Agroecology TPP

german cooperation
DEUTSCHE ZUSAMMENARBEIT

Co-funded by the European Union

Implemented by giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Assessing Agroecological Transitions

An overview of tools and frameworks for the Agroecology Leadership Academy 4th online exchange

12th of September 2024

TRANSITIONS

IFAD
Investing in rural people

CIFOR World Agroforestry

Stats4SD

cirad AGRICULTURAL RESEARCH FOR DEVELOPMENT

Food and Agriculture Organization of the United Nations

CGIAR INITIATIVE ON Agroecology

Matthias Geck

‘Measuring Agroecology’: What matters to you? | Français…

Please use the chat or raise your hand to let us know:

What is the main objective you (would) have for using tools and frameworks for assessing agroecology?

Français…

‘Measuring Agroecology’: What matters to you? | Français…

Please use the chat or raise your hand to let us know:

Why do you think ‘measuring agroecology’ is important for overcoming critical barriers to agroecological food system transformation?

Français…

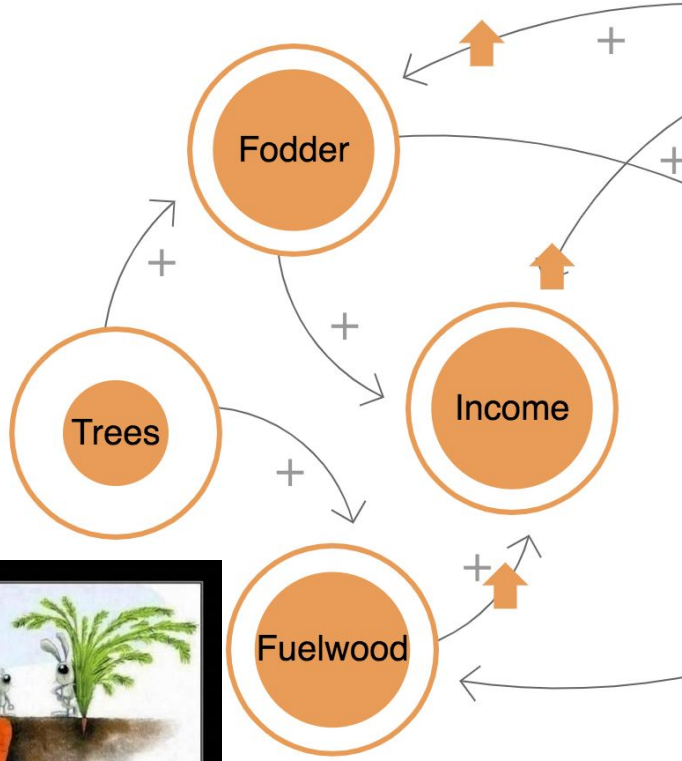
Levelling the playing field | Francais

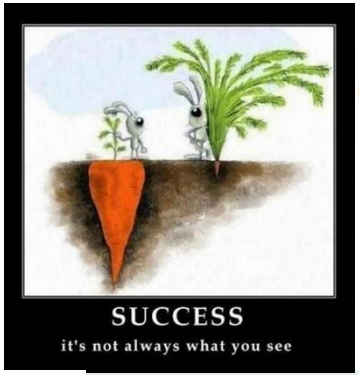
A key challenge to up-scaling agroecology is providing policymakers, donors, development actors and farmers with ways of measuring performance that **allow fair comparison** with alternatives.

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

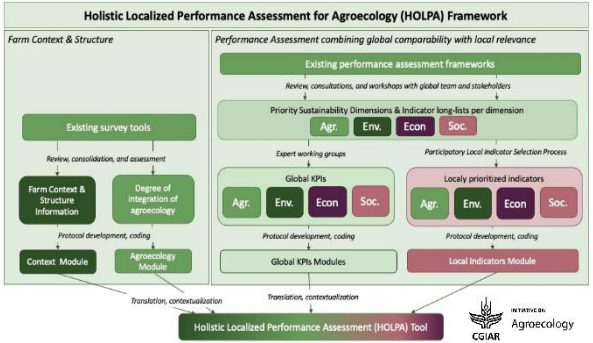
Dominant practice has been to **measure a narrow set of metrics** focusing on economic performance and productivity.

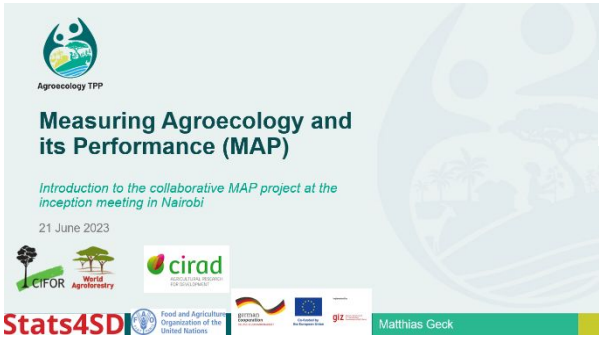
But agroecological systems provide environmental and social benefits, not only economic ones!



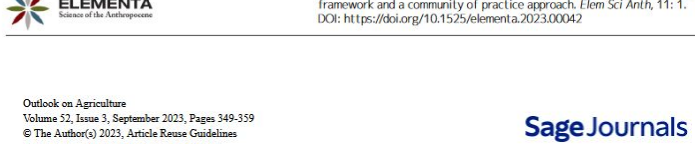


The ‘Metrics Domain’ of the Agroecology TPP
Le ‘Domaine Métriques’ de la TPP Agroécologie





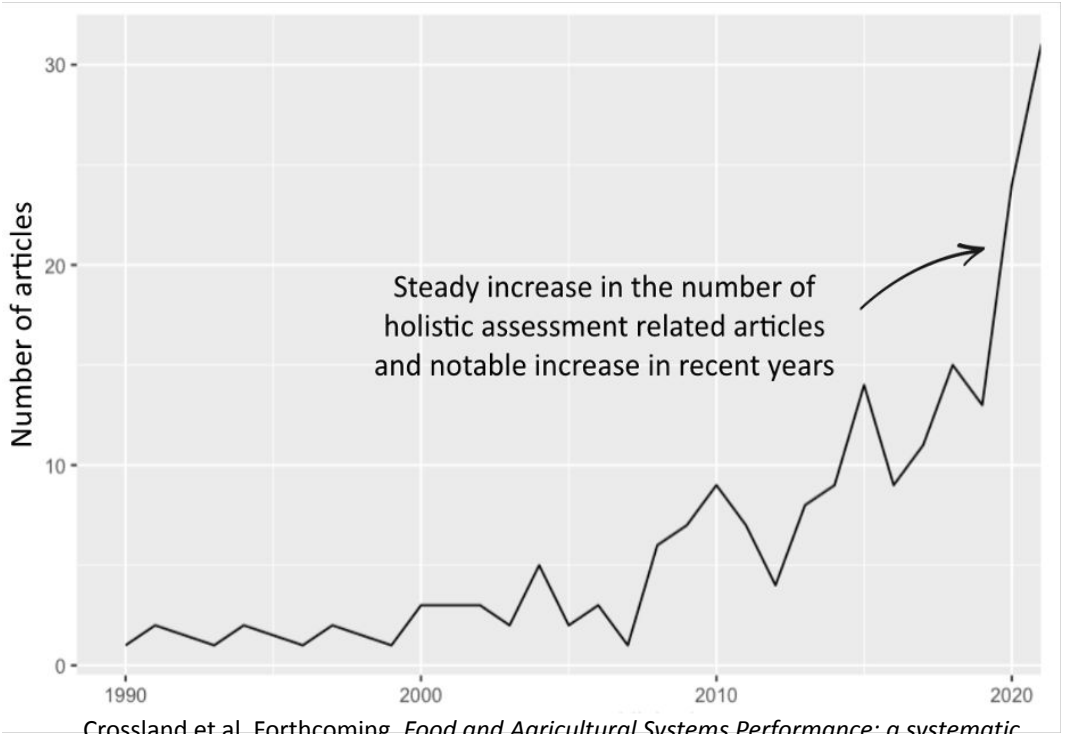
Moeller, NI, et al. 2023. Measuring agroecology: Introducing a methodological framework and a community of practice approach. *Elem Sci Anth*, 11: 1. DOI: https://doi.org/10.1525/elementa.2023.00042

