



New webinar

Economics & Agroecology

**Socio-Economic Effects of Agroecological Transition in the Global South:
result from a recent Meta-Analysis**

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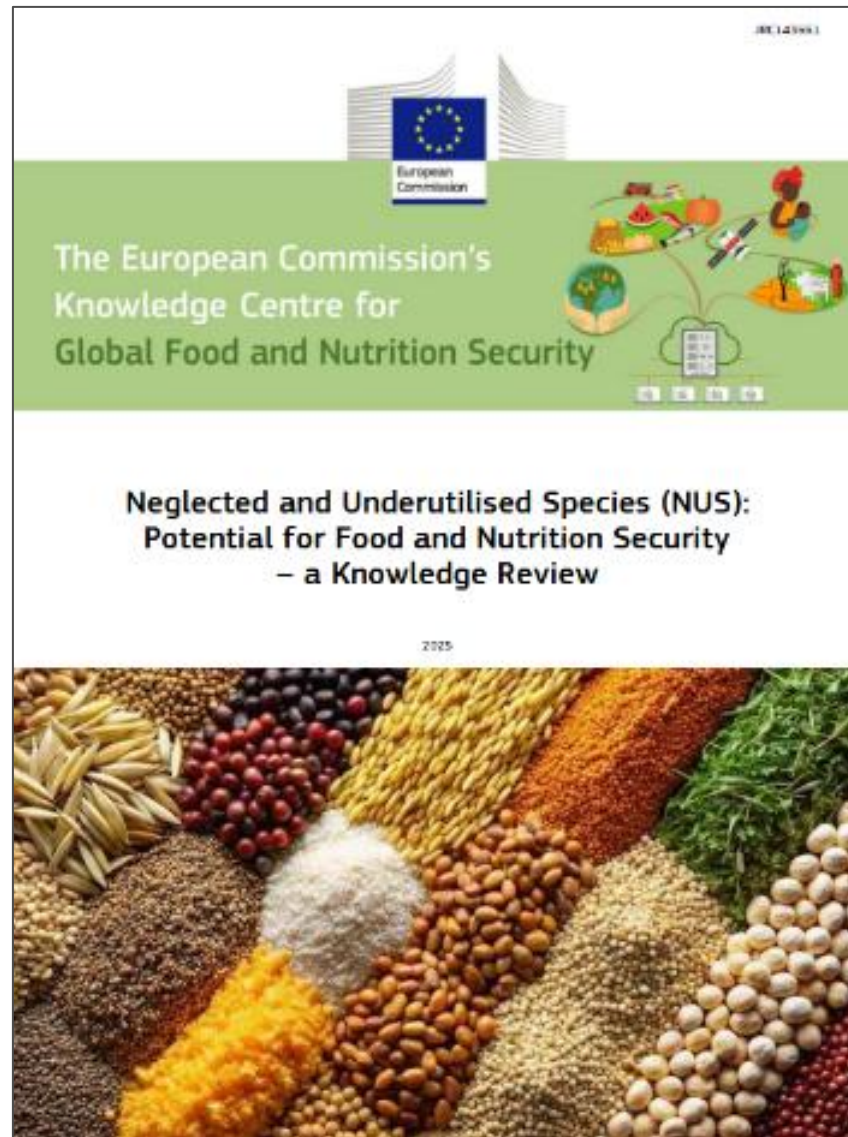
Outline of the presentation

- What is the Knowledge Centre for Global Food and Nutrition Security (KC-FNS)
- The KC-FNS's activities on Agroecology and related topics
- Results from a recent Meta-Analysis on the effects of transitioning to agroecology in the Global South – Yields, Gross Income and Production Costs
- Concluding remarks

Advancing Knowledge towards Zero Hunger and Sustainable Food Systems



EU KC-FNS: Recent Knowledge on related topics



JRC 140233

European Commission

SCIENCE FOR POLICY BRIEF

The European Commission's Knowledge Centre for Global Food and Nutrition Security

