EDITORIAL

Learning from the past: impact of information and knowledge management on individuals and organizations over decades

Jorge Chavez-Tafur, Sarah Cummings, Ibrahim Khadar and Rocio Sanz

Development organizations with more than 30 years of history are going through two distinctive phenomena which are affecting their employees and their knowledge management approaches, namely the departure of the Baby boomers to retirement and the employment of the new generation of Millennials in many development organizations (Sanz, 2018). This is happening in a context of high mobility, technology and quick changes where work contracts are defined by their short-term nature, and while consultancies are characterized by an increasing high turn-over. According to the Organization for Economic Cooperation and Development (OECD), the knowledge economy is actually transforming the demands of the labour market in economies throughout the world (Mangabeira Unger, 2019) and this is also, naturally, having an impact on the field of knowledge management for development.

At the same time, organizations themselves are sometimes also being closed down due to changing priorities but also budget cuts. Taking the example of the UK, BOND, the British network for organisations working in international development, has established that almost half of surveyed non-governmental organizations (NGOs) were facing closure in May 2020 because of funding challenges related to COVID-19 (BOND 2020), while small NGOs appear to be particularly threatened by the government budget cuts announced in August 2020 (Hodal, 2020). In our experience, the existence of COVID-19, budget cuts and changing priorities is affecting all sorts of organizations, even well-known organizations with a renowned contribution to the 'development knowledge ecology' (Cummings et al, 2011). Organizations in low and middle income countries (LMICs), recipients of development aid, are also facing challenges as they receive less donor funds, possibly because they cannot 'compete' with the government programmes which now have more funds, better personnel and more ideas. The result is that, more and more often, '…an initiative that has been a guiding light in development, placing a real emphasis on learning and knowledge sharing, will be going out at the end of this year, and the development field will be all the poorer' (Cummings, 2007: unpaginated). In this situation and for many different reasons, we expect

organizations and project will last for shorter periods of time, and we all have to be ready for that.

In this Special Issue, we focus on the legacy and impact of such organizations and their projects and programmes, but also on how other organizations are coping with personnel changes related to current trends. We would also like to explore how individuals and networks, like Knowledge Management for Development (KM4Dev), act as a pool of knowledge which remains, even when organizations have closed their doors. At the same time, recent articles in this journal have shown how some organizations are struggling to learn from the past and past knowledge (Hankey and Pictet 2019, Schusterman 2019). This Special Issue includes two papers, four case studies and two reflections. Many of these contributions are, in our opinion, unique and we will describe why we think this is in this Editorial. They include contributions written by the past Director of an organization which has closed, looking back at the political realities of its closure (Figueres), a development worker who took part in a livestock project in Mozambique, arguing with hindsight that the project was characterized by epistemic injustice (Boogaard) and also a framework which aims to support knowledge retention in development organizations, based on research in many United Nations (UN) organizations (Sanz and Hovell).

Examples of organizations facing closure: CTA and others
One organization which recently closed after 35 years of operation is the Technical Centre for Agricultural and Rural Cooperation (CTA), a joint international institution of the Organisation of African, Caribbean and Pacific States (OACPS) and the European Union. We consider that CTA has been 'a leading light' in information and knowledge management over these years with innovative initiatives, such as the Smart toolkit, experience capitalization, Question and Answer services, the *Spore* newsletter and many others. It has had an enormous impact on the professional lives of many knowledge managers, including on three members of this Guest Editorial team and this is also documented in our video [CTA and the culture of learning](). The contribution has been recognized by many, including Ibrahim Mayaki, CEO of African Union Development Agency-NEPAD: 'Allow me to convey my gratitude to CTA's staff. Your contribution in boosting agriculture and development cannot be over-emphasised. It is my hope that the knowledge and expertise will keep improving food security and sustainability.'

In this Special Issue, two case studies deal with the legacy of CTA. The first, 'Lessons from working with the Technical Centre for Agricultural and Rural Cooperation (CTA): the Case of the Ghana-Question and Answer Service (Ghana-QAS)' by *Joel Sam*, carefully documents the lessons of the Ghana-QAS project, implemented by the Council for Scientific and Industrial Research-Institute for Scientific and Technological Information (CSIR-INSTI), Ghana, with technical and financial support from CTA over the 2000-2011 period. It argues that CTA has had a lasting legacy in terms of value propositions with respect to its unique approach in supporting partnership building and organizational learning. A case study which takes a minute retrospective of a project which ceased to exist more than a decade ago is a unique phenomenon in the opinion of the Guest Editors, recording its national impact but also the impact it has had on the author, a leading knowledge manager in Ghana and internationally.

The second CTA-related case study, 'Knowledge and data management during project execution and organisational closure: learning from the Technical Centre for Agricultural and Rural Development (CTA)' by *Mejury Shiri, Imelda Mechtilde Aniambossou, Aichetou Ba and Josina Mariëtta Leguit,* documents CTA's knowledge and data management approaches during project execution and its orderly closure phase, serving as an example to other development organizations.The authors draw on their recent working experience at CTA to encourage development organizations, irrespective of their size, to make significantly more use of digital tools for collecting, processing, visualising and sharing data. Over the past five years, CTA used various digital tools, including cloud-based platforms and services, to integrate and interpret data obtained through monitoring, evaluation and experience capitalisation. This practice started to have a positive effect on organizational learning and KM, while also making it easier to produce a comprehensive inventory of the Centre's intellectual legacy assets during the closure exercise. The paper also highlights the steps that CTA has taken to hand over some of these assets to other international development agencies that demonstrated a willingness to maintain and further strengthen the relevant services. This case study was written while CTA was closing, which makes it different to the next contribution, a reflection, which was written, with hindsight, some years after the organization had closed.

In the Reflection 'Communicate and collaborate to prepare for the unexpected: the International Institute for Communication and Development in the Netherlands', *Caroline Figueres* reflects on the closure of a prominent organization in the development knowledge ecology, namely the International Institute for Communication and Development (IICD), based in the Netherlands and funded by the Dutch Ministry for Foreign Trade and Development Cooperation (BHOS) over the 1996-2016 period. Caroline Figueres was the Director of IICD during its final years (2008-2016) and, in this contribution, she reflects on the IICD's approach to Information and Communication Technology (ICT) for Development, namely multi-stakeholder engagement, demand-driven and local ownership in low and middle income countries (LMICs). From 2014 onwards, IICD aimed to transform into a social enterprise, IICD-next, but the political realities led to its closure in 2016, despite a later re-assessment of BHOS' policy which led to a renewed emphasis on ICT and knowledge for development.

Looking back at development projects
On the whole, development organizations work with short-term projects which all finish after some time. The objective is always to draw lessons which help draft new and better projects, and, at the same time, to set the conditions for long lasting impact. This is also despite the fact that recent evidence from a meta-analysis of a project funded by the Swiss Programme for Research on Global Issues for Development (R4D) that showed that longer projects are often more effective in research knowledge utilization (Eschen, 2021). In some cases, development workers reflect on past projects and their role in them but it is extremely unusual for an individual to totally reassess a project with hindsight to demonstrate fundamentally new insights. In the paper 'Epistemic injustice in agricultural development: critical reflections on a

livestock development project in rural Mozambique,' *Birgit Boogaard* looks back at a livestock development project which took place 2011-2013 and in which she was part of the team. She focuses on a central question in international development, namely whether development projects in Africa and elsewhere maintain, reinforce, or even cause epistemic injustice, defined as 'the idea that we can be unfairly discriminated against in our capacity as a knower based on prejudices about the speaker, such as gender, social background, ethnicity, race, sexuality, tone of voice, accent, and so on' (Byskov, 2021: 114). The study draws on 27 project documents which were searched for indications towards epistemic injustice based on four forms of epistemic injustice as presented in the literature, namely testimonial injustice, epistemicide, epistemic blindness and hermeneutical injustice. It concludes that the project contributed to epistemic injustice by imposing a Western market-based development ideology, labelling people as mainly knowledge beneficiaries, excluding indigenous knowledge and epistemologies from trainings, imposing Western concepts through project interventions, and framing research within Western categories and frameworks. The findings indicate three underlying, structural problems, namely hegemony of the agricultural modernization paradigm; Eurocentrism in knowledge-based development; and the fact that the Sustainable Development Goals (SDGs) are being used to legitimize development interventions. The findings of this study are deeply troubling because they indicate that epistemic injustice towards Africa continues but it is hidden by apparently benign concepts like 'reducing poverty' and 'reducing hunger.'

Preparing for the unexpected: COVID-19
Two of the contributions focus specifically on the impact of COVID-19 on information and knowledge management, an issue which has already been raised by Chris Zielinski in discussions with the KM4Dev community in 2020 (Zielinski, 2020). Indeed, both of these contributions emphasize the importance of documenting and learning the lessons of the COVID-19 at the level of organizations but also in their interactions with partners. The case study 'Documenting UNICEF's response to COVID-19: applied tools and practices' by *Nima Fallah, Ivan Butina and Sailas Nyareza*, explores key practices and challenges of the efforts of the UN Children's Fund (UNICEF) to document its response to COVID-19, aiming to contribute to the global dialogue on organizational learning. The activities of UNICEF's COVID-19 documentation focus on five streams of work, namely documentation approaches and methodological quality; knowledge sharing and peer support; easy access to emerging lessons and related knowledge products; use of early lessons; and, finally, identifying connections with relevant initiatives within the COVID-19 Secretariat. In the long-term, the process is heavily dependent on embedded and institutionalised documentation and evidence generation routines, based on leadership support, dedicated resources, and a culture of collaboration.

The reflection, 'Investments in learning during the Ebola outbreak shape COVID-19 responses in West Africa: evidence from Sierra Leone and Nigeria' by *Alfred Makavore* and *Emily Janoch* of CARE International, demonstrates that building on learning from the Ebola outbreak in 2014, and from previous experiences responding to Ebola, was critical to getting an effective response to COVID-19 mobilized quickly. The time and investments in

documenting lessons learned and in building learning and collaboration spaces allowed many countries in West Africa to quickly respond to COVID-19. In particular, CARE International was able to apply lessons about communicating risk more effectively, about engaging with community leaders to reinforce healthy behaviours that would protect people, and about collaborating across partners to develop tools and resources that would support the government's public health response.

A framework for knowledge retention

In a situation of organizational uncertainty where staff are reaching retirement, knowledge retention becomes crucial. The paper, 'Knowledge retention framework and maturity model: improving an organization or team's capability to retain critical knowledge' by *Rocio Sanz* and *John Hovell*, argues that knowledge retention can be considered a broad practice within the larger field of knowledge management. KM has many frameworks and maturity models to support itself. Following a peer-reviewed process in which they discussed their work with many experts prior to submitting it to this journal, the authors have developed a knowledge retention framework and a knowledge retention maturity model. The framework aims to create a shared definition for knowledge retention, and the maturity model aims to create an approach for assessing a team or organization's knowledge retention maturity. The maturity model outlines steps to increase the maturity of knowledge retention, based on data and evidence to support action. Overall, this paper presents a vision of an ecosystem in which knowledge retention is institutionalized practice, embedded in everyone's tasks and part of the way we work.

