Working with a data manager in FRNs

Large N trials and other research with large numbers of farmers (such as FRNs) generate huge data bases that present challenges to usual data management practices. Hiring a data manager can be a worthwhile way to deal with these challenges. This building block shares some on-going learning about working with a data manager.

FRN-NGO engagement with a data manager has brought a lot of learning on the bigger picture of data management in the FRNs. The experience basically emanates from the one and half years of struggling to collect and manage large datasets from multi-environmental pest control and sorghum trials. The truth is that before you can do any analysis of an experiment, you first need to deal with data management.

Not everyone participating in experimentation can handle different aspects of data management even though every participant can be involved in all the different data flow stages. An overseer is required to ensure that data preparation, data governance, data quality, data collection, data analysis and data feedback and dissemination aspects are adhered to. This means that a data manager needs to be involved in every aspect of data flow. This person therefore ensures that data available is relevant, can be accessed when needed, is accurate, current, clean and complete. Above all he/she ensures that data is ready to support research analysis.

Data planning and preparation
It is said that you need to know how you will analyse your data from the planning and preparation stages. A lot of data requirements and measurements are done during the planning and protocol development stages. The data manager becomes an active participant to support the technical aspects on how the data will be manipulated and analysed. This is to help projects to collect data which eventually will be used during the analysis.

The most crucial role of the data manager during this phase involves the preparation of data collection instruments as agreed on during the planning and protocol development stages. This is done along with the project team. He/she later ensures that the data collectors (farmers and field extension agents) understand what data is to be collected and why. She goes ahead to prepare the field extension agents with skills of how to facilitate farmers in collecting the data. The training involves preparing them with the skills on how to collect both quantitative and qualitative data during the experimentation. He/she also trains them on how to conduct interviews and how to use the ODK technology.

Data collection and Data quality
It is the duty of all experimenters to ensure that all quality aspects during experimentation are met. However it is the duty of the data manager to ensure that data quality and integrity is adhered to by all data handlers at all times, through proper training. He/she ensures that data quality checks are embedded in the data collection instruments, takes real time checks and feedback (data is checked as they come and immediate feedback is relayed to the collectors). He/she encourages data collectors (field officers and farmers) to raise problems they encounter and help fix them before continuation. All data collection tools (be it forms or ODK) require piloting, hence the data manager takes lead in this.

Data analysis
Like all the other phases of experimentation, all participants in the experiments get involved in the data analysis to some degree. However, a data manager with high statistical skills is an important participant in ensuring that data is accurate, clean and complete for analysis. He/she takes the lead

in data exploration and in pulling up information which other participants can be able to provide further insights on.

Feedback and dissemination

Since a data manager is an integral personnel in the data analysis and interpretation, he/she occupies the vital position of integrating the findings into the form that can be used to provide clear feedback to different stakeholders in the research process. He/she becomes an important person to come up with clear illustrative graphics to support the outcomes for learning and information sharing.

Data governance and data security

Try to imagine data collected by over 1000 farmers getting lost! This would result in a lot of waste, in terms of time and resources! This calls for serious responsibility on the part of the data manager and those who get access to the data. The data manager is the first line of data keeping and access. He/she needs to be able to support data storage in a safe accessible media.