

ANNUAL  
MEMBERS  
FORUM  
MEETING 2025



Agroecology and  
Safe Food System  
Transitions

# Showcasing and reflecting on AE-TPP progress

## The Metrics Domain

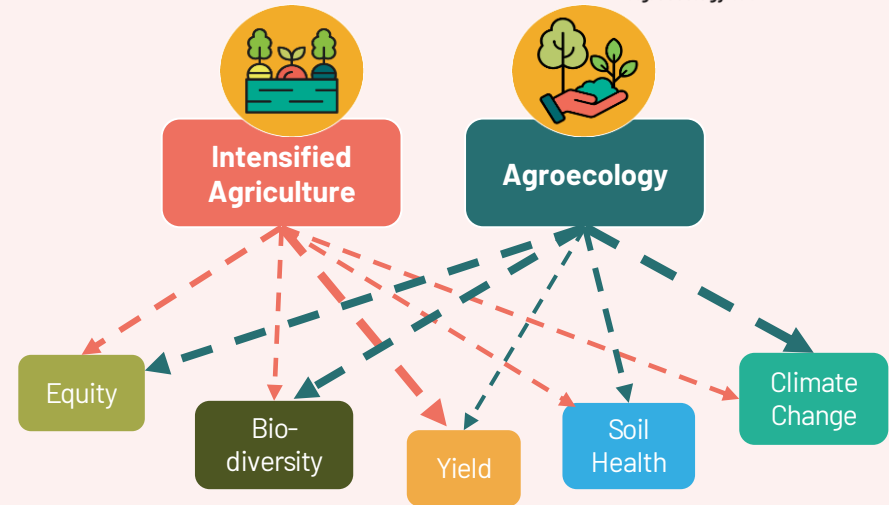
01 April 2025

# Levelling the playing field

A key challenge to up-scaling agroecology is providing policymakers, donors, development actors and farmers with ways of measuring performance that **allow fair comparison** with alternatives.

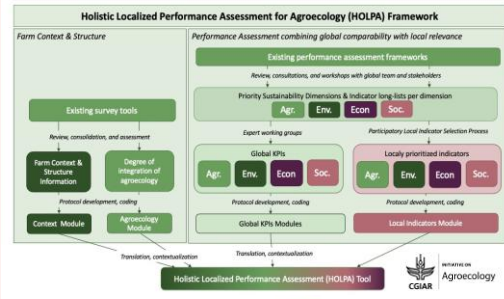
**Agri-food systems are complex**, measuring them isn't easy.

Dominant practice has been to **measure a narrow set of metrics** focusing on economic performance and productivity.



**But agroecological systems provide environmental and social benefits, not only economic ones!**

# THE METRICS DOMAIN OF THE AGROECOLOGY TPP



Agroecology TPP

## Measuring Agroecology and its Performance (MAP)

Introduction to the collaborative MAP project at the inception meeting in Nairobi

21 June 2023

Stats4SD

cirad

World Agroforestry

Food and Agriculture Organization of the United Nations

Matthias Geck

The Agroecology TPP

## DIALOGUES

Interpretation EN/ES/FR available!

#3

17.12.2024  
12:00-15:00 UTC  
3 hours!

ON TEAMS

MEASURING WHAT MATTERS

Agroecology TPP

TRANSITIONS

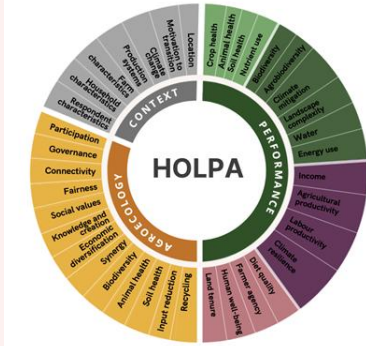
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World Agroforestry

Food and Agriculture Organization of the United Nations

Matthias Geck



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TRANSITIONS

## METRICS

A project of the Agroecological Transitions Program for Building Resilient and Inclusive Agricultural & Food Systems (TRANSITIONS)

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Food and Agriculture Organization of the United Nations

Matthias Geck

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## Holistic Performance Measurement for Food Systems Transformation

A scoping study in Burkina Faso, Ghana, and Tunisia

ICARDA

IDRC-CRDI

Canada

Matthias Geck & Mary Crossland



Stats4SD

# What agroecology brings to food security and ecosystem services: a review of scientific evidence

**DeSIRA  
LIFT**

Authors:  
Guy Faurie (INRA)  
Matthias Geck (CIFOR-ICRAF)  
Marie-Luise Parecchini (IRC)  
Nadine Andrieu (CIRAD)

## Abstract

There is a growing body of scientific evidence regarding the outcomes and impacts of agroecology. This knowledge brief aims to provide a set of evidence, based on a large-scale analysis of scientific articles (literature review, meta-analysis, models).

There is a strong theoretical basis and empirical evidence that food security outcomes (availability, access, utilisation, stability) are as good or sometimes even better for agroecological systems than conventional alternatives. Four levers for agroecology supporting the positive impacts of agroecology on food security are analysed: crop diversification, legume-based systems, agroforestry and mixed crop-livestock systems. Crop diversification is an effective strategy to improve food security by mobilising different biological mechanisms. Due to its biological characteristics for nitrogen (N) fixing, legumes are one of the most important levers for improving food security (both availability and food utilisation/nutrition) based on agroecological principles. Agroforestry contributes to food availability by recycling nutrients, to food stability by increasing the resilience of the farming systems and to food utilisation through better diets. Mixed crop-livestock systems contribute to food availability by recycling nutrients and to food utilisation through meat and milk consumption.

As agroecology is more than a set of practices, this knowledge brief specifically focuses on two approaches with a high potential to increase food security and efficiently address environmental challenges. A set of evidence is analysed for integrated soil health management and agroecological pest management.



Beyond production and food security, agroecology brings multiple services. In fact, such services are the main arguments to support agroecological approaches able to adequately address both food security and environmental challenges. Socio-economic evidence is also analysed.