The importance of young people

In the situation where many older people are retiring, it becomes even more important to engage and support the talents of young people. The case study, 'Mécanisme d'insertion et d'appui à l'Entreprenariat des jeunes ruraux dans les filières agricoles, Mali/Mechanism for the integration and support of rural youth entrepreneurship in agricultural sectors, Mali' by *Makono Coulibaly*, reviews the contribution of the Vocational Training Project for Integration and Support of Rural Youth Entrepreneurship (FIER), started in 2014 with support from the International Fund for Agricultural Development. The FIER project aims to facilitate the access of rural youth to attractive and profitable employment and integration opportunities in agriculture and related economic activities. The economic integration of rural youth goes through a process made up of three main stages, namely support for the identification of the idea of an economic project or choice of project idea; support for preparation of a bankable business plan; and support for the implementation and consolidation of the economic project.

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About the authors

Jorge Chavez-Tafur is a Senior Editor at the Knowledge Management for Development Journal. Until recently, he was Knowledge Management Officer at CTA in the Learning, Monitoring and Evaluation Unit. He was the coordinator of CTA experience capitalization project. He was previously Editor of LEISA Revista de Agroecología and Editor-in-Chief of Farming Matters. Email: j.chavez.tafur@gmail.com

Sarah Cummings is the Editor-in-Chief of the *Knowledge Management for Development Journal* which she founded with colleagues in 2005. She is currently working as Researcher, Public-Private Partnerships and Research Uptake at the Knowledge, Technology and Innovation group at Wageningen University and Research (WUR), The Netherlands. Email: sarahcummingswork@gmail.com

Ibrahim Khadar is an agricultural economist with a strong international development background in the field of information and knowledge management. In March 2020, he was appointed as the Director of the Technical Centre for Agriculture and Rural Cooperation (CTA), the Netherlands, with the responsibility for overseeing the orderly closure of the organization. Prior to that appointment, he was the Manager of CTA's Learning, Monitoring and Evaluation Unit. Email: khadar@cta.int; khadarid@gmail.com

Rocio Sanz is a knowledge broker and consultant, specialised on knowledge retention and transfer. She has robust experience on KM and communications, mainly working at the UN and a number of NGOs. Active member of the Core team of KM4DEV, she is also co-signatory of the Knowledge for Partnership Development (K4DP). Her master research at Kent State University was focused on knowledge retention in international organisations with focus on retirement (2016). Email: sanz_rocio@hotmail.com

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Knowledge retention framework and maturity model: improving an organization or team's capability to retain unique, critical knowledge

Rocio Sanz and John Hovell

Knowledge retention (KR) can be considered a broad practice within the larger field of knowledge management (KM). KM has many frameworks and maturity models to support itself, and by correlation, knowledge retention has an opportunity to create frameworks and maturity models. Following a peer-reviewed process, Rocio and John offer their thoughts and experiences drawn from their efforts to create a knowledge retention framework and a knowledge retention maturity model. The framework aims to create a shared definition for knowledge retention, and the maturity model aims to create an approach for assessing a team or organization's knowledge retention maturity. The maturity model outlines steps to increase the maturity of knowledge retention, based on data and evidence to support action. Overall, this paper presents a vision of an ecosystem in which knowledge retention is institutionalized practice, embedded in everyone's tasks and part of the way we work.

Introduction

The focus of this paper is to offer a comprehensive approach and peer-reviewed research to knowledge retention. Further it is for supporting teams' and organizations' understanding of knowledge retention as a discipline within the broader domain of knowledge management (KM). For comparison, knowledge retention leverages the umbrella of KM for the specific purpose of ensuring unique and critical knowledge/capability is not lost during retirements, or any other type of job movement. The potential of knowledge retention goes beyond job shadowing, handover reports or exit interviews. Rather it is a broader approach that contributes to culture, process improvement, tools, technology, learning and innovating across teams and within

organizations. Our research places knowledge retention at the center of everyday activities, and therefore it can be initiated during onboarding, as opposed to waiting until the time of job transition. Knowledge retention ensures that teams understand the past, and have the capability to improve upon successes and failures. It aims to create an environment where everyone can contribute to creating, finding and implementing solutions in a more effective and efficient future.

We recognize that the world is changing, especially the work environment and organizational culture. The Covid-19 pandemic has shaken many assumptions that were already wobbling. Even before the arrival of Covid-19, many studies had already highlighted how global forces such as demography, technology, increasing changes and choices, and individual sophistication were reshaping the world of work (Manpower Group, 2017). As far back as 2003, some organizations were already experimenting with new processes as they began to consider the mass departure of long-term baby-boomers, alongside the millennials' arrival with no apparent intention to remain employed by one company for their entire career. Companies that couldn't find the talent they needed in one country were already using remote working to employ people elsewhere. And around the world, employers were experimenting with new policies to improve their appeal to underrepresented groups including women, young people, minorities, people with disabilities, migrants, etc. The long-term, permanent staff force was being transformed into an agile and/or outsourcing model. Alongside these changes, the desire for rapid innovation had become the new utopia.

The primary emphasis inside organizations during 2020 was not 'brain drain.' Yet, it has been a major factor as people, roles, customers and stakeholders have dramatically shifted during the pandemic. It is yet another example of unique and critical knowledge being lost during change. The bulk of the research for this article was conducted during 2020. It includes the experiences, work, study, practice, and application of over 20 years of effort through both authors and the peers who offered their review and feedback. We are indeed grateful to everyone who has contributed to elaborate a framework and maturity model for knowledge retention.

From our side, the authors met at Henley Business School in the UK in February 2020, mere weeks before the Covid-19 pandemic began. We connected through our shared excitement, research and decades of experience in knowledge retention. Following the conference, we continued to meet via video conferencing. During one of our discussions, we found ourselves fascinated by our understanding that there were many KM frameworks and maturity models, but we were unaware of any specific knowledge retention frameworks or maturity models. We thought: 'Let's create one, involve many knowledge management practitioners and see where it goes!'

Overview of knowledge retention

Knowledge management versus knowledge retention
By establishing a distinction between KM and knowledge retention, we do not intend to separate the two concepts, rather we desire to highlight how one can contribute to the other. Knowledge retention is indeed an area of KM. We should acknowledge that many organizations may not have included KM strategy, concepts and implications in their priorities and goals. Yet, they may be aware of and concerned with knowledge retention challenges. There does seem to be a relatively wide understanding of the organizational challenges related to retaining, transferring, using and re-using knowledge and capabilities. There appears to be a felt and visible sense that errors and frustration will increase as we see the departure of long-term colleagues, new rotation policies, profile changes and increased outsourcing.

Building upon KM considerations, knowledge retention can be implemented with or without an existing KM approach in place. Suppose that KM aims to respond to the organization's goals by optimizing the flow of knowledge with consideration to people, processes and technology. Likewise, a knowledge retention approach should consider an organization or team's capability to retain unique and critical knowledge (whether tacit, implicit or explicit), with consideration to people, processes and technology. Many approaches typically considered as KM can also have knowledge retention benefits. For example, a community of practice could be considered ideal for elicitation, retention and transfer of critical knowledge – particularly tacit knowledge – while it is also a recognized and critical KM approach that builds trust and strengthens collaboration.

To help bring distinction to knowledge retention, we could say that certain KM practices are more specifically designed to retain and/or transfer unique and critical knowledge. In contrast, other KM practices are more intended to create, organize, share or otherwise apply knowledge. For example, the flow of knowledge can be optimized through organizational structures, knowledge cafes, organizational network analysis, and/or specific technologies. Knowledge retention could also be part of the KM approach to optimize the flow of knowledge. In other words, some KM practices are knowledge retention-focused and other KM practices are focused on other aspects of KM.

In conclusion, KM is the broader practice, but knowledge retention is a broad field in its own right. KM has many different definitions depending upon the organizational need, whereas knowledge retention almost always focuses on the retention of unique and critical knowledge. There are techniques within the area of knowledge retention that could be considered 'pure KM techniques', and there are techniques within knowledge retention that are specific to ensuring

unique and critical knowledge is embedded within organizational learning and memory. They are related and complementary fields.

Knowledge retention definition

Many examples from organizations have shown how losing critical knowledge has contributed to negative performance. One example shared by scholar DeLong (2004), comes from the National Aeronautics and Space Administration (NASA). NASA lost the knowledge and capacity to replicate the model, navigation and learnings of how the first man was sent to the moon. Due to a decade of cost-cutting and downsizing during the 1990s, this unique and critical knowledge was lost. Engineers were encouraged to take early retirement and many years of experience were lost. This is not only about the loss of documentation, but also the loss of individual and collective experience (e.g. tacit knowledge that can't be documented). If NASA were to try to get to the moon and back again, they would have to re-create and re-learn most of the experience.

Thirty years have passed and still similar challenges remain in many organizations and teams. However, if we were to define knowledge retention today, we would not be limited to the impact of knowledge drain caused by retirements or job movements. We know now that it also reduces the capacity to innovate and co-create; it challenges an organization/team's ability to pursue growth strategies, strengthen networks, relationships and partnerships; it increases vulnerability due to the loss of memory; and it hampers a culture of collaboration and even the development of expertise. Knowledge retention is defined as **an organization/team's capability to retain unique and critical knowledge, whether tacit, explicit or implicit** (see Figure 1). It helps to improve the organization/team's learning, memory and performance, while avoiding knowledge drain and low employee engagement.

Figure 1: Knowledge retention definition

Knowledge retention process

The process of retaining critical knowledge requires the identification, translation and shaping of the knowledge that needs to live on, so that it can be further utilized when it is required (DeLong, 2004). Its actual use requires ensuring its transfer; in other words, the knowledge must be acknowledged and reproduced to be retained. The knowledge that needs to live on, or that we could consider 'critical' for a particular audience, could be of no use for another. The intended final audience (local, regional, global) can help determine the level of engagement required for the process and its intended immediate impact. Addressing knowledge retention as a holistic approach requires a flexible and initial practical effort, being 'opportunistic' by responding to the intended audience's needs, and calculating the level of engagement, resources and time available. Establishing a 'customer focus' implies understanding who your intended audience is, their needs, and what knowledge they have to share, which may contribute to initiating the cycle.

The process of retention can happen before, during or after the knowledge has left, or the cycle has closed. However, a continuous effort to maintain the process of retention can contribute to generating a learning environment, strengthening a culture of collaboration and, with that, the capacity to co-create, to create new knowledge, to innovate. Understanding the reasons for carrying out a knowledge retention process may help with fine-tuning the process development and workflow. The scope will define whether the focus of the retention process is on the person, role or task. It will also help to determine whether the process addresses an individual, a team, departments, an organization, or even extends across organizations working in partnership (see Figure 2).

