergy crops on a much larger one.

The paper also provided a glimpse into some of the underlying assumptions that are embedded

within the models that IPCC analysed. Those assumptions are shockingly unrealistic, and include future vast increases in crop yields, declining growth in demand for food, conversion of large areas of biodiverse savannahs, high prices for beef that result in more pasture land being available, and government policies that would result in both optimal investments in agriculture and infallible

released their “Renewable 2018: market analysis and forecast 2018-2023” with a press release stating: **“Modern bioenergy is the overlooked giant of the renewable energy field,”** said Dr Faith Birol, the IEA’s Executive Director. **“Its share in the world’s total renewables consumption is about 50% today, in other words as much as hydro, wind, solar and all other renewables**

combined. We expect modern bioenergy will continue to lead the field, and has huge prospects for further growth. But the right policies and rigorous sustainability regulations will be essential to meet its full potential.”

And, the Biofuture Platform, launched in November 2016, with support from 20 nations worldwide, met recently in San Francisco to discuss their vision for global expansion of the “bioeconomy”.



protection of forests. Such unrealistic assumptions lead to unrealistic results from the models.

The IPCC has provided some guidance on how to avoid overshoot, and offers much needed caution on bioenergy. Now we will have to see how that translates out in the real world. IPCC relies heavily on International Energy Agency (IEA) analyses. Just as the IPCC report was released, the IEA simultaneously

Our task in preventing further expansion of large scale “modern” bioenergy will be a challenging one indeed. A promising sign is the growing international movement, which just released a statement [4] signed by over 120 organisations around the world, declaring that large scale forest biomass is a “dangerous delusion”. ■

[3] T. Searchinger et al. Does the world have low-carbon bioenergy potential from the dedicated use of land? Energy Policy, 110, 343–446; 2017

[4] See: <https://www.biofuelwatch.org.uk/2018/international-day-of-action-pr/>

Community-based forest management in Nepal: a model for rights-based climate change mitigation approaches

By **Bhola Bhattarai**, National Forum for Advocacy, Nepal



Nepal has focused its attention on mitigating and adapting to the impacts of climate change, which includes the development of forest management systems. Policies emphasise support for community-based forest management (CBFM) to enhance carbon sequestration, sustainably manage forests, and reduce carbon emissions from forest areas.

This is not new, as forestry stakeholders have been practicing community-based forest management for the last 35 years in Nepal. The national forest has been handed over to communities for protection, management, and utilisation. CBFM is one of the success stories in forest management in the country, and there are around 30,000 forest management groups, managing 30% of the country's national forest. [1] Evidence suggests that one of the many benefits of this approach is the substantial potential for carbon sequestration. Recent studies show that community forest management results in consistent increases in forest carbon stock levels, ranging from 1 to 3 tonnes per hectare per year, depending on local circumstances and the awareness levels of forest users. Carbon sequestration rates could be even higher, given that soil carbon changes haven't yet been

studied. [2] Extrapolating these figures, forests managed by communities in Nepal could be drawing as much 16 million tonnes of CO₂ from the atmosphere every year, roughly equivalent to half of Nepal's annual CO₂ emissions.

On top of this, data shows that the total forested area in Nepal expanded from 39% in 1994, to 45% in 2015—a 6% increase. [3] Likewise, forest biodiversity is also

increasing under CBFM, as is access and control of forested land by local and Indigenous Peoples. The government of Nepal intends to maintain forest cover in order to reduce the impacts of climate change, conserve biodiversity and support the livelihoods of local peoples.

There are five main CBFM regimes in Nepal: community forest, leasehold forest, collaborative



Forest management by a forest user group in the Rupendehi district of Nepal. **Bhola Bhattarai**

[1] Ministry of population and environment (MoPE), 2015. Intended nationally determined contribution (INDC). Singhdurbar, Kathmandu, Nepal.

[2] Bhattarai, T., Skutch, M. M., Midmore, D.J., & Rana E., 2012. The carbon sequestration potential of community based forest management in Nepal

[3] DFRS, 2015. State of Nepal's Forests. Forest Resource Assessment (FRA) Nepal, Department of Forest Research and Survey (DFRS). Kathmandu, Nepal