## 1 Context and objective

**Agroecology is a science, a set of practices and a social movement.** It is defined by the Food and Agriculture Organization of the United Nations (FAO) as "an integrated approach that simultaneously applies ecological and social concepts and principles to the design and management of food and agricultural systems" that "aims to optimise the interactions between plants, animals, humans and the environment while taking into account the social aspects that must be addressed for a sustainable and equitable food system". Many actors referring to agroecology prefer to insist on principles that define what agroecology is. The FAO proposes 10 elements to characterise agroecology, identified during a consultation process carried out between 2015 and 2017, and culminating with an international symposium in 2018.<sup>1</sup> The HLPE report (2019) on agroecology presents 13 principles (both technical, social and organisational)

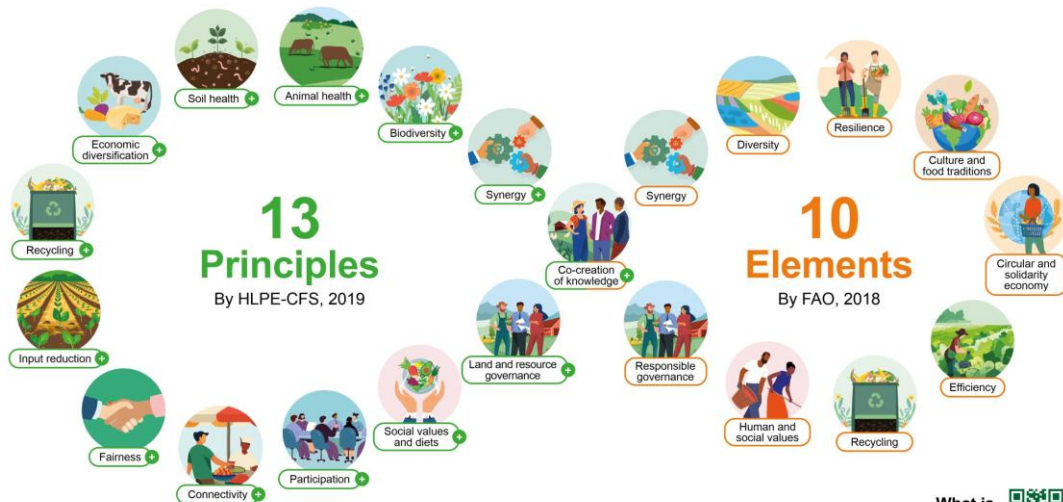


## Agroecology- towards the transformation of food systems

Agroecology, based on a set of principles and elements, is a transformative pathway towards sustainable food systems.

Discover its foundations through theory and practical examples!

Click on the icon to find out more.



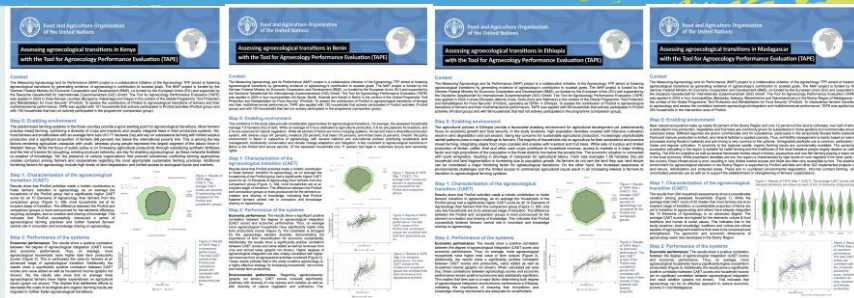
As you explore the infographic, you will come across the word «farmer» several times. This is often used to indicate other food producers (fisher-folks, herders...)

What is  
Agroecology?



<sup>1</sup> Available at <http://www.fao.org/aboutmeeting/aligned-international-agroecology>

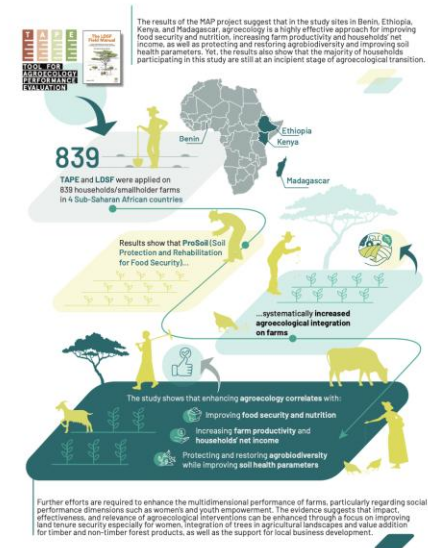
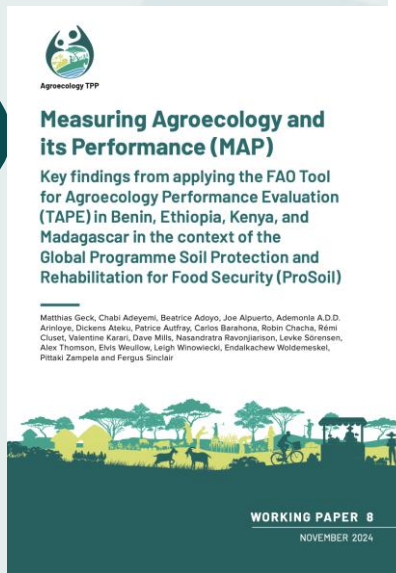




<https://www.fao.org/agroecology/database/detail/en/c/1734727/>

# Measuring Agroecology and its Performance(MAP)

Key findings and lessons learned from applying TAPE in Benin, Ethiopia, Kenya, and Madagascar in the context of ProSoil



