

# The Mix of Methods: towards a framework for anticipating validity threats in evaluations of agricultural value chain support

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# Our room of maneuver in impact evaluations

- Each researcher in LEI has its own expertise and methodological wish-list: multiple ways to do evaluations:
  - Models/scenarios
  - Econometrics
  - Case studies
  - Stakeholder processes
- My subgroup mixes economists, anthropologists and engineers
  - We adopt Theory-Based Evaluations
  - We want to improve our research designs in a peer-to-peer process of design quality checks

# Theory-based evaluation

- We know that these **value chain development processes are complex**, and, therefore:
  - We need 'program theories' to be evaluated and tested
  - We need to explore the conditions that make them work (towards 'good principles'/'good practices')
  - We want to maximize evaluation outputs that facilitate learning for 'better' intervention theories

# Challenges

1. Focus on key aspects!
2. Methods that can face scrutiny!
3. Outputs that facilitate cross-site learning!

# 1. Focusing the impact evaluation

- We propose a **process to focus** in a process in which stakeholders define/refine their intervention logic
- We want to reflect with them to identify the **critical assumptions** in that logic
  - One of the obvious assumptions, is **IMPACT**: outcomes can be attributed to the intervention
  - Less obvious, but interesting for social research, are the assumed **CAUSALITIES**: the assumption that one process causes/triggers other processes

## ■ **Impact Logics / Result Chains:** How do we think value chain performance will be enhanced by our support intervention?

- On what basis do we think that the proposed interventions are likely to be successful in improving the performance of the value chain?
- What mechanisms are assumed to work that translate our activities into (intermediate) outcomes? (the arrows!)
- Can we collect evidence to make the most important causal links plausible to a skeptical outsider?

## 2. Mixed method measurement tools

- The **lack of credible evidence** on outcomes and impact of value chain development support:
  - low priority on measuring impacts by practitioners
  - lack of appropriate, lean and credible instruments to do so.

Therefore:

- **Step 1:** Choice/Negotiation of a **core methodology** that fits with the main evaluative questions (and 'real-world constraints')
- **Step 2:** Add to this core method with some **additional methods**:
  - That responds to the most challenging validity threats of the expected evaluative conclusions
  - That anticipates eventual implementation issues related to the core method

- We propose to check the core research method design on the most obvious **threats to validity**, exploring the issue from four different angles:
  - a) **statistical conclusion validity**
    - when using statistics, do it properly
  - b) **internal validity**
    - resolve the issue of causality/attribution
  - c) **construct validity**
    - are the concepts used properly defined and operationalized
  - d) **external validity**
    - under what conditions/settings does the conclusion/recommendation apply

Source: Shadish, W. R., T. D. Cook, et al. (2002). Experimental and Quasi-Experimental Designs for Generalized Causal Inference, Houghton Mifflin Co. Boston, MA.

### 3. Facilitate cross-site peer-to-peer learning

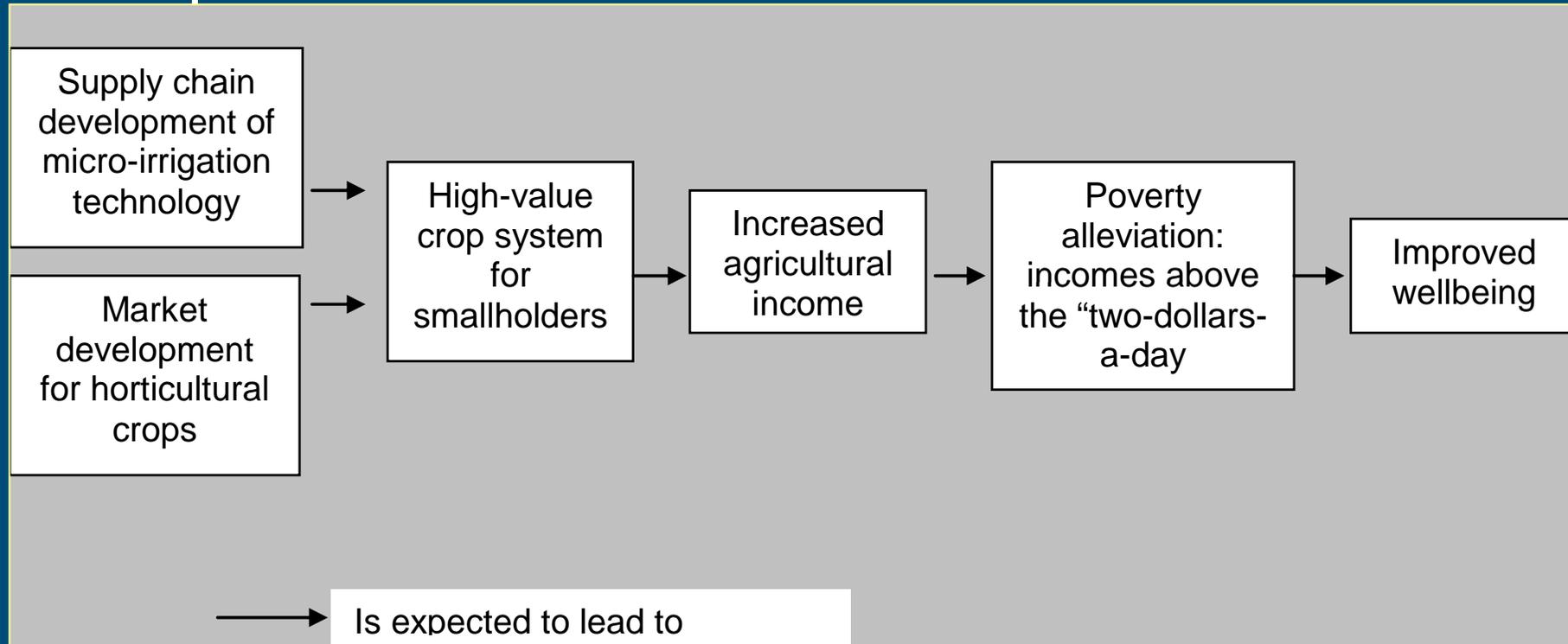
- Need to reflect on **common elements** in value chain development pilots
- Focus on **mechanisms in context**:
  - What works for whom under what conditions?
- **Realist case studies**: Context-Mechanism-Outcome Configurations