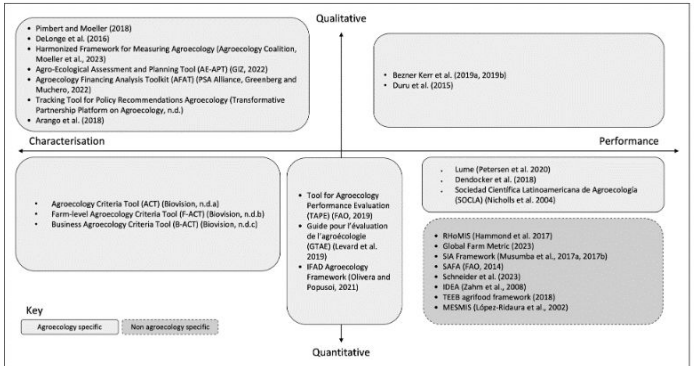


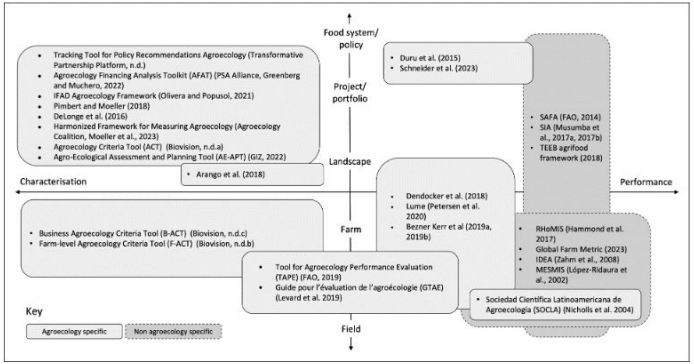
Perspectives

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

No silver bullets: Diverse objectives and approaches | Français…







Crossland et al. Forthcoming. *Food and Agricultural Systems Performance: a systematic literature review of holistic assessment approaches.* Frontiers in Sustainable Food Systems

Outlook on Agriculture
Volume 52, Issue 3, September 2023, Pages 349-359

https://doi.org/10.1177/00307270231196309

Sage Journals

Perspectives

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

Agroecology TPP
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What does ‘Measuring Agroecology’ mean? | Français…

Three general ways of looking at the topic:

1. Assessing the degree of agroecological integration: Status of integration of 13 principles or 10 elements
2. Assessing the performance of agroecology: Status of agroecology’s contribution to achieving societal goals
3. Assessing agroecological transitions: Tracking of changes in a system and its components over time

Français…

Outlook on Agriculture
Volume 52, Issue 3, September 2023, Pages 349-359

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Sage Journals

Perspectives

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

‘Measuring Agroecology’: What tools have you used | Français…

Please use the chat or raise your hand to let us know:

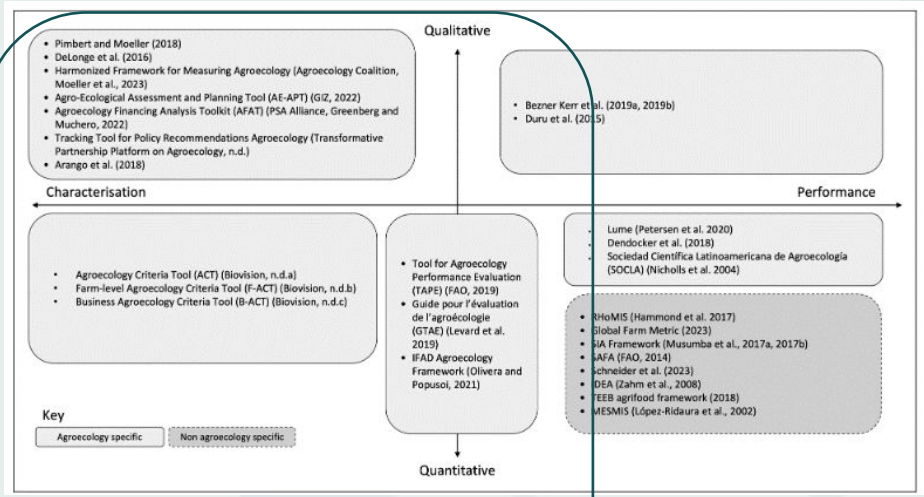
Which relevant tools or frameworks have you previously used or engaged with and which of the three categories would you place these in?

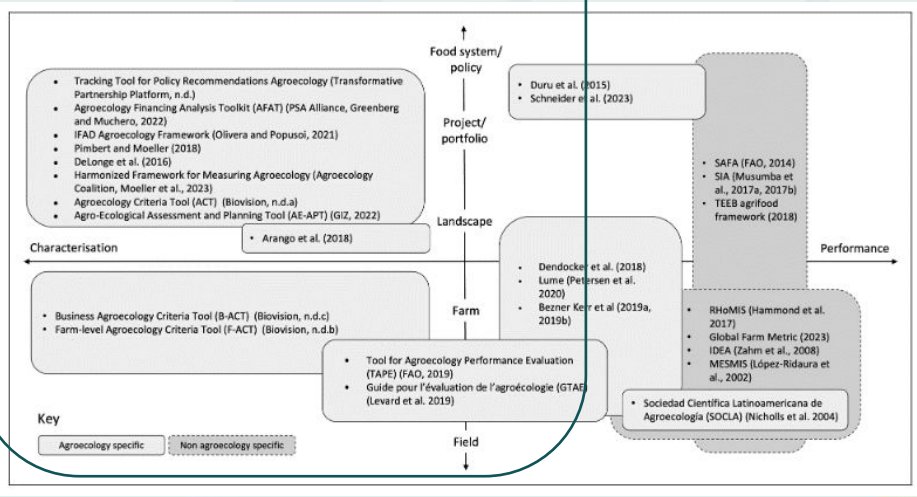
1. Assessing the degree of agroecological integration
2. Assessing the performance of agroecology
3. Assessing agroecological transitions

Français…

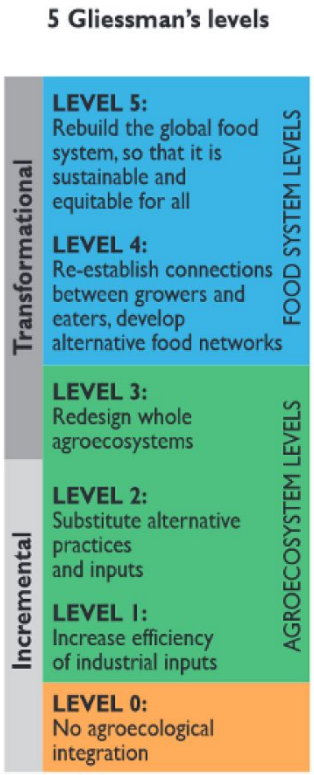
Assessing the degree of agroecological integration: Status of integration of 13 principles or 10 elements at different levels

Francais





Assessing financial flows and investments | Français…

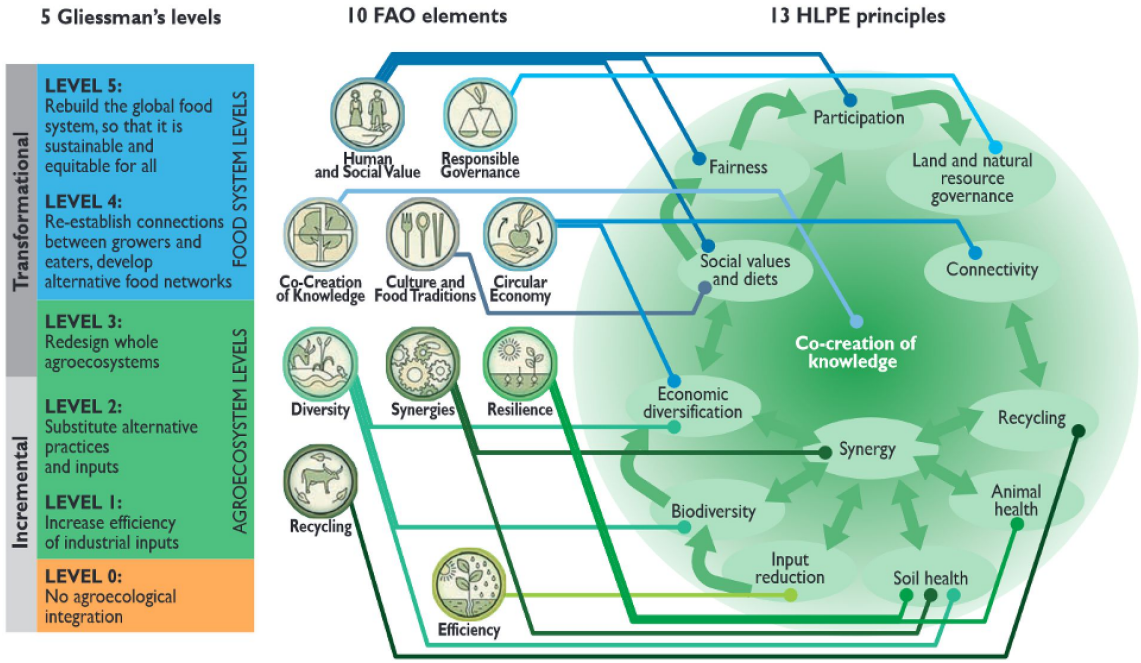


Gliessman S (2016) Transforming food systems with agroecology. Agroecology and Sustainable Food Systems 40(3)

DeLonge MS, Miles A and Carlisle L (2016) Investing in the transition to sustainable agriculture. Environmental Science & Policy 55(1): 266–273

Pimbert MP and Moeller NI (2018) Absent agroecology aid: On UK agricultural development assistance since 2010. Sustainability 10(2): 05.