**giz** Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH



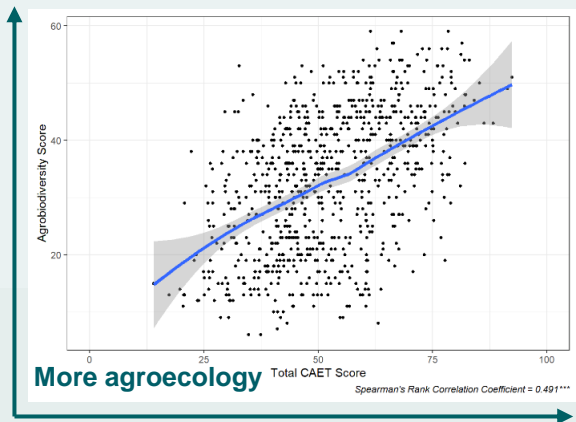
Food and Agriculture Organization of the United Nations

**Stats4SD**

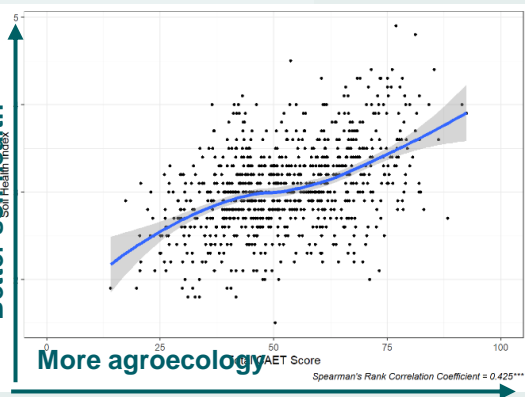


<https://www.cifor-icraf.org/knowledge/publication/9298/>

Increased agrobiodiversity

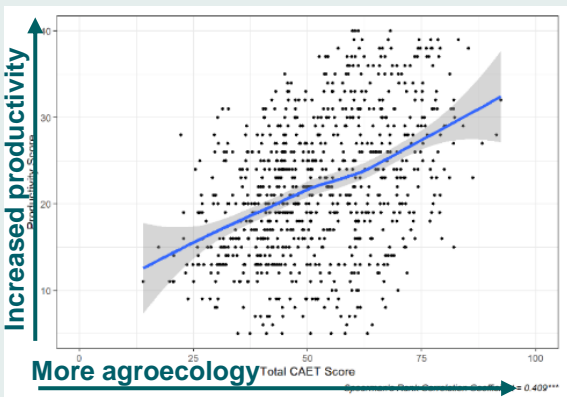


Better soil health

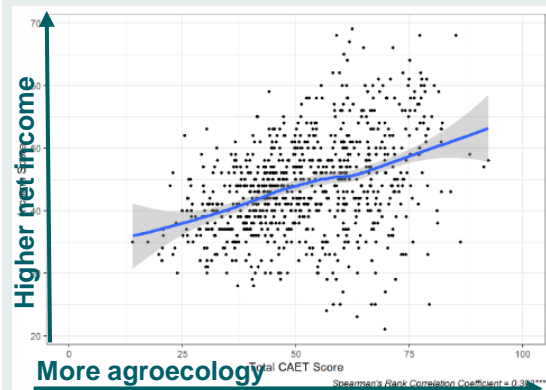


Agroecology is good for the environment, but not only!

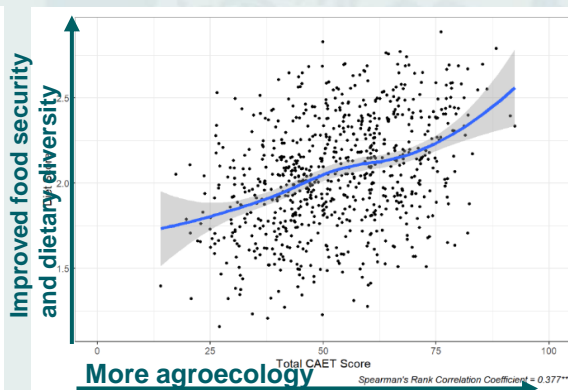
Increased productivity



Higher net income



Improved food security and dietary diversity





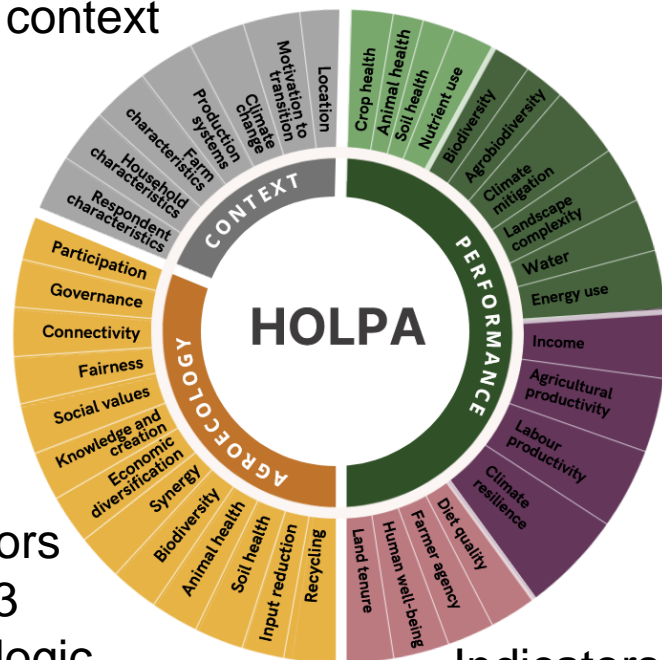
INITIATIVE ON  
Agroecology

# **Holistic Localized Performance Assessment (HOLPA)**

**tool for collecting evidence on  
the impact of agroecology**

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4891979](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4891979)

