



FOREST LANDSCAPE RESTORATION FOR CLIMATE, NATURE AND PEOPLE

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▼ FLR in Ethiopia. © Mokhamad Edliadi/CIFOR



Forest landscape restoration is a response to deforestation and degradation

Forests and trees provide important ecosystem services that contribute to all aspects of human well-being. These are fundamental for global sustainability and sustainable development, including climate change mitigation and adaptation. Deforestation and land degradation together with climate change have been recognized as major threats to the provision of these crucial ecosystem services and thus a threat to human welfare. The annual forest loss in 2015–2020 averaged 10.2 million ha per year (FAO 2020). In addition, almost a third of forest landscapes (~27%, or 1,459 Mha) is estimated to have suffered some degree of degradation (Laestadius, Minnemeyer, Leach 2012).

In response to these detrimental processes, there has been an unprecedented increase in the recognition of the urgent need to restore forest ecosystems along with political commitments towards this aim. For most countries, achieving these commitments would mean halting deforestation and, for some, considerable increase in forest cover in the near future. To be

successful, however, forest restoration must address the social and economic drivers that caused deforestation in the first place.

There is a long history of reforestation and tree planting in different parts of the world for timber production, fuelwood or watershed protection. However, the current attention to forest restoration and tree planting provides much broader social and ecological benefits and supports many facets of sustainable development. This shift is complemented by greater recognition of the close interconnectedness of ecological conditions, land-use practices, production systems and local livelihoods. Together, they are reflected in the broadened focus of restoration, which increasingly encompasses more expansive landscapes. Forest landscape restoration refers to processes to regain ecological functionality of deforested and degraded landscapes and enhance human well-being. Yet, forest landscape restoration emphasizes different, and often competing, goals, like mitigating climate change, restoring biodiversity and improving local livelihoods. While there are many potential synergies among these goals, important trade-offs must be recognized and considered.

Competing goals, synergies and trade-offs

Forest landscape restoration is advocated by various actors and for various purposes. It is often conceptualized as a 'win-win' opportunity to improve ecological conditions and biodiversity, while contributing to mitigating climate change and supporting local livelihoods and rural development. At the global scale, restoration often focuses on the biodiversity and climate change mitigation benefits, while at local level, concerns centre more on contributions to local livelihoods. As a result, the interests and goals of different stakeholders must be connected across scales, from local to global and vice versa, in a fair and equitable fashion. Livelihood and short-term economic benefits must also be balanced with long-term ecological and climate benefits from restoration.

The positive synergies between restoration/tree planting and specific sustainability challenges can also mask important trade-offs that result from change in land use and land-use practices. Trade-

offs are likely to occur between environmental and social benefits (Uriarte and Chazdon 2016). These trade-offs, for example, can pit biodiversity or carbon sequestration objectives against desires to increase timber production for industrial use or to provide different forest ecosystem and cultural services for local communities. There can also be important differences in how the impacts of these trade-offs are distributed among different actors. Furthermore, actors' time horizons influence how they perceive and value restoration benefits and how these are appreciated in respect to restoration costs and risks. Normally, a large part of restoration costs accrues at the beginning or early phases of restoration, while benefits will be realized in the long term. Also, benefits from restoration can accrue to other actors than those bearing the costs of restoration. Plantations, for example, can be established for timber production for export markets on lands traditionally used by local communities. While these initiatives can provide some short-term employment opportunities, their positive longer-term development impacts have been limited (Djoudi et al. forthcoming).

Forest landscape restoration is implemented in landscapes characterized by various land uses, often with important links to local livelihood strategies. A large share of the areas deforested in recent decades are used for agriculture. Restoring these areas would mean reforestation and/or afforestation of these lands, including plantations, or increasing the number of trees on agricultural land through expansion of different agroforestry and silvopastoral systems. Addressing forest degradation would require natural or assisted regeneration of degraded forest areas. However, these different restoration approaches and how they are managed will have important implications for biodiversity and lead to the provision of different ecosystem services. The potential conflicts of such restoration efforts with local peoples' livelihood needs, especially in terms of food production and income generation, makes apparent what might be termed the 'wicked problem' of restoration.



In many cases, the main challenges in restoration initiatives and programmes are not related to ecological aspects of restoring trees on the landscape. Rather, they are about how to reduce trade-offs, enhance synergistic restoration outcomes and restore social landscapes that would strengthen the capacities of local people and offer new opportunities to attain improved and secure livelihoods.

Governance for socially just and equitable restoration

Restoration means different things to different actors. Relevant issues revolve around how restoration is understood, how and by whom restoration objectives and desired outcomes are established, how restoration is implemented, who benefits and who bears the costs of restoration. These issues have important implications for restoration outcomes and the linkages between restoration and global challenges at different spatial and temporal scales.

