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Prescribed burning by Saraguro indigenous communities in southern Ecuador
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The human, social and environmental tragedies of extreme wildfires have captured international headlines over the past decade for good reason. Wildfires are increasing in intensity, frequency and scale of impact due to a complex interplay of factors, including climate change creating more favourable wildfire conditions. At the same time, wildfires are a significant source of GHGs (Tyukavina et al. 2022).

Numerous underlying and direct factors influence wildfires in tropical landscapes (Goldammer 2016), including agricultural expansion. But many ecosystems also depend on fire, with plant species that require fire to reproduce. Fire was also widely used as part of traditional land management by indigenous communities, and later by settlers.

Effective fire management requires a thorough understanding of fire and its relationships, and to recognize and understand the varied roles that fire plays in different environments and cultures. Also, fire management is not simply about suppression, and more emphasis is urgently needed for prevention and alternative land management practices that reduce wildfire risks and impacts. Fire management capacity building is also required at national and local levels (Goldammer 2016).

Applying a landscape approach to fire management

The Fire-Smart Landscape Governance programme [https://www.tropenbos.org/projects/fire-smart+landscape+governance+programme] managed by Tropenbos International works in Bolivia, Indonesia, Ethiopia, Ghana and Uganda to reduce the risk of wildfire events and increase the sustainable use of forests and trees in climate-smart landscapes. This is achieved using the integrated landscape framework of approaches that simultaneously support climate, development and conservation

Reducing wildfire risk in Indonesia

The programme's focus is on drained peatlands used for oil palm cultivation, by promoting peatland restoration approaches, alternative land-use options, and well-coordinated fire prevention policies at district and landscape levels. Central to this is a collaborative process involving multiple stakeholders from national to local and landscape levels towards a shared vision.

Constructing a canal block
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Improved fire management in Bolivia

The programme is implementing effective, locally appropriate and inclusive fire-smart strategies with local partners. In 2021, the national government included forest fire reduction targets in its revised NDC. Two municipal governments also included fire risk prevention in their territorial development plans, with the participation of local and indigenous communities.
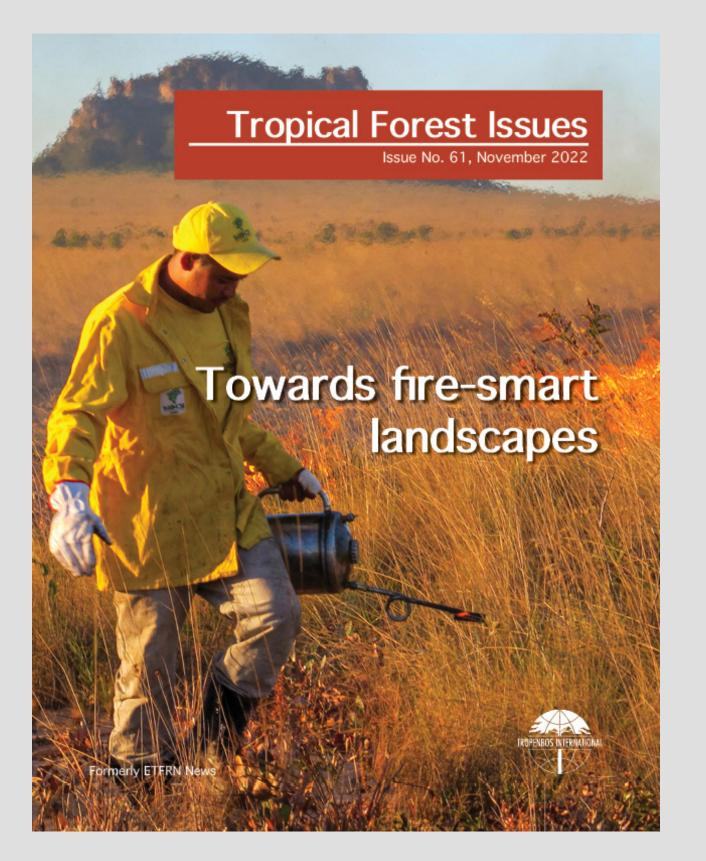
Youth participation
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objectives (Chavez-Tafur and Zagt 2014). Importantly, the interrelations and multiplicity behind the use of fires, direct and underlying factors and actors, and the relationship between fire and society all need to be considered. To reach fire-smart landscape governance for reducing wildfire risk, approaches should therefore acknowledge: (i) collective learning; (ii) empowering communities; (iii) improving policies and practices; and (iv) addressing multiple needs.

Learning from global experiences

As part of the Tropenbos Fire-Smart Landscape Governance programme, a collation of 26 studies on fire management issues across the tropics provided additional insights (Pasiecznik and Goldammer 2022). Together, these confirm the negative impacts of 'no fire' policies, leading to more intense

Cover of Tropical Forest Issues 61: Towards fire-smart landscapes. Tropenbos International. https://doi.org/10.55515/DVRK2501
Photo: Brazilian fire manager setting a prescribed early burn in a cerrado savanna landscape, Jalapão, Tocantins, Brazil. @GFMC

wildfires. A paradigm shift is urgently required focusing on a locally-led, integrated vision of fire management that includes risk mitigation, fire prevention, suppression and post-fire recovery. The studies highlight the importance of Indigenous and traditional knowledge related to fire management, especially from Latin America, as well as the crucial role of community participation in the design and implementation of fire management policies; experiences that are highlighted across the globe. Innovative cases were presented, with potential for scaling.

Capacity development is needed at all levels, from national and sub-national coordination to community volunteers – and not just for dedicated fire brigades. And where lacking, national integrated fire management strategies and actions plans must be developed, with cross-sectoral collaboration, clear roles and responsibilities, and adequate resources both human and for equipment – as a basis for concerted and effective fire prevention and suppression.

Upscaling successes through NDCs and climate finance?

The number of wildfires may rise by 50% by 2100, and as such will likely surpass the capacity of governments to handle them (UNEP 2022). Urgent action requires that fire management strategies, policies and plans need to be coherent with broader national policy frameworks on climate change adaptation and mitigation. To tackle the growing threat of wildfires, a good start could be made by combining aspects of the climate change and forest agendas, and focusing on synergies between Nationally Determined Contributions (NDCs) and the Global Forest Goals of the UN Strategic Plan for Forests (UNSPF). National development strategies including other agendas must also acknowledge fire management in the sustainable use of land and forests, and climate funding should be mobilized to support national actions.

Session description

This session provides opportunities to share and learn from integrated fire management and fire risk reduction experiences. Presenters and panellists will provide practical examples of integrated approaches that take into account wildfire risk and climate change; and the active involvement of indigenous and local communities (and their knowledge), local government, smallholders and other stakeholders in developing and implementing effective wildfire risk reduction strategies, policies and practices. This session will not, and cannot provide a panacea to the complex issue of reducing wildfire risks and impacts, but it will provide a space for learning from a broad range of experiences, and collective reflection on how to progress.

Key messages

- Develop land use planning policies and regulations for effective fire management with local communities, governments and other landscape actors
- Learn from indigenous and traditional knowledge on wildfire prevention and mitigation
- Explicitly address the effects of improved fire management at national level in NDCs
- Climate funding can support the inclusive development and implementation of national fire management strategies, policies and regulations.

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