Figure 2: Defining knowledge retention audiences

The process of identification, retention and transfer of critical knowledge, and, mainly, the process of giving and receiving, is generally voluntary. Therefore, a systematic approach requires an environment of trust and a collaborative culture that recognizes contributions. A retention/transfer system requires the engagement of relevant stakeholders, internal processes, and infrastructure and mechanisms for measuring achievements, learning from failures and improving (see Figure 3).
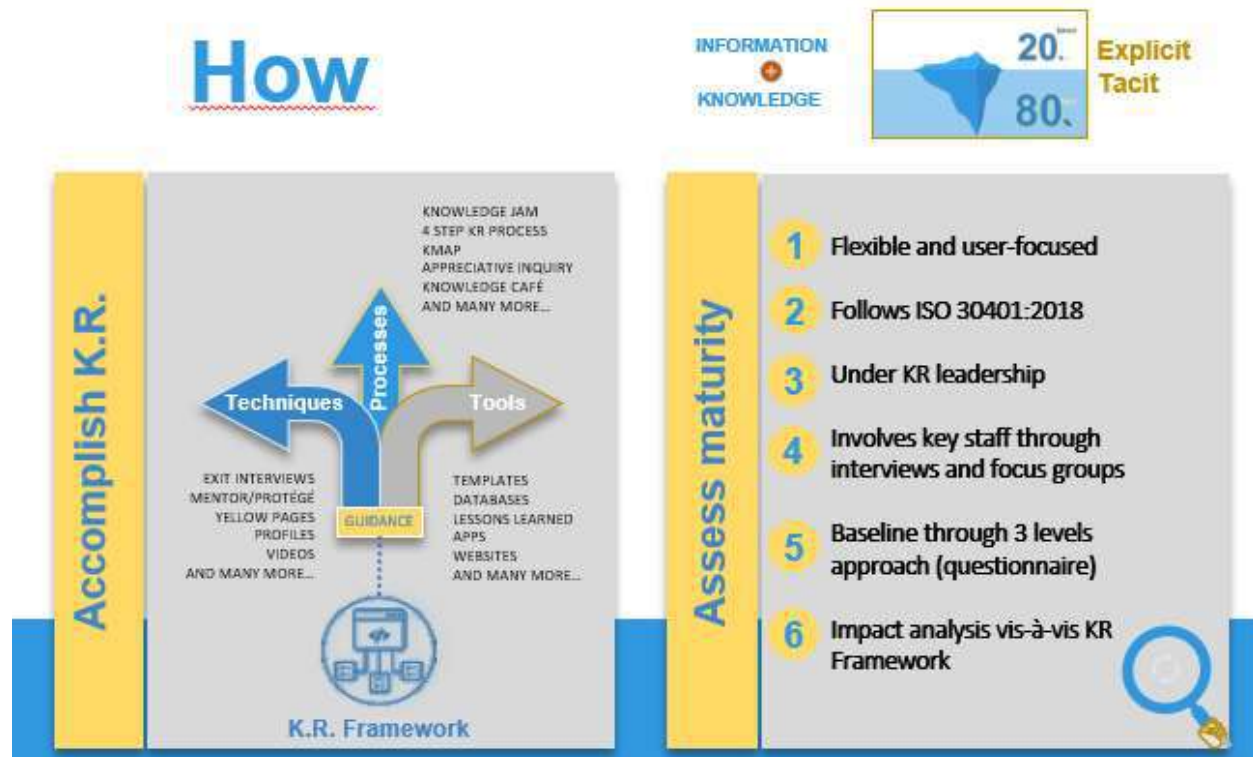

Figure 3: Knowledge retention approaches

The **knowledge retention framework** offers a single and consistent approach for understanding knowledge retention within any particular purpose. It provides an overall vision for knowledge retention, and creates a broader understanding of it beyond the specific techniques, processes or tools already available.

The **knowledge retention maturity model** can be used to assess an organization/team's current status, help to clarify the desirable future state and provide recommendations for how to achieve it. The maturity model will guide a team/organization through self-assessment of and reflection on future goals. It is not meant to be used to establish a system for comparison among organizations or teams, as their needs and objectives may vary (see Figure 4).
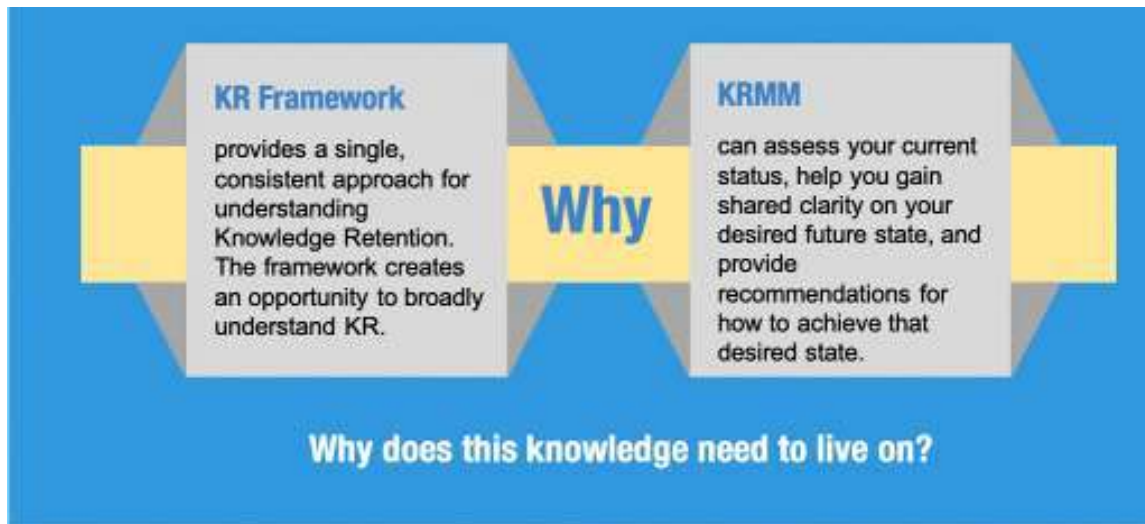
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Figure 4: Purpose of the knowledge retention framework and maturity model

Challenges and resistance to establishing a knowledge retention program
The main challenges and resistance are organized into four areas (see Figure 5):

1. **Senior management engagement:** lack of commitment, buy-in or leadership can seriously hamper the development and sustainability of the retention program.
2. **Cultural issues** may be driven by: damaged interpersonal relationships; resistance to share and receive; lack of encouragement for learning; fear of losing one's job if knowledge is shared; the belief that knowledge retention won't change or improve business operations; knowledge retention not seen as central to performance; fear of being exposed; not being prepared, etc.
3. **Lack of follow-through and application:** belief that information repositories in themselves provide for knowledge transfer and learning; lack of attention to proper dissemination and application of lessons learned; limited recognition that low knowledge retention leads to knowledge drain, and decreased operational efficiency, effectiveness and performance.
4. **Other common barriers** are: lack of prioritisation and time management; lack of governance; concerns about litigation; lack of technological infrastructure or a central repository; lack of definition and acknowledgment for knowledge retention and transfer.

What is the knowledge retention framework?

The knowledge retention framework provides a consistent methodology for establishing and maintaining a knowledge retention ecosystem beyond ad-hoc activities. This transforms the knowledge retention process – it becomes a continuous source of knowledge and an accessible

learning resource. The framework enables a broader understanding of knowledge retention, its purpose and its impact (see Figure 6).

Figure 5: Challenges and resistance to knowledge retention

The framework is structured in three parts in order to provide a holistic and systems-thinking view of how the team/organization manages and improves itself using the knowledge that it already has. These three parts are: 1) An overview of the team/organization's current KM awareness and understanding, culture, and level of senior management engagement/buy-in; 2) A definition of the knowledge retention purpose, stakeholders, processes, and the infrastructure to support the system; and 3) Monitoring and measuring the impact on learning, transfer or capacity for replication. Examples of questions that can be used for each of the three areas are as follows:

1. **Creating awareness and understanding**
Understanding the current engagement with KM, the capacity to recognize and apply knowledge, and what is the current approach to knowledge retention. Potential questions include:
- Is there a KM strategy? What is the level of KM maturity?
- What is the current balance across people, processes and technology?
- What are the knowledge flows?
- Are there KM policies and governance?
- Has the collaborative aspect of culture been assessed?
- What is the level of senior management engagement?

2. Defining purpose and stakeholders

Map the involvement of critical stakeholders and flow of information/knowledge, current infrastructure and processes that may contribute to the knowledge retention ecosystem. Potential questions include:

- What is the overall purpose of knowledge retention? Who is the primary audience? What is the strategic time-frame for knowledge retention?
- Stakeholder analysis: who has the knowledge, who needs the knowledge, what are each of their needs, and what can they offer?
- Defining the scope: what type of knowledge? How long will the knowledge be valuable? Is the knowledge focused on a person, a role or a capability? What are the current processes that incentivize knowledge retention and transfer? How does infrastructure technology facilitate the processes and access?
- Which polarities do you need to manage, and how? Which processes can enable knowledge retention?

3. Improving, learning and measuring

Understand the relationship of knowledge retention with the organization's performance appraisal process, the relationship to knowledge-drain, how learning contributes to performance and how the current strategy, processes and systems impact on the organization's performance. Assess the impact of knowledge loss and gaps. Potential questions include:

- Are there feedback loops and examples of continuous improvement?
- What is the feedback from customers, intended audiences and stakeholders?
- What is the quality of each of the processes?
- How much are we learning and how quickly?
- What is important for us to measure?
- What tools do you use to measure and visualize and analyse the data?

What is the knowledge retention maturity model?

