

Tropical Fire: connecting actors, disciplines and tools to move towards governance with justice

Rachel Carmenta

This fall an international group of scientists, practitioners, students, donors, film-makers, policy makers and diplomats gathered in Nairobi for the annual Forest and Livelihoods meeting - known as FLARE.

The meeting is one of the largest of its kind and sees many minds coming together to better understand the intersection of forests and livelihoods in order to advance more equitable and more effective forest governance. Although the FLARE conference is aptly named for coverage of the increasingly complex issue of tropical fire, just one of the 24 parallel sessions focussed on the fire topic. The session called: Tropical Fire: connecting actors, disciplines and tools to move towards governance with justice was organized and chaired by Dr Rachel Carmenta from the Tyndall Centre for Climate Change Research and the School of Global Development at the University of East Anglia. Dr Carmenta has been working on the social equity dimensions of tropical fire governance for over 15 years, living in Indonesia and the Brazilian Amazon for 9 of those.

In the run-up to the conference, fire seasons were sparking across continents and the composition of the panel speakers itself became a moving target as confirmed speakers were deployed on fire-related missions. This reality aptly demonstrated the severity of the issue and served as a stark reminder that large-scale tropical fires are now a near annual events. Their severity is growing, and even previously fire-free and humid biomes, from Indonesia's peatlands, to Brazil's Amazon forest, are experiencing uncontrolled fires ever more frequently and with more intensity. Tropical fire is not only associated with deforestation, but also considered a leading driver of Amazon forest degradation, a process itself considered a threat as significant as deforestation to the region.

Crucial in this complex is the important distinction between fire types – a topic that Rachel and co-authors have sought to clarify. Attention to fire types is essential because the actors involved in ignition and flammability, and their exposure to the impacts of fire or fire-affected forests is far from even.



Forest dependent communities are first in line to suffer when territories burn because of changes to climate, ecology and stakeholders in the landscape – all of which have increased the risk of uncontrolled 'feral' fires. Feral fires impact biodiversity, forest foods, forest quality and create burdens for the culture and wellbeing of some of the most politically and economically marginalised groups, who are living lifeways that have proven consonant with nature.

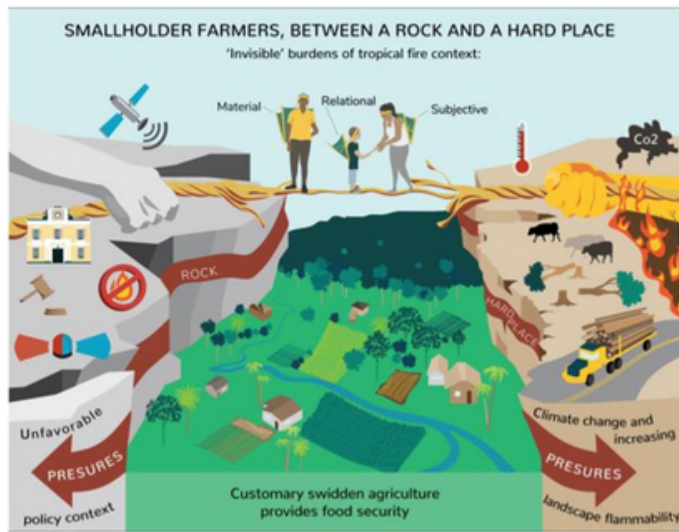
Photo credits: Rachel Carmenta.

Paying attention to this level of detail is imperative for developing fire management interventions that are not only effective, but also fair.

That's because whilst 'feral', wild, invasive or uncontrolled fires may be new phenomenon, some forms of managed intergenerational and traditional fire hold great benefits and multiple values for both people and nature. Traditional fires have been used as part of land stewardship, community safety, fire control, pest control and food production in intricate human-fire systems and founded on local and indigenous knowledges.

Crudely speaking, the 'good fire, bad fire' distinction is absolutely essential to keep in mind when it comes to governance interventions because conflating fire types can, and has, created harms to people and nature. Crucially those small-scale land managers who have contributed least to the ecological and climatic conditions that are increasing the flammability of tropical landscapes, are those that suffer most when landscapes burn or when punitive governance curtails their management practices.

The panel beautifully addressed these issues. Together they showcased the imperative of combining the various methods, skills, tools and scales of operation that exist across the broad fire community and discussed how to advance towards fire governance with justice firmly embedded at the centre.



A graphical abstract from the paper published by Carmenta et al (2021) in the journal World Development. The illustration shows how traditional land managers are increasingly under pressure from the 'rock' of climatic and ecological changes (right) making their fire use more risky, and under pressure from prohibitive fire governance (left), meanwhile they are also on the front line (centre) when fires and flammability impact their territories – yet there is still only slight research effort on these impacts across the dimensions of human well-being.