Community conservation in: **Nepal**

CCRI assessments were conducted in 3 regions in Nepal, with community forests in these areas covering about 12,000 ha, managed by 215 legally-recognised Community Forest User Groups. The user groups have played a critical role in conserving the biodiversity and ecosystems in these areas. The Community Forest User Groups' rights of tenure over the forestlands and resources are recognised by the Forest Act 1993 and Forest Regulation 1995 in the form of community forests. Some of the Indigenous Peoples and Local Communities' (IPLCs) customary practices relating to forest resources have been integrated into the formally approved Forest Management Plans of the Community Forests, but in practice Indigenous Peoples are struggling to have their informal practices and other customary rights related to forest use—such as collecting non-timber forest products, shifting cultivation and grazing—recognised in the forestry legislation and forest management plans. The user groups have made significant contributions to reducing deforestation and forest

degradation through natural regeneration processes that promote ecosystem regeneration and are resulting in an increase in wildlife species in Nepal. However, local communities have been negatively impacted by the expansion of protected forest areas by central government in different parts of Nepal, including in two areas that community assessments took place. The Barandabhar and Basanta corridors were declared as protected forests in 2012, despite

strong protest from local communities against this centralised decision from the government, which prioritised the protection of the forests over securing communities' tenure rights over them. The more protection-oriented provisions in the forest management plans for the community forests in these particular areas mean that the local communities are unable to exercise their rights even though they are legally held. ■



Members of a community forest user group managing their community forest in Nawalparasi district. **Nawalparasi FECOFUN/GFC**



Harvesting timber in a community forest in Sindhupalchok district. **Bhola Bhattarai**



Forest management and timber harvesting in Rupendehi district, Nepal. **Bhola Bhattarai**

A woman from the Binayi Community Forest User Group collects green manure. Chandra Shekhar Karki/CIFOR



forest, religious forest, and conservation forest. Overall, community forest is the main form of forest management. Leasehold forest aims to support poor and marginalised communities by handing over forest land for their use, to support livelihoods and generate income. The religious forest is managed for religious purposes by various religious organisations. Collaborative forest is another regime practiced in the southern part of Nepal and aims to address the access of traditional users living far from forested areas. Finally, conservation forest, which is designated as national forest, is managed to conserve and protect forests which are important for culture, tradition, and scientific reasons.

CBFM groups are responsible for governance at the local level, which includes preparing and implementing forest management plans. Through careful planning, forest user groups are effectively protecting biodiversity, as well as practicing grassroots democracy through the meetings and activities that they facilitate. Community members work together on planting, thinning, pruning, harvesting, utilising and protecting their forests.

The IPCC's special report on 1.5°C highlighted various different climate mitigation pathways, but it did not adequately recognise the efforts made by communities such as those in Nepal, that contribute to forest conservation and restoration, while also safeguarding

the livelihoods of local people, and conserving traditional and local knowledge. CBFM sequesters carbon and conserves biodiversity, whilst also enhancing the lives of poor, marginalised communities, and women, by ensuring their access to and control over their forests. This is in stark contrast to the main methods proposed by policy-makers for removing carbon from the atmosphere, which are much more likely to harm forests and cause conflicts with communities. It is time that the UNFCCC, the IPCC, and member states understood this contrast, and recognised the vital contributions that local communities and Indigenous Peoples make towards protecting forests, and the climate. ■



An African perspective on bioenergy: the impact of traditional biomass and charcoal use on women in Liberia

By **Salome Gongloe-Gofan**, Rural Integrated Center for Community Empowerment (RICCE), Liberia

Although the Intergovernmental Panel on Climate Change's (IPCC) latest report shows that it is possible to limit global warming to 1.5°C without increasing global bioenergy generation, governments world-wide are still betting on it to meet renewable energy targets. The use of biomass and biofuels is expected to grow dramatically, even though there is more and more evidence that bioenergy is no better than the fossil fuels it is supposed to replace.

But most bioenergy globally is still generated traditionally, for cooking and keeping warm, and in a cookstove, rather than a power station. Traditional bioenergy use has its own set of social, environmental and climate impacts, and these must be considered carefully.

A woman and her children making charcoal in Liberia. **Patrick Smith/GFC**



It is estimated that over 3 billion people still depend on some form of bioenergy in the global South, such as fuelwood, charcoal, agricultural wastes and animal dung, to meet their energy needs.

In Liberia, like other Sub-Saharan African countries, firewood and charcoal are the main energy sources used and according to the United Nations Development Program (UNDP), up to 99.5% of Liberia's population relies on biomass-based fuels as their main source of energy.

Such an overwhelming and persistent dependence on bioenergy has environmental and social implications, such as the destruction of forests, loss of biodiversity, soil erosion and indoor air pollution.

Prior to the civil war, an estimated 40% of people living in Liberia's urban areas relied on the existing electricity supply, available at that time, as their source of energy,

which minimised the use of biomass for energy.