10 elements and 13 principles change the game | Français…



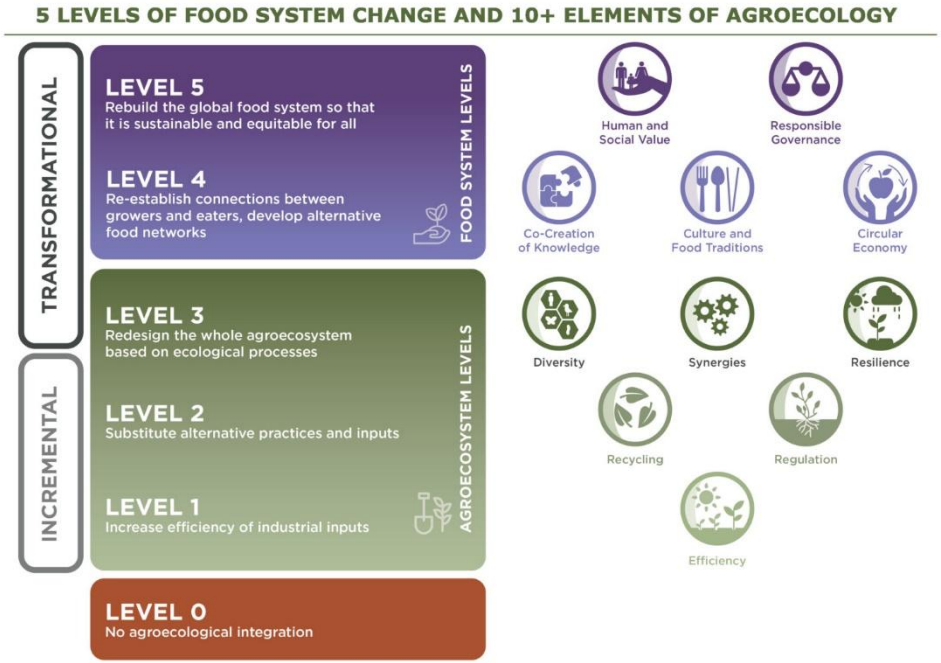
▲ *Linking FAO's 10 elements, Gliesmann's 5 levels of food system transformation and the 13 HLPE principles*

FAO (2018) The 10 Elements of Agroecology: Guiding the Transition to Sustainable Food and Agricultural Systems. Rome: Food and Agricultural Organization of the United Nations.

HLPE (2019) Agroecological and other innovative approaches for sustainable agriculture and food systems that enhance food security and nutrition. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome.

Wezel A, Herren BG, Kerr RB, et al. (2020) Agroecological principles and elements and their implications for transitioning to sustainable food systems. A review. Agronomy for Sustainable Development 40(6): 40.

Assessing financial flows and investments | Français…



https://www.agroecology-pool.org/methodology-old/

Biovision' Agroecology Criteria Tool (ACT): Great choice for assessing 'agroecologicalness' of projects and portfolios in an efficient but systematic manner

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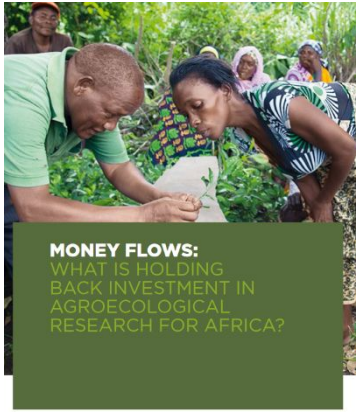
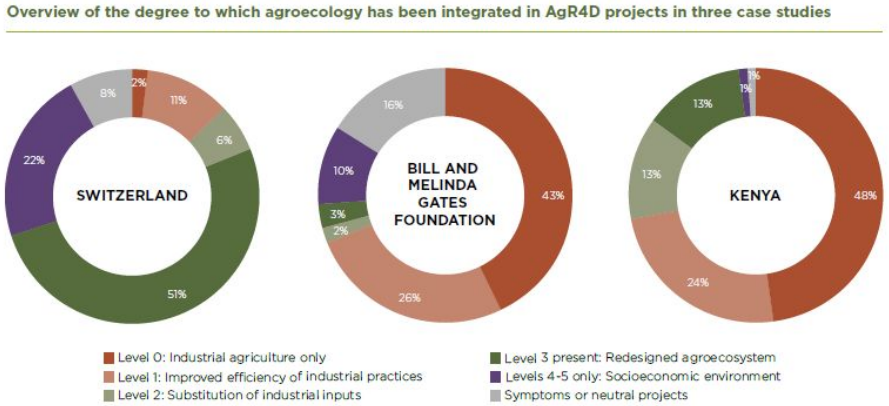
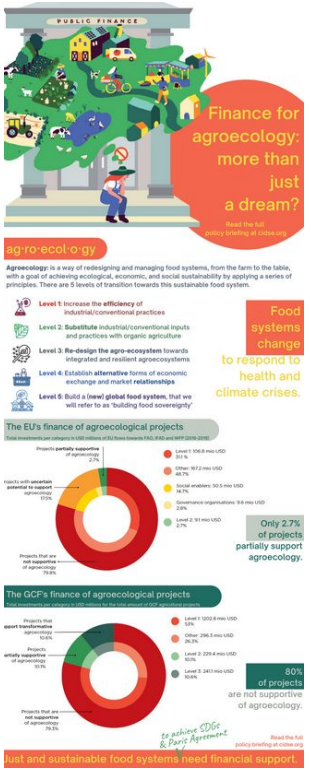
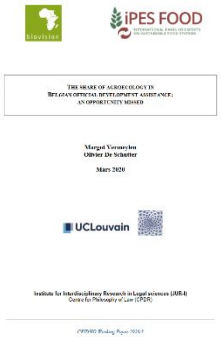
Francais

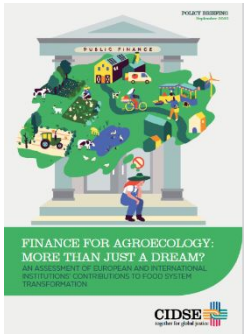
Assessing financial flows and investments | Français…











Assessing financial flows and investments | Français…

The Agroecology Coalitions' Agroecology Finance Assessment Tool: A common framework for tracking investments for agroecology co-created by donors, civil society, farmer organizations, researchers, multilateral organizations…

Francais

Moeller, NI, et al. 2023. Measuring agroecology: Introducing a methodological framework and a community of practice approach. *Elem Sci Anth*, 11: 1. DOI: https://doi.org/10.1525/elementa.2023.00042

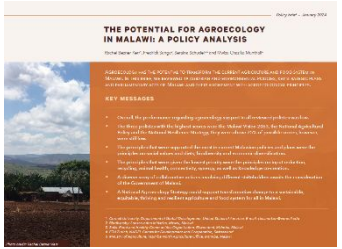
Assessing agroecological integration in policies | Français…

CFS Policy Recommendation	Priority Action	Country Status (relevant actions)[2]:	Target(s)[3] TBC during national consultations	Indicator(s)[3] TBC during national consultations	Who is responsible
1. Lay or strengthen, as appropriate, the policy foundations for agroecological approaches to contribute to sustainable agriculture and food systems that enhance food security and nutrition.	1.1 Promote the integration of agroecological approaches in policies and plans that address agriculture and food system challenges in the local context by strengthening the resilience of food systems,				
	Measures creating perverse incentives				
	Measures that go beyond policy recommendation				
	Civil Society perspective				
	1.2 Strengthen public policies to harness market mechanisms to enable sustainable agriculture and food systems by considering economic, environmental, and social, including public health, externalities, trade-offs, and synergies,				
	Measures creating perverse incentives				

https://qlfx.globallandscapesforum.org/topics/21467/page/food-systems-transformation-through-agroecology

The TPP's Tracking Tool for the Implementation of the CFS Policy Recommendations on Agroecology

Francais



Assessing agroecological integration in enterprises | Français…

Business Agroecology Criteria Tool

biovision

User guide

The Business Agroecology Criteria Tool (B-ACT) is designed to assess the degree to which enterprises are aligned with each of the 13 principles of agroecology, as established by the High Level Panel of Experts on Food Security and Nutrition[1].