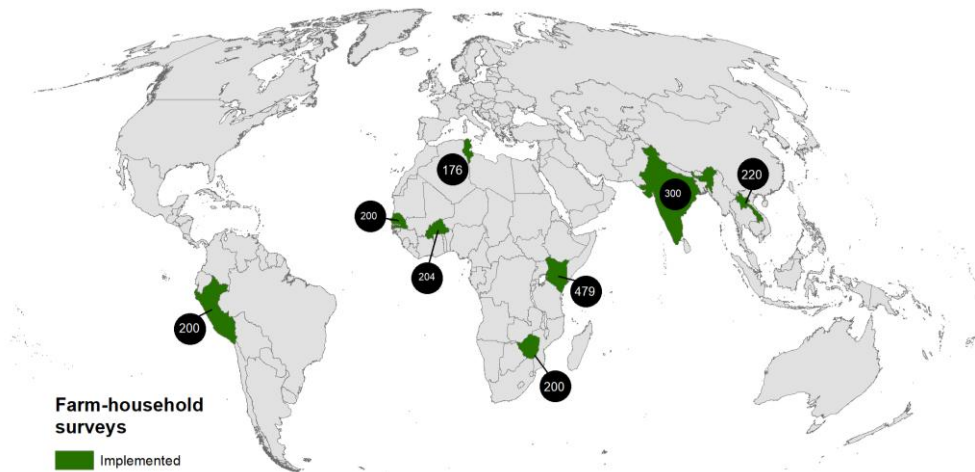
Farm, household  
and landscape  
context



Indicators  
for 13  
agroecologic  
al principles

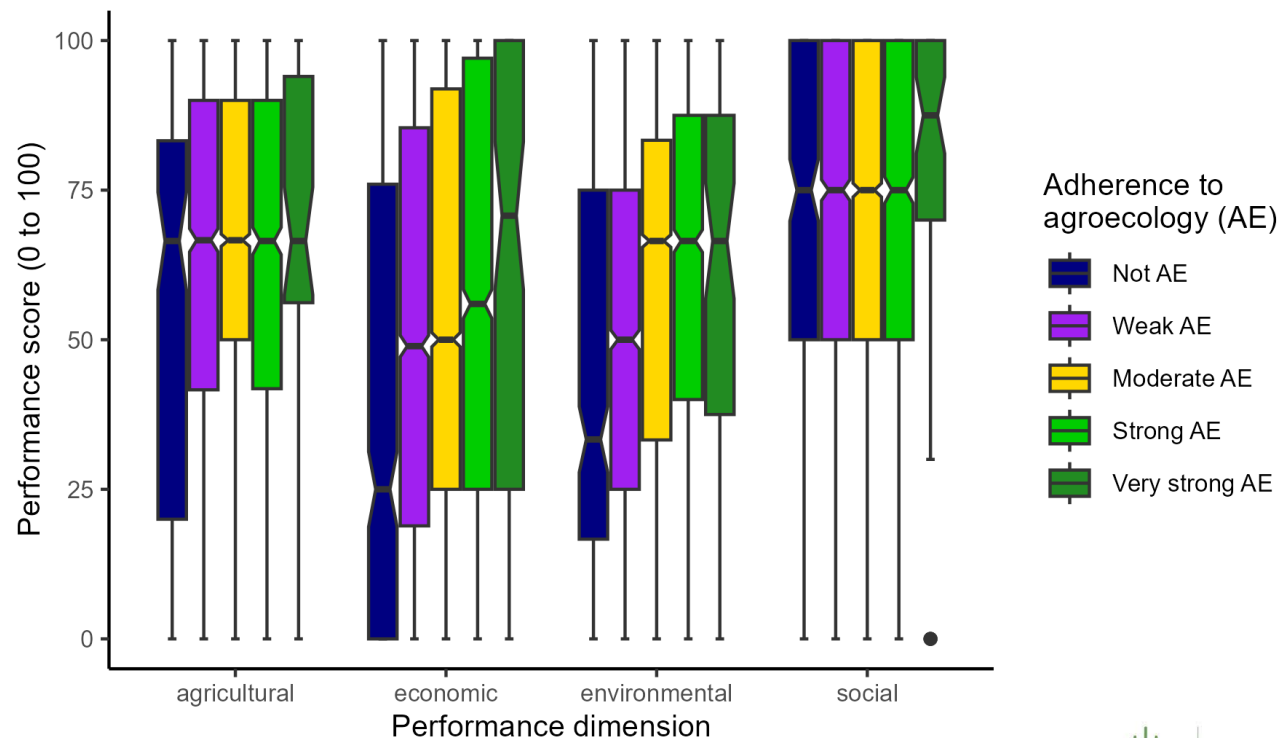
Indicators  
for 18  
performance  
themes

