

Is there a relationship between Data Collection, Data Curation and Data Sharing? Experiences from a Restoration Project in East Africa and the Sahel



INTEREST GROUP ON
AGRICULTURAL DATA (IGAD)

Virtual Meeting
May 2020



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Pietro Bartolini (ICARDA)
Asma Jeitani (ICARDA)
Christine Magaju (ICRAF)



Introduction



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- Farmers in Ethiopia, Kenya, Mali and Niger implemented on-farm planned comparisons to test and innovate land management practices that restore agricultural productivity and ecosystem health
- Performance of each of the options was systematically monitored to produce rigorous evidence on the constraints and conditions for implementation and the variables of success for specific restoration options

Restoration of degraded land for food security and poverty reduction in East Africa and the Sahel: taking successes in land restoration to scale

Our goal

To reduce food insecurity and improve livelihoods of poor people living in African drylands by restoring degraded land, and returning it to effective and sustainable tree, crop and livestock production, thereby increasing land profitability and landscape and livelihood resilience.

The challenge

Scaling up effective land restoration interventions from a single household to wide-scale adoption, over multiple economic, ecological, sociological and institutional contexts, to meet the United Nation's SDGs.

Our solution

Over 6000 farming households engaged in Ethiopia, Kenya, Mali and Niger.

What are nested CoPs?
Nested CoPs are learning platforms that bring together farmers, community facilitation, NGO and government extension staff, private sector actors, and researchers, to share knowledge and experience of effectiveness of land restoration options, through structured dialogue.

Land restoration options

- Community/landscape management
- Farmer-managed natural regeneration
- Micro-dosing of inorganic fertilizers and manure
- Pasture management
- Pest control
- Planting basins with manure
- Soil and water conservation
- Tree planting/agroforestry

FARMER FIELD SCALING

Participatory prioritisation by farmers of land restoration options, leading to selection of key options to implement on-farm

Land restoration options evaluated through structured co-learning in nested communities of practice (CoPs)

Engage farming households and other stakeholders

Land restoration options tested through planned comparisons

Apply research methods to document and monitor experiences of farmers, embedding research into development cycle

Electronic data capture used to monitor and assess performance of land restoration options

Real-time data collection and analysis to assess and evaluate contextual variables leading to success

Adapt technologies to context of farmers

Timely research outputs generated by co-learning cycle between development actors and researchers, and incorporated into development cycle

Partnership engagement tracked with outcome mapping and data on use of research results and tools incorporated into development cycle to accelerate impact

Scale restoration in profitable ways for farmers and pastoralists, ensuring sustainable livelihoods and productive lands

Farmer-centered implementation of key land restoration innovations

Innovation at scale = harnessing technology to meet local needs within an appropriate enabling environment



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Look at what is there, local knowledge

Engage with stakeholders to develop diverse and inclusive options and an appropriate enabling environment

Adapt options [technologies, market interventions, policies] to context

Refine what works where and for whom

Nurture innovation platforms



Data collection process

- Performance of options was monitored using electronic data collection.
- Data collectors used Open Data Kit (ODK) mounted on mobile phones.
- Electronic data capture was used to enable real-time data collection and analysis.
- Data collection activities produced a series of datasets surveying rural households in Kenya, Ethiopia, Mali and Niger.



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Data Management



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- In May 2019, ICARDA's M&E team presented the activities related to data curation and dissemination at the annual team meeting in Nairobi.
- An introduction on data curation techniques was provided, analyzing the dataset structure, suggesting improvements and developing a plan for the curation in the following months.
- The datasets structure was very similar, although the quality of the data varied depending on the collector proficiency with the instrument.

Data management cont.



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- A close relationship with the ICRAF team allowed to complete the curation process, cleaning the data and standardizing the codes utilized.
- The result is a series of datasets containing high quality data, published on the institutional repository on Dataverse, and ready to be shared.
- The collaboration made the entire process easier and faster.
- At the same time it highlighted the need to establish the collaboration with the data collection team from the planning phase, in order to define the criteria by which the dataset has to be built.

 Dataverse

1 to 4 of 4 Files

		DataDictionary_ElementDescription.csv Comma Separated Values - 24.3 KB - Apr 15, 2020 - 1 Download MD5: 34e1eb6982802994513bbf7323b2570e
		DataDictionary_Introduction.csv Comma Separated Values - 1.6 KB - Apr 15, 2020 - 1 Download MD5: 8dfd221fc1ca3f44f6d947d27a42c713
		DataDictionary_UniqueIdentifier.csv Comma Separated Values - 2.6 KB - Apr 15, 2020 - 1 Download MD5: 9668b4b512b5434b37026653e49815df
		FP_Data1624.csv Comma Separated Values - 938.0 KB - Apr 15, 2020 - 4 Downloads MD5: f98ac2c8ab0c81cc84fc4c33b014ef45

Data Sharing



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- The creation of a data paper related to the datasets is the last step of the entire process.
- Data papers provide more context and description than a simple dataset stored in a repository.
- It increases traffic towards associated research articles and data, leading to more citations and more collaborations.



Write-shop Organization



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- Back in March, our team was going through the process of writing a data paper in order to share the results of the datasets.
- A write-shop in Tashkent was planned, then the global pandemic and the lockdown happened, changing our plans.
- The write-shop was re-structured to take place online using highly focused group meetings.

Write-shop cont.



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- The new agenda adopted a mix of synchronous online meetings and asynchronous collaborations.
- Synchronous online meetings were held for commenting purposes, providing feedback, and discussing next steps.
- Asynchronous collaborations constituted the majority of the write-shop as it allowed schedule flexibility and increased productivity.
- This proved to be highly productive, resulting in the drafting of 2 data papers and 1 journal article.

Conclusion



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Our experience shows that:

- Dealing with data collection, data curation, and data sharing activities as a whole produces better results than dealing with each one separately.
- Strong commitment of each team and a good communication are key in achieving desired results.
- Setting clear deadlines is extremely important.
- Publishing the datasets in a data paper can help convincing more scientists to collaborate in the data curation process.



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**Thanks
for
your
attention**

May 25 – 29, 2020

RDA/IGAD Virtual Meeting