A maturity model shows how capable an organization or system is of achieving continuous improvement. Basically, maturity is being judged by how good your organization or system is at self-improvement. Based on this definition, our Knowledge Retention Maturity Model will look at five different levels of process optimization, assessed on the basis of the three areas represented in the framework. The maturity model serves as a self-assessment to provide insights into where to improve, based on needs, capacities and goals. It certainly is not meant to provide a comparison model with other groups or organizations, but is rather a self-guide for improvement. We also consider the fact that best results do not need to come from the best optimization

processes, but from those that have more coherence with the current structure, systems and capacities (see Figure 7).
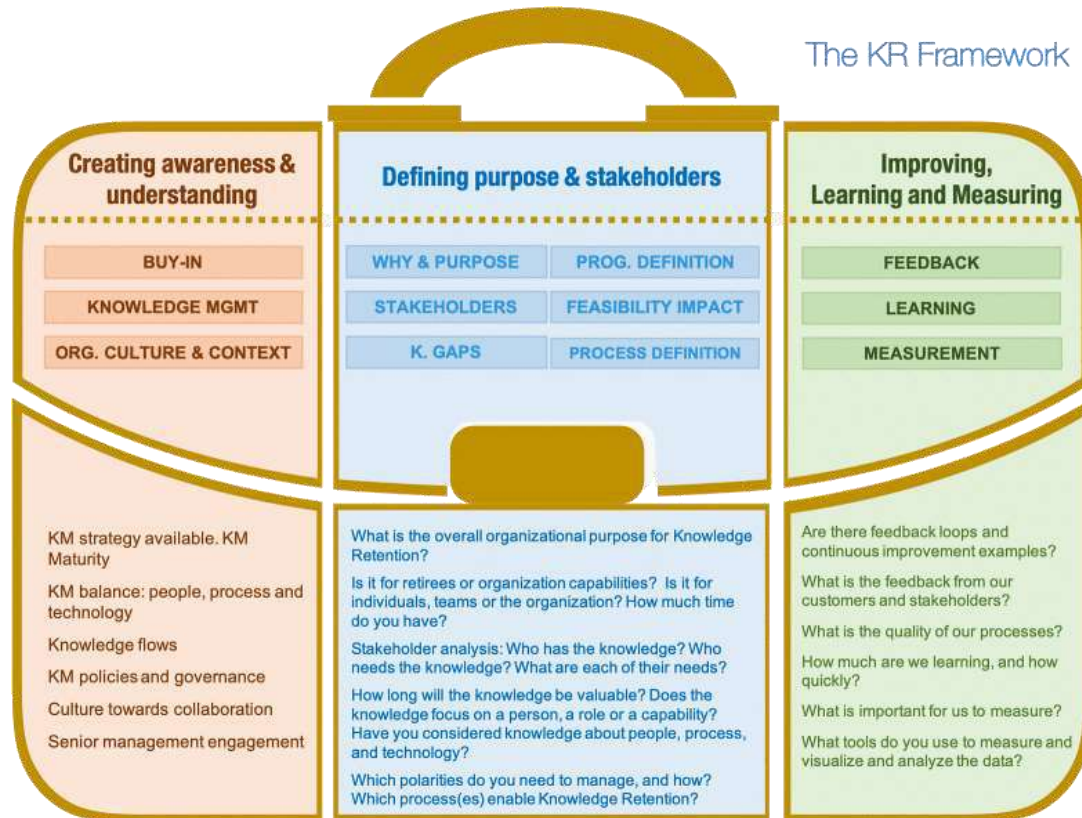

Figure 6: Knowledge retention framework

The purposes for assessing the three areas are:
- Awareness and understanding offers a shared clarity for the overall context.
- Stakeholder and processes: map the capacities, processes, and resources providing a judicious alignment of needs and resources.
- Measuring, learning, and improving ensures the development of a sustainable knowledge retention program with checks and balances.

At the same time, each of the three areas for assessment includes further analysis through three sub-categories, as follows:

1.   Awareness and understanding: KM assessment, capacity assessment and current knowledge retention approach.
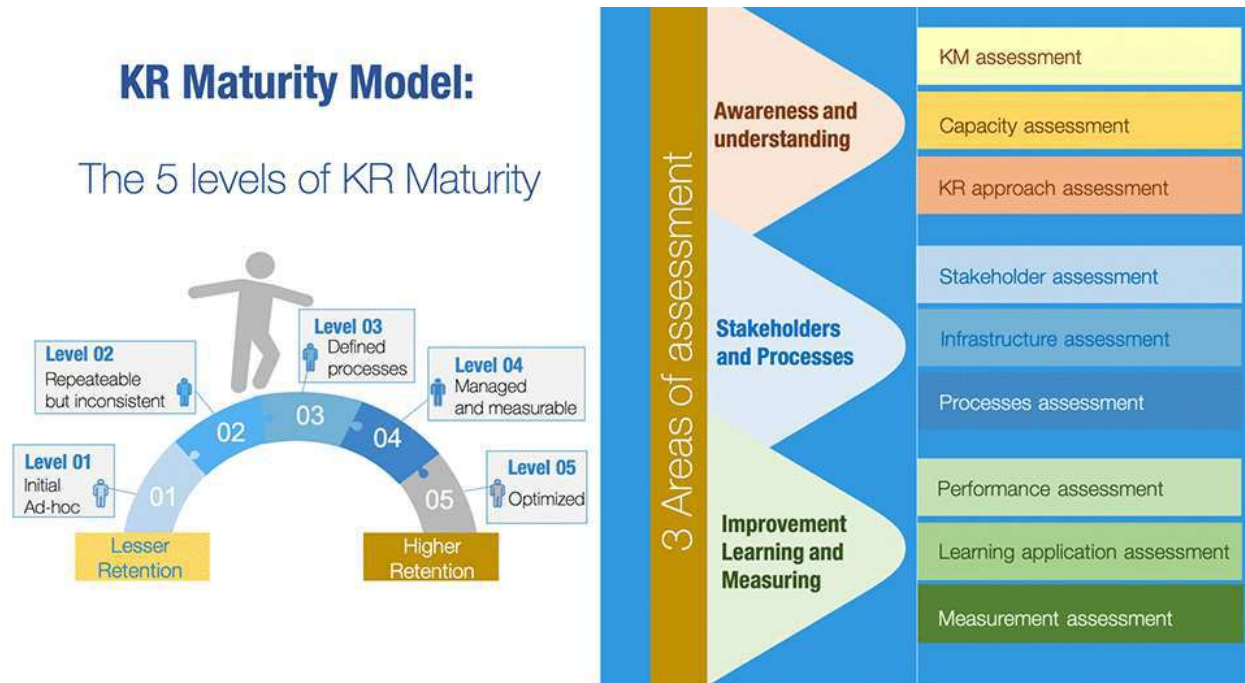
Figure 7: Knowledge retention maturity model

a. Understand the existing level of KM engagement and commitment, specifically looking at management engagement, culture, processes, and tools for the possibility of initiating/improving/aligning knowledge retention, building upon KM culture, processes and systems.

b. Understand capabilities to recognize and apply knowledge - from complete dependence on individual skills and abilities to expertise integration and knowledge leverage.

c. Understand the current approach to knowledge retention and aspirational approach: where 'they believe they are' and 'where they want to be.'

2.   Stakeholders and processes: stakeholder, infrastructure and processes assessments.

a. Understand the involvement of critical stakeholders in enforcing knowledge retention and supporting learning and career development, motivation and incentives.

b. Understand how stakeholders contribute or not to the retention of critical knowledge; searchability, findability, usability and knowledge elicitation processes.

c. Understand how structure, processes and tools contribute to retention of tacit, implicit and explicit knowledge

3.   Improving, learning and measuring: knowledge retention's relation to performance assessment, learning application and feedback, and measurements for improvement.

Sanz, R. and J. Hovell. 2021.
Knowledge retention framework and maturity model:
improving an organization or team's capability to retain unique and critical knowledge.
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a. Understand whether knowledge retention is considered as part of performance appraisal, its relation to knowledge drain and how important it is to performance.
b. Understand how learning contributes to performance, the impact of learning and application beyond statistics.
c. Understand how the knowledge retention strategy, processes and systems impact on the organization's performance and the impact of knowledge loss.

The results of the assessment provide a visual tool that helps in understanding which areas require improvement. But more importantly, it also provides an honest reflection of where you think you are in response to a particular area, versus where you actually are and where you want to reach. This is important because by targeting one or two categories, the efforts by default will help improve all other areas (see Figure 8).
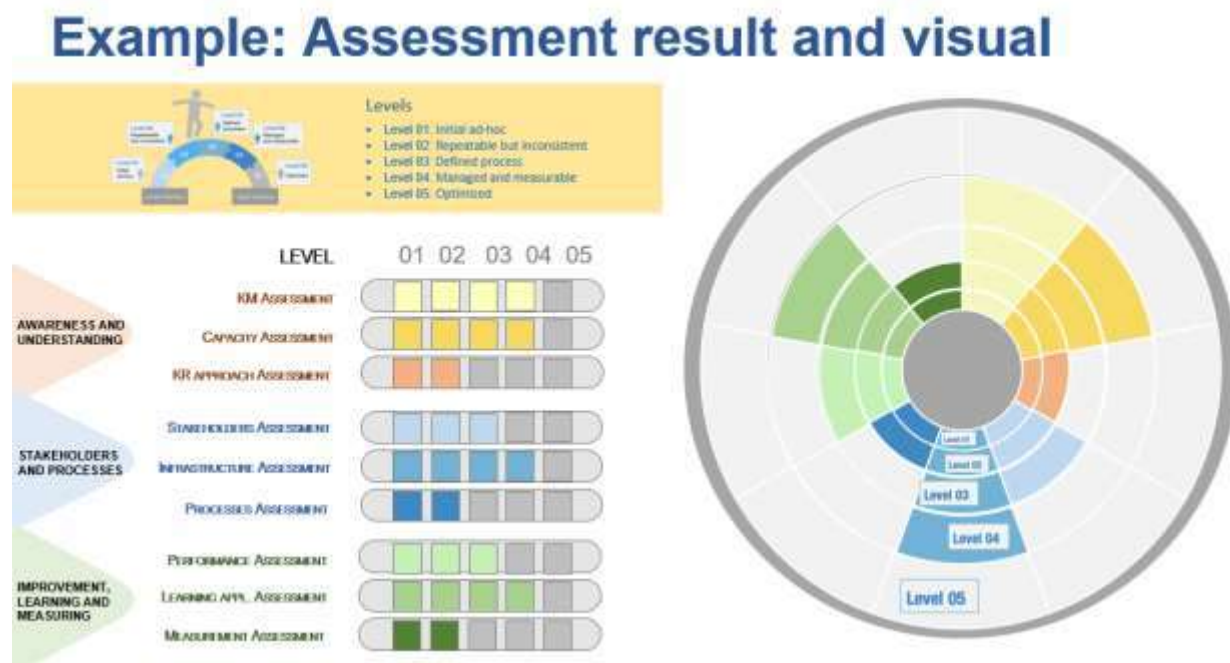