What is the tool for?

The Business Agroecology Criteria Tool (B-ACT) assesses an enterprise's general alignment with the three pillars of sustainable food systems (see Figure 1). The B-ACT also contains screening questions to rapidly determine whether an enterprise's business model, operations or strategy are potentially in conflict with agroecology. The user can expect to spend 2-3 hours to complete the B-ACT assessment. For users wanting to conduct a preliminary screening, especially when dealing with a larger pool of enterprises, we recommend first using Biovision's Agroecology Check for Enterprises.

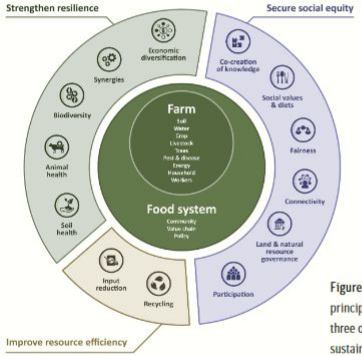


Figure 1: Overview of 13 principles of agroecology and three operational principles of sustainable food systems

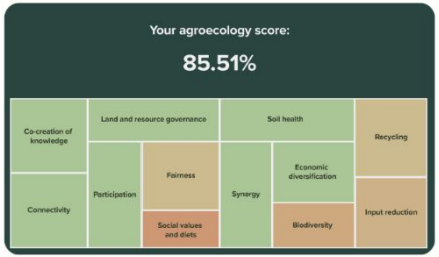
The global food system currently accounts for 1/3 of anthropogenic greenhouse gas emissions[2] and is the primary driver of biodiversity loss[3]. In this context, the B-ACT fills the need for a diagnostic tool that takes into account the environmental and social impacts of enterprises in food systems. The tool allows for identification of enterprises demonstrating sustainable practices and potential to drive the sustainable transformation of food systems.

1

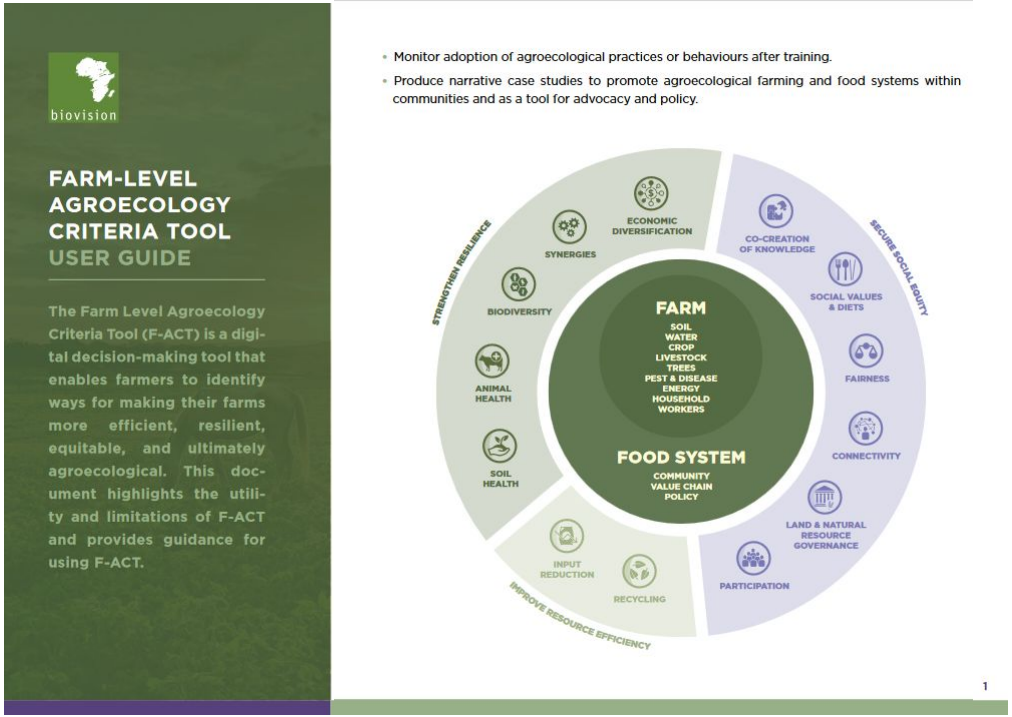
https://www.agroecology-pool.org/b-act/

Biovision's Business Agroecology Criteria Tool (B-ACT): A quick yet systematic approach to assess alignment with agroecology principles

Francais



Assessing agroecological integration in farms | Français…



Biovision's Farm Level Agroecology Criteria Tool (F-ACT): Great approach for engaging farmers on agroecology and provide evidence-based inspiration – does not assess performance

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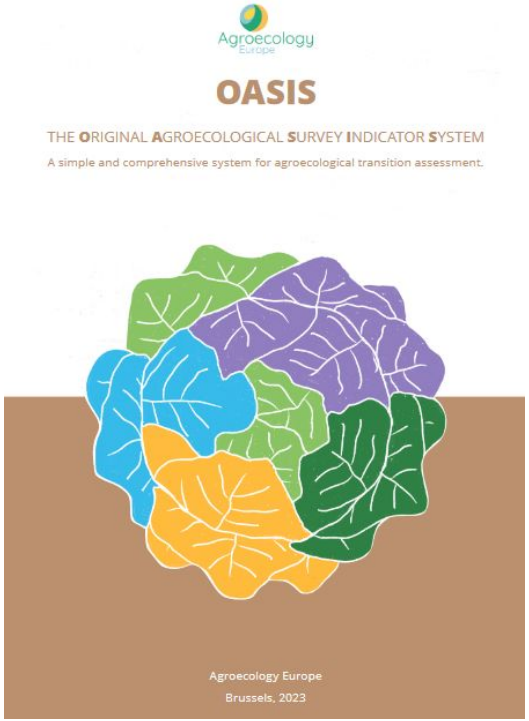
Francais

https://www.agroecology-pool.org/fact/

Assessing agroecological integration in farms | Français…



DESCRIPTION OF THE FRAMEWORK

Steps

DIMENSION 1 - Farming practices

DIMENSION 2 - Economic viability

DIMENSION 3 - Socio-political aspects

DIMENSION 4 - Environment and biodiversity

DIMENSION 5 - Resilience

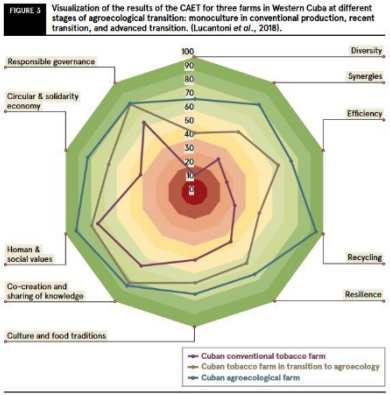
PARTICIPATORY INTERPRETATION OF RESULTS

Agroecology Europe's Original Agroecological Survey and Indicator System (OASIS): Designed to support farmers in their transitions to agroecology – combines assessment of 'agroecologicalness' and performance

Francais

https://www.agroecology-europe.org/oasis-brochure/

Assessing agroecological integration in farms | Français…



FAO's Tool for Agroecology Performance Evaluation (TAPE): The most widely used tool for assessing agroecology and its performance. Step 1 is the Characterization of Agroecological Transition (CAET)

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https://www.fao.org/agroecology/tools-tape/en/

Assessing the performance of agroecology: Status of agroecology's contribution to achieving societal goals at different levels