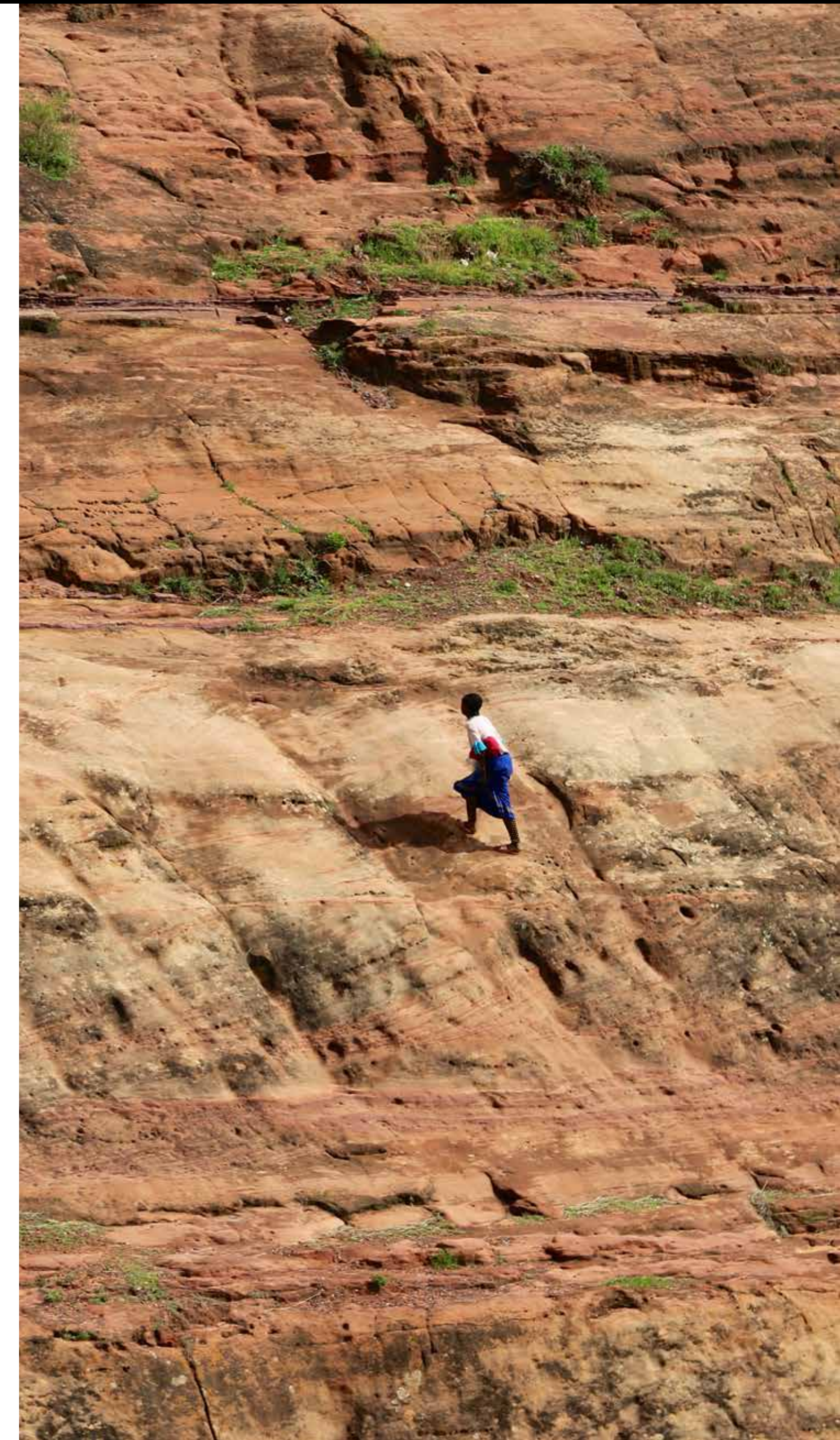
◀ Local villagers discuss participatory natural resources mapping in Honitetu village, West Seram regency, Maluku province, Indonesia. © Ulet Ifansasti/CIFOR

Restoration usually takes place in deforested or degraded lands that local actors use in different ways (e.g. grazing, collecting non-timber forest and tree products, cultivating). The land often possesses important cultural and spiritual values. The social feasibility of forest restoration is thus intrinsically connected to restoration governance at and across different scales. With respect to this connection, the participation of local actors, their tenure rights, equity considerations and the distribution of restoration costs and benefits are crucial issues.

Successful restoration outcomes depend on many factors. These include governance of restoration; the different stakeholders involved in or affected by restoration; distribution of benefits and costs of restoration; equity and environmental justice considerations; and ecological and managerial issues. Local actors need to be meaningfully engaged in a just and equitable process that creates ownership of restoration programmes or initiatives and allows them to benefit from restoration outcomes. Chomba et al. (forthcoming) identifies the

following key issues in such a process:

- allowing local communities to define what restoration means to them;
- using participatory mapping to identify drivers of deforestation land degradation, and identifying possible mechanisms to overcome them;
- integrating local and scientific knowledge and co-creating knowledge of different restoration methods and emerging outcomes with local communities;
- ensuring that the voices, needs and interests of different groups in the community are recognized and represented from conception to completion of any intervention;
- defining projected benefits, costs and risks from restoration and who bears them;
- integrating experimental learning, reflection and adaptive management in the restoration process;
- ensuring policies and institutional structures to support restoration are in place, and that national sectoral policies and programmes build synergistic measures and policies that support forest restoration at the local level, while respecting and strengthening local rights, livelihoods and economic opportunities.