Gender Equality and Food Systems – a Knowledge Review

Highlights

- Globally, food insecurity is more prevalent among women than men.
- Women's food security is more affected by climate shocks than men's.
- Women are more concentrated in informal, insecure, and poorly remunerated nodes of the food value chain.
- Women have less secure land tenure compared to men and are much less likely to own land.
- The rights to gender equality and to adequate food are mutually reinforcing. Without gender equality and women's empowerment, ending hunger and malnutrition is not possible.
- Gender inequalities are both a cause and an outcome of unequal food systems.
- Gender inequalities need to be considered together with other dimensions of inequality, including wealth, ethnicity, age, disability, sexual orientation.
- Gender inequalities are rooted in social norms and rules that restrict women's and girls' rights, opportunities and access to resources such as land, credit and information.
- Limited access to resources, services and opportunities undermines women's economic status, resilience, participation and leadership in food systems.
- To achieve lasting and equitable change, a gender transformative approach is needed to address the root causes of gender inequality by challenging power dynamics and systemic barriers.
- Advancing gender equality and women's empowerment must be an explicit goal across the food system, from the individual to the system level.
- Evidence confirms that women's empowerment can improve nutrition and food security, but complementary measures (such as social protection, childcare, legal frameworks, infrastructures) are needed to ensure positive trade-offs between gender equality and other food systems outcomes.
- More research is needed to understand the connections between food systems transformation, gender equality, and women's empowerment.
- Sex-disaggregated and gender sensitive data across the entire food system, together with analysis and policy uptake are needed.

In five decades, gender equality has become a priority on the global policy agenda. Landmarks include the first (1975) and fourth (1995) World Conferences on Women and the Sustainable Development Goals with SDG 5 on gender equality and empowerment of all women and girls (2015). Gender equality in food systems was addressed at the 2021 UN Food Systems Summit with the launch of the [Coalition for Action on Making Food Systems Work for Women and Girls](#) [1]. In 2023, the