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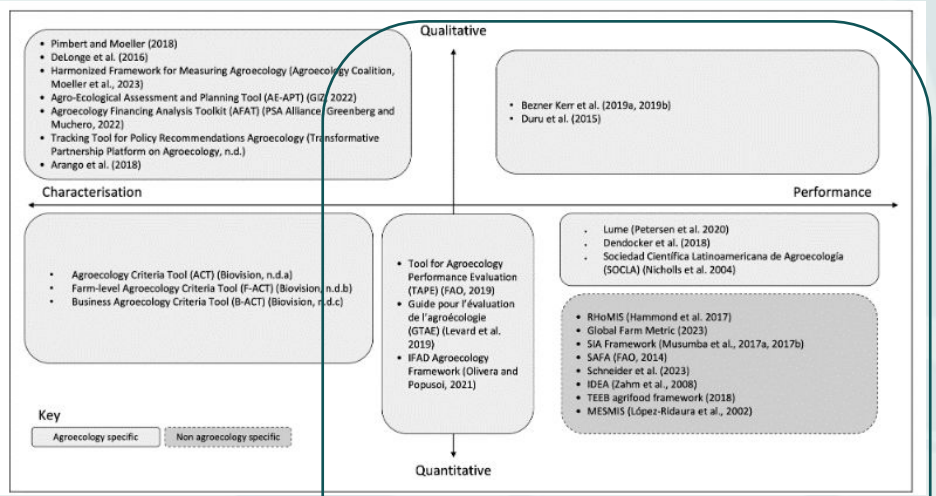

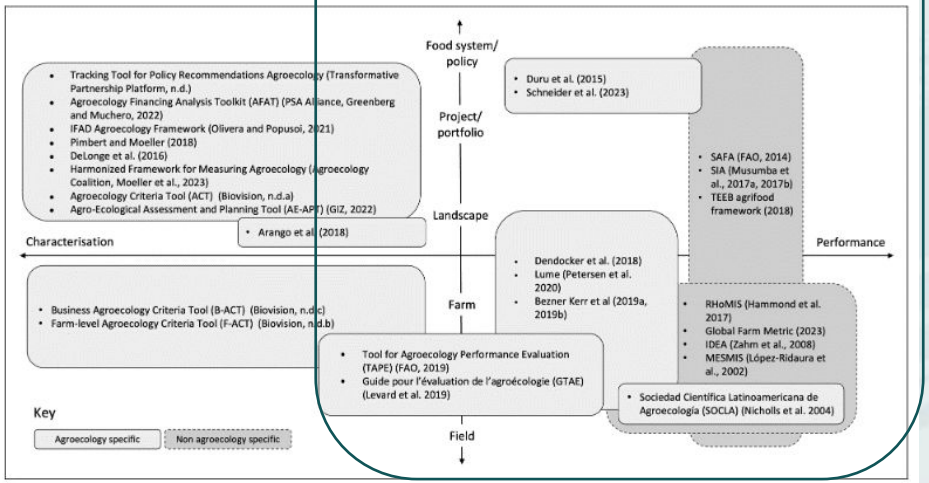

Assessing performance of farms | Français…

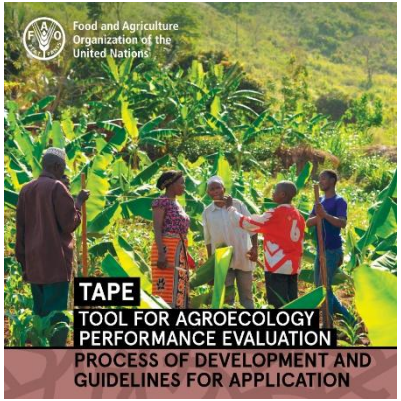

TABLE 4 10 Core criteria of performance of agroecology and their links to SDG indicators

MAIN DIMENSION	#	CORE CRITERIA OF PERFORMANCE	PROPOSED METHOD OF ASSESSMENT IN SURVEY	SDG	SDG INDICATORS
Governance	1	Secure land tenure (or mobility for pastoralists)	Type of tenure over land: property, lease + duration, verbal, not explicit (SDG 1.4.2, 5.a.1 and 2.4.1 sub-indicator 11) Existence and use of pastoral agreements and mobility corridors	1 2 5	1.4.2 2.4.1 5.a.1
Economy	2	Productivity	Farm output value per hectare (SDG 2.4.1 sub-indicator 1) Farm output value per person	2	2.3.1 2.4.1
	3	Income	Outputs – inputs – operating expenses – depreciation + other income (SDG 2.4.1 sub-indicator 2)	1 2 10	1.1.1, 1.2.1 and 1.2.2 2.3.2 2.4.1 10.2.1
	4	Added value	Net income +rents +taxes +interests – subsidies	10	10.1.1 10.2.1
Health & nutrition	5	Exposure to pesticides	Quantity applied, area, toxicity and existence of risk mitigation equipment and practices	3	3.9.1 3.9.2 3.9.3
	6	Dietary diversity	Minimum Dietary Diversity for Women (FAO and FHI 360, 2016)	2	2.1.1 2.1.2 2.2.1 2.2.2 2.4.1
Society & Culture	7	Women's empowerment	Abbreviated Women's Empowerment in Agriculture Index, A-WEAI (IFPRI, 2012)	2 5	2.4.1 5.a.1 5.a.2
	8	Youth employment opportunity	Access to jobs, training, education or migration (SDG 8.6.1)	8	8.6.1
Environment	9	Agricultural biodiversity	Relative importance of crops varieties, livestock breeds, trees and semi-natural environments on farm (SDG 2.4.1 sub-indicator 8.1, 8.6 and 8.7)	2 15	2.4.1 2.5.1
	10	Soil health	Adapted SOCLA rapid and farmer friendly agroecological method to assess soil health (Nicholls *et al.*, 2004)	2 15	2.4.1 15.3.1

FAO's Tool for Agroecology Performance Evaluation (TAPE): The most widely used tool for assessing agroecology and its performance. Step 2 assesses performance aligned with SDGs

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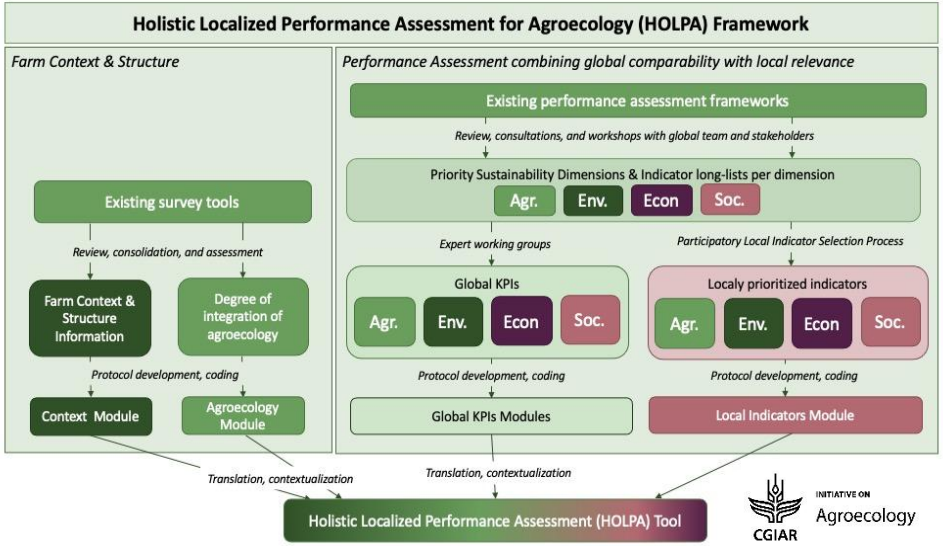
Francais

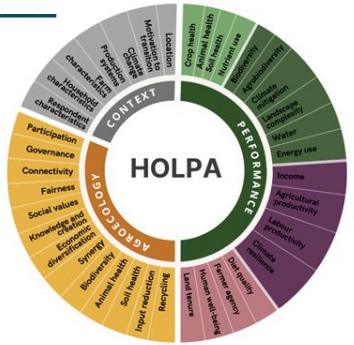
https://www.fao.org/agroecology/tools-tape/en/