However, the breakdown of basic infrastructure including power generation has resulted in charcoal and firewood becoming the dominant sources of energy in urban and rural communities for domestic cooking and heating. This dependence has increased the demand for charcoal, mainly in cities such as Monrovia, where over 50% of Liberians live.

This increasing dependence on charcoal and firewood has both positive and negative impacts on the population. On the positive side, it helps to create short-term jobs, provides cheap energy, and brings in revenue for many families. However, the negative impacts far surpass these short-term economic benefits. Through increased logging, the production of firewood and charcoal is destroying forests on a large-scale, resulting in biodiversity loss and exacerbating climate change.

Further still, there are serious consequences for women. Women are mainly responsible for gathering firewood and making charcoal, exposing them to all of the dangers associated with both obtaining and using bioenergy for cooking and heating. In rural areas for example, young women particularly are exposed to numerous risks including rape, and injuries from dangerous snakes and working without protective equipment.

The burden of gathering wood for fuel also imposes a setback on women's education and economic involvement, as it prevents them from seeking formal education or other kinds of work. On top of this, the use of biomass indoors exposes women disproportionately to respiratory illnesses and eye diseases. [1]

A woman carrying a bag of charcoal in Liberia. UN/Flickr



Given the many negative impacts associated with the use of biomass in Liberia, policies are needed that give the population access to cleaner and less harmful forms of energy, and allow them to use less wood and charcoal, and in a safer way. Promoting the use of efficient cook stoves is important, but allowing people access to electricity

generated sustainably and renewably (and not through bioenergy!), particularly in more populated areas, would lead to a much bigger reduction in the use of firewood and charcoal. This would reduce pressure on forests, and reduce the burden currently placed on women and girls. ■

[1] World Energy Outlook 2015, International Energy Agency (IEA)

Community conservation in: DR Congo

In DRC, community forestry is regulated by a legal framework that recognises and protects the communities' customary land rights in forest areas, and awards forestry concessions to local communities which include specific provisions relating to their management and exploitation. The implementation of these regulations is the result of a long participatory process in which civil society has played an important role in the defence of local communities and Indigenous Peoples. The process is unique, primarily because it is participatory and includes all social groups (youth, women, elders, Bantu and Pygmies). However, local authorities and conservation

organisations in DRC have ignored the Indigenous Peoples' conservation practices, and often shown a blatant disregard for

forest peoples' rights, despite the existence of relevant international human rights agreements, some of which have been ratified by DRC. ■



A tree nursery in DRC. CIFOR/Flickr

Community efforts towards a climate-friendly diet in China

By Wanqing Zhou, Associate, Brighter Green, China



A global shift towards plant-based diets, and away from vast overproduction and consumption of animal products, is now enshrined as a vital component of efforts to mitigate climate change. The Intergovernmental Panel on Climate Change is clear that in order to meet the 1.5°C target, **“a substantial reduction of [agriculture-related] impacts would only be possible with a substantial worldwide diet change, away from animal products.”** [1]

Despite this, global livestock production is still being driven by subsidies and supports, with policies at the national level incompatible with efforts to reduce emissions. [2] In China, the globalised food system, the growing consumption of animal products, and the increasingly capital-intensive production model to meet that demand, have been

driving deforestation for feed production in South American countries. A dietary shift away from industrial meat, dairy, and eggs is essential to reducing the pressure on ecosystem destruction. To achieve this, organisations within and outside China are working to tap the power of communities to make the change happen.

In the late 1970s, economic reform in China opened up the country to imported industrial food production models. Capital-intensive livestock rearing began to thrive and became increasingly dependent on a global agricultural and food market, and grew disconnected from the local ecological, social, and cultural context.

Participants at the Good Food Hero Summit 2018. Fan Liao



[1] <https://www.theguardian.com/environment/2010/jun/02/un-report-meat-free-diet/>
 [2] <https://globalforestcoalition.org/perverse-incentives-deforestation-for-livestock/>

According to a study published in Science Advances this July, between 1980 and 2010, the percentage of livestock raised in intensive feedlots or animal farms in China increased from merely 2.5% to 56%. Data from the United Nations Food and Agriculture Organization shows that during the same period, China's soybean import increased 3750% from 1.5 million tons to 57.4 million tons, with a further growth of 150% to 86.4 million tons in 2016. A clear majority of these imported soybeans have been used to feed animals for human consumption.

