



RESTORING AFRICA'S DRYLANDS
ACCELERATING ACTION ON THE GROUND



A FRAMEWORK FOR ECOSYSTEM RESTORATION MONITORING

CATALYZING A SCIENCE-BASED RESTORATION MOVEMENT THROUGH
TRANSPARENT FIT-FOR-PURPOSE MONITORING IN SUPPORT TO
THE UNITED NATIONS DECADE ON ECOSYSTEM RESTORATION

#GLFAfrica



Food and Agriculture
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United Nations



WHITE PAPER

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Food and Agriculture Organization of the United Nations (FAO). A framework for Ecosystem Restoration Monitoring - Catalyzing a science-based restoration movement through transparent, fit-for-purpose monitoring in support to the United Nations Decade on Ecosystem Restoration.

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Global ecosystems are increasingly at risk from the impacts of land degradation with the loss of 4.7 million hectares of forests each year (FAO, 2020), while 12 million hectares of land becomes unproductive due to desertification and drought (UNCCD, n.d.). It is estimated that 25-35 percent of **drylands** are **degraded** threatening the livelihoods of more than 1 billion people in 100 countries (IPCC, 2019), and are increasingly at risk with populations projected to increase by 43 percent—from 2.7 billion in 2010 to 4.0 billion in 2050 (IPBES, 2018).

In line with the scale of these challenges, political resolve and financial commitments to slow forest loss and restore degraded lands have increased considerably over the last decade. This follows recognition of ecosystem restoration as a pathway to address the concurrent climate and biodiversity crises. As global restoration pledges continue to rise, exceeding 1 billion ha globally (Sewell *et al.*, 2020), 31 African nations have committed to restore 125 million ha of degraded land by 2030 through the AFR100 initiative (AFR100, 2019).

MONITORING RESTORATION PROGRESS: THE FRAMEWORK FOR ECOSYSTEM RESTORATION MONITORING (FERM)

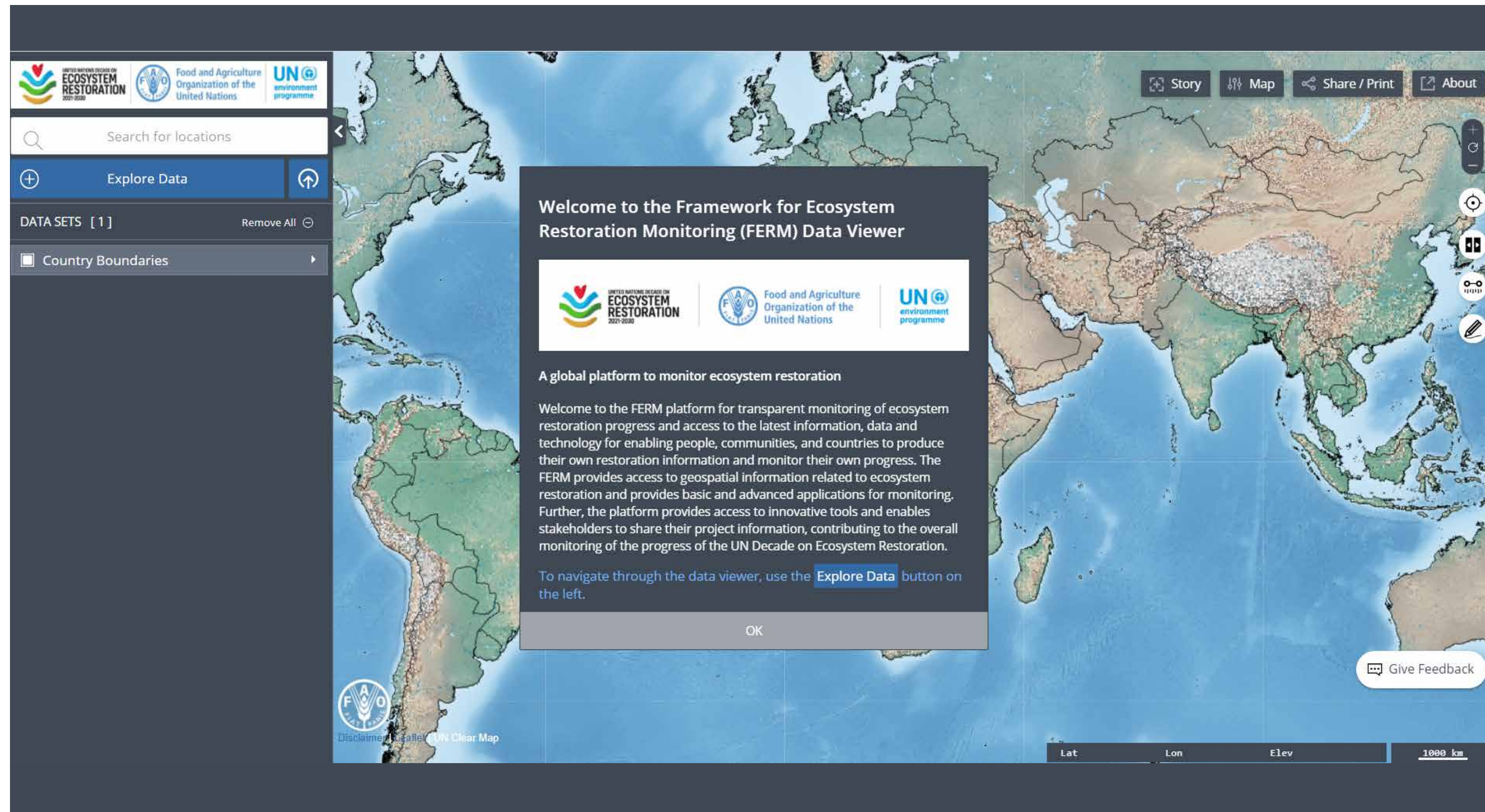
Despite the growing commitments and recognition, there remain persistent barriers to moving ecosystem restoration to scale. Tools, platforms, and data on where and how best to restore ecosystems promise increased efficiency and impact, and governments need to know the locations where to invest and to be able to monitor progress. However, these systems are nascent and are not yet widely available. To overcome these barriers FAO, in consultation with the **Task Force on Monitoring** (FAO, 2021), which brings together over 270 experts from 100 organizations, have developed the **Framework for Ecosystem Restoration Monitoring (FERM)** to improve data access, transparency, and to ensure actions to meet restoration commitments are guided by the best available science.