Figure 8: Knowledge retention assessment result

Following the knowledge retention framework, the maturity model offers a roadmap whereby the organization/team assesses itself with view to where it wants to reach. This is not about comparing with others, but rather understanding where the focus can be to reach the goals. In that sense, the comparison would come from the analysis of 'where you think you are', or what is the assumed level of maturity versus 'where you actually are', through evidence-based level of maturity. And from here assess, 'where you wish to reach' in terms of aspirational level of maturity (see Figure 8).
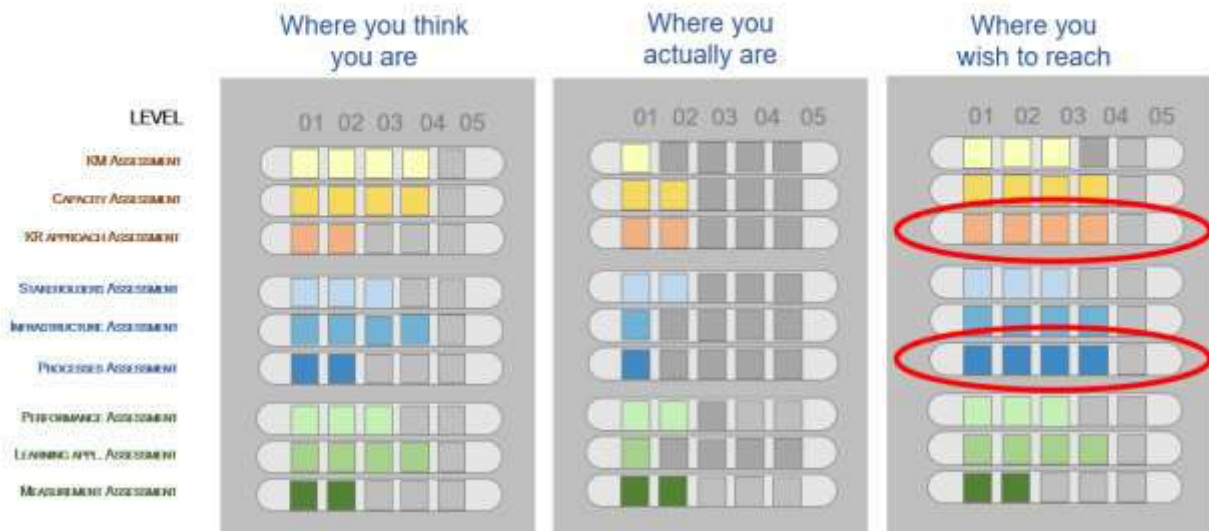
Figure 9: Knowledge retention final assessment result

How and when to apply the knowledge retention framework and maturity model

The model for creation for a knowledge retention system is based on adding value to the work of the team/organization and the knowledge that is already available. The knowledge retention framework helps teams/organizations to understand their overall environment, whereas the maturity model assesses the knowledge retention ecosystem and identifies areas for improvement. An assessment should ideally lay the groundwork for long-term, continuous learning that leads to improvements at each step in the process. Whether or not the exercise is carried out internally or with external support, it is advisable to initiate the process by assessing the actual resources that will support the efforts. Examples of resources include time, priority, people and funds. Creating an internal or external team can ensure engagement and commitment to completing the initial exercise.

The next step will be the identification of the initial assessment, which includes the knowledge retention purpose, who has what knowledge, and which knowledge needs to be shared. It also includes the understanding of how the knowledge is currently shared and with whom it is shared. There will also be questions regarding the organization's available infrastructure and processes, as well as other resources to engage in the retention efforts.

Having gained clarity on the knowledge retention exercise efforts, the assessment results provide a graph that depicts the organization's current perception of its knowledge retention ecosystem. This baseline assessment involves key stakeholders and provides an opportunity to compare 'where you think you are' with 'where you actually are.' From here the organization can focus its efforts on 'where do we want to go' and what specific areas we want to work on to improve the system. An in-depth assessment of the selected area will include a detailed analysis, that includes focus, needs, and gaps. The results of the assessment will be documented and shared with those involved including critical stakeholders. The topic of engagement can be as detailed or generic as required. To see an example of a generic topic related to retirements and job movements; the first step is to assess the topic against the framework using the maturity model to map the current processes and systems in place (see Figure 10).
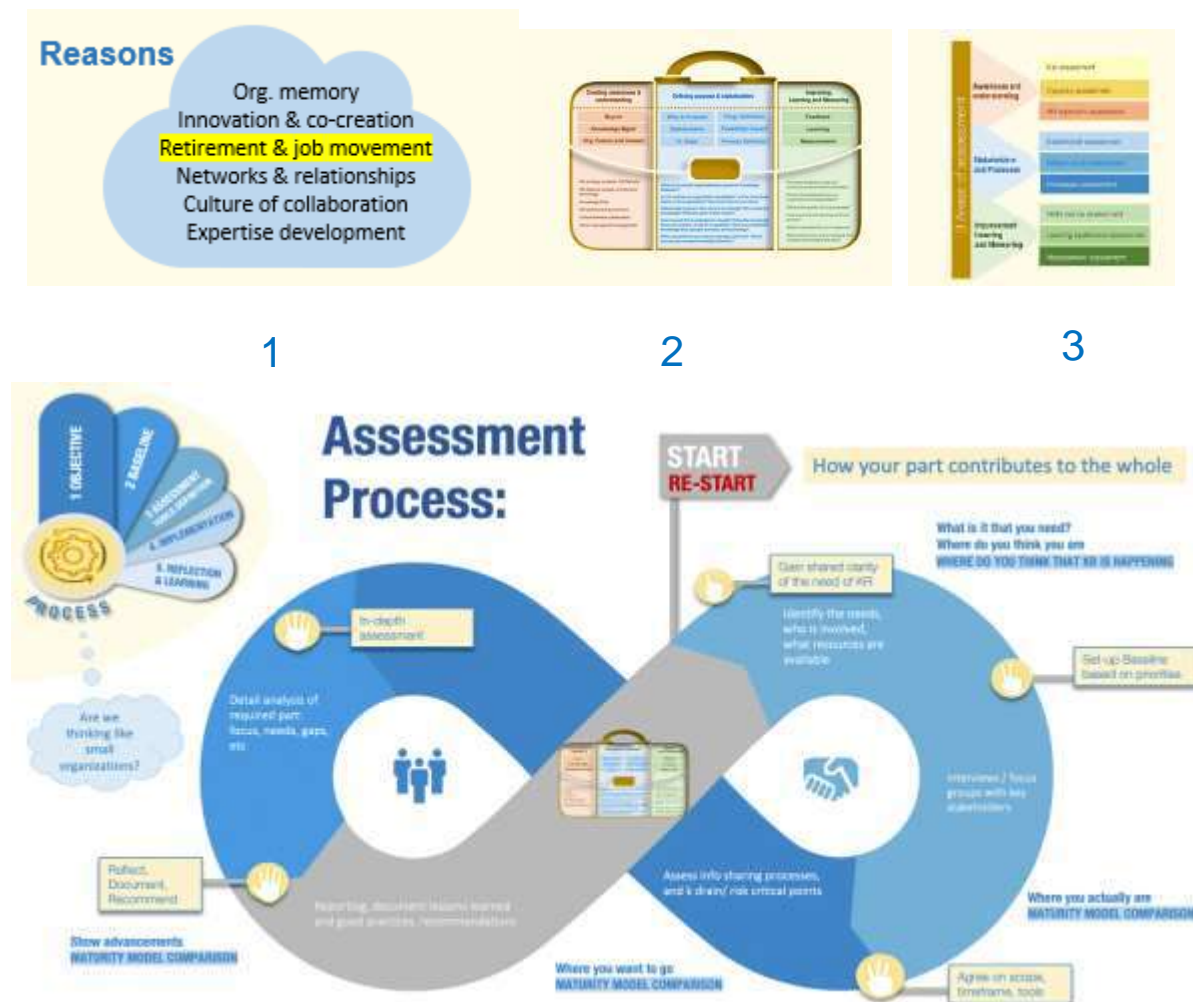

Figure 10: Knowledge retention assessment

The identification of tools will also consider the type of knowledge (e.g. explicit, tacit, and/or implicit) to be retained and transferred. Keeping a flexible and practical approach also implies elaborating on practical strategies for access and transfer. This may include recording of tacit knowledge sharing instead of documenting formal reports, etc.
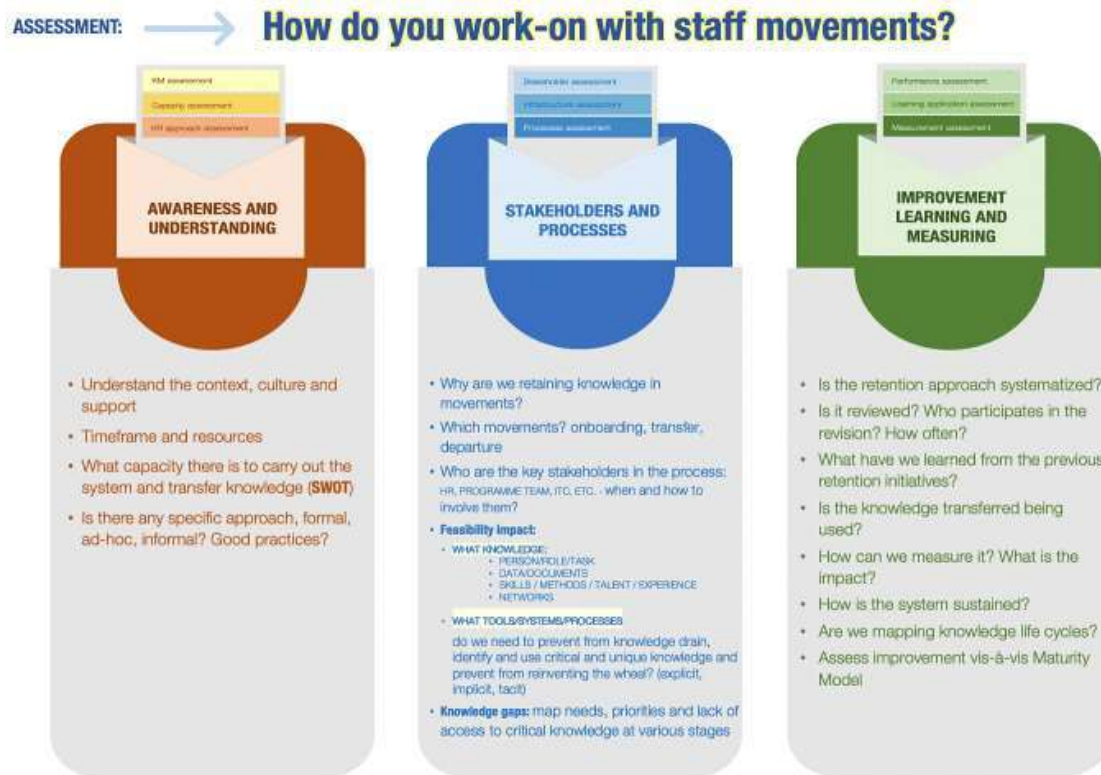
Figure 11: Knowledge retention framework initial steps

It is therefore advisable not to consider knowledge retention approaches as one-off, but rather to engage in the continuous practice of retention from an employee's first day of work, and thus use retention as a business risk mitigation tool. We know now that certain practices for knowledge transfer and retention cannot be imposed, yet there is a need to institutionalize the sharing and transferring of what is considered unique and critical for business continuity. Institutionalization of a knowledge retention ecosystem mitigates the vulnerability of organizational memory.

The concern remains as to what is considered unique and critical knowledge, and how teams/organizations can retain it in a way that it is regularly updated and easily accessible. Tacit and implicit knowledge, as well as explicit knowledge, need to be acknowledged.

