Measuring and targeting agricultural innovations: The Rural Household Multiple-Indicator Survey (RHoMIS)

Key messages

- Rapid (<1h per farm household) collection of systematic and harmonized indicators of farm household performance.
- Indicators relate to farm-level resources, on- and off-farm activities, land use and farm management strategies.
- Characterization of farming systems and various livelihood strategies: Identification of ‘positive deviant’ farmers.
- Targeting of agricultural and rural development interventions: Tracking changes in poverty and livelihoods across time.
- Serves as a core monitoring and evaluation tool at farm-household level within several development projects.
- Data collected from over 7,000 households already.

Purpose

Sustainable intensification (SI) and climate-smart agriculture (CSA) are increasingly promoted to improve the food security, nutrition and poverty status of the rural poor. Ambitious targets have been set to reach millions of smallholder farm households, but which intervention to use under which conditions and for which groups of farmers remains undefined.

The lack of ‘targeted’ interventions—matching interventions to farm household characteristics and context—and the absence of widely accepted metrics and systems for monitoring progress reduces effectiveness and efficiency of development programs and capital investment, thereby jeopardizing the likelihood of meeting targets.

The Rural Household Multi-Indicator Survey (RHoMIS) provides an implementation-ready solution that generates cost-effective information for planning and monitoring agricultural and development investments across a range of rural contexts.

Methods

RHoMIS is a flexible digital platform built on open-source software that can be easily modified to meet a range of needs, while collecting a core set of standardized farm-household characteristics and indicators to quantitatively determine entry points and the success of SI- and CSA-based interventions.

The systematic approach of RHoMIS in collecting and quantifying indicators enables the rigorous analysis of relationships between the characteristics of farm households, their farm management and livelihood strategies, their performance and their welfare (Figure 2).

Conclusions

The power of RHoMIS lies in its consistent and rapid quantification of a harmonized performance indicator set, thereby enabling systematic across-site comparisons and impact assessments.

The standardized data collection approach allows for survey implementations and visualization tools to be efficiently deployed and adapted as needed, and for a consistent library of datasets to be established. Applications in Central America, West, East and Southern Africa as well as Southeast Asia have shown the potential of the tool to identify likely development pathways, and how these pathways may differ between systems and between different groups of farm households within systems.

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Findings

RHoMIS has been applied in more than 15 countries in a range of research and development projects led by CGIAR institutes, other research institutes and NGOs.

The first results across a subset of sites show some common patterns: Gross income and market orientation are related to diet diversity; while land and livestock holdings as well as market orientation drive gross income. However, locally specific determinants are also relevant.

Finally, drivers of diet diversity and gross income do not coincide. Intensification does not tend to increase diet diversity while incomes rise. Interventions will need to take this into account.

Scale of the tool

- Household
- Farming system

Scale of the tool

- Testing at wide scale

Drivers & Strategies

<table>
<thead>
<tr>
<th>Farm IT Characteristics</th>
<th>Performance</th>
<th>Welfare</th>
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<tbody>
<tr>
<td>Family Size/Composition</td>
<td>Gross Income</td>
<td>Food Security</td>
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<tr>
<td>Gender Differentiation</td>
<td>Value of Farm Products</td>
<td>Poverty</td>
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<td>Decision Making Efficiency</td>
<td>Livestock Holding</td>
<td>Inequality</td>
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<td>Landholding Allocation</td>
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<td>Crop Diversity</td>
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<tr>
<td>Farm Integration</td>
<td>Livestock Production</td>
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<tr>
<td>Income Level</td>
<td>Livestock Production</td>
<td>Nitrogen Balance</td>
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</tbody>
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Overview of the key farm livelihood characteristics, drivers and performance and welfare indicators quantified by RHoMIS.

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Achieving multiple benefits through livestock-based solutions, Addis Ababa, 8-12 May 2017