Joint Research Centre



<https://link.europa.eu/XMQQFc>

Yield and economic performance of agroecological transitions in the Global South

A geospatially-augmented meta-analysis



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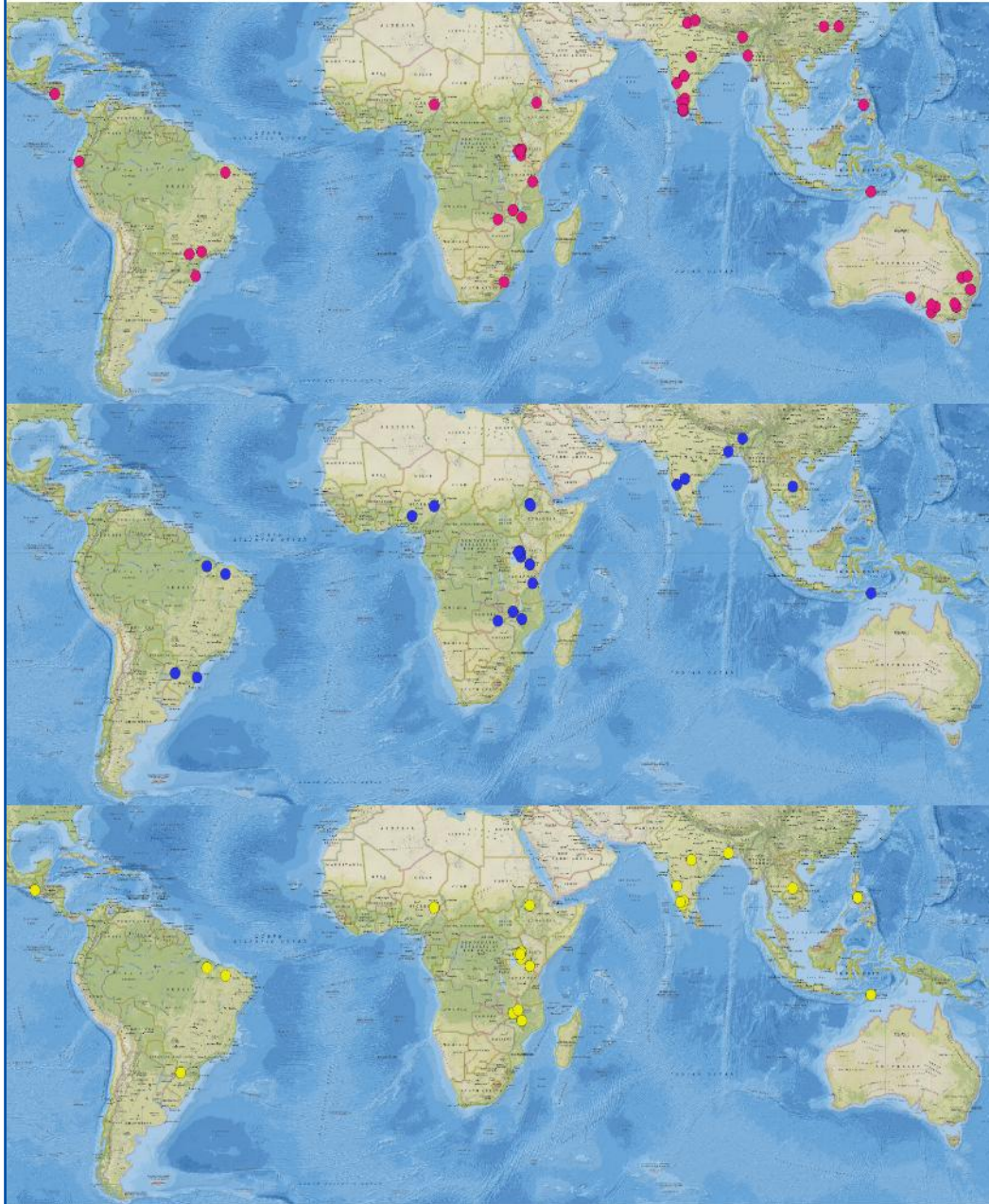
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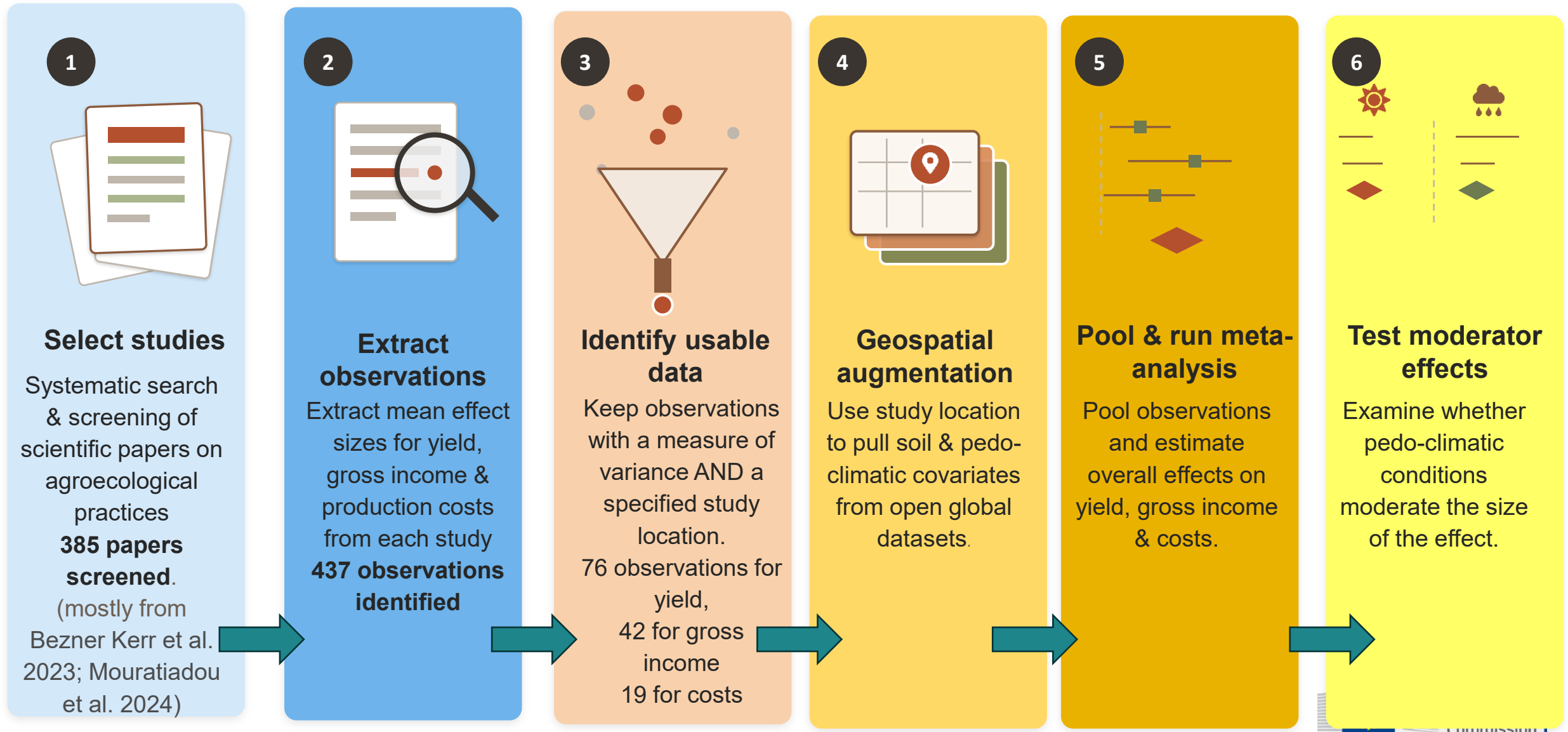
<https://link.europa.eu/XMWGCc>