FERM is a key delivery mechanism at global, regional, and national levels, providing state of the art foundational tools, platforms, and data which support the development of resource-efficient and fit-for-purpose monitoring systems, and generate quality data and information for domestic restoration needs and other reporting processes.

FERM builds on the **Dryland Restoration Initiative Platform (DRIP)**, which is designed to enable practitioners to compile and analyse data related to their dryland restoration work. Integration and interoperability of monitoring tools and platforms can enhance and simplify the user experience of restoration practitioners. Presenting a single technical solution to both needs reduces duplication of effort, and ensures that geospatial data is interoperable between platforms.



MONITORING IN ACTION



FERM PLATFORM

The FERM geospatial platform provides accessible and transparent information for restoration practitioners across all ecosystems – grasslands, shrub lands and savannahs, peatlands,

mountains, farmlands, oceans and coasts, freshwaters, forests, drylands, and urban areas – in an easy-to-use interface. Users can interrogate and interact with key geospatial information related to soil, water, and vegetation for their ecosystem of interest.

FERM REGISTRY

In the future, the platform will enable restoration stakeholders and national entities to share their information on restoration progress at different scales through the FERM Registry (under development). The registry is designed to record geospatial information on restoration projects for different ecosystems using a harmonized approach and ensure consistency with the **IATI** format (International Aid Transparency Initiative) to ensure that as initiatives as possible can be included.

This will enable designated national entities to track and monitor restoration actions for reporting against restoration commitments, increasing transparency in restoration monitoring and reporting.

FERM FEATURES

FERM users can interrogate and interact with key geospatial information related to soil, water, vegetation, and socio-economics for their ecosystem of interest. The FERM platform also has functionality for uploading national and sub-national data, enabling integration of geospatial data locally, nationally, regionally and globally.

