



Approaches to developing capacity for open data

GODAN Action supports data users, producers and intermediaries to effectively engage with open data and maximise its potential for impact in the agriculture and nutrition sectors. In particular, we work to strengthen capacity, to promote common standards and best practice, and to improve how we measure impact.

LESSONS FOR	
LEARNING PRACTITIONERS	
DATA PUBLISHERS	
DATA INTERMEDIARIES	
DATA USERS	

Introduction

One of the three focal areas for the GODAN Action project is **capacity development**. Our aim is to develop the capacity of users, from decision-makers to farmers, to use and manage open data effectively in tackling key agriculture and nutrition challenges.

During the first year of the project, our activities have focused on:

- Preparation of a **modular online course** based on new and existing e-learning content - available through Moodle.
- Creation and iterative improvement of **face-to-face open data training courses**.
- Establishment of the **GODAN Capacity Development Working Group**, with more than 200 experts on training from the agriculture and nutrition sectors.
- Development of a set of training resources that align to core open data principles and can be relayed to the **GODAN Action Trainers' Network** and beyond.

So far, we have more than 350 alumni trained through online courses and face-to-face workshops, with over 1500 reached through webinars. We have also developed a capacity building plan, in conjunction with the GODAN Capacity Development Working Group, to encourage members use the collected training resources.

Approach

We have tried a variety of different methodologies to deliver capacity development activities for different audiences and skill sets according to demand identified through a needs assessment survey.

Massive Open Online Course (MOOC)

The [Open Data Management in Agriculture and Nutrition](#) online course targeted infomediaries, policy makers, administrators, project managers, researchers and scientists to strengthen their capacity to manage and use open data.

Delivered through the Moodle open course management system, it is an intense e-learning programme that covers every aspect of making data open and usable - from first principles to use, exposure, sharing and licensing of data. The content is structured into five units comprising eighteen lessons plus online tutorials, forum discussions and live webinars. Lessons are downloadable, allowing participants to read through the content offline, at a time convenient to them.

The planning process for the course started with a consultative workshop to collect expert input, building on the earlier needs assessment and a white paper that set out a conceptual structure and framework for the process. The workshop helped to define the target audience, their needs/functions/responsibilities and

necessary competencies and skills. Curriculum development is a joint effort of the project partners and the course outline was designed collaboratively. Each partner was assigned a unit to develop, which the other partners and external experts then reviewed.

In the coming year, we plan to deliver two to four editions of the General MOOCs, more tailored to thematic topics including land and nutrition data, with some dedicated to specific networks and/or communities of practice.

Face-to-Face Workshops

The majority of the respondents in our needs assessment (84%) indicated that the face-to-face approach was their preferred learning style, so a number of training workshops have been delivered.

A first set of workshops - for CAADP Journalists in Kenya, for land sector policy-makers in Ecuador, for infomediaries and trainers in Ghana and for researchers in Kenya - allowed us to test and evaluate training resources and further improve them in an iterative process. Further workshops on weather data (the priority thematic focus for GODAN Action in our first year) brought together actors from different networks to discuss good practice in the application of weather data and explore viable business models for creating value-added services for smallholders.

A growing collection of training and self-learning resources have resulted from these events and are available for re-use by the wider community.

We also launched a network to support the replication of the GODAN Action curriculum through other trainers and their institutions and to identify further opportunities for training. The Trainers' Network aims to:

- Facilitate communication and peer support among those providing training.
- Facilitate use and dissemination of GODAN Action training materials.
- Build capacity among trainers (technical and teaching/learning skills).
- Contribute to improving existing training resources and identify new resources for development, including translated materials.

Webinars and Forums

Delivered as an activity of the GODAN Working Group on Capacity Development activities, webinars have proved a successful way to reach wide audiences and to engage other communities working with open data. Webinars were also a key learning tool used in the MOOC.

E-forums (moderated electronic discussions) provide a more interactive means for communities of practice to share learning and experience. Our e-forum on the e-Agriculture Platform dedicated to ICTs and Open Data in Agriculture and Nutrition generated a lot of interest from nearly 400 participants and received fairly good participation (100 posts).

Practical lessons for key stakeholder groups

LESSONS FOR OPEN DATA TRAINING AND LEARNING PRACTITIONERS



- The role of various trainers networks (Capacity Development Working Group, Trainers' Networks and other project partner networks) in the coordination of activities was important. They provided valuable feedback on the needs assessment and curriculum development. They have also provided validation of the materials being developed for training as they incorporate them in their own training activities.
- Including context specific, local case studies relevant to the audience of training workshops helps participants to understand and appreciate the value of open data and the practicality of adopting open data practices as it relates to their own experience.
- Even within a seemingly homogeneous target audience, the baseline knowledge of participants on open data and standards can be very variable. Even though course content was designed for a low baseline of prior knowledge, the content can still be too technical. We need to adapt accordingly.