# Application in the design of three of our evaluation assignments





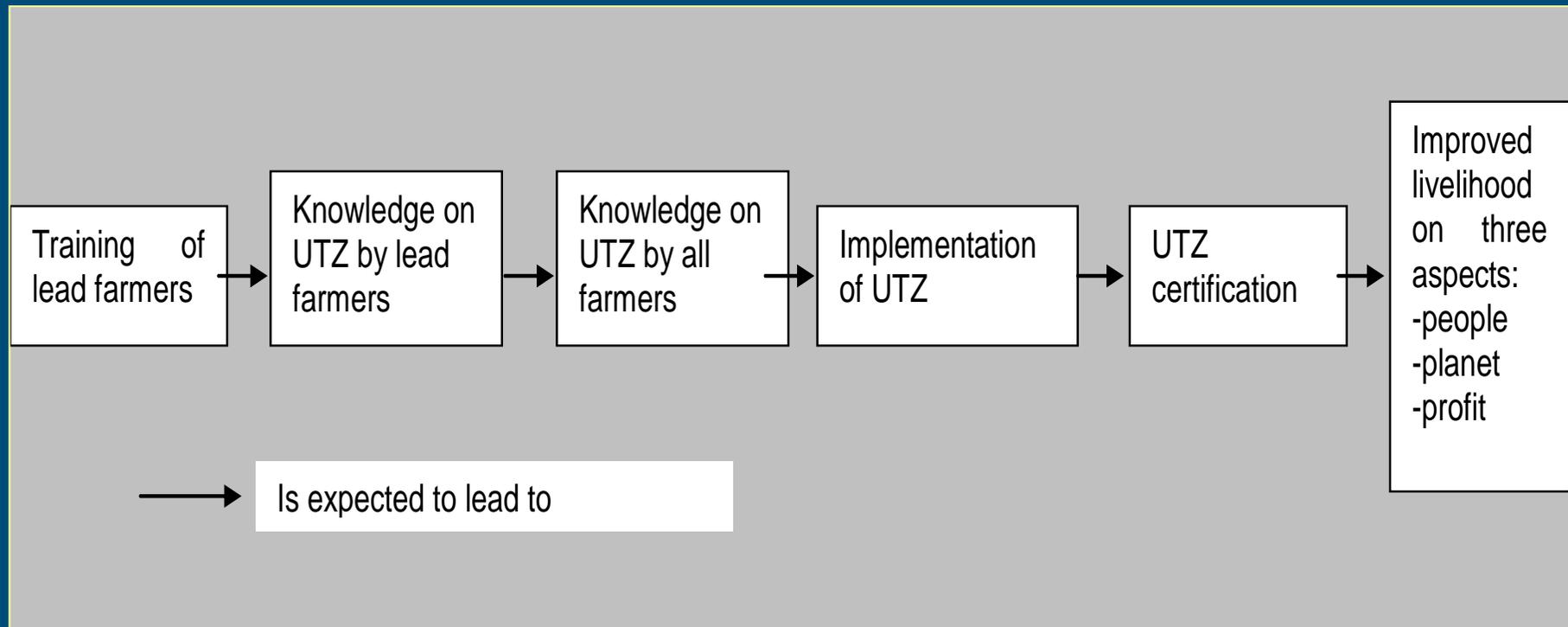
# Income impacts of micro-irrigation technology



- **Critical assumption:** attribution of household income changes to micro-irrigation technology use
- **Core method:** 'pipeline design' with retrospective baseline
  - Comparing income streams between yearly customer cohorts
  - Asking there about before and after adoption
- **Added mixed method:**
  - On key assumption in program theory
    - Livelihood impact case studies
    - Sector-studies on dynamics in markets and institutional environment
  - On methodological assumptions
    - Recall bias test (repeating measurements in the same households with different recall period)
    - Selection bias: compare between inter-cohort characteristics and their differences with a random sample of the population