The effort of retaining and transferring is not about "recycling" what we know, but rather bringing critical thinking and building upon that new thinking to construct the new learning. It is about seeing where we want to reach, understanding what we do not know, and mapping what we need to know to reach our objectives. This implies a culture of renewal that allows time to reflect and consider what we have learnt so far, and where we need to put more focus in order to reach the final goals. In addition to learning the tasks of a job, a knowledge retention ecosystem offers a team/organizational the capability to deeply understand their situation, learn from success and failure, and be as productive as possible. It is no longer about repeating the same answers but leveraging the knowledge to be able to change and evolve faster. Innovation builds upon understanding, knowledge and experience. Knowledge retention practices need to be reviewed and renewed as no one solution fits all needs (see Figure 12).

Figure 12: Knowledge retention approaches

Knowledge management and knowledge retention structures contribute to performance and organizational effectiveness. It is therefore important to involve people who are aware of unique and critical knowledge, and engage them with people who need to know and learn. This enhances the learning process and leverages the internal organizational knowledge. The knowledge retention framework and maturity model are intended to address a team/organization's needs and contribute to the purpose of being more efficient and effective for your defined goals.

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About the authors

Rocio Sanz, currently based in Geneva, Switzerland, serves organizations, UN and governments, teams, and individuals as a knowledge broker to improve their knowledge management strategies, competitive and business intelligence, work on developing frameworks, support information, networks, facilitation, capacity building and training development materials as well the development of participatory information management tools for knowledge sharing and retention as well as other targeted and tailored innovative tools required for knowledge elicitation and generation. Rocio works on communities, networks and holistic teams as a key to develop a comprehensive approach that supports the performance of any organization. Assessing knowledge needs and evaluating the possibilities may include, but not limited to, the establishing of tools to capture, process and disseminate knowledge and information through lessons learned, good practices, case studies, news, dashboards, info-graphics, videos and public information or educational campaigns, as well as web format – whether through intranets, repositories or public sites, depending on the needs. Rocio is actively engaged in many knowledge-based communities of practice such as the Knowledge Management for Development (KM4Dev), the Swiss Knowledge Management Forum and is co-signatory member of the Knowledge for Partnership Development (K4DP). She holds a Master of Science by Kent State University, USA on Information Architecture and Knowledge Management (2018) with theses on Knowledge Retention in International Organizations with focus on Retirement. She also holds a Master of Arts in International Relations and Communication by the Complutense University of Madrid, Spain (1996-1998); and Expert on Evaluation of Policies, Programs, Projects for Development by the Complutense University in Madrid, Spain (1999). Email: sanz_rocio@hotmail.com

John Hovell is a leader in the convergence of Knowledge Management (KM) and Organization Development (OD). He is the CEO and co-founder of STRATactical, a practitioner, speaker, and author in OD/KM strategies and their application to current challenges. John led a team to win a Chairman's Award at BAE Systems in 2014. Previously, John was part of a team to win the

prestigious NOVA award, Lockheed Martin's top recognition award. Additionally, he was instrumental in the creation and execution of the enterprise KM strategy for ManTech International Corporation. John volunteers as the corporate lead for the award-winning annual STEMmerday event where thousands of participants engage in Science, Technology, Engineering and Math related learning activities. John serves on several advisory boards including the International Association for the Advancement of Gestalt Psychotherapy, International Knowledge Management Institute, Training Industry Quarterly, and Synergy Development and Training. John has led five different teams that have won awards from Chief Learning Officer magazine. In 2015, he was named the 8th most influential person in Knowledge Management. He published a chapter in a book titled "Making It Real: Sustaining Knowledge Management" and became a fellow with the Royal Society for Arts (RSA). In 2009, he was honored by Training Magazine as one of the "Top Young Trainers" after being honored in 2008 as one of the top "Young Trainers to Watch." In 2007, he earned his Certified Knowledge Manager (CKM) certification from the International Knowledge Management Institute. He earned his Project Management Professional (PMP) from the Project Management Institute (PMI) in 2005. He earned his master's degree from George Washington University in Washington, D.C. and his undergraduate degree from Virginia Tech in Blacksburg, VA. Email: john.hovell@stratactical.com

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Epistemic injustice in agricultural development: critical reflections on a livestock development project in rural Mozambique

Birgit K. Boogaard

For decades, development projects have been intervening in Africa's agriculture with the aim to reduce poverty and hunger. It seems that mainstream agricultural development projects in Africa are characterized by Eurocentrism with a firm belief in economic and technological progress. However, Eurocentrism can lead to the exclusion, systematic and structural suppression of African ways of knowing and doing, which constitutes epistemic injustice. This paper addresses a question that has gained little attention so far: do agricultural development projects in Africa maintain, reinforce, or even cause epistemic injustice? To answer this question, the study draws on literature from African philosophy, Western philosophy and Western sociology. In addition, epistemic injustice was studied empirically by reflecting critically on a participatory livestock development project in rural Mozambique (2011-2013) through qualitative analysis of 27 project documents. The findings show that the answer to the main question is affirmative. This is deeply concerning, because it means that epistemic injustice towards Africa continues, but is covered under 'benign' concepts like 'reducing poverty' and 'reducing hunger'. The thesis defended here is that restoring epistemic justice is an essential part of social justice for Africa. The paper concludes with exploring several suggestions to mitigate epistemic injustice in agricultural development projects.

Keywords: Eurocentrism; international development; social justice; indigenous knowledge; development projects; agricultural development; African philosophy; livestock; goats; Mozambique; Africa; Sub-Saharan Africa

1. Introduction

For decades development projects have been intervening in Africa's agriculture with the aim to reduce poverty and hunger. It seems that mainstream agricultural development and research is characterized by Eurocentrism[1], in the sense that it is based on the ideology that Western scientific knowledge – with a firm belief in economic and technological progress – is needed to increase agricultural production in Africa (Boogaard, 2019; Edens, 2019). However, Eurocentrism in agricultural development can lead to exclusion, systematic and structural suppression of African ways of knowing and doing. The meaning and effect of this practice is

that agricultural development may actually cause epistemic injustice. Since colonization and beyond the political independence of Africa, primarily the West, but other countries as well have practiced exclusion, systematic and structural suppression of African ways of knowing and doing.[2] However, epistemic injustice has gained little attention in agricultural development projects so far and it is unclear if and how agricultural development projects may reinforce or even cause epistemic injustice. Therefore, this paper addresses a central question: do agricultural development projects in Africa maintain, reinforce, or even cause epistemic injustice? And if so, how? The focus of the current paper is on the epistemic relation between Africa and the West. Africa's epistemic relation with other parts of the world requires a separate assessment

The outline of the paper is as follows. In the next section, different forms of epistemic injustice are presented based on literature from African philosophy (e.g. Mogobe Ramose, Pascah Mungwini), Western philosophy (e.g. Miranda Fricker) and Western sociology (e.g. Boaventura de Sousa Santos). In the following section, the necessary background information of the case study - a participatory livestock development project in rural Mozambique (2011-2013) - is provided, followed by an explanation of the qualitative ex-post method of analysis to identify epistemic injustices in the case study. Subsequently, the qualitative empirical findings are presented with quotes from project documents, demonstrating various ways in which the case study created epistemic injustice. Thereafter, it is clarified how the case study does not stand on its own, but is part of a larger system of international agricultural development with problematic structural characteristics that maintain, cause, cover, or even worsen epistemic injustices. The paper concludes by exploring ways to mitigate epistemic injustice in agricultural development.

2. Different forms of epistemic injustice

Epistemic injustice has become an 'umbrella concept' with different meanings and interpretations (Fricker 2013, Dotson 2014). Hence, it requires clarification what forms of epistemic injustice are taken into account in the current study; i.e. what forms one might encounter in agricultural development projects. Fricker (2013) identifies two types of discriminatory epistemic injustice: testimonial and hermeneutical injustice. *Testimonial injustice* is about the relation between the speaker and the hearer and occurs "when prejudice causes a hearer to give a deflated level of credibility to a speaker's word" (Fricker, 2007: 1). The basic idea is that stereotypes and identity power are influencing – for better or worse – the level of credibility that is given to a person. If the stereotype works negatively, people are given less credibility than they should have received, which Fricker names "identity-prejudicial credibility deficit" (Fricker, 2007: 4). I will return to this type of injustice further on in the paper, but for now the important point is that the hearer does injustice to the speaker by not recognizing him/her as giver of knowledge. Prior to testimonial injustice,

hermeneutical injustice can occur, "when a gap in collective interpretive resources puts someone at an unfair disadvantage when it comes to making sense of their social experiences" (Fricker, 2007:1).

Dotson (2014) distinguishes first-, second-, and third-order epistemic exclusion. She uses the term *epistemic oppression* to refer to such "persistent epistemic exclusion that hinders one's contribution to knowledge production" (Dotson, 2014: 115). *First-order epistemic exclusion* is "an exclusion that results from the incompetent functioning of some aspect of shared epistemic resources with respect to some goal or value" (Dotson, 2014: 123). Fricker's testimonial injustice is an example of first-order epistemic inclusion as it results from "the creation of epistemically disadvantaged identities through unwarranted credibility deficits" (Dotson, 2014:126). *Second-order epistemic exclusion* "results from insufficient shared epistemic resources" (Dotson, 2014:126), which shows parallels with Fricker's hermeneutical injustice. *Third-order epistemic exclusion*, however, is different in the sense that it refers to the dominant epistemological system including the challenge to change it. As such, third-order epistemic injustice is "a compromise to epistemic agency caused by inadequate dominant, shared epistemic resources" (Dotson, 2014:129). Thus, whereas Fricker (2007) focuses mainly on the position of the individual hearer and the interaction between individuals, Dotson also addresses features of the epistemological system itself. One of the challenges we face when looking at epistemological systems is a certain blindness in the sense that one may be unable to detect "one's inability to understand certain things" (Medina, 2011, 28 in Dotson, 2014: 121). As Kaphagawani and Malherbe (2003: 268) put it: "the people brought up in a certain tradition can never see it. They are blind to it just because it is, for them, the only way things could possibly be."

When such epistemic injustices occur, there are at least three harms involved. First, "any epistemic injustice wrongs someone in their capacity as a subject of knowledge, and thus in a *capacity essential to human value*" (Fricker, 2007: 5, my emphasis). The capacity to reason is essential to humans, and it is deeply dehumanizing if this capacity is ignored (Ramose, 1999). Second, the speaker is denied an opportunity to participate meaningfully to knowledge production and the hearer may miss out on knowledge that the speaker has to offer. Third, if undermining of a speaker's knowledge and credibility occurs persistently, it will lead to loss of confidence in oneself and a loss of knowledge (Fricker, 2007). Such a loss of knowledge can lead to what Ramose (2019) as well as Santos (2014) call *epistemicide* – the death of the knowledge.

