

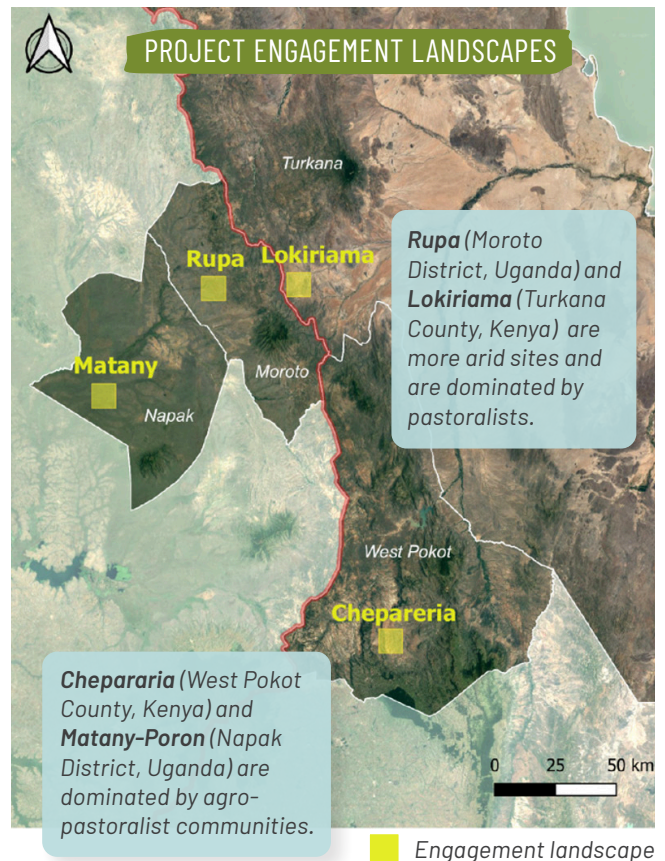


Rangeland restoration in the East African drylands with Restore4More

Restoring degraded rangelands is urgently needed to reverse the current negative trends in land degradation, biodiversity loss, water insecurity, climate change and diminishing human wellbeing.

Providing the evidence base for policy and implementation support to restore degraded rangelands is critical to address these interlinked crises and enhance human wellbeing in East Africa. **The entry point of Restore4More is to identify the synergies in the biodiversity-water-climate nexus to accelerate restoration of degraded rangelands** for improved climate change adaptation and mitigation, enhanced biodiversity and water and food security in the drylands of East Africa.

Restore4More will address critical evidence gaps and generate actionable knowledge on the biodiversity-water-climate nexus that can contribute to large-scale, long-lasting, and effective rangeland restoration in the drylands of East Africa.



WHY OUR WORK IS IMPORTANT

Restoration: a nexus solution with potential benefits for people, nature, and climate

Restoration interventions should aim to **restore multiple functions and generate a range of ecosystem services that benefit multiple stakeholder groups**, from the local to the global level. Unfortunately, many restoration attempts in drylands have failed to do this, compromising water security, biodiversity, and local livelihoods. Such failures are often the result of a lack of

understanding of the biodiversity–water–climate nexus. Restore4More aims to improve this understanding across the larger plant–soil–water nexus so as to accelerate the recovery of key ecosystem functions and related ecosystem services, improving restoration outcomes and enhancing resilience to environmental change.

Restore4More aims to advance the fields of restoration ecology, (eco)hydrology, functional vegetation ecology, sustainability science, earth system modelling, and land health monitoring, in order to enable **innovative solutions to restore rangelands** for enhanced biodiversity, water and food security, and climate change mitigation and adaptation.

DEGRADED RANGELAND

Climate change is an accelerator of land degradation and biodiversity loss, especially in drylands. This can have a negative impact on wellbeing in general, including loss of crops and livestock, diminished soil health, and loss of livelihoods.

More intense rainfall as a result of climate change can exacerbate soil erosion and result in greater peak flows and increased flood risk, jeopardizing water and food security and constraining adaptive capacity to climate change.

Biodiversity is improved through the re-vegetation of land with trees and grasses, enhancing the soil's ability to absorb water.

