**Rapid Experiments**

Research Methods Seminar, December 2023

**Notes from Group Discussion**

ESAf Region Group:

* Focusing on survey: Cross Sectional and longitudinal survey, both scientific with adequate rigiour to make scientific inferences. What's the difference between the two?
* Response: Rapid study is trying to conduct some sort of research while cross sectional is often either a baseline or study characterizing a population. So we still are analyzing data but it is part of a bigger process. Survey is more to do with the tool that the researcher is using.
* Wondering if it would help if we have a think through about some of the uses?
* Quite number. E.g say compositing/ soil amendments: quite a number of projects using different/particular options with farmers and have tested those on more standard kind of experiments but each year there are discussions at the end of the season: People say that is interesting but I might try out something different next season (e.g Best bets). There are other options that are brought up in the discussions for the season next year. Wondering if testing out such options by farmers can be done using rapid experiments? And can one design some form of rigorous rapid study? Its some thing that is not going to be published but results will be used to look at things like does it seem like the results have a good enough performance against the control or existing practice that so that e.g farmers can decide to go with it or we as research team can decide to conduct research on it the following year.
* Have mentioned Variety bleeding trials;in a way you start with very many varieties with 3 reps in a study but at the end of 1 season, you are able to select which will work and get advanced further. So similarly with farmers having several ideas/options, then they evaluate and select what to advance after which, more conventional approaches can be used.
* Want to understand if the results of rapid experiments can be accepted for publication ? Probably not, as a stand alone paper, but yes as part of a broader paper. FIPs have done a study that is a combination of four subset quick surveys on monitoring, combining it together, they can have a paper for publication.
* From Hub’s point of view: It depends on the urgency of the problem that you are facing. Did three years of research on biofertilizers and a lot of research on BOKASHI in replicated trials with indicator plants and alot of data collected. However, I had some urgency to have some real options to present to farmers for the next season and are continuing with these little trials. They have involved other substances that are exciting and are getting feedback and more feedback from farmers.The project is using replication, randomisation… It's an enormous amount of labor if they increased their reps by 3 or 4. Looking at trade offs e.g. if they use coffee water which is one of the things the project is thinking of using instead of molasses and check if it has some effect on the nutritional profile of BOKASHI pile of the potential nutrients it can potentially supply? This will be most probably problematic with the bran component than with yeast and molasses. The project is about to do this testing and make a decision to go ahead with the rapid indicator trials with seeing how plants respond.
* Do you hope to move to conventional? If they come up with good widely applicable options for farmers, will take them on for conventional research, replicate the options and pass them on to others to see if they are repeatable. Working with other partners to replicate what the project is doing. If results are not repeatable, farmers can lose confidence in the research.
* How is participatory variety selection similar to rapid study? Depends. Have been used when lots of varieties are out for screening. If it's about farmers selecting their preference on 3 or 4 varieties, then that's conventional design, and looking at options by context.
* What should be the threshold for any activity to be considered a rapid study? Does it need to have any sense of research design and scientific approaches to data collection. Can someone go to the field and observe a few crops and come up with a conclusion? Rapid doesn't mean we don't approach it without the other considerations (of objectivity, bias control, representative sample etc…..). We still approach it as any other research study.
* Any other examples from other projects?
* Botanicals: There are plant species with variation in their chemistry. You may have a plant that in some parts/places works well as a biopesticide but doesn't work in others . As rapid experimentation, they have used bruchids (mixing botanical powder with grain) to see if the plant suppresses them and hence fit for use in pest management. Are able to identify which plant material is good for use for pest management and which material can be used for propagation by smallholder farmers . This is preliminary work that is taken further for chemical analysis to understand the chemistry of the plant.
* I am wondering would screening several inputs in pot trials and what works being advanced for field trials be a rapid study? Varying some of the components used and doing some pot trials and whatever works in early growth stages is taken to the field for field trials.

West Africa Region Group:

* What is the difference between rapid response research and PRA?
* RRR for long-cycle crops?
  + These mainly require long-term research (over several years).
  + What do we mean by “fast” (14 days for bokashi)?
  + Can you find ways to expand knowledge more broadly?
* RRR lacks the rigor of long-term research.

Usage example 1:

* Mental health questionnaire needs
* Led to suggestions for an organization on how to improve and support participants.

Usage example 2:

* Understanding if germinating seed balls with a new ingredient can be helpful
* → more effective balls or more choice of ingredients

Usage example3:

* Effects of bokashi and liquid fertilizer
* Oriented the quantities used.

Usage example 4:

* The best depth to sow fonio to have good plant establishment

Usage example 5:

* Identification of parasites?
* Testing release bags vs. plastic boxes to release parasitoids against the millet leafminer
* Plastic is more efficient.
* Would cardboard be effective? Recycled tea cans. It is no longer available locally.
* In 2 weeks we have the answer. This allowed us to move forward AE because cardboard is biodegradable. Also we didn't buy the plastic.

Example 6

* Effectiveness of various pesticides on insects harmful to cowpea
* In a week we should have preliminary results
* Using RRR to inform practice/research
* Crop modeling - can RRR replace/complement these models?