Assessing performance of farms | Français…



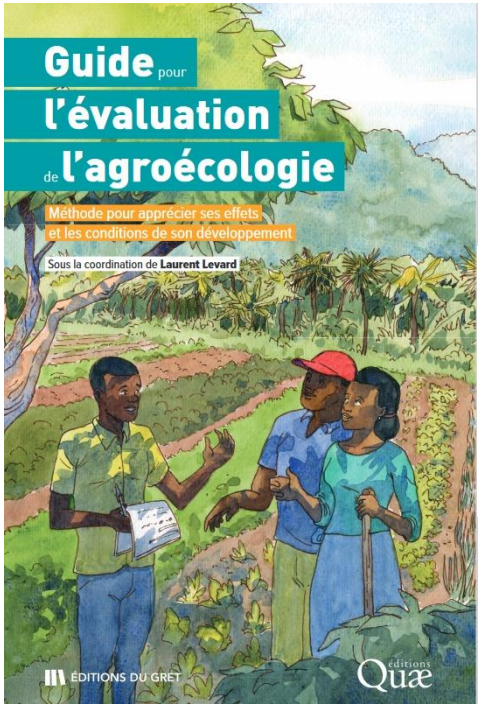
CGIAR's Holistic Localized Performance Assessment for Agroecology (HOLPA) assesses a farm's performance in 4 dimensions, combines local and global indicators, and correlates performance with agroecological integration

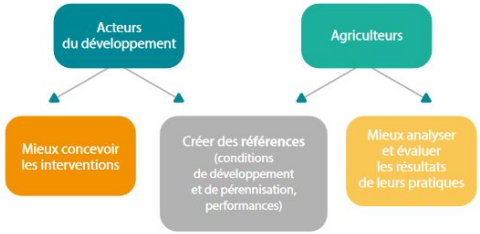
Francais



https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4891979

Assessing performance of farms | Français…



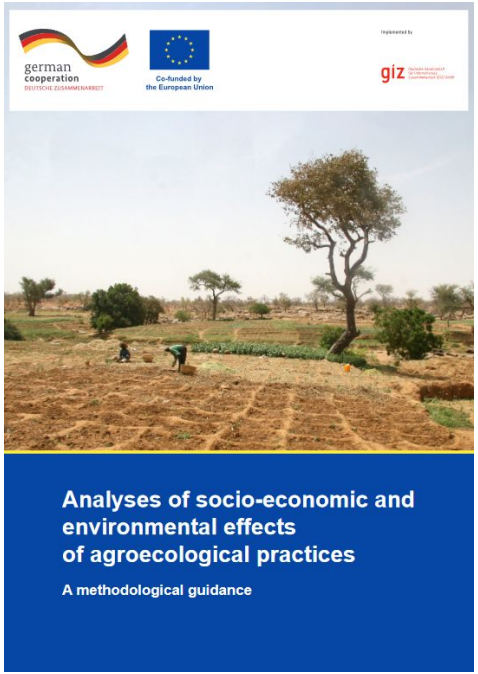


***Groupe de travail sur les transitions agroécologiques* (GTAE)'s *Guide pour l'évaluation de l'agroécologie* allows for assessing the effects of practicing agroecology and analyses the factors that support or hinder agroecological transitions**

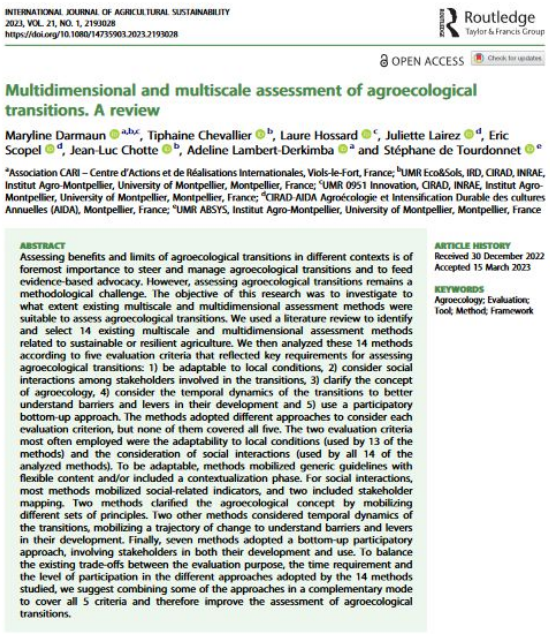
Francais

https://gret.org/publication/guide-pour-levaluation-de-lagroecologie/

Assessing agroecological performance | Français…



https://www.giz.de/en/downloads/giz2023-en-measuring-socio-economic-effects-of-agroecology.pdf



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2023, VOL. 21, NO. 1, 2193028
https://doi.org/10.1080/14735903.2023.2193028

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Multidimensional and multiscale assessment of agroecological transitions. A review

Maryline Darmaun [a,b,c], Tiphaine Chevallier [b], Laure Hossard [c], Juliette Lairez [d], Eric Scopel [d], Jean-Luc Chotte [b], Adeline Lambert-Derkimba [a] and Stéphane de Tourdonnet [e]

[a]Association CARI – Centre d'Actions et de Réalisations Internationales, Viols-le-Fort, France; [b]UMR Eco&Sols, IRD, CIRAD, INRAE, Institut Agro-Montpellier, University of Montpellier, Montpellier, France; [c]UMR 0951 Innovation, CIRAD, INRAE, Institut Agro-Montpellier, University of Montpellier, Montpellier, France; [d]CIRAD-AIDA Agroécologie et Intensification Durable des cultures Annuelles (AIDA), Montpellier, France; [e]UMR ABSYS, Institut Agro-Montpellier, University of Montpellier, Montpellier, France

ABSTRACT

Assessing benefits and limits of agroecological transitions in different contexts is of foremost importance to steer and manage agroecological transitions and to feed evidence-based advocacy. However, assessing agroecological transitions remains a methodological challenge. The objective of this research was to investigate to what extent existing multiscale and multidimensional assessment methods were suitable to assess agroecological transitions. We used a literature review to identify and select 14 existing multiscale and multidimensional assessment methods related to sustainable or resilient agriculture. We then analyzed these 14 methods according to five evaluation criteria that reflected key requirements for assessing agroecological transitions: 1) be adaptable to local conditions, 2) consider social interactions among stakeholders involved in the transitions, 3) clarify the concept of agroecology, 4) consider the temporal dynamics of the transitions to better understand barriers and levers in their development and 5) use a participatory bottom-up approach. The methods adopted different approaches to consider each evaluation criterion, but none of them covered all five. The two evaluation criteria most often employed were the adaptability to local conditions (used by 13 of the methods) and the consideration of social interactions (used by all 14 of the analyzed methods). To be adaptable, methods mobilized generic guidelines with flexible content and/or included a contextualization phase. For social interactions, most methods mobilized social-related indicators, and two included stakeholder mapping. Two methods clarified the agroecological concept by mobilizing different sets of principles. Two other methods considered temporal dynamics of the transitions, mobilizing a trajectory of change to understand barriers and levers in their development. Finally, seven methods adopted a bottom-up participatory approach, involving stakeholders in both their development and use. To balance the existing trade-offs between the evaluation purpose, the time requirement and the level of participation in the different approaches adopted by the 14 methods studied, we suggest combining some of the approaches in a complementary mode to cover all 5 criteria and therefore improve the assessment of agroecological transitions.

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KEYWORDS
Agroecology; Evaluation; Tool; Method; Framework

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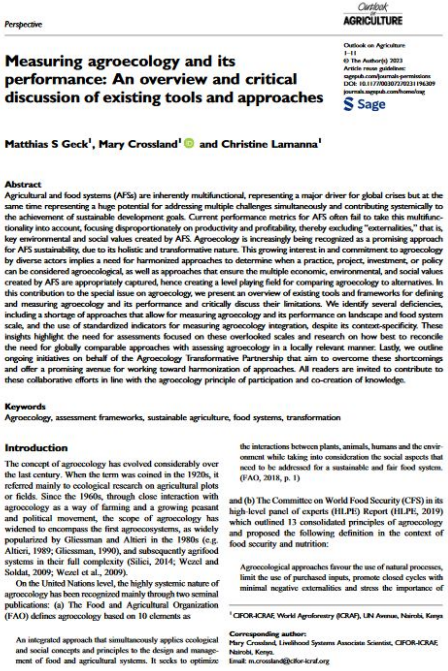

Perspective

Outlook on AGRICULTURE

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

Sage

Matthias S Geck[1], Mary Crossland[1] and Christine Lamanna[1]