- Assessment of that baseline should include not just surveys, where participants are inclined to input more knowledge than they actually have, but also assessment of their respective websites.
- Trainees should be encouraged to directly apply their new knowledge post-workshop. For example, the researchers trained in Kenya worked with the local facilitator to form 'working groups' to identify ways of implementing open data strategies in their institutions.

LESSONS FOR DATA PUBLISHERS



- Our work with the weather data community exposed capacity gaps at all levels in the open data value chain. At the data provider level, technical support is needed to build data infrastructures including developing capacity to understand smallholder needs through continual engagement and feedback.

LESSONS FOR DATA INTERMEDIARIES



- At the intermediary level, our work on weather data shows that there is a need to build capacity on how to interpret and translate raw data into actionable information for smallholders.
- Intermediaries also need a better understanding of sound business models and good entrepreneurship skills to develop viable business from the information services they provide. Strong communication skills and the ability to apply human-centred design to their services are also demanded.
- The limited availability of open weather data made building capacity in this sector challenging.
- The sparse network of weather stations in developing countries, plus the large number of meteorological agencies with no mandate to release open data, shows the limits to what capacity development on its own can achieve.
- Policy advocacy to encourage the release of more weather data is also required.

LESSONS FOR DATA USERS

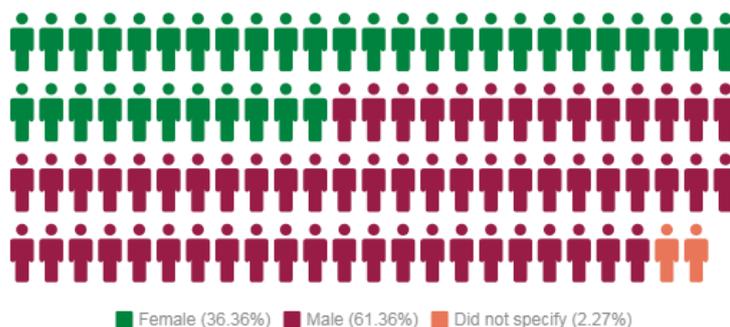


- End-users of data driven services need better awareness of the potential of (open) data - collected from them and for them. They also need knowledge about data rights for their protection and skills to assess the quality of the information they receive from data-driven services.

Implications for the sector

Our needs assessment survey found that 58% of respondents indicated they had never had any training on open data, and the response to our activities indicates that there is strong demand for capacity development in open data within the agriculture and nutrition communities. However, participation data from our online course also shows that positive action is needed to encourage more gender-balanced participation.

Gender of MOOC participants (N=178)



The approaches we have used have been positively received by users. MOOCs are effective in reaching a large diverse audience and allow users to access the curriculum to learn over longer periods. Face-to-face workshops can target smaller audiences within specific themes with more targeted training. The e-forums allow us to empower our stakeholders to exchange knowledge and skills and provide a platform to discuss common issues, challenges and opportunities.

Key lessons for us have concerned our interactions with communities of practice on agriculture and nutrition in delivering capacity development activities. ICT-focused communities like e-Agriculture and ICT4Ag have been able to draw on experience and knowledge from GODAN Action partners, to share knowledge and highlight the relevance of Open Data approaches to broader ICT debates.

Communities like the Interest Group on Agricultural Data (IGAD) at the Research Data Alliance (RDA) have similarly identified the curriculum as a basis for their own capacity development activities - building on and adapting the curriculum for their own target audiences. IGAD and GODAN Action have recently submitted a proposal to RDA to set up a working group on capacity development and our hope is that, looking ahead, we can identify knowledge gaps and training requirements within the Interest Group and develop the curriculum to address these.

Moving forward, our own learning suggests that, in order to deliver impact in our capacity development work we need to collaborate more closely with these thematic and sector specific communities - to tailor our curriculum and customise content to more closely reflect their members' needs. The two-way exchange of knowledge that this mode of working supports has been, and will continue to be, valuable in shaping our own thinking.

References

Lopes Ramos, I.; Addison, C.; Tennison, J.; Bullmore, S.; L'Hénaff, P.; Subirats, I.; Meggiolaro, L. and Mey, L. (2016) *Capacity development action plan* GODAN Action bit.ly/GA-capacity-plan

Subirats, I.; Besemer, H.; Ghirardini, B.; Tarrant, D.; L'Hénaff, P.; and Addison, C. (2017) *Curriculum on 'Open Data and Research Data Management in Agriculture and Nutrition'* GODAN Action bit.ly/GA-curriculum

News story on GODAN website: GODAN Action e-Learning Programme on Open Data Management in Agriculture and Nutrition bit.ly/GA-course-news

News story on Wageningen University website: Value-adding weather information services for smallholders bit.ly/WUR-GA-news

Video: Creating impact for smallholders with weather data GODAN Action Webinar Series (*Wageningen Environmental Research YouTube channel*) bit.ly/GA-smallholder-impact

Report: E-agriculture: e-forum discussion on ICTs and Open Data in Agriculture and Nutrition bit.ly/GA-eforum-report

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