

Beyond the Static – Operationalizing Earth Observation Assisted Frameworks for Assessment and Monitoring of Ecosystem Health in IFAD ASAP Project Areas

Fast facts

Recipient:

World Agroforestry Centre (ICRAF)

IFAD Grant:

USD 2 Million

Countries:

Lesotho, Swaziland, Malawi, Kenya, Uganda

Overall goal:

To enhance IFAD ASAP's contribution to improving food security and the resilience of smallholder farming and agro-pastoral systems in Kenya, Uganda, Malawi, Lesotho and Swaziland.

Approval date:

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Keywords:

climate change, ecosystem health, resilience, earth observation, livelihoods

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Background

Unsustainable agricultural practices and over-exploitation of natural resources have resulted in serious land degradation over an area equivalent to the size of Mexico, USA and Canada combined. The results are impoverished soils and impaired ecosystem services, which again result in reduced agricultural yields that affect an estimated 3 billion people - exacerbating poverty, reducing food security and negatively impacting health and nutrition.

These processes are having disproportionately large effects on smallholder farmers and vulnerable groups such as women and children among the rural poor who often lack the resources to buffer against the effects of land degradation and climate change.

The primary objective of the project

is to enhance IFAD ASAP stakeholder access to high quality data and diagnostic evidence on ecosystem health and household resilience, as well as the capacity to use such data and evidence to strengthen the design, monitoring, and ongoing refinement of programme interventions and investments.

The project will work in five countries in East and southern Africa.





The SHARED approach uses comprehensive facilitation to support interaction with evidence and co-learning, building long-term relationships to ensure that evidence can be critically evaluated and interpreted to inform decision-making.



To foster the innovation, ownership and consensus required, the project will use the Stakeholder Approach to Risk-informed and Evidence-based Decision-making (SHARED) to shape and embed evidence into inclusive negotiation and decision-making processes. SHARED is a comprehensive framework tailored to specific decision needs; it brings together processes, evidence and tools to shift the decision paradigm towards more inclusive, inter-sectoral and inter-institutional integration to tackle complex decisions and achieve desired outcomes.

Project outputs:

- a) A robust **indicator framework** (i.e. a gold standard) for operational assessment of ecosystem health, including both social and ecological systems, in the target countries – building on existing frameworks for assessment of ecosystem health.
- b) Landscape-level **analyses of both biophysical indicators of ecosystem health, as well as socioeconomic drivers** (using available data from MPAT and other data sources) for inclusion into the EO-assisted knowledge platform, including spatial predictions of the key indicators identified
- c) **Capacity** developed among international and national stakeholders through training workshops and other capacity development support to engage with and maintain the EO-assisted platform.
- d) An **EO-assisted knowledge platform**, including interactive, user friendly tools, for assessing and monitoring ecosystem health and household resilience, tailored to stakeholder priorities and needs in the target countries and used to inform the design of COSOPs.

Source: Airbus/ESA



Working with data from the European Space Agency (ESA), and in particular the Sentinel-2 Platform, the project is utilizing state-of-the-art remote sensing sensors to assess ecosystem health at scale.