Cheap and readily-available feed soybeans have enabled China's total meat consumption to increase more than six fold since 1980, which comes with an expensive but

externalised environmental and social cost. In South American countries where massive production of feed soybeans encroaches on ecosystems such as the Amazon, the Cerrado and the Gran Chaco, deforestation is a major contributor to climate change, species extinction, environmental contamination, and social conflicts that disproportionately affect peasant and indigenous groups.

Reducing these impacts requires the reconnection of animal farming and its local environment, as well as dietary changes towards a more plant-based diet. Because there is no "one-size-fits-all" strategy that can successfully promote dietary shift in different social groups, it takes local communities that

actively engage in communication, education, and network-building to accumulate social capital and create long-lasting behavior change.

In China, the Ministry of Health proclaimed the latest dietary guidelines in 2016 and suggested a reduction in meat consumption by half, a recommendation that stems from public health and environmental challenges. This move was appreciated by Brighter Green and other organisations that had been working on meat production and consumption issues in China for many years, and at the same time, encouraged more organisations to join the conversation and take action.

Community conservation in: Tanzania

In Tanzania, communities in Wiri, Sanya, Lawate and Ngasini villages have established tree nurseries to plant trees around water sources, around farms and adjacent to forests. They have developed conservation groups to work on establishing the tree nurseries as part of their long-term afforestation and conservation plans. In Kahe, in Moshi Rural district, the local council has now given the communities local tree seedlings to grow. In Siha District, community members plant their own local trees. The trees will help to create shade and rainfall, and clean the air, as well as providing building

materials, fuel, medicines and animal fodder. The communities have shared responsibilities to protect water sources, land resources and the forests, by ensuring that the village bylaws are adhered to and reporting to the local government offices about any environmental destruction. Despite the community efforts, they are particularly vulnerable to climate change, which is impacting their water resources. It has caused Lake Magadi in Wiri village and the River Lawate in Lawate village to dry because of a change in the pattern of rainfall and the disappearance of the nearby Kilimanjaro glaciers. ■



Planting trees in Kahe community forest. **Simone Lovera/GFC**

In summer 2018, Brighter Green and its team in China, the Good Food Fund, organised the second Good Food Hero Summit in Chengdu, Sichuan province to facilitate local actions, build collaborative networks, and explore the potential of working with partners from different parts of the food system to catalyse system-level changes.

The 150-people summit was designed to involve activists from as many fronts of the food system as possible, including peasant farmers, organic farm operators, co-op organisers, restaurant owners, chefs, hospitality professionals, food educators including a popular local media platform Food Talk, student groups from Tsinghua and Peking University, promoters of meat alternatives such as the Good Food Institute and Dao Ventures, artists, researchers, nutritionists, environmentalists, and animal welfare experts, from within China and abroad. One specific goal was to encourage educational institutions to adopt a more sustainable food policy, that highlights plant-based diets, and resulting in life-long influence on the younger generation.

Open work day on the Yale Farm at Yale University. Wanqing Zhou



Progressive energy at the summit was transformed into impacts. After three days of cross-sectoral interaction, hospitality managers from a few of China's top universities expressed their interest in supporting the transition towards a more plant-based dining policy and were exposed to a spectrum of supply chain opportunities. These opportunities include working with local ecological food producers who can provide delicious, healthy, socially just, and culturally relevant food without externalising pollution or ecosystem destruction in other parts of the world—an effort that Beijing Organic Farmers' Market and its partners have been actively pursuing.

The participants were especially inspired by the experience of Yale University where, according to Christian Fischer, Senior Director at

Yale Dining, 85% of the residential dining hall menu is now plant-based. Students can also benefit from a series of activities organised by the Yale Sustainable Food Program, from seminars that encourage critical thinking to volunteering at the bio-diverse farm on campus.

As synergy and collaboration grows among food activists, organisations, and institutions, the sustainable food community in China has great potential to preserve the best parts of its traditional food culture, curb the over-consumption of meat and other animal products, and in the face of climate change, create a just, resilient, and politically viable food system that promotes the restoration of healthy ecosystems in China and around the world. ■



The missing pathways: how support for community conservation can cool the planet

By **Souparna Lahiri**, All-India Forum for Forest Movements, India

One thing that the IPCC's special report on 1.5°C has helped to clarify is that it is still possible to meet the target set out in Paris Agreement (however unlikely!) with a combination of drastic emissions reductions and land-based carbon sequestration, and without the technofixes and overshoots, which could wreak havoc with the climate. The IPCC is much less clear on exactly how carbon should be removed from the atmosphere though, and in fact its P1 pathway assumes that it will happen through afforestation.

