Technology adoption and impact research to be done differently?

Jens A. Andersson

Existential questions for the agricultural research project

1. Has technological change taken place? (technology adopted?)

2. What have been its effects? (yield, household’s socio-economic status)

The problem of ‘adoption’

1. too linear in both spatial and temporal terms
   - dis-adoption, adoption intensity, adoption extend
2. too binary
3. too focused on individual decisions (at field/farm scale)
4. ‘black boxing’ technology (transferable packages)
5. blind to many important aspects of technological change
   - assembly of social and technical components
   - highly situated
   - contingent
   - hybridization, creolisation
   - multi-scale
   - adoption processes (and their drivers) not studied


A weak evidence base…

Example of Conservation Agriculture (CA) adoption research

Amidst definitional diversity regarding what constitutes CA (...), adoption figures are usually more obscuring than revealing.

Basic dimensions of adoption, such as the specific CA practices taken up, the areas covered, and number of cropping seasons in which these practices are applied, are often ignored in favour of a commonly used – but often implicit – definition of the CA adopter as a farmer who practices the minimum tillage component of CA on some part of his/her land in a given season. (p.129)

Discussion (in groups)…

1. How do we study technology uptake/adoption/impact beyond the individual farmer/ household-level?

2. What are (should be) key indicators for SIP in these studies? sustainability? natural resources saved? labour productivity? yield?


Group discussion results

1. Decision making is at HH level
   - need to move away from binary
   - area share, intensity, temporal
   - too much emphasis on yield
   - move to: - 
   - implications for sampling frameworks

2. Adoption is process quantifiable and qualitative
   - disaggregate tech packages
   - donor audience quantifiable
   - dynamics panel data needed
   - plot level data through HHS survey
   - reduced exclusion - carbon sequestration
   - * difficult to study adoption in ongoing project
   - RCTs are not suitable - post for this.
   - * donor demands learning process indicators MAE
3. remote sensing/Unmanned Aircraft Vehicle (UAV) - crowd sourcing (epidemiology analogy) - spatial sampling scheme - feedback through SMS/SMS - technology specific value chains, areas, - longitudinal adoption dynamics - qualitative studies logic of adoption - key indicators
- area, no. of farmers, value chains - land use pattern changes - trajectory/time frame

- land use - village - headland - density - irrigation - sampling - examples - people repeating through SMS/SMS - smartphone

Fly more than once.
Research on Scaling

Michael Misiko

Sustainable Intensification Programme (SIP) retreat
Chengeta/Pamuzinda lodge, Zimbabwe
18-21 April 2016