Abstract

Agricultural and food systems (AFSs) are inherently multifunctional, representing a major driver for global crises but at the same time representing a huge potential for addressing multiple challenges simultaneously and contributing systemically to the achievement of sustainable development goals. Current performance metrics for AFS often fail to take this multifunctionality into account, focusing disproportionately on productivity and profitability, thereby excluding "externalities," that is, key environmental and social values created by AFS. Agroecology is increasingly being recognized as a promising approach for AFS sustainability, due to its holistic and transformative nature. This growing interest in and commitment to agroecology by diverse actors implies a need for harmonized approaches to determine when a practice, project, investment, or policy can be considered agroecological, as well as approaches that ensure the multiple economic, environmental, and social values created by AFS are appropriately captured, hence creating a level playing field for comparing agroecology to alternatives. In this contribution to the special issue on agroecology, we present an overview of existing tools and frameworks for defining and measuring agroecology and its performance and critically discuss their limitations. We identify several deficiencies, including a shortage of approaches that allow for measuring agroecology and its performance on landscape and food system scale, and the use of standardized indicators for measuring agroecology integration, despite its context-specificity. These insights highlight the need for assessments focused on these overlooked scales and research on how best to reconcile the need for globally comparable approaches with assessing agroecology in a locally relevant manner. Lastly, we outline ongoing initiatives on behalf of the Agroecology Transformative Partnership that aim to overcome these shortcomings and offer a promising avenue for working toward harmonization of approaches. All readers are invited to contribute to these collaborative efforts in line with the agroecology principle of participation and co-creation of knowledge.

Keywords
Agroecology, assessment frameworks, sustainable agriculture, food systems, transformation

Introduction

The concept of agroecology has evolved considerably over the last century. When the term was coined in the 1920s, it referred mainly to ecological research on agricultural plots or fields. Since the 1960s, through close interaction with agroecology as a way of farming and a growing peasant and political movement, the scope of agroecology has widened to encompass the first agroecosystems, as widely popularized by Gliessman and Altieri in the 1980s (e.g. Altieri, 1989; Gliessman, 1990), and subsequently agrifood systems in their full complexity (Silici, 2014; Wezel and Soldat, 2009; Wezel et al., 2009).

On the United Nations level, the highly systemic nature of agroecology has been recognized mainly through two seminal publications: (a) The Food and Agricultural Organization (FAO) defines agroecology based on 10 elements as

> An integrated approach that simultaneously applies ecological and social concepts and principles to the design and management of food and agricultural systems. It seeks to optimize the interactions between plants, animals, humans and the environment while taking into consideration the social aspects that need to be addressed for a sustainable and fair food system. (FAO, 2018, p. 1)

and (b) The Committee on World Food Security (CFS) in its high-level panel of experts (HLPE) Report (HLPE, 2019) which outlined 13 consolidated principles of agroecology and proposed the following definition in the context of food security and nutrition:

> Agroecological approaches favour the use of natural processes, limit the use of purchased inputs, promote closed cycles with minimal negative externalities and stress the importance of

[1] CIFOR-ICRAE World Agroforestry (ICRAF), UN Avenue, Nairobi, Kenya

Corresponding author:
Mary Crossland, Livelihood Systems Associate Scientist, CIFOR-ICRAE Nairobi, Kenya.
Email: m.crossland@cifor-icraf.org

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What does ‘Measuring Agroecology’ mean? | Français…

Three general ways of looking at the topic:

1. Assessing the degree of agroecological integration: Status of integration of 13 principles or 10 elements
2. Assessing the performance of agroecology: Status of agroecology’s contribution to achieving societal goals
3. Assessing agroecological transitions: Tracking of changes in a system and its components over time

Français…

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Sage Journals

Perspectives

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

Tracking agroecological transitions | Français…

1. No ready-made tools or frameworks
2. Can be partially achieved by repeated applications of tools for assessing agroecological integration and performance over a prolonged time period to see how the status of the system changes over time
3. Need to additionally assess the transition process itself rather than just the change in status
4. Important to assess changes in actors' knowledge, attitudes and behavior

Français…

No silver bullets for measuring agroecology | Français…

Agroecology…

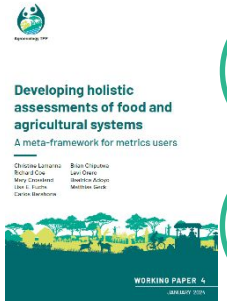
- … is a holistic systems approach that operates and creates benefits on multiple scales
- … emphasizes context-specificity and the importance of local and traditional knowledge
- … values co-creation and the integration of different perspectives

Français…

No silver bullets for measuring agroecology | Français…

Key ingredients for holistic assessments

- Measures multiple dimensions
- Includes multiple perspectives
- Captures emergent properties
- Reveals complexity, nuance and trade-offs



Français…

Developing your assessment in 10 steps | Français…

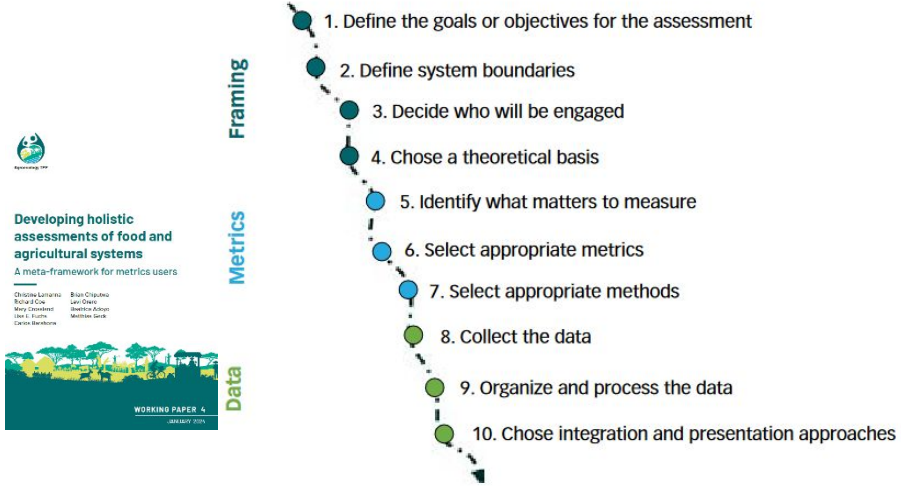


Figure 5. The ten steps for designing a holistic assessment system

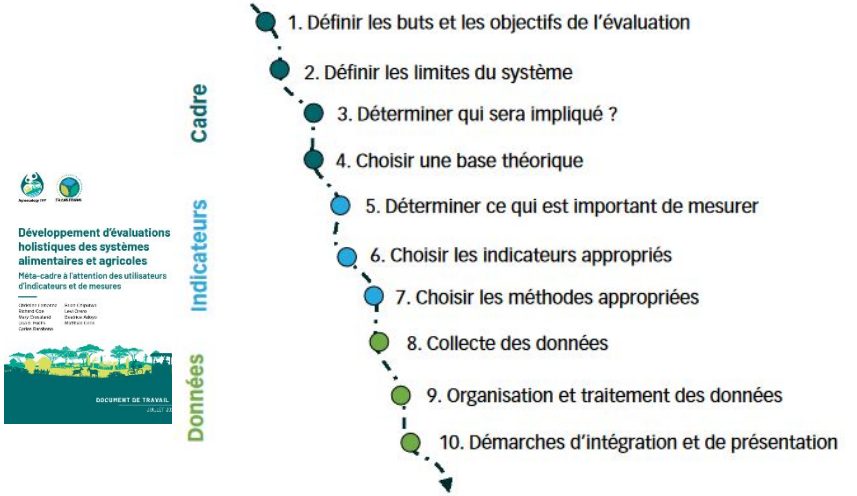


Figure 5. Les dix étapes de conception d'un système d'évaluation holistique

https://www.cifor-icraf.org/knowledge/publication/9081/?utm_source=site-search&utm_medium=cifor-icraf-website&utm_campaign=traffic-source

Measuring what matters to you | Français…

The TRANSITIONS Metrics project offers:

- A comprehensive review of over 10’000 metrics for agri-food systems
- A database of metrics for diverse dimensions, scales and objectives
- A framework that guides diverse metrics users through the journey of identifying or designing the right approach for their purposes
- Support to metrics users through workshops and guidance material

Français…

https://glfx.globallandscapesforum.org/topics/21467/page/metrics-to-support-agroecological-transitions