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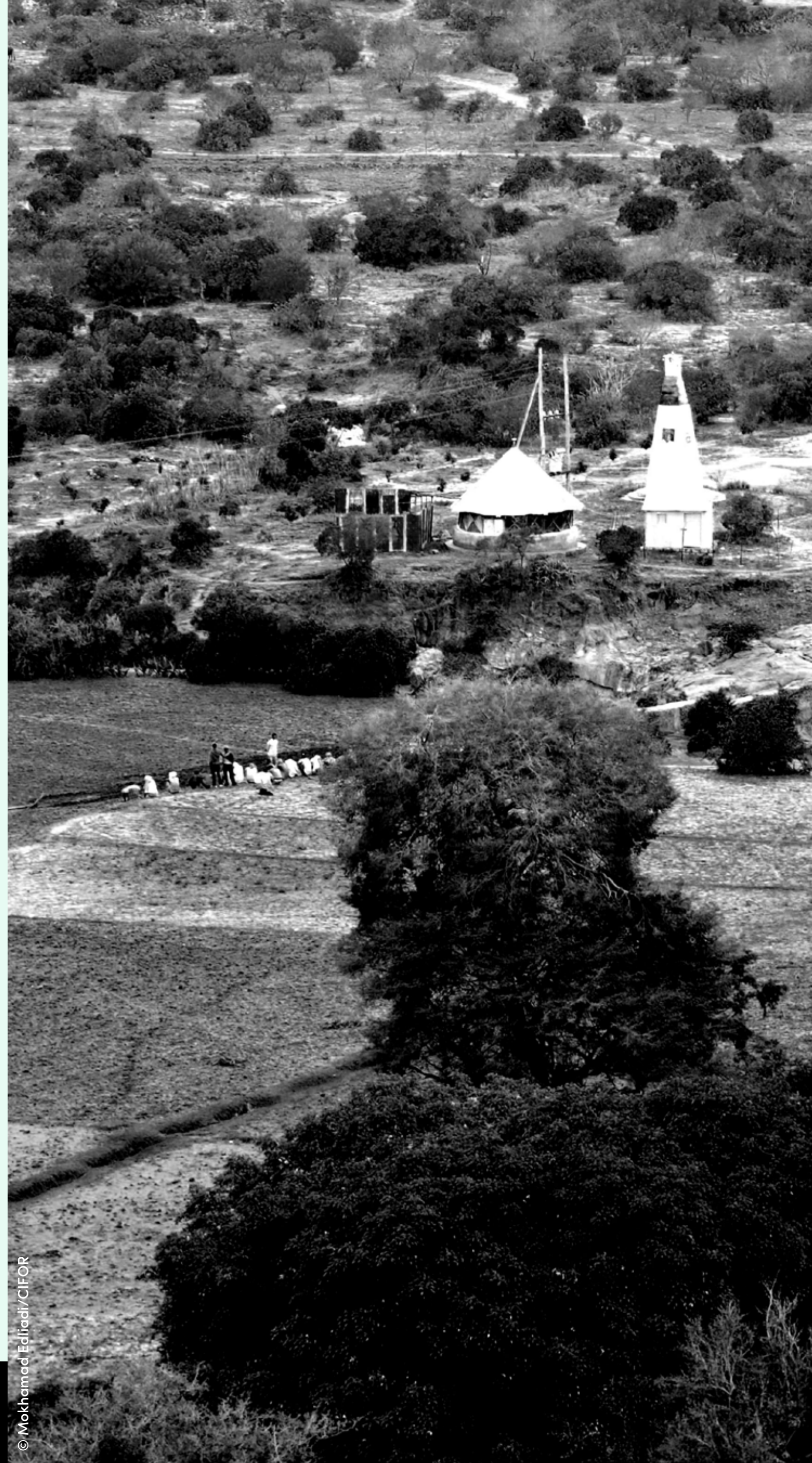
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The Global Landscapes Forum (GLF) is the world's largest knowledge-led platform on integrated land use, dedicated to achieving the Sustainable Development Goals and Paris Climate Agreement. The Forum takes a holistic approach to create sustainable landscapes that are productive, prosperous, equitable and resilient and considers five cohesive themes of food and livelihoods, landscape restoration, rights, finance and measuring progress. It is led by the Center for International Forestry Research (CIFOR), in collaboration with its co-founders UNEP and the World Bank and Charter Members.

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