



INITIATIVE ON
Agroecology

Holistic Localized Performance Assessment (HOLPA)

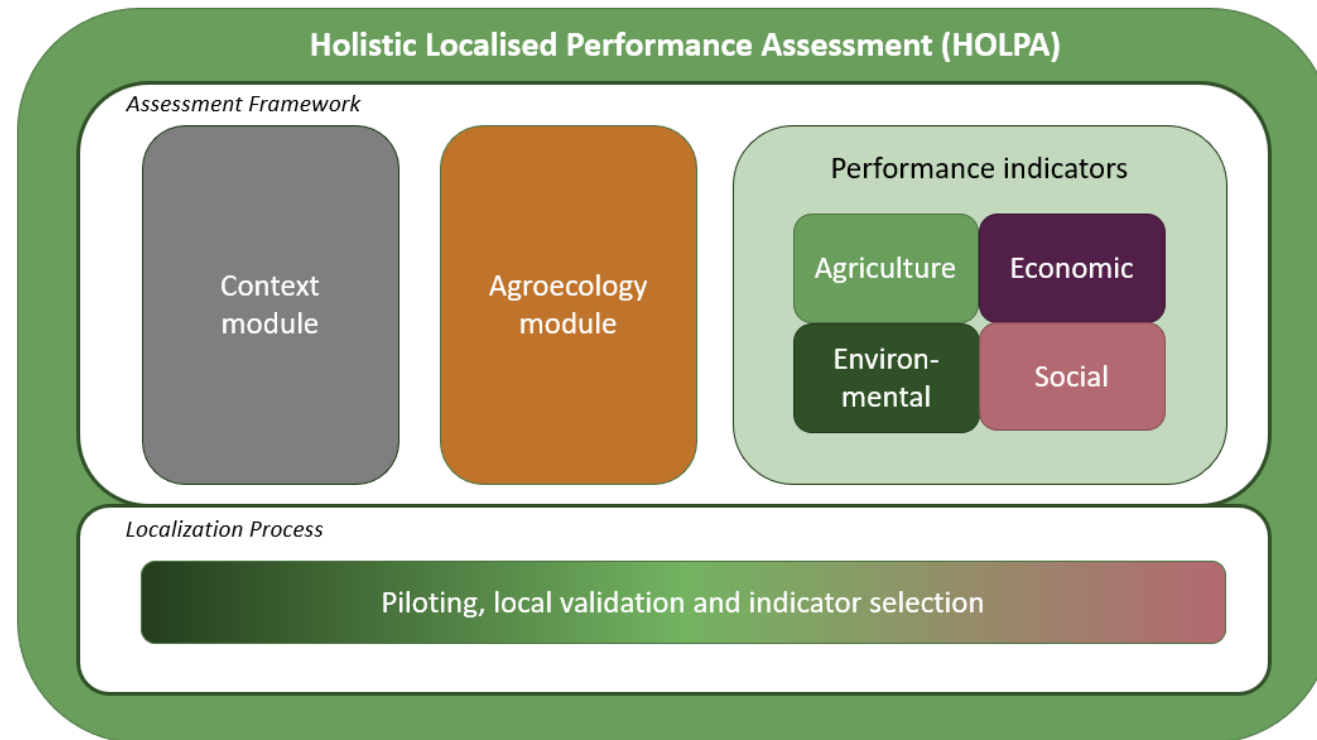
**tool for collecting evidence on the
impact of agroecology**

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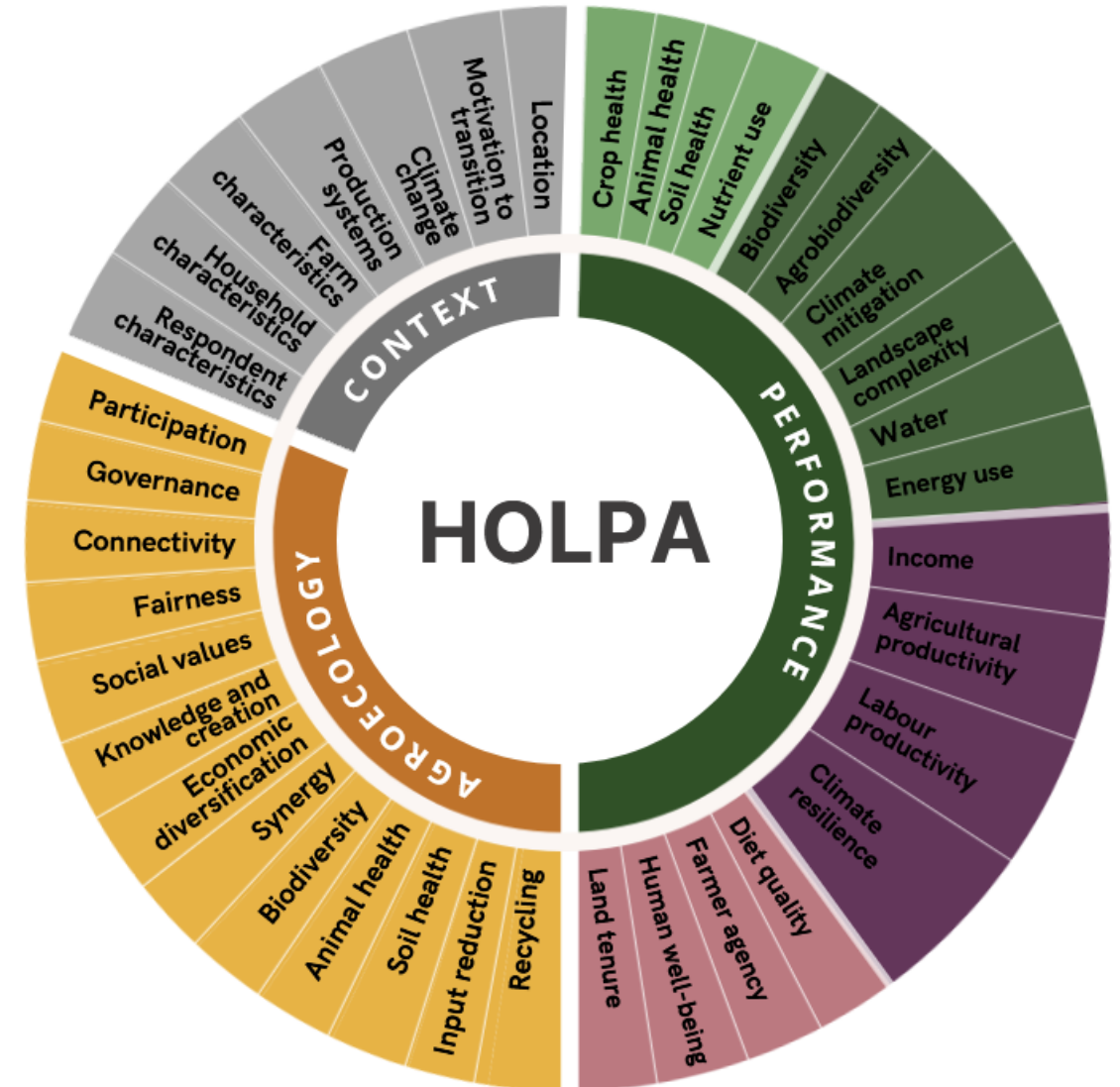
What is HOLPA?

- A **survey-based tool** for collecting evidence of the holistic impact of agroecology
- Contains **three modules**: context, agroecology adherence, performance (global, local)
- Applicable at **plot, farm-household, or landscape** levels (only piloted at farm-household level so far)
- Questions are coded for use in **KoboCollect**, an app for Android tablets



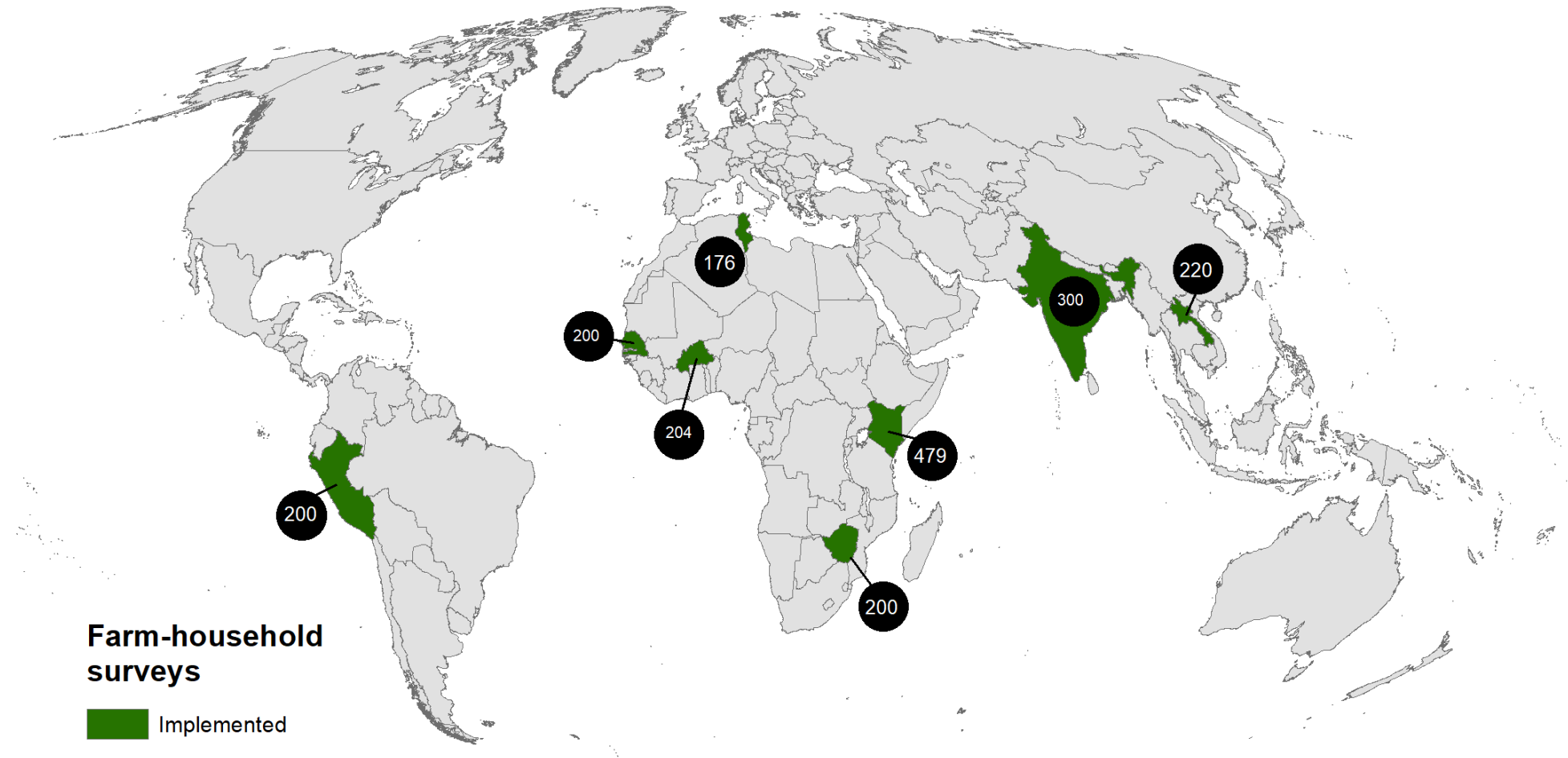
HOLPA module contents

- 18 Performance themes (26 KPIs)
 - 13 Agroecological adherence themes
 - + Socio-ecological context variables
 - + Additional locally selected indicators
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- All modules were co-developed through a review of existing metrics, tools and approaches including **TAPE, RhoMIS, ACT, F-ACT, B-ACT, SDGs, Global Farm Metric, The Doughnut and more**, participatory **consultative workshops** with AE-I staff and partners, and **piloting** in-field with farmers



HOLPA implementation to date

- 1979 farm-households across 8 countries between March and October 2024



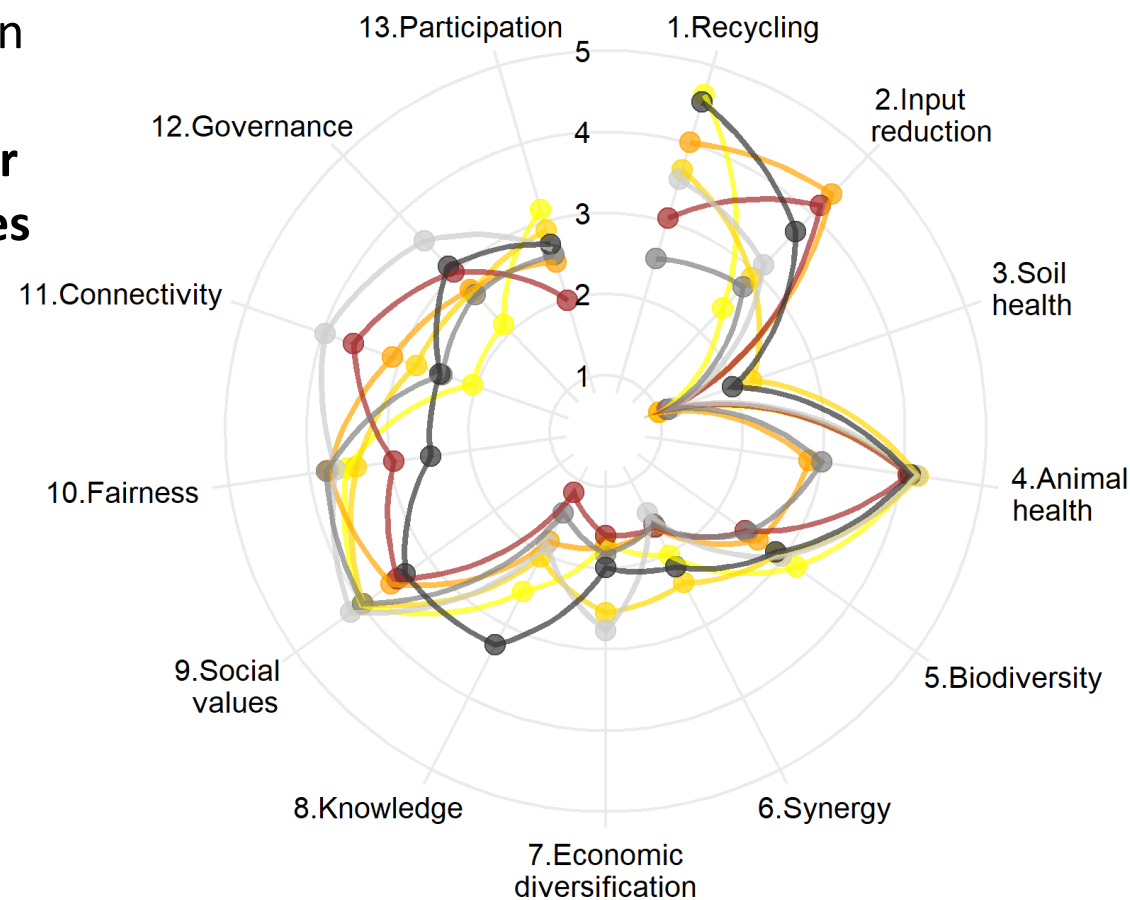
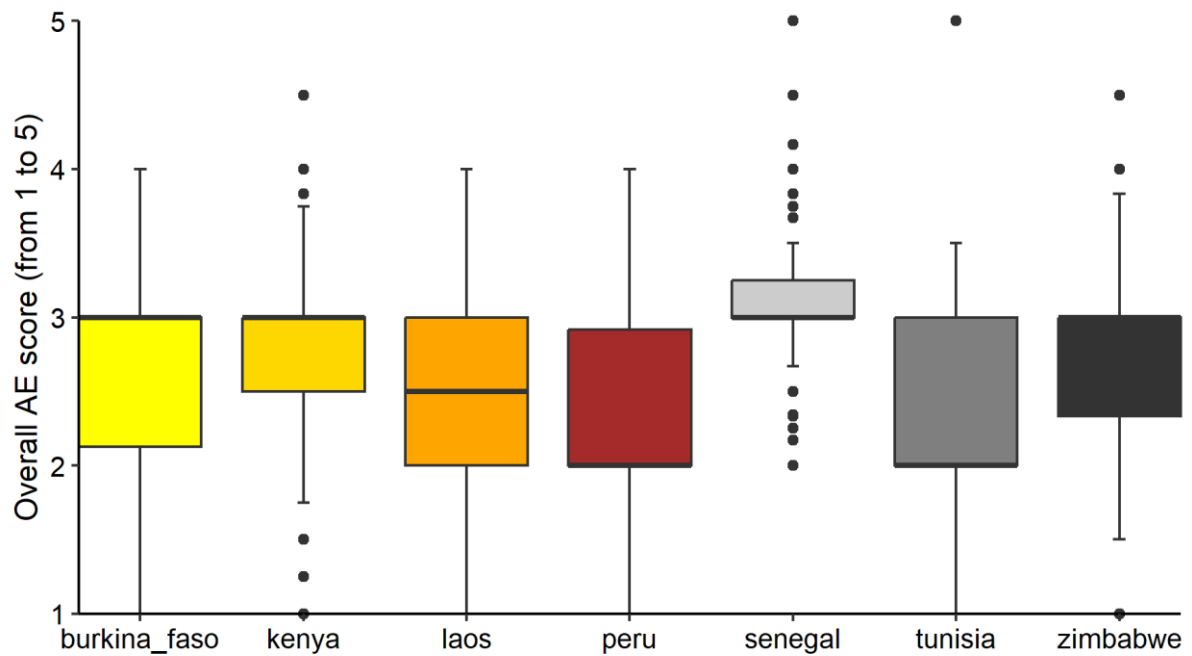
HOLPA data analysis objectives

1. How does farm-household adherence to agroecology vary across landscapes in Burkina Faso, (India), Kenya, Laos, Peru, Senegal, Tunisia, and Zimbabwe?
2. How does the agronomic, environmental, social and economic performance vary across farm-households at different levels of adherence to agroecology?



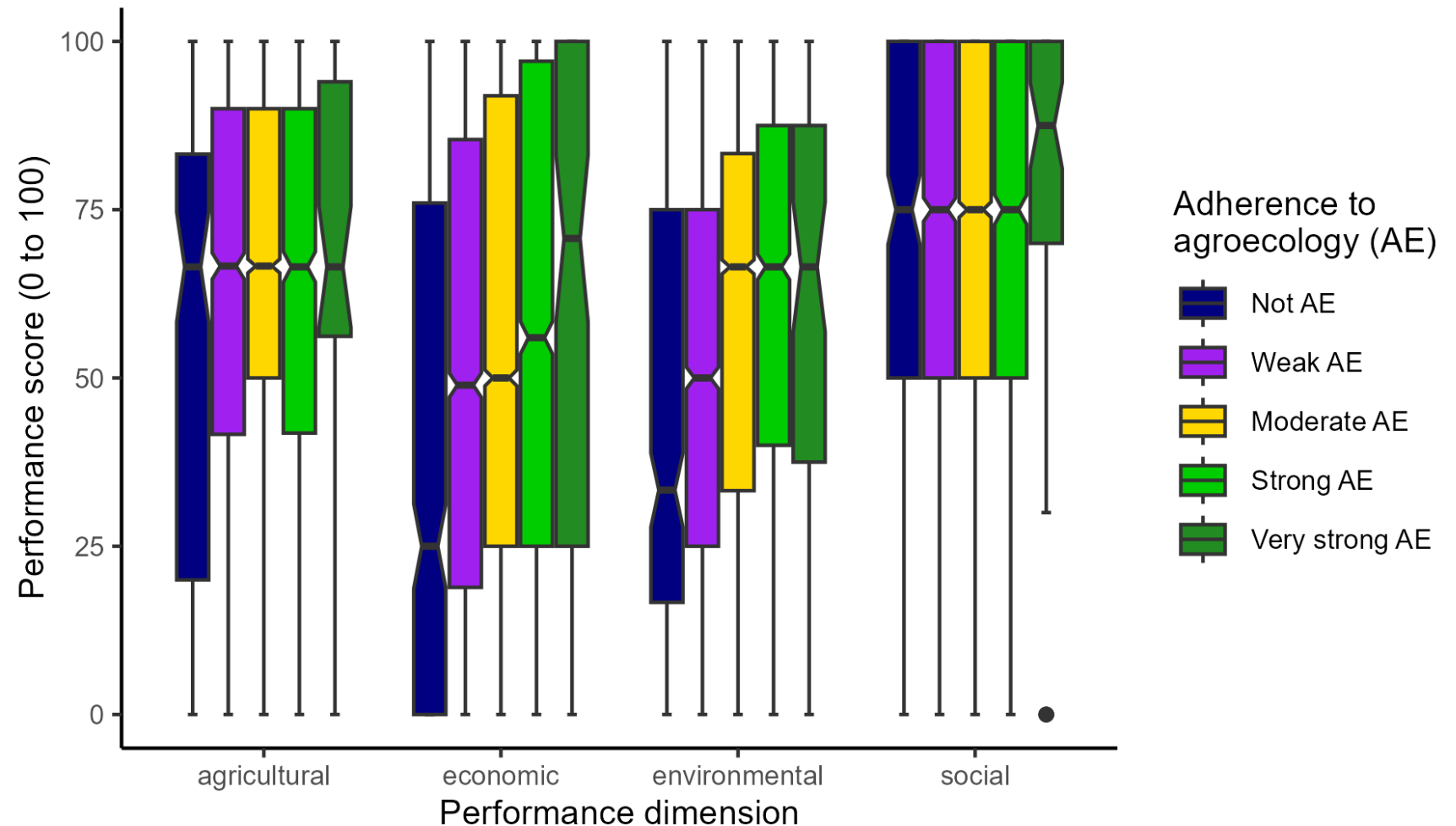
Result 1 – adherence to agroecology

- **Moderate adherence to agroecology** (score 2 to 3) with Senegal, Kenya and Burkina Faso in advance
- Divergence in adherence to recycling (1), input reduction (2), knowledge (8), fairness (10), connectivity (11), governance (12) – **highlighting different entry points for agroecology transitions across countries and landscapes**



Result 2 – impact of agroecology

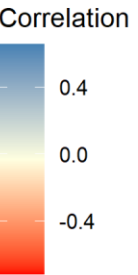
- Consistent trend towards **higher performance scores with increasing adherence to agroecology**, across agricultural, economic, environment, and social performance dimensions
- Differences between non or weak AE, and strong or very strong AE, **significant for economic and environmental**



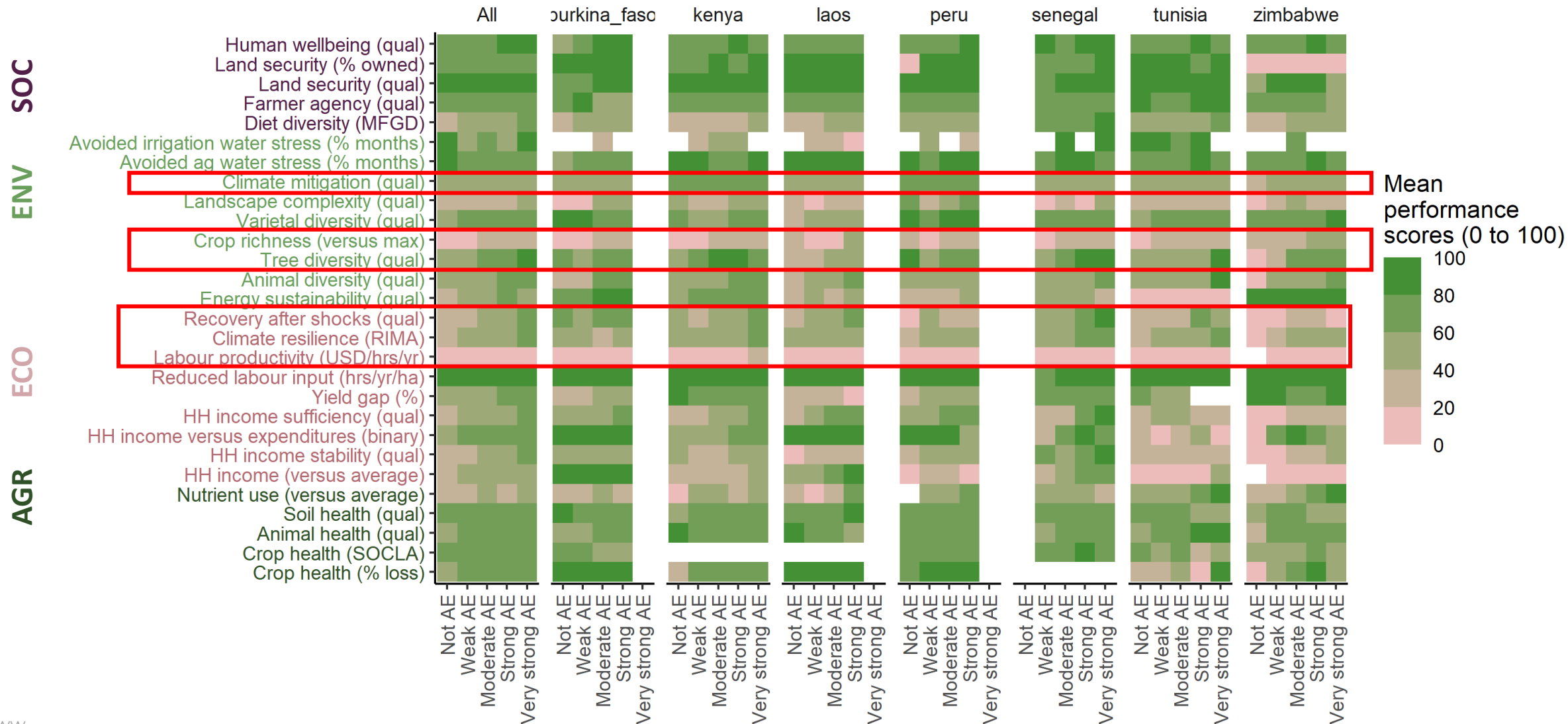
Result 3 – impact of agroecology

- Agroecology has a positive effect on **biodiversity** (tree diversity, crop species richness), **climate resilience**, **human wellbeing** (happiness), **nutrition**
- 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)

| | All | burkina_faso | kenya | laos | peru | senegal | tunisia | zimbabwe |
|--|--------|--------------|--------|--------|--------|---------|---------|----------|
| Human wellbeing (qual) | 0.2** | 0.7** | 0.2** | 0.2** | 0.1 | 0.4** | 0 | 0.1 |
| Land security (% owned) | -0.1* | 0.1 | 0 | -0.1 | 0.1 | 0.1 | -0.1 | 0.1 |
| Land security (qual) | 0.1** | 0.6** | 0.1* | 0 | -0.1 | 0.2* | -0.1 | 0.1 |
| Farmer agency (qual) | -0.1** | -0.7** | 0.1 | 0 | -0.1 | 0 | 0 | 0.1 |
| Diet diversity (MFGD) | 0.2** | 0.4** | 0.2** | 0.2** | 0 | 0.2** | 0.1 | 0.5** |
| Avoided irrigation water stress (% months) | 0 | | 0.2 | | | | -0.2 | |
| Avoided ag water stress (% months) | 0 | -0.2** | -0.1 | -0.3** | 0.2** | 0 | 0.1 | 0.2** |
| Climate mitigation (qual) | 0 | 0.1 | 0 | 0 | 0.1 | 0.1 | -0.1 | 0.2* |
| Landscape complexity (qual) | 0.1** | 0.6** | 0.1* | 0.3** | 0.3** | 0.1 | 0 | 0.2** |
| Varietal diversity (qual) | 0 | -0.6** | 0 | 0.2** | 0.3** | -0.2* | 0.2** | -0.1 |
| Crop richness (versus max) | 0.3** | 0.4** | 0.3** | 0.3** | 0.3** | 0.2** | 0.3** | 0.2* |
| Tree diversity (qual) | 0.3** | 0.4** | 0.3** | 0.2** | 0.3** | 0.3** | 0.1 | 0.3** |
| Animal diversity (qual) | 0.2** | 0.6** | 0.3** | 0.3** | 0 | 0.2* | 0.1 | 0.2** |
| Energy sustainability (qual) | 0.3** | 0.4** | 0.1** | 0.1 | 0.1* | -0.3** | 0 | -0.2* |
| Recovery after shocks (qual) | 0.2** | 0.4** | 0.1** | 0.2* | 0 | 0.2** | 0.1 | 0.2** |
| Climate resilience (RIMA) | 0.3** | -0.2** | 0.3** | 0.5** | 0.2* | 0.3** | 0.2** | 0.5** |
| Labour productivity (USD/hrs/yr) | -0.1* | 0.1 | 0 | 0 | -0.1 | 0 | 0 | 0 |
| Reduced labour input (hrs/yr/ha) | 0 | -0.4** | -0.1** | 0 | -0.1 | 0 | 0 | -0.1 |
| Yield gap (%) | 0.1** | 0.5** | -0.1 | -0.1 | -0.1 | 0 | -0.2* | -0.2** |
| HH income sufficiency (qual) | 0.2** | 0.4** | 0.3** | 0.3** | 0.1* | 0.4** | 0.2* | 0.3** |
| HH income versus expenditures (binary) | 0.1** | 0 | 0.1** | 0 | -0.2** | 0.4** | 0 | 0.1 |
| HH income stability (qual) | 0.2** | 0.1 | 0.2** | 0.1* | 0.1 | 0.1 | 0.1 | 0.3** |
| HH income (versus average) | 0.1* | 0.1 | 0.1 | 0.3** | 0 | 0 | 0.1 | 0 |
| Nutrient use (versus average) | 0 | 0.3** | -0.1 | 0.5** | -0.1 | 0.1 | 0 | 0.2* |
| Soil health (qual) | -0.1** | -0.1 | 0 | 0 | 0.1 | 0.1 | -0.1 | 0 |
| Animal health (qual) | 0 | 0.5** | -0.1 | -0.2 | 0.1 | 0.1 | 0.1 | 0.1 |
| Crop health (SOCLA) | 0.1 | -0.6** | | | 0.2** | 0.3** | 0 | 0.1 |
| Crop health (% loss) | 0.2** | -0.7** | 0.2** | 0.1 | -0.2* | | 0.2** | 0.4** |



Result 4 – impact of agroecology



Take-away messages

1. Across the 7 countries, **most farms are showing signs of weak to moderate adherence to agroecology**
2. **Agroecology makes sense for biodiversity, climate resilience, nutrition, and human happiness:** all are positively correlated with adherence to agroecology
3. Some performance aspects are **not significantly affected by agroecology**, including labour productivity which remains low in all countries, and climate mitigation which has variable scores
4. Next set of analyses will focus on **gathering deeper insights** on relationship between agroecology and performance as farm context varies, and what motivates and enables farmers to transition to agroecology, to **strengthen evidence and support upscaling**

Thank you to the HOLPA WP2 country teams, their partners, and all participating farmers

•8 CGIAR centres:

•[Alliance BI-CIAT](#) and [IWMI](#)– lead centers

•[CIMMYT](#)

•[CIP](#)

•[ICARDA](#)

•[IFPRI](#)

•[IITA](#)

•[WorldFish](#)

•CIFOR-ICRAF, Cirad, TPP, GIZ, Biovision

•35 national institutions (national agricultural research institutes, NGOs, cooperatives, universities)

•1979 farmers