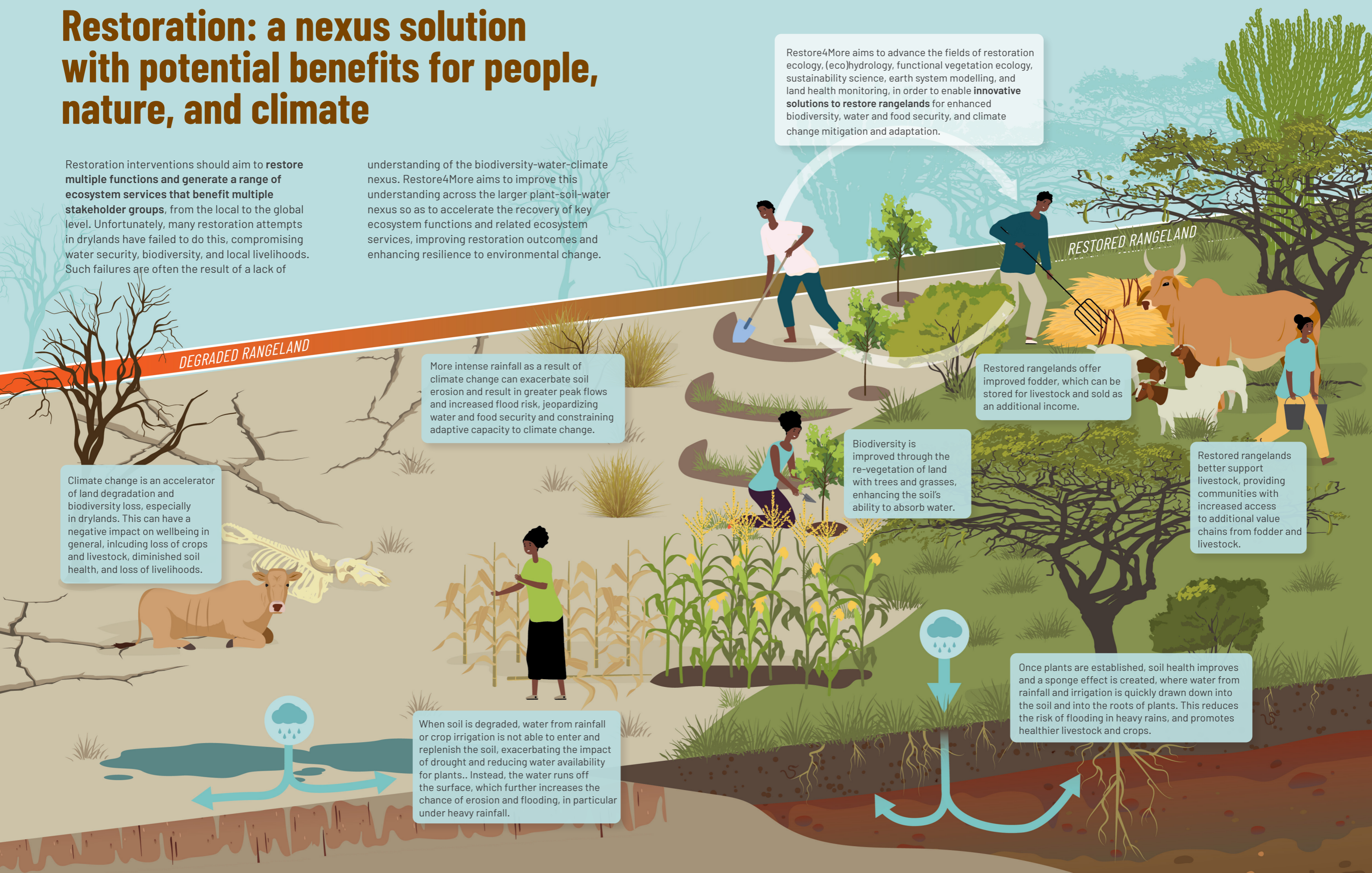
Restored rangelands offer improved fodder, which can be stored for livestock and sold as an additional income.

Restored rangelands better support livestock, providing communities with increased access to additional value chains from fodder and livestock.

When soil is degraded, water from rainfall or crop irrigation is not able to enter and replenish the soil, exacerbating the impact of drought and reducing water availability for plants. Instead, the water runs off the surface, which further increases the chance of erosion and flooding, in particular under heavy rainfall.

Once plants are established, soil health improves and a sponge effect is created, where water from rainfall and irrigation is quickly drawn down into the soil and into the roots of plants. This reduces the risk of flooding in heavy rains, and promotes healthier livestock and crops.

RESTORED RANGELAND



Project approach

Restore4More activities are structured into five interlinked Work Packages (WPs) that feed into each other at local, country/district, national and regional, and global levels. Work packages are co-led by a diversity of project researchers, with the aim of continuous and iterative integration of findings. Through the WPs, the project will engage with stakeholder groups at multiple levels through different platforms to promote co-learning, knowledge exchange and communication.



Using field and laboratory data from the existing network of LDSF (Land Degradation Surveillance Framework) rangeland sites in East Africa, **Restore4More will systematically assess soil and land health at the landscape level, as well as the impact of restoration practices on ecosystem functioning.**



Using established "Livestock Cafés" as experimental sites, meeting places, demonstration and training sites, **Restore4More will co-develop and test different restoration practices and technologies alongside local communities.** These include seed collection, soil and water conservation practices, tree nurseries, and the development of fodder value chains for local women, men and youth.



Citizen science provides a unique opportunity to gather data for restoration monitoring while promoting wider public engagement in restoration. **Restore4More will use innovative citizen science tools that work for fluid rangeland systems.**



Restore4More will engage stakeholders at different levels in order to explore if and how changes in stakeholders' awareness and understanding of the biodiversity-water-climate nexus lead to changing decision-making contexts around rangeland restoration and management.



FORMAS

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