It is important to note that these forms of epistemic injustice do not occur in isolation: at the root of these injustices are longstanding structural unequal power relations, characterized by historical, social and political forms of Western domination, including slavery, colonialism, capitalism, and patriarchy (Santos 2014, Mungwini 2018, Ramose 2019). The epistemic relation between Africa and the West is characterized by scientific and spiritual racism of the

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West towards Indigenous people of Africa (Ramose, 1999; Mungwini, 2018). The West has imposed – and continues to impose – Western knowledge on Africa, which is considered superior while silencing Indigenous epistemologies (Mungwini, 2018). The assumed superiority of Western knowledge and philosophy is what characterizes Eurocentric thinking (Kimmerle 2016). Eurocentric thinking is no longer tenable, for one reason because it goes together with persistent *epistemic blindness*. That means: by looking at Africa from a Eurocentric perspective, important parts of African cultures, philosophies, and epistemologies remain unnoticed, or in fact, are consciously ignored. As Ramose formulates it: "willful blindness and deafness" and "refusing to see the visible other and avoiding to listen to the voice of the other" (Ramose, 2014: 73).

Based on the above, one might find at least four forms of epistemic injustice in agricultural development projects:

- Project participants were ascribed a credibility deficit, as indication for *testimonial injustice.*
- Indigenous knowledge and ways of knowing have been destroyed throughout the project, as indication for *epistemicide.*
- Dominance of Eurocentric thinking in the project, as indication for *epistemic blindness.*
- Project data and information have been framed inadequately, as indication for *hermeneutical injustice.*

These forms should not be seen as separate; instead they are interrelated. For example, epistemic blindness – e.g. not recognizing other epistemologies due to Eurocentric thinking – can easily lead to destruction of such ignored epistemologies, i.e. epistemicide. These different forms of epistemic injustice have been used as entry points for the analysis of the case study.

3. Case study: goat production and marketing in Inhassoro district, Mozambique

In order to empirically study epistemic injustice in agricultural development, I reflected critically on a livestock development project in Mozambique (2011-2013) entitled "Small ruminant value chains as platforms for reducing poverty and increasing food security in dryland areas of India and Mozambique". This section provides the necessary background information of the case study, including its main aim and intervention types. The project was active from January 2011 to June 2013 (30 months) in two different contexts: India and Mozambique. Due to the focus of the current paper on African philosophies and epistemologies, the analysis is restricted to the project site in Mozambique.

In Mozambique, the project operated in Inhassoro district in Northern Inhambane province, where about 87% of the population lives in rural areas and the majority of agricultural products are produced on *machambas* (subsistence agricultural plots) (RP).[3] The main aim of the project was to "to transform goat production and marketing from the current ad hoc, risky, informal activity to a sound and profitable enterprise and model that taps into a growing market" (PB1). In order to reach this aim, the project employed value chain and innovation system approaches. This means that the project aimed to support participatory innovation processes by setting up an innovation platform (IP) with value chain stakeholders, such as goat keepers, traders, and community leaders (see Textbox 1). At innovation platform meetings, project participants and project team members identified key challenges and limitations in goat production and marketing, and subsequently collective actions were designed, planned, and implemented. The organization of goat markets was one of the key actions by the IP. In doing so, the project aimed to facilitate and stimulate more regular sales of goats, so that goat keepers could gain a more regular income from goat keeping. The lack of grazing areas for goats was another key challenge identified by the IP. Subsequently, the project supported the organization of communal grazing areas together with local government officials.

Textbox 1. Setting-up an innovation platform

Innovation platforms (IP) are "spaces facilitated by local innovation brokers where individuals and organizations can come together to address priority issues related to development of value chains." (PR4). The presented project brought different stakeholders of the value chain (VC) together to jointly assess challenges along the chain and search for solutions. Goat value chain stakeholders included goat keepers (i.e. producers), paravets, community leaders, goat traders, and local government officials. One of the underlying ideas was to connect goat keepers with goat traders, so that goat keepers have better access to markets and can sell goats more frequently throughout the year. The initiative of setting up an IP was taken by the research organization and the NGO: they selected and invited potential IP participants and they facilitated the first meetings. At the first IP meeting, a secretariat was chosen by the IP members with the idea that they should be running the IP without project support by the end of the project. In total, 9 IP meetings were held during the project.

Throughout the project "capacity building was one of the core elements to further improve the innovation process" (PR1). This means that project extension officers provided regular trainings to goat keepers and community animal health workers (paravets) on goat health, breeding, housing, and feeding (see textbox 2). By providing such trainings, the project thus also applied rather conventional extension methods – in addition to the more novel approach through an innovation platform.

Textbox 2. Training goat keepers and community animal health workers (paravets)

At the start of the project, the project team (NGO and research organization) took the initiative to provide two types of trainings: 1) for groups of goat keepers in the communities, 2) for community animal health workers (paravets). The content of the trainings was based on existing extension and training models of the NGO and provided by NGO extensions officers. In addition, the baseline study of the project provided insight in 'knowledge gaps' among goat keepers, resulting in trainings on 'improved' practices such as goat health, reproduction, housing, watering and feeding (PB2). Goat keepers' groups were formed in 18 project communities, resulting in a total of 523 goat keepers who participated in regular group trainings (PB3). In addition, 5 model farmers were selected to demonstrate improved practices, including the construction of an 'improved' (i.e. elevated) kraal (PB3). The training for paravets included 14 selected goat keepers, who received specific training to provide animal health services in the communities (PB3). It was aimed that at the end of the project there was one paravet per community who could conduct basic medical treatment of goats (like treatment against internal and external parasites and wound treatment). At the end of the project, the project team composed a specific training manual for the paravets, which they could use in the communities to continue informing and training goat keepers about 'improved' practices (TM). Commercialization of goat keeping was included in both training types – i.e. to direct goat keepers towards a more commercially oriented mind-set rather than their current mind-set of farming.

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4. Methodology

The undertaking was an Agricultural Research for Development (AR4D) project which means that it contained a research as well as a development component with two organizations: an international research organization managed the overall project and an international NGO was responsible for implementation of the project. Thus the project was designed and led by the international research organisation, who wrote the project proposal and designed and planned most research activities and development interventions. The challenges that an international research organization faces when combining research with development objectives is a whole debate in itself (e.g. Leeuwis et al. 2018), which is not the focus of the current paper. Instead, for the methodology of the current paper it is relevant that due to the research component - that aimed at studying innovation processes - the project was heavily documented. Thus the project documentation entails rich qualitative data, which allowed for deeper reflection on project assumptions and ideologies and as such provided insights into epistemic injustice.

To search for epistemic injustice in the presented case study, I analyzed 27 open access project documents with a total of 497 pages. A code was assigned to each document so that

the findings can be traced back, e.g. "PR2" refers to "Peer Reviewed article nr. 2" (see Appendix I for an overview of all project documents with codes):

- 4 peer reviewed publications (PR 1-4)
- 2 conference papers (CP 1-2)
- 1 research report (RP)
- 9 reports of innovation platform meetings (IP 1-9)
- 3 reports of national steering committee meetings (NSC 1-3)
- 5 research and policy briefs (PB 1-5)
- 1 training manual (TM)
- 1 end of project report (ER)
- 1 master thesis (MT)

The current study is thus an ex-post analysis, conducted after the project ended. This can be seen as a limitation of the current study, because if the research had been designed specifically to study epistemic injustice, it would have most likely included additional and different empirical data. At the same time, it is concerning that the two organizations engaged in the project did not even consider the question of epistemic justice. In that sense, this makes the presented case study a realistic example of an agricultural development project in practice, in which epistemic justice seems not to have gained much attention. It means that the ex-post analysis is also a strength of the current study, because the project documentation gives valuable insights into the way agricultural development projects actually operate in practice, and as such it can give insight into ways the project might maintain or cause epistemic injustice. To put it differently, if epistemic justice had been the topic of study at the start of the project, the project most likely would have been designed and implemented quite differently – in the sense that such a project would aim to contribute to – rather than to violate – epistemic justice. Therefore, I will be questioning both the explicit and the implicit – probably unintended – intention and design of the project.

The analysis focused primarily on epistemic injustice done to people who keep goats (i.e. goat keepers), because most project interventions and trainings were targeted directly at goat keepers and changing their knowledge and practices. The method of analysis was qualitative: in the 27 project documents, I searched for indications towards epistemic injustice based on four forms of epistemic injustice as presented in the literature. I selected relevant quotes and texts from the documents and subsequently structured and grouped these in various forms of epistemic injustice. The empirical findings are underpinned with quotes from the project documents.

The purpose of the current study is not to identify whether individual team members in the project have or have not reinforced or caused epistemic injustice. However, it is important to

mention that I was partly responsible for the research component of the project, because I worked as post-doctoral researcher in the project (2011-2013). My involvement in the project requires clarification about my position in the project as well as the presented analysis. To start with, I lived two years in Vilanculos, Mozambique, which is the town where the office of the implementing NGO was located, about one-hour drive from the project communities in Inhassoro district. During the project period, I regularly (about once every two weeks) visited communities and met with project participants. I participated in 8 of the 9 innovation platform meetings, and was strongly involved in the design as well as implementation and monitoring of the innovation platform. As post-doctoral researcher, I wrote most of the reports on the innovation platform meetings, with the aim to analyze and publish about the innovation process. In fact, 17 out of the 27 project documents involved my writing - in collaboration with project team members. Since I conducted the analysis of the current paper, I thus analysed reports that partly have been written by myself several years ago. This double role can be an advantage in the sense that through the post-doctoral position I gained in-depth knowledge and experience about the project. On the other hand, my involvement might also have led to certain Western biases. In the current paper I aim conduct retroactive self-criticism as a way to look at and become more aware of such biases. Such self-reflexivity can contribute to the advancement of the field – in academia as well as practice – although this does not mean that the analysis and findings in the current paper are entirely unbiased.[4]

5. Key empirical findings

The analysis revealed five ways in which the presented project violated epistemic justice. Below, each way (A-E) is elaborated with quotes and explanations from the project documents. The code behind a quote or text refers to the specific project document (see Appendix I).

A. Imposing a Western market-based development ideology

The main aim of the project was "to transform goat production and marketing from the current ad hoc, risky, informal activity to a sound and profitable enterprise and model that taps into a growing market" (PB1). To put it shortly, improved goat production and commercialization was seen as "a tool to reduce poverty in communities" (ER). Hence, the project had a strong focus on commercialization of goat production and marketing through trainings and meetings. The underlying assumption was that goat keeping in its existing form was not a viable and profitable enterprise. Instead, goat keepers needed to produce more and healthier goats and sell more frequently. In one of the meetings, the project donor formulated it as follows:

> Goat keeping is not seen as a reliable source of income and *this mind-set may be difficult to change*. However, it's the project goal and continuous efforts should be made to achieve this. (NSC2, my emphasis)

This quote captures the essence of the project, which was frequently mentioned by project team members: it was assumed that goat keepers needed to *change their mind-set* and become more commercially oriented. It means that their current mind-set was not good (enough) and that another mind-set was better. The promoted mind-set of a more commercial attitude reflects a Western-based agricultural development ideology: commercialization of agriculture are seen as the best pathway for agricultural development in Africa. However, in terms of epistemic justice it is highly concerning when projects impose a mind-set on participants without due regard for their epistemologies. This does not only do injustice to participants as knowledge givers only if they were given a chance to contribute their knowledge (testimonial injustice, see point B below), but by imposing a mind-set, the project may have contributed to the destruction of Indigenous epistemologies.

Let us take a closer look at how the Western market-based ideology of agricultural commercialization in the presented project might be mismatching with Indigenous epistemologies. One of the main interventions initiated by the project during IP meetings was the organization of goat markets, so that goat keepers could sell their goats more frequently. The project aimed to convince people in the community to use a weighing scale when selling their goats – so that goats were sold at a fixed price per kg of live weight. The project assumed that "using weighing scales and determining a live weight price is critical for the success of the fairs" (NSC 2). The use of a weighing scale met resistance from the beginning, but the project tried to convince people in multiple ways that a fixed price was really necessary for commercialization and regular sales. For example, at the 3rd IP meeting the project organized a demonstration to define the price of a goat with and without weighing scale, so that participants could see that they would get a better price by using the weighing scale (IP3). Towards the end of the project it seemed that quite some people in the communities were not supportive of the use of the weighing scale, as mentioned in the 8th IP report: "the model farmer suggested selling without weighing scale, so that everybody can negotiate about the price" (IP8). Goat keepers thus preferred to continue using their own ways of negotiating with buyers rather than using a weighing scale. In their own negotiations the price varied according to different factors like: time of the year (ask a higher price at moments of festivities), whether a buyer comes from inside or outside the community (the latter has to pay a higher price), and whether sales occurred in times of emergency (generally goat keepers accepted a lower price for people in need). However, the project saw this way of selling goats as 'not organized' and 'informal', as mentioned in one of the project documents:

> The baseline study showed that about 64% of the goat keepers sold goats, though in an 'informal way'. The main buyers of goats were individual traders (43%) and other

smallholder goat keepers (22%). Most sales (79%) took place at the trader's house and payment was made in cash at the time of the transaction. (PR1)

However, a sociological study in the same project (RP) showed that price agreements in communities go back to periods of crisis when the goat population depleted severely, like the civil war (1977 - 1992), floods, and cyclones:

> [After the civil war] there was hardly any – if no – livestock in the community and several methods were reported to increase the goat population in their community. […] After the floods and cyclone, communities had different ways to increase the number of goats in the community, such as lending goats for reproduction to others, buying new goats, selling goats to community members for low prices, and exchanging goats for work on the *machamba* (subsistence agricultural plot). Price agreements still exist in some communities. (RP)

The above quote shows that price agreements between community members go back to times of need – to help each other. Although the sociological study only touched upon the (complex) history of Mozambique, the above quote shows that trading and exchanging goats have been part of people lives for a long time. To label such existing trading networks and agreements as 'informal' and 'not organized' does not do justice to people's Indigenous knowledge on goats sales and trading. Instead, such terms emphasize inferiority by suggesting that sales should become formally organized and commercialized in an economic value chain, based on a Western development ideology. In this same line, the sociological study showed that values of mutual assistance and reciprocity continue to exist until today:

> …many respondents used goats to help family by offering one or more goats. As such, goats play an important role in mutual assistance in times of crisis within and between families and community members. For example, mutual assistance between and within families played a large role in the restocking process, particularly in the second decade after the civil war. (RP)

Mutual assistance is a core value of African philosophies, or to put it in Wiredu's words: "life is mutual aid" (Wiredu 2003: 345). However, by imposing Western-based market-led thinking these values of mutual assistance are under pressure. The above quotes might help to better understand the unwillingness or reluctance of participants to use the weighing scale and a fixed price for goats: it might be a form of resistance in the sense that people did not want to change their knowledge and related practices about how to sell goats. However, their knowledge on goat sales, prices and traders was considered not sufficiently market-oriented by the project. Instead, the project held the vision that people needed to commercialize their goat keeping in order to reduce poverty and hunger. This vision was based on Western-based market-led thinking, and was not open for discussion during the project. Towards the end of

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the project, there was a cautious remark about the validity of the project assumptions on commercialization:

> In Mozambique, the value chain was very weak or almost non-existent; goats had multiple functions in the households and not everyone – especially women – may have been interested in the commercialization of goats. The IPs [innovation platforms] did not fully capture this. Under such conditions, alternatives such as a stronger focus on production or diversification of livelihood strategies need to be considered. (PR1)

This quote illustrates that the project most likely has been designed on rather naïve assumptions about commercialization. However, the quote does not address the underlying ideology of the project. That is; the project imposed a Western-based ideology of agricultural development on rural communities in Mozambique. This is highly problematic since unequal epistemic power relations are maintained or even reinforced in which Indigenous epistemologies and visions on development continued to be ignored. Moreover, the example showed that through epistemic injustice one easily misses out on important knowledge (Fricker 2007), which could have led to a different focus of the project and avoided naive project assumptions.

B. Labelling people as mainly knowledge beneficiaries

The previous point (A) showed that the Western-dominated project vision was problematic in terms of epistemic justice. Yet, it is closely related to another problematic assumption about how it viewed the main participants. The project focused mainly on goat keepers in rural communities of Inhassoro. In project documents this focus was formulated as follows: "the main target beneficiaries of the project are poor goat keepers" (PB2). Since the project largely envisioned material poverty reduction – i.e. gaining (increased) income – 'poor' in this quote refers to 'materially poor'. However, the project hardly provided material resources. Instead, the project had a clear position how this should be reached: it was assumed that if goat keepers gained Western scientific knowledge about goat keeping and commercialization, they would be able to move out of material poverty. Thus, although the project aimed explicitly to reduce material poverty, its interventions focused on assumed intellectual poverty. In combination with a history of material aid by donor organizations over the past decades – e.g. distribution of goats in the region -, it is understandable that the project goal and approach were confusing for the project participants. At the fifth IP meeting – i.e. almost one year after the first IP meeting –, there was a discussion about the expectations of project participants and what the project was actually providing. As one community leader explained during the meeting:

> In the beginning many people participated in the project because they expected to receive something, because of history in the community (receiving cattle and goats). But then they didn't receive anything and many people left the group. A small group

was left, consisting of producers who were really motived to improve their goat keeping. This worked very well. He [a goat keeper] did not receive any goat, but his number of goats increased. Now he has about 60 goats and it keeps increasing. Subsequently, the other producers are gradually coming back. The few people who stayed only wanted support, they don't expect to receive other things. The others now are starting to understand that it is not about receiving things. (IP5)

The above discussion came up multiple times during project meetings and trainings: discussions diverted to the request for material incentives. Although the available project documents did not provide further arguments why people left the group and some later came back, and the incentive-structure of development projects is a whole debate in itself, it is striking that these discussions did not let the project organizations to reflect or reconsider the project approach and vision itself. Instead, the project message was repeated consistently towards project participants: the project provided knowledge, not material incentives. The concerning point with regard to epistemic justice is not to provide material incentives rather than knowledge – material incentives also include assumptions about knowledge – , but the problem is that the project implicitly assumed that people are intellectually poor. Thus participants were mainly seen as beneficiaries of knowledge on whom Western scientific knowledge was imposed, which further reinforced neglect of Indigenous knowledge. This does not mean that goat keepers cannot benefit or learn from Western scientific knowledge, but this finding implies that the commonly used terms 'beneficiaries' and 'poor' in mainstream development projects are problematic in terms of epistemic justice, because these terms can label project participants as mainly receivers of knowledge. Such labelling reinforces negative stereotypes and results in what Fricker (2007) calls testimonial injustice: project participants are confronted with a *credibility deficit* precisely because of being a project participant, which more specifically leads to an *identity-prejudicial credibility deficit*.

C. Excluding Indigenous knowledge and epistemologies from trainings

Goat keepers' knowledge about goat keeping was assessed at the start of the project through a baseline study. The baseline study did not explicitly try to elicit Indigenous knowledge and ways of knowing with regard to goat keeping. Instead, the baseline information was used to confirm the project assumption that goat keepers "had limited knowledge and skills of improved goat husbandry practices and marketing" (PB4). The baseline thus reinforced the stereotype that goat keepers had limited knowledge and as such were beneficiaries of knowledge (as under point B). Based on this assumption, capacity building was a main focus of the project. NGO extension officers provided trainings to groups of goat keepers and 14 paravets, which focused mainly on 'improved' practices on animal health, reproduction, housing, and feeding (see textbox 2). Another important assumption underlying these trainings was the idea that there is something like 'improved' goat keeping. The point here is not that there cannot be any improvements in goat keeping. The point is that when starting

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with such assumptions, it is suggested that Indigenous ways of doing and knowing are inferior.

In fact, the trainings were based on rather conventional ways of extension training, mainly with transfer of Western scientific-based knowledge – in this case mainly about animal health, based on veterinary sciences. The trainings did not include Indigenous knowledge – e.g. ethno-medicine about Indigenous ways of treating goats – or Indigenous worldviews, e.g. about people's spiritual relation with nature – including plants, trees, grasslands, and animals, while it is widely known that the spiritual realm is an important part of African cultures. It may be clear that Indigenous knowledge is not a homogenous, static concept, but it is heterogenous with a diversity in agricultural practices and views across the African continent that evolve over time. Yet, the trainings ignored indigenous knowledge and ways of knowing from the outset, and one can say that disregard of indigenous knowledge by the project constituted epistemic injustice, a form of wilful epistemic blindness.

These findings confirm what one might expect: epistemic injustice takes place through extension when this is designed by Western NGOs and research organizations and strongly based on a Western way of looking at the world without due regard for Indigenous epistemologies. At the same time, this finding does not necessarily imply that Western-based knowledge should be disregarded entirely from trainings. However, due to unequal pedagogical power relations, Western-based extension trainings entail the risk of committing epistemicide. This means, there is a risk that unequal historical power relations of oppressor and oppressed – i.e. Western dominance which goes back to slavery, colonialism, missionary activities, as well as development aid – are maintained and reinforced (Freire, 1970). Such unequal pedagogical power relations can convey the message can that Indigenous ways of doing and knowing things are inferior, which may lead to the destruction of Indigenous knowledge. A central question for the current study is then: did the project trainings actively contribute to destruction of Indigenous knowledge? In the project documents, there was practically no information on Indigenous knowledge in trainings. From this it cannot be concluded if the trainings directly led to epistemicide: it can only be concluded that Indigenous knowledge was not within the sight of the project.

D. Imposing Western concepts through project interventions

The organisation and facilitation of an Innovation Platform (IP) was a main intervention of the project (see textbox 1). In this section we take a closer look at how the IP was set-up and operated and if in its presented form contributed to epistemic injustice. To start with, the initiative to set-up an IP came from the project team, i.e. people from the international research organization and NGO. It was also the project team who conceptualized the vision and objective of the IP. At the first IP meeting, the concept, vision and objective of the IP were explained to project participants (IP1, PB4). A Mozambican project team member facilitated the first meetings in Xitsua with translations to Portuguese for non-Xitsua speaking

project staff (IP1). In Xitsua there