1979 farm-households across 8 countries

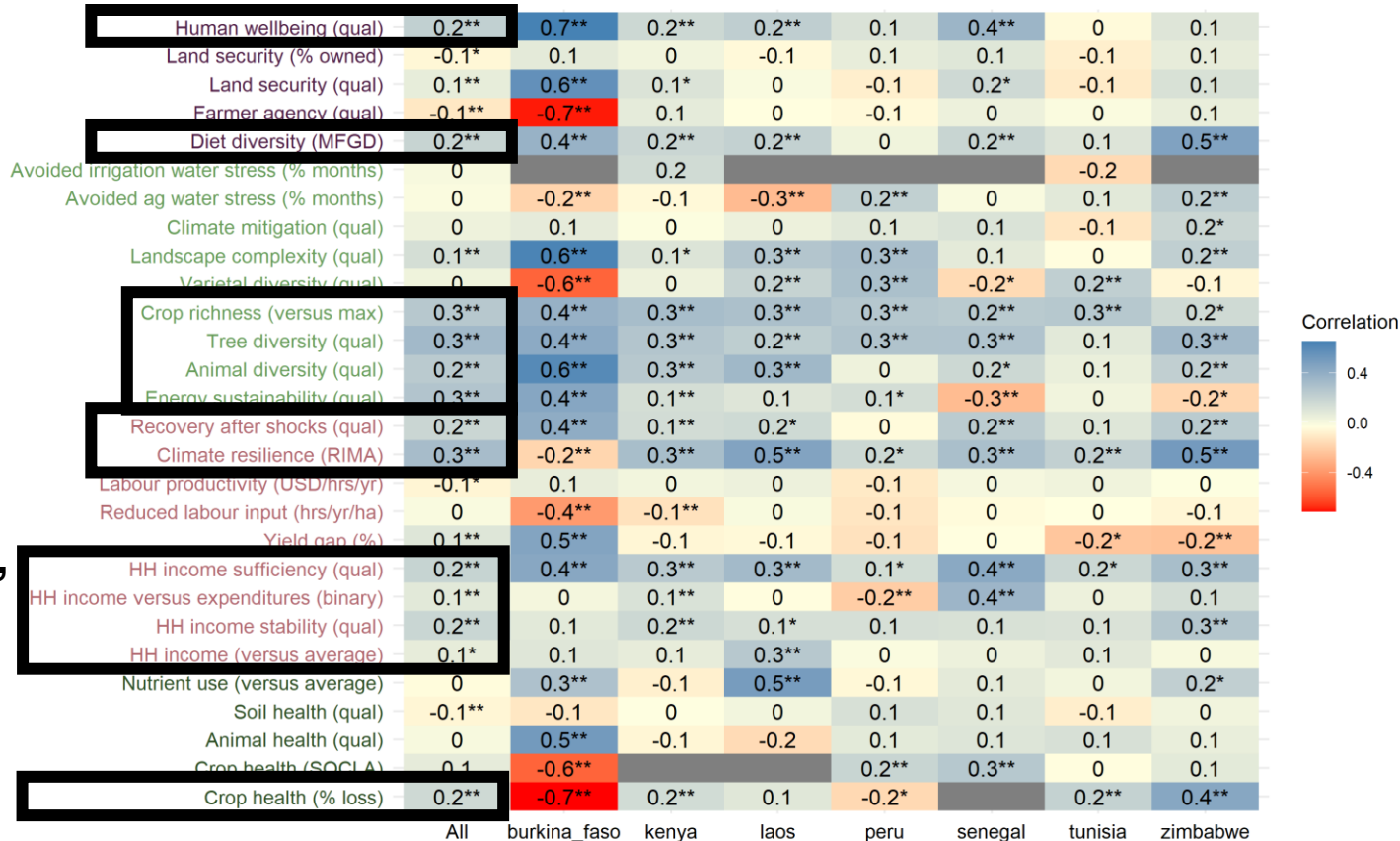




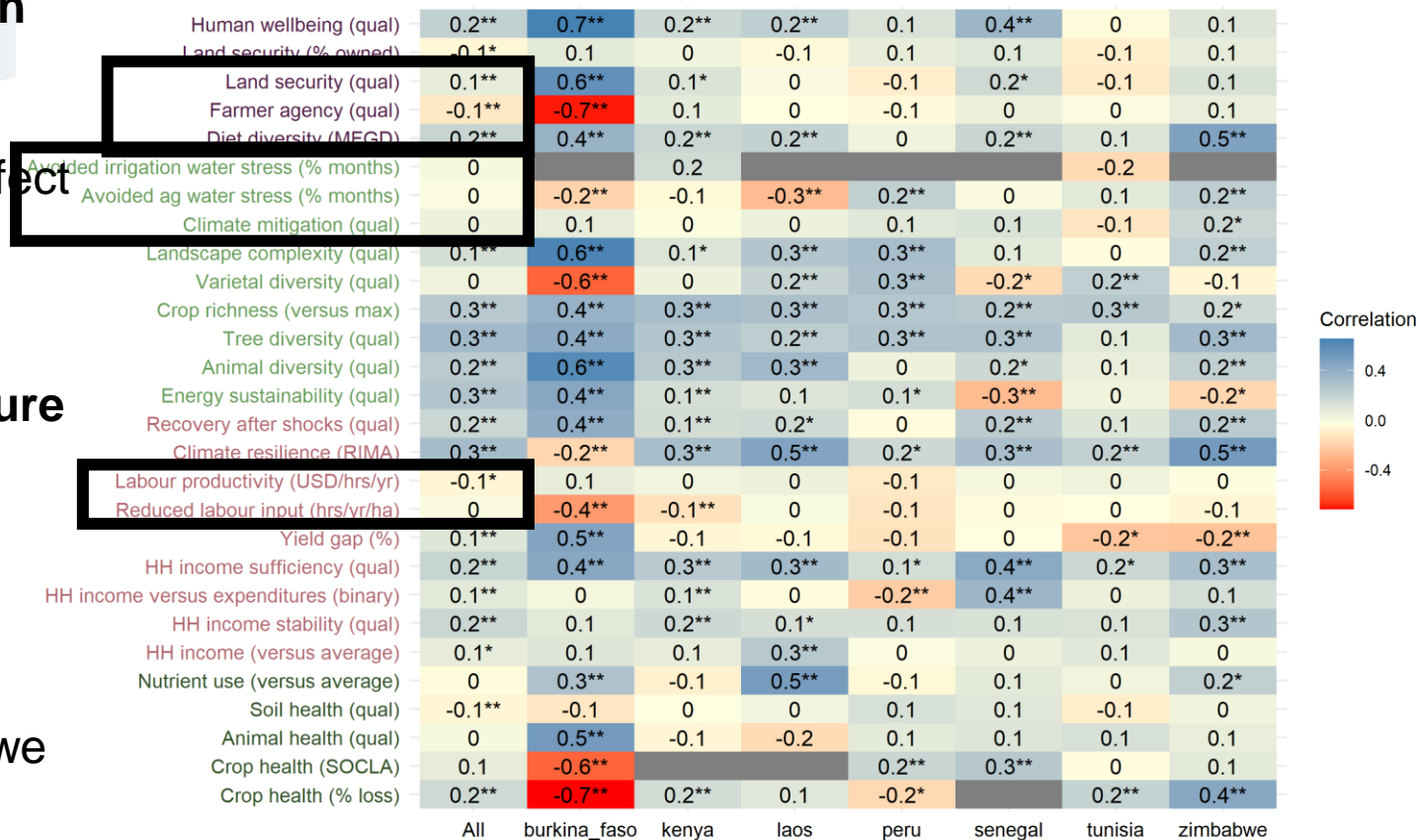
Consistent trend towards **higher performance scores with increasing adherence to agroecology**, across economic, environment, and social performance dimensions