Study location ● Yield (n = 76) ● Gross Income (n = 42) ● Costs (n = 19)



- Quantitative statistical, analysis based on 137 observations in different areas in the Global South
- Compares farming systems adopting at least 2 agroecological practices vs more simplified/conventional systems
- It examines the effects on 1) Yields; 2) Gross Income; 3) Production costs
- It considers the role of pedo-climatic and management variables: soil type, temperature, irrigation regime

Meta-Analysis Workflow



Methodology



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Each study used in the meta-analysis compares 2 similar farming systems that differ as for the adoption of certain farming practices

$$L_i = \ln \frac{\bar{X}_{AE}}{\bar{X}_{CON}} \quad \text{“Mean effect size”}$$

$\bar{X}_{AE}$ = yield (or income, costs) of agroecological farm
 $\bar{X}_{CON}$ = same metric of the conventional farm

“Agroecological” = farming systems application of **at least 2** agroecological practices at farm level (on average 6)

“Conventional” Application of no or fewer agroecological practices than the previous one (on average 2)

Main Results

Average effect size agroecology vs conventional farming, % change



Yields: +14.3%

Very robust result overall: statistically significant, based on 76 observations, but high dependent on pedoclimatic conditions. Better results in soils with low clay content and when temperatures are not too high and too variable.



Gross income: +44.5%

Robust results: statistically significant, based on 42 observations. Consistent across scales, pedoclimatic conditions, irrigation regimes.

Production costs: -36.5%

Statistically significant results, consistent across climate/pedological conditions but based on less observation (n=19)

A growing body of evidence

JRC - Farming practices Evidence Library

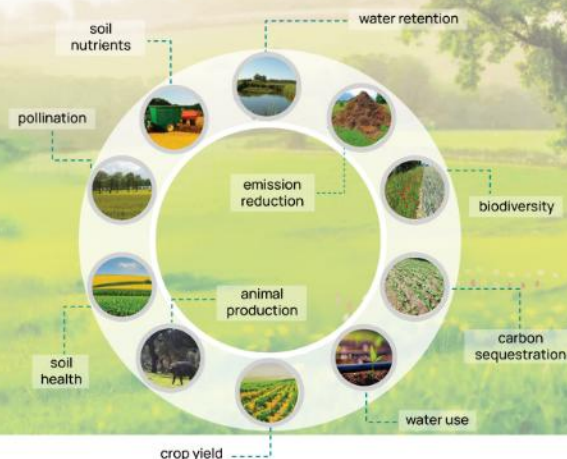
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Welcome to the JRC Farming practices Evidence Library

This library synthesizes a large amount of scientific evidence to assess the **effects of farming practices on sustainability outcomes**, mainly regarding the environment, the climate, and agricultural productivity.

How to cite this library: [10.2760/9473570](https://doi.org/10.2760/9473570)

[Explore the Library](#)



JRC Farming Practices dataset (version 2026)

<https://link.europa.eu/PBnMnv>



Main Results - discussion

Some caveats:

- numbers shall not be taken as absolute values, they are a statistical **average** of observations
- Results are, expectedly, very much **context dependent**
- A potential publication bias should always be considered in this type of analysis (researchers are more inclined to publish significant results...)

However...

- Results are **statistically significant**
- They cover a variety of **different farming systems** across 4 continents
- → they clearly indicate an overall positive trend

Concluding remarks

- Evidence suggests that transitioning towards more agroecological farming delivers not only environmentally, but also in «classical» economic terms
- There are different reasons, but the main one is savings on costs of external input, and higher resilience due to more diversified activities:
- We need to keep collecting evidence to better address the context-dependency on results: from what works well in general, to what works well *where, when and why*
- We need to put together efforts towards the building on a living, open, geospatially explicit and comprehensive database of evidence

Thank you



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