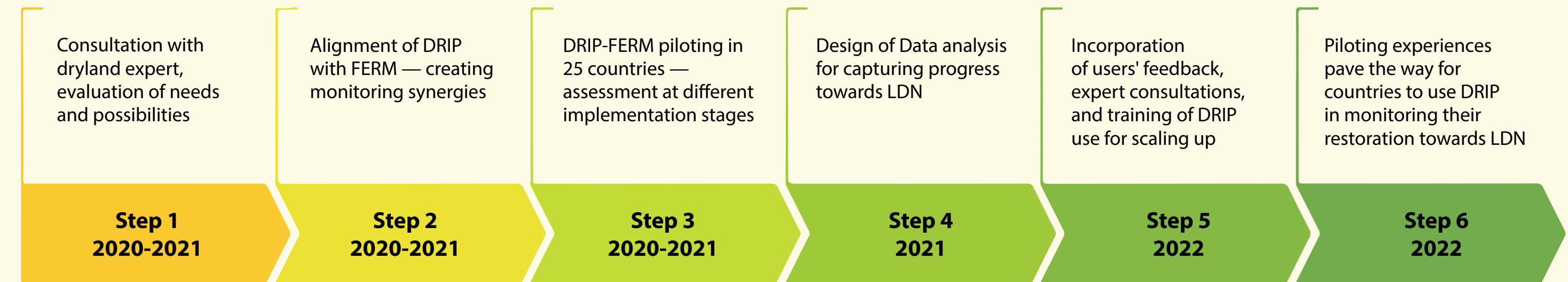
The platform includes functionality to create compelling restoration impact stories, based on user specific geospatial data. For the more advanced user, the FERM includes an **integration** with FAO's geospatial processing platform, **SEPAL**, and allows on the fly composite/mosaic creation f- drawing on the historical archive of Landsat imagery, the frequency of the Sentinel-2 imagery and of the cloud-penetrating abilities of Sentinel-1.

DRYLANDS NEED MORE ATTENTION TO REACH LAND DEGRADATION NEUTRALITY (LDN)

Dryland regions are particularly affected by processes such as the growing unpredictability of seasonal patterns (including drought and intensive rainfall), the loss of land productivity due to land clearance or unsustainable management, resulting food insecurity and displacement. Since a large proportion of dryland peoples are highly dependent on local natural resources, strengthening these resources through ecosystem restoration presents a key opportunity for addressing climate change impacts, maintaining biodiversity and providing sustainable livelihoods.



DRIP development and implementation — timeline



SUPPORTING NATIONAL RESTORATION MONITORING AND REPORTING

At the national level, state-of-the-art tools and data will be curated and deployed to countries through FERM, building on and respecting national systems, capacity, and institutional arrangements. FERM builds on, and complements, existing international, regional and national reporting processes, their goals, targets, criteria and indicators.

DRYLAND RESTORATION INITIATIVE PLATFORM (DRIP) STRUCTURE

DRIP is structured around project design, implementation, and completion. During each project phase, restoration practitioners input a range of data and information, including the area polygon, key baseline characteristics, project activities and objectives, and project results. Through DRIP, users can report their restoration progress by using the tool's questionnaire which produces standardized reporting data, to examine the contribution of specific project elements, and to design new and improved restoration projects. DRIP also enables aggregation of data at country level to provide an overview of restoration activities and contribution to UNCCD's Land Degradation Neutrality (LDN) targets.



CURRENT ACTIVITIES AND NEXT STEPS

The FERM platform, and DRIP integration, will be launched during GLF Africa on 3 June 2021, just before the official launch of the UN Decade on Ecosystem Restoration. The platform is being tested and assessed in 25 countries for its applicability to national and project-level approaches, paving the way for a transparent, and science-based #GenerationRestoration.

JOIN US AS WE LAUNCH THE FERM IN SUPPORT OF #GENERATIONRESTORATION

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PARTICIPATING ORGANIZATIONS

GLF Africa Digital Conference 2021 would not be possible without the support and participation of the following hosts, partners and organizations. For a full list of everyone involved, please visit: events.globallandscapesforum.org/africa-2021/partners

GLOBAL LANDSCAPES FORUM

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 livelihood initiatives, landscape restoration, rights, finance and measuring progress. It is led by the Center for International Forestry Research (CIFOR), in collaboration with its co-founders UN Environment and the World Bank and Charter Members.

Charter Members: CIAT, CIFOR, CIRAD, Climate Focus, Conservation International, Crop Trust, Ecoagriculture Partners, EFI, Evergreen Agriculture, FSC, GEF, GIZ, ICIMOD, IFOAM - Organics International, ILRI, INBAR, IPMG, IUFRO, Rainforest Alliance, Rare, RRI, SAN, UN Environment, (TMG) Think Tank, Wageningen Centre for Development Innovation, part of Wageningen Research, WFO, World Agroforestry, World Bank Group, WRI, WWF Germany, Youth in Landscapes Initiative.



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