This immediately sets alarm bells ringing, as what policy-makers and the scientific community usually mean by afforestation is large-scale and highly-destructive monoculture tree plantations, often planted on lands used by and stolen from Indigenous Peoples and rural communities. As Rachel Smolker points out in her article in this issue, the IPCC does acknowledge that there are many different approaches to carbon dioxide removal that could be far more beneficial, but for lack of study, enthusiasm or profitability, they are not considered in models and projections.

As the examples highlighted by the Community Conservation Resilience Initiative (CCRI) have shown, there are an incredible range of community conservation efforts being practiced around the world, each one unique to its community and ecology. Many of them contribute directly to removing carbon from the atmosphere, whilst also protecting biodiversity, and the livelihoods and traditions of the

communities themselves. How fantastic would it be if global efforts to mitigate climate change were focused on this kind of location-specific, people-centred, multi-beneficial approach, rather

than fantastically expensive and risky mega-projects that would rather see the Earth covered in invasive plantations and energy infrastructure?

Opposite approaches: a community-managed forest in Nepal...
Dil Raj Khanal/GFC



...and a factory that turns forests into wood pellets for bioenergy, in the southern US. Dogwood Alliance



Community conservation in: **India**

In India communities are endeavouring to assert their rights over natural resources under, for example, India's Scheduled Tribes & Other Forest Dwellers (Recognition of Forest Rights) Act 2006. Previously, since colonial times, the forest communities had lost their forest rights and were not allowed to follow their traditional conservation practices. This historic

and unique legislation restores the traditional rights of the forest communities in India, and further empowers the communities to govern their forests through Gram Sabhas, which are traditional village councils consisting of every adult member of a settlement. However, the forest departments and the State are creating hurdles to the implementation of the

Forest Rights Act. For instance, the CCRI communities assessed should be able to enjoy their customary rights over their forests and to practice their traditional livelihoods, but in practice they are threatened by expanding Protected Areas, potential forced relocation, and the loss of access to natural resources. ■

Women fetch water from a well in the Tadoba Andhari National Park and Tiger Reserve in India, where communities face the threat of eviction and are pressurised to relocate outside the Protected Area. **Souparna Lahiri/GFC**



This would require a whole rethinking of not just climate and energy policy, but of the global land tenure system. This is because of the fact that without secured tenurial and customary rights to the land they live on and conserve,

Indigenous Peoples and local communities cannot effectively protect and restore forests.

All of the communities assessed as part of the CCRI should be able to practice their traditional livelihoods

with the protection of legally-recognised customary rights over their forests and land, but in reality they are threatened by growing protected areas, potential forced relocation, and the loss of access to natural resources. This lack of

support for communities' existing rights over their land is impacting communities' own initiatives and eroding the knowledge with which they manage and govern their forests.

Recognition of community rights on forest lands is essential to the survival of the communities and their environments. These communities have traditionally been custodians of their landscapes and their ecological knowledge and cultural norms have played a significant role in conserving natural resources.

Policies that restrict their access to these lands will be harmful to both the community and the ecological resources.

The potential for carbon sequestration through community conservation, given adequate support and protection, should not be underestimated. A recent report by a large coalition of mainly northern environmental NGOs concluded that respecting the land rights of Indigenous Peoples and local communities, in combination with forest conservation and restoration, and a shift to plant-

based diets, would enable us to keep global warming below 1.5°C without dangerous technofixes. [1] As the report points out, a large portion of the remaining global forest estate is still in the hands of Indigenous Peoples and local communities. But, while half of the world's land is associated with a "customary land use" claim, only 10% of those claims enjoy legal recognition. There is clearly much work to be done in recognising and protecting community rights over their customary and traditional lands. Recent research also shows that at least 22% of the total

Indigenous women in Kenya planting trees in a community forest. **Indigenous Information Network**



[1] Missing Pathways to 1.5°C: The role of the land sector in ambitious climate action and human rights.

https://static1.squarespace.com/static/5b22a4b170e802e32273e68c/t/5bef947f4fa51adec11bfa69/1542427787745/MissingPathwaysCLARAreport_2018r2.pdf

carbon stored in tropical and subtropical forests lies in collectively managed lands, a third of which is found in areas where Indigenous Peoples and local communities lack legal recognition.

Securing community land rights therefore represents an effective, efficient and equitable climate action that governments can undertake to protect the world's forests. Protecting forests while allowing for indigenous and community-based forest

governance to enhance biodiversity, food security, and carbon sequestration is an urgent first step in ending deforestation and restoring the historical role of forests as a net carbon sink. ■



Participating in a forest assessment in Bakhai, India. Ravi Sahu