Overcoming barriers through evidence | Français…

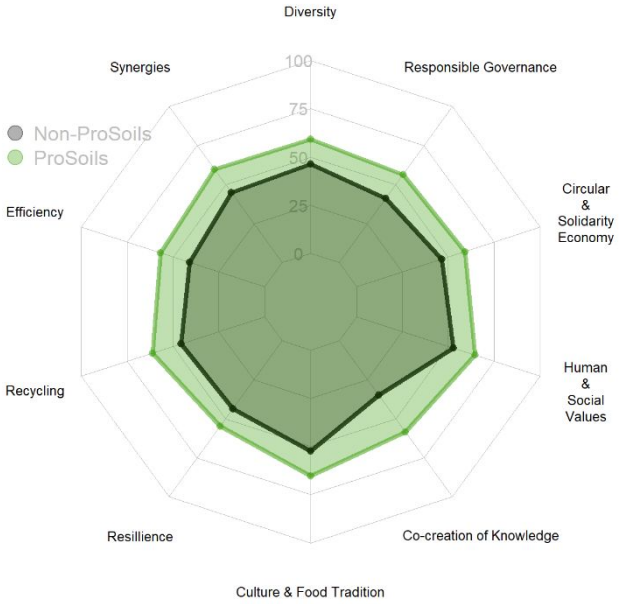
Evidence on the muti-dimensional performance of agroecology critical for scaling transitions, as there is widespread skepticism regarding its productivity and profitability.

TAPE applied on 839 farms in Benin, Ethiopia, Kenya and Madagascar in the context of ProSoil/ProSilience.

Francais

https://glfx.globallandscapesforum.org/topics/21467/page/measuring-agroecology-and-its-performance

Overcoming barriers through evidence | Français…

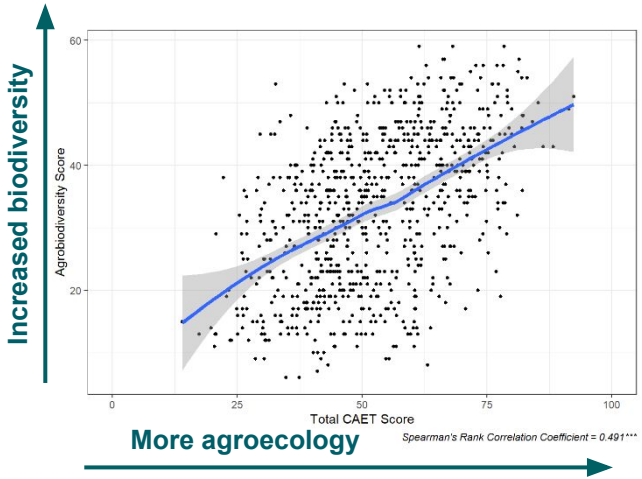


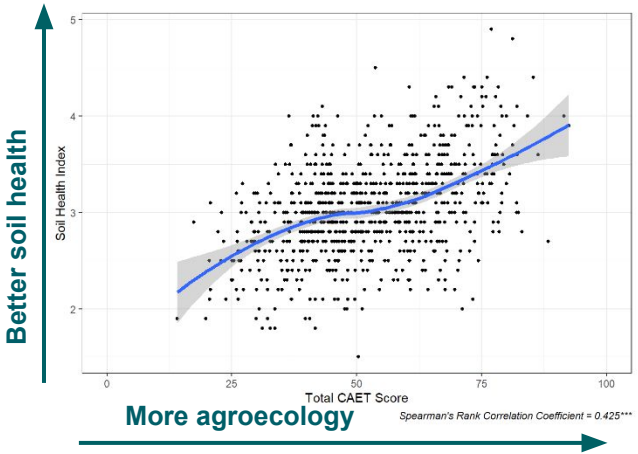
TAPE Step 1 CAET: How agroecological are the assessed farms?

- **Project activities significantly fostered agroecological transitions across all ten elements of agroecology**
- **Allows for correlating ‘agroecologicalness’ with performance**

Francais

Overcoming barriers through evidence | Français…

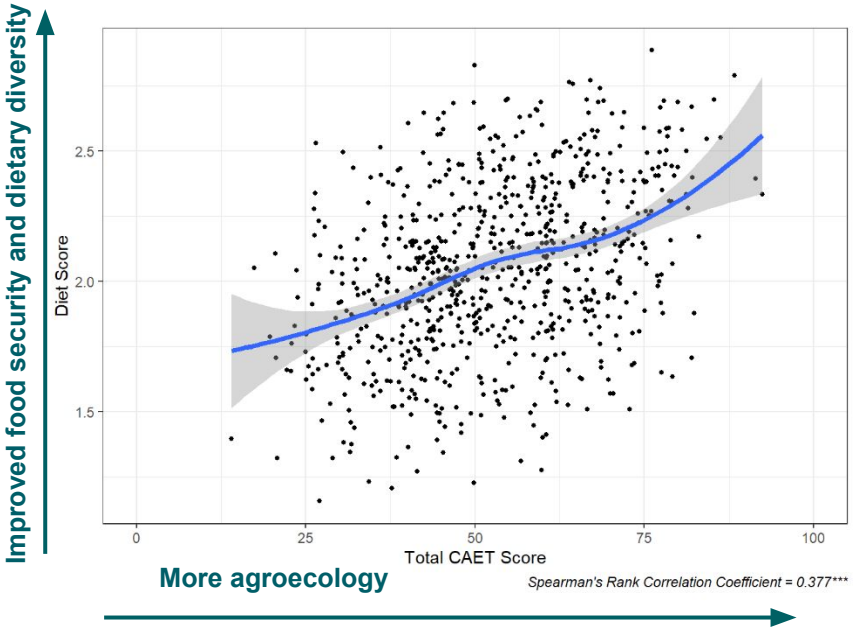




Practicing agroecology results in improved environmental performance of farms

Francais

Overcoming barriers through evidence | Français…



Practicing agroecology results in improved food security and dietary diversity

Francais

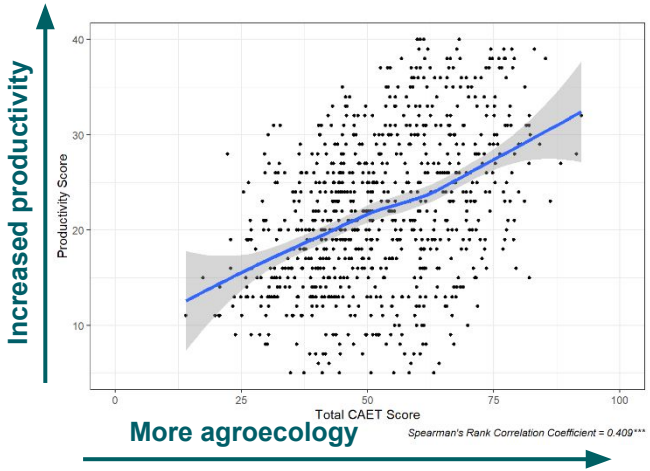
What are the benefits of agroecology? | Français…

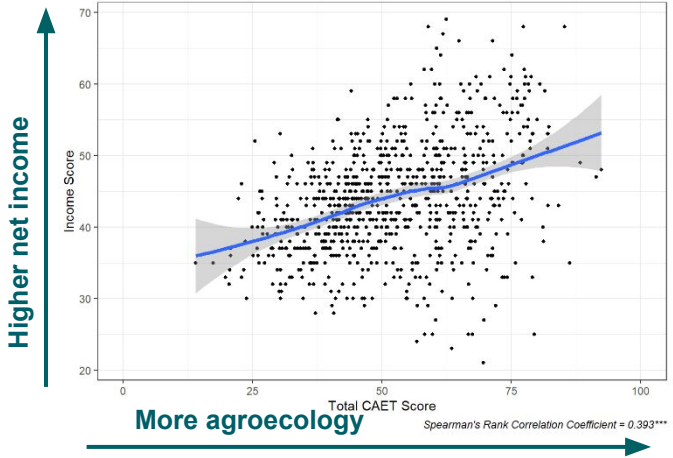
Please use the chat or raise your hand to let us know:

What do you think the TAPE results will tell us regarding the economic performance of agroecology? Will productivity and income be lower or higher in more agroecological farms?

Français…

Overcoming barriers through evidence | Français…





Practicing agroecology results in increased productivity of farms and higher net income for households

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Francais

Agroecology TPP

bit.ly/AgEc_TPP

Thank you! Merci beaucoup!

Please reach out at any moment for engaging further on assessing agroecology and agri-food systems holistically:

m.geck@cifor-icraf.org

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