On average, agroecology has a positive effect on **biodiversity** (tree diversity, crop species richness), **energy use**, **climate resilience**, **human wellbeing**, **nutrition**, **income**, and **crop health**



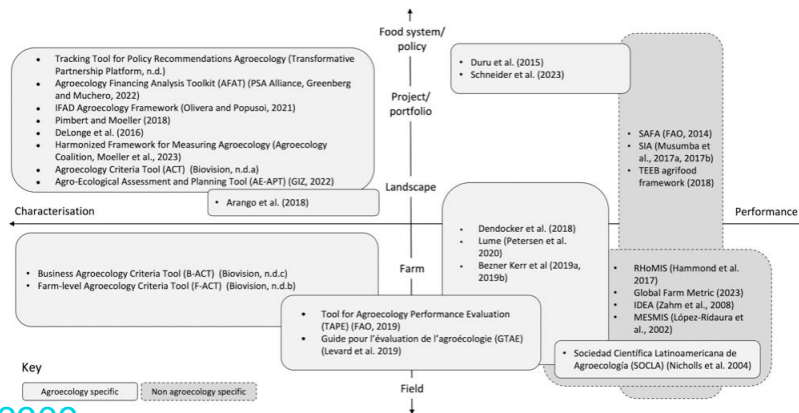
- Mixed/no effect on **climate mitigation** or **water conservation**
- Mixed/negative effect on **labour productivity, soil health, farmer agency, land tenure security** (or vice-versa)
- Tools matter: depending on the indicators and methods we use we will get different results



## Perspectives

# Measuring agroecology and its performance: An overview and critical discussion of existing tools and approaches

Matthias S Geck, Mary Crossland <sup>1</sup>, and Christine Lamanna



<https://journals.sagepub.com/doi/epub/10.1177/00307270231196309>

frontiers | Frontiers in Sustainable Food Systems

TYPE Systematic Review  
PUBLISHED 25 February 2025  
DOI 10.3389/fsufs.2025.1472109

Check for updates

## OPEN ACCESS

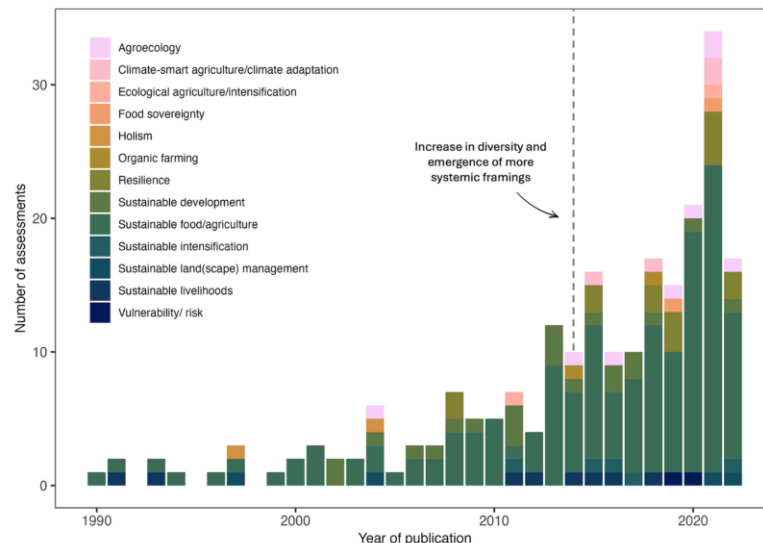
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## Measuring the holistic performance of food and agricultural systems: a systematic review

Mary Crossland<sup>1\*</sup>, Ric Coe<sup>1,2</sup>, Christine Lamanna<sup>1</sup>,  
Brian Chiputwa<sup>1</sup>, Levi Orero<sup>1</sup>, Beatrice Adoyo<sup>1</sup>, Sandhya Kumar<sup>1</sup>,  
Victor Mutugi Mwangi<sup>1</sup>, Edith Anyango<sup>1</sup>, Lisa Elena Fuchs<sup>3</sup>,  
Anne Kuria<sup>1</sup> and Matthias Geck<sup>1</sup>

<sup>1</sup>World Agroforestry (CIFOR-ICRAF), Nairobi, Kenya, <sup>2</sup>Statistic for Sustainable Development (Stats4SD),  
Reading, United Kingdom, <sup>3</sup>International Center for Tropical Agriculture (CIAT), Nairobi, Kenya





# The Scoping Study

Aimed to identify barriers and opportunities for assessing agroecological performance and explore how investing in the development of more holistic assessment can support transitions.

- Identify **key actors supporting agroecological transformation** and potential partnerships for advancing the field of agroecology.
- Evaluate their **experiences, interests, and needs** regarding holistic assessments, and identify common **barriers and opportunities**.
- **Review existing metrics**, tools and assessment approaches and identify priority areas for **future research and development**.

Ghana – Burkina Faso – Tunisia

Desk review  
& stakeholder  
mapping

In-depth  
interviews

Engagement  
Workshops



Stats4SD



IDRC · CRDI

International Development Research Centre  
Centre de recherches pour le développement international

Canada

*This work was carried out with financial support from the International Development Research Centre (IDRC), Ottawa, Canada. The views expressed herein do not necessarily represent those of IDRC or its Board of Governors.*

# What we found



Need for diverse, cross-sectoral collaboration and a food systems approach that **go beyond production and consumption** to include processing and distribution, which currently receive less attention.



Actors (especially researchers) are collecting data and have relevant methods & tools, but communication and dissemination is lacking. **Need platforms for sharing knowledge** and leveraging each other's experiences (e.g. with different tools, such as TAPE & HOLPA).