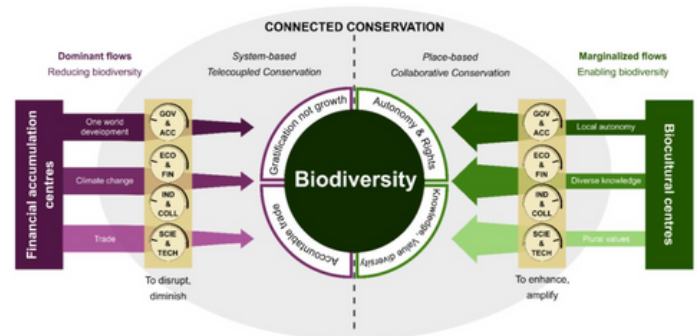
Rachel Carmenta started the session with a talk linking tropical fire to Connected Conservation - a model of conservation that Carmenta and colleagues developed and published earlier in 2023. Connected Conservation approaches site-level challenges, such as the occurrence of large-scale destructive fires, as problems that are driven by the actions of actors outside of the landscape.

Most often the actions of actors living in centres of wealth and consumption, which also 'distant' disproportionately impact nature and her systems.

Connected Conservation highlights how and why conservation needs to work with new tools that are better equipped to tackle these distant drivers of environmental collapse. It doesn't argue against site-level actions but calls for these to enhance and amplify the diverse people-nature relationships, knowledges, cultures and values that have proven consonant with nature over generations to this day.

The concept of Connected Conservation fits well with the experience of tropical fire – both because distant drivers related to wealth intensify flammability thus contributing to the problem, and because there is a real need to empower and encourage solutions developed together with local knowledge and practice holders.

The talks of the various speakers linked to the Connected Conservation concept as they highlighted actions and approaches at different scales that can and are serving to enhance and amplify the contributions of local knowledge holders, and that can motivate support for better (more just and more effective) fire governance. For example, Professor Bibiana Bilbao (Universidad Simón Bolívar, Venezuela and the Cobra collective) spoke about her work using participatory film towards co-developing new visions and capacities for integrated and inter-sectoral wildfire management. Drawing on experiences from Venezuela, Brazil, Guyana, and Argentina one key point she made was that instead of just fighting fires, better governance requires the inclusion of multiple perspectives and actors and rescuing the knowledge and adaptive practices of Indigenous Peoples and local communities that inhabit rural landscapes.



The Connected Conservation model, published in the journal Biological Conservation (2023) by Carmenta et al, works towards 'Desired end-states' that are consonant with Biodiversity. To do so it engages various tools that can disrupt and diminish the dominant, yet destructive impacts on biodiversity that stem from centres of wealth. It also works to enhance and amplify the marginalized, yet positive contributions that sustain biodiversity and that stem from biocultural centres around the world.

We then were transported to the tropical peatlands of the planet as Dianna Kopanski - Coordinator of the UN [Global Peatlands Initiative](#) - shared some of the work and action towards promoting connections and exchange of disciplines and sectors to improve the conservation, restoration and sustainable management of peatlands. Tropical fire has impacted peat landscapes to an extraordinary degree as new frontiers expand, and the governance of these areas has proven a considerable challenge owing to the [diverse stakeholders and interests](#) involved and the complexity of the peat system.

Dianna shared how GPI connects partners, practitioners, and knowledge, including through the '[Peatlands Atlas](#)' and the '[State of the Worlds peatlands](#)'. One crucial element of the peat fire situation are the impacts that accrue to public health and learning lifetimes. The injustice in the distribution of these impacts is severe, and often those already most marginalized suffer most when the air is polluted, job places are closed, and sickness ensues. [Professor Dominic Spracklen](#) from the University of Leeds shared some of his new research that helps quantify the distribution of these toxic smoke related impacts and how they are distributed across sections of society. An interesting element to this work is quantifying the health benefits of improved fire thereby avoiding the harms that diverse stakeholders with little else in common agree are not acceptable. These areas of agreement may serve as 'entry points' – starting points for dialogue towards establishing improved governance approaches to problems that have so far escaped sustainable and just governance.

After jumping from Latin America, to the global peatlands and a deep-dive in to the health related impacts of Indonesia's peat fires, the session was wrapped up by zooming-out again to the international arena. We heard from Lara Steil (Forestry Officer, Fire Management, FAO) on the new platforms and networks that exist to support the integrated fire management and working with indigenous and rural communities to promote equity, diversity and inclusion. Lara gave an illustrative talk of integrated fire management, and how such an approach needs to connect actors and knowledges in a way that allows them to exchange viewpoints, practices, and ideas.

Such an approach is inherently holistic, and recognizes the benefits of 'good fire' and can allow communities to recognize their common interests. Integrated fire management then works towards enhancing the positive elements of fire, and reducing the wildfires (sometimes called mega-fires, feral fires, accidental fires, forest fires etc). It brings us back to the concept of Connected Conservation, which integrated fire management fits at least one part of, and some of the current work Carmenta and colleagues (including Bibiana Bilbao) are doing under the FIRE-ADAPT network initiative. In FIRE-ADAPT- which is a global network of IFM practitioners and scholars spanning 10 countries and 24 institutions, Carmenta and Bilbao co-lead the intercultural fire management body of work, seeking to encourage and enable discourse and dialogue towards improved fire management. This session at FLARE hopefully contributed in some part.



Suffering from chronically poor air quality, residents in affected areas in Indonesia have to live through now near annual toxic haze events such as this. The toxic haze is from burning peatlands. Reactive governance has prohibited fire use on all soils, which includes mineral soils, causing injustices for traditional small-scale mineral soil farmers who are not responsible for the toxic haze. Photo Credit: Bjorn Vaughn.