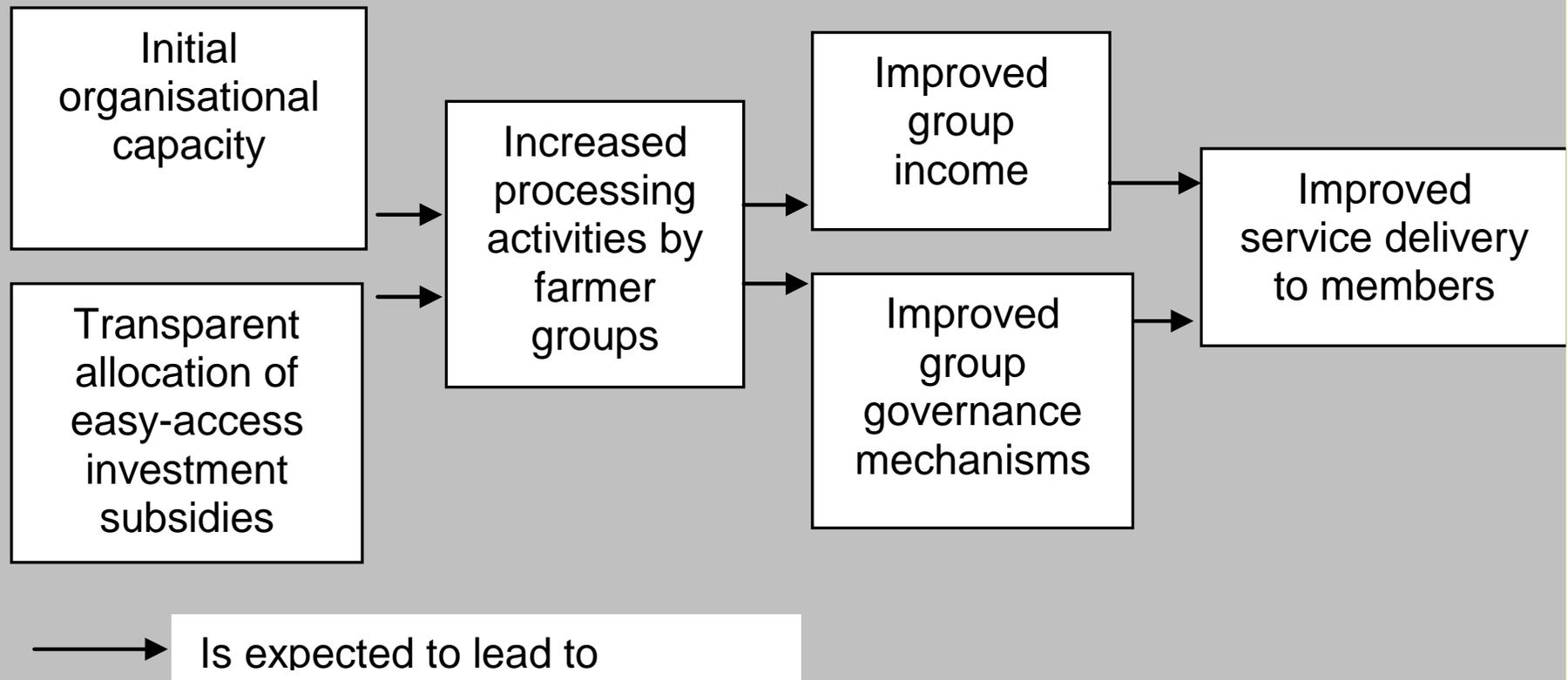
# Impact of training on tea sustainability



- **Critical assumption:** trickle down of training contents outside the core group
- **Core method:** before-after scan on good agricultural practices
- **Added mixed methods:**
  - On key assumption in program theory
    - Realist case studies on differences between tea factories (e.g. meeting intensity, additional stimuli)
    - Check on differences in access conditions of households for some 'necessary' equipment
  - On methodological assumptions
    - Additional checks on selection bias during baseline and discuss what to do with that knowledge



# Impact of investment subsidies on associative business



- **Critical assumption:** attribution of changes in organisational capabilities to collective processing
- **Core method:** base-line and three years after organisational scan on a random sample of organisations, analyzed with case-based statistical methods
- **Additional mixed methods:**
  - On key assumption in program theory
    - Descriptions of learning experiences on resolving tensions in collective action (realist case studies)
    - Comparison of preparation process with rejected plans:
  - On methodological assumptions
    - Repeated measurements of scan-instrument in the same organizations, with different respondents (robustness of measurement instrument)
    - Peer-to-peer workshops to discuss the generalisation domain of supposedly 'stronger' governance mechanisms

# Conclusions

- One-method research might be good for publication in top journals, but rarely for generating convincing evidence to stakeholders
- Need for proper mixed-methods design:
  - **Theory-based evaluation** to find the right evaluative questions
  - **Scan on validity threats** to the expected 'type of conclusion', in order to find a proper mix of methods
  - **Realist case-studies** to place mechanisms in context
  - **Case-based comparative methods** to make sense of diversity in development pathways

# Thanks!

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