Challenges in measuring key agroecological principles. The least measured principles were equity, social values & diets, connectivity, recycling and synergies due to **lack of appropriate metrics, tools and knowledge** on how to measure such aspects.



# Key take-aways

- Embrace a **plurality of definitions** and frameworks
- Harmonise metrics while allowing for **context-specific adaptations**
- Strengthen capacity and **develop guidance** for holistic assessment
- Build **platforms and communities** for sharing knowledge
- Develop easy to use metrics and **tools for the 'hard to measure'**





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**TRANSITIONS**

# METRICS

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Program for Building Resilient and Inclusive  
Agricultural & Food Systems (TRANSITIONS)



**IFAD**

Investing in rural people

**Stats4SD**

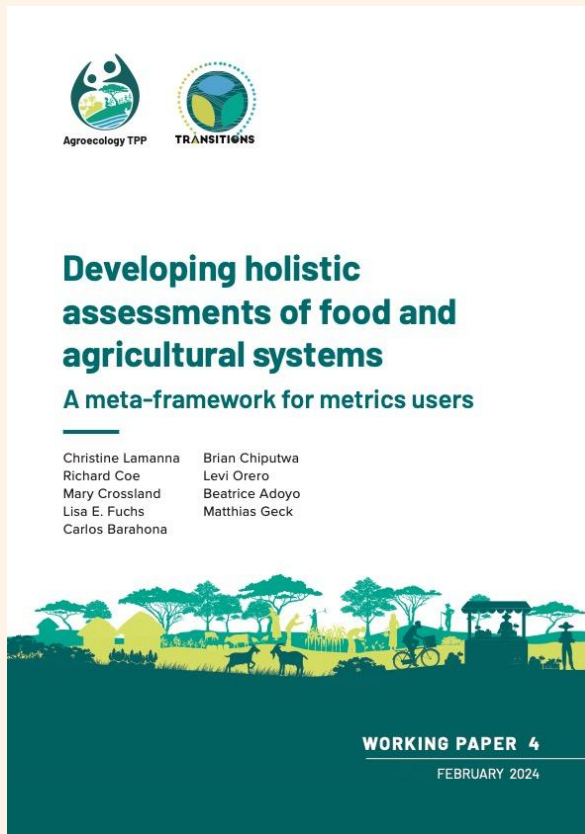


Funded by European Union



# The Meta- framework

Build your  
own holistic  
assessment!

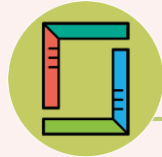


## Eight principles for designing holistic assessments



# THE PATH

Steps to take to design an assessment system



## Framing

- 1 Define the goals or objectives for the assessment
- 2 Define system boundaries
- 3 Decide who will be engaged
- 4 Chose a theoretical basis



## Metrics

- 5 Identify what matters to measure
- 6 Select appropriate metrics
- 7 Select appropriate methods



## Data

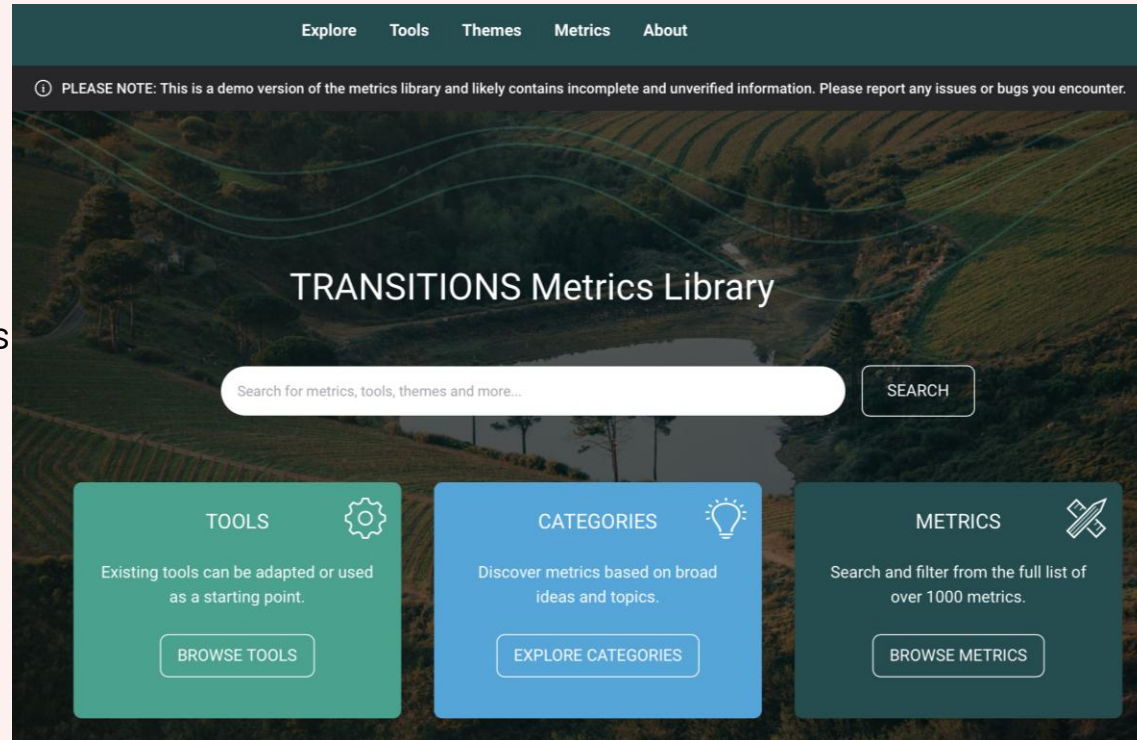
- 8 Designing data collection
- 9 Planning data organization and processing
- 10 Choosing integration and presentation approaches



## Metrics Database and Library

A one-stop shop for metrics, where users can view, explore and select the right metrics for their needs.

What do you want to **understand**?  
What are your **practical constraints**?  
What is your **context**?







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# The TRANSITIONS Metrics Library

## What is it?

The Metrics Library is an online database that provides a comprehensive collection of metrics for evaluating the performance of food and agricultural systems. This user-friendly platform will act as a one-stop shop for users to explore, search, and select the most appropriate metrics and tools for their specific needs. The library is aimed at a wide range of users interested in agrifood systems assessment, from policymakers and donors to development actors and producers.

## Why is it needed?

While we may already know which aspects of agrifood system performance we want to measure, choosing the right metrics can be challenging. The Metrics Library addresses this gap by offering users the ability to search for metrics based on various criteria, such as the dimension (e.g., economic, environmental, social), theme (e.g., food security, resource use efficiency), or scale of interest (e.g., field, farm, landscape, region). Additionally, the library can suggest existing assessment tools that align with a user's needs and introduce them to potentially overlooked metrics, ensuring a more holistic evaluation.

The Metrics Library is being developed to complement and support the metrics Meta-framework – a step-by-step guide to developing your own holistic assessment that meets your needs.

**Check out the teaser on the Metrics Library here:**

<https://www.cifor-icraf.org/knowledge/publication/39378/>



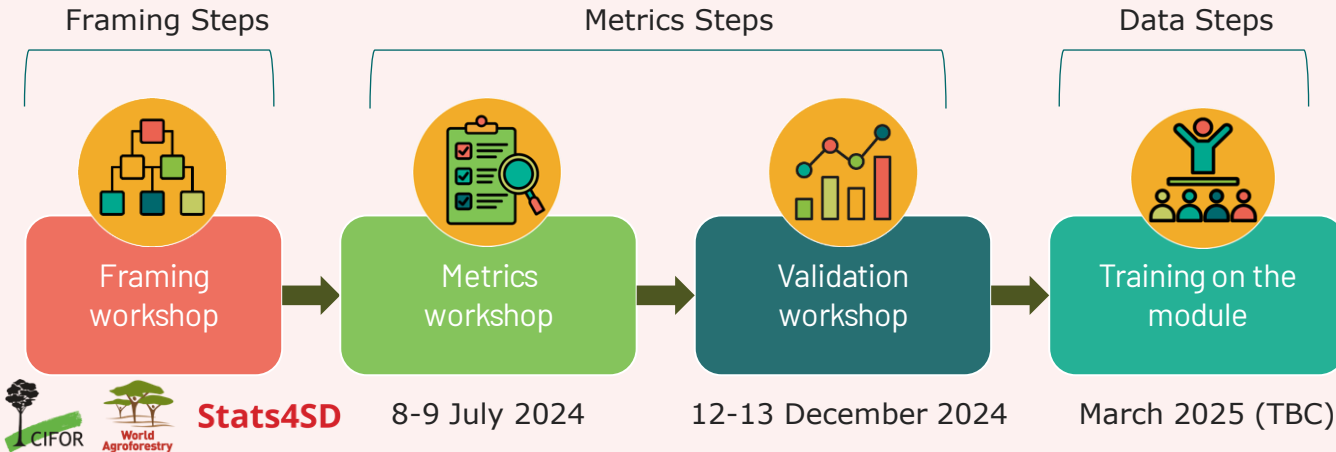
**Stats4SD**

# The SMART Initiative – Peru

- SMART is a **multi-stakeholder platform** that brings together actors to support the transition to agroecology-based agroforestry in the region of San Martín.
- Using the meta-framework to develop a **module for their online agroforestry knowledge platform** that will provide users with a list of candidate metrics.
- Goal is to guide more **harmonized and holistic assessment among platform** members to allow information sharing and collaborative learning.



*SMART includes partners from local, regional and national government, NGO partners, civil society and farmer organizations*





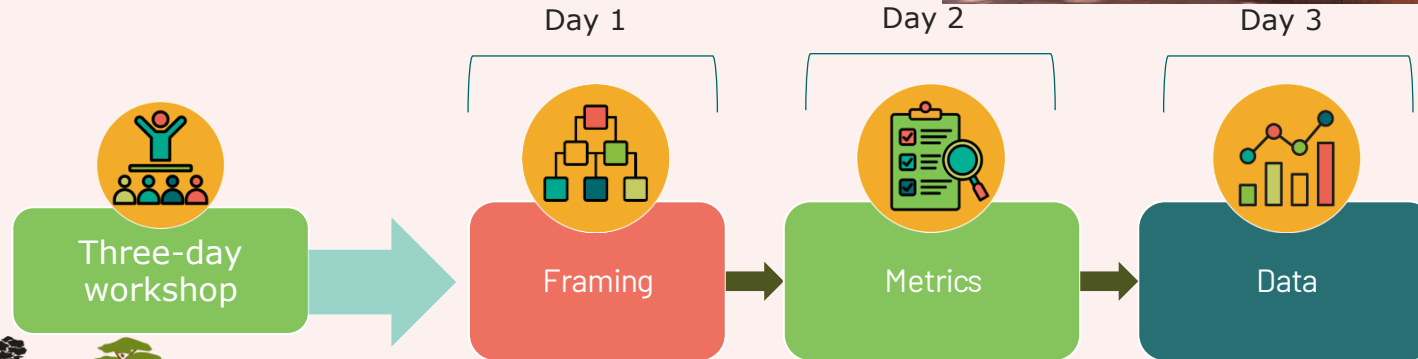
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# M&E framework for the Kenyan National Agroecology Strategy

- Collaborating with the Ministry-led **Intersectoral Forum on Agrobiodiversity & Agroecology** (ISFAA) to develop a **monitoring and evaluation framework** for the recently launched **National Agroecology Strategy for Food System Transformation**.
- Three-day workshop to decide on what to measure to track progress as well as the effectiveness of the NAS-FST implementation.



# ANNUAL MEMBERS FORUM MEETING 2025



Agroecology and  
Safe Food System  
Transitions

Looking forward to enhanced engagements  
on measuring what matters!

Visit our website  [agroecologytpp.org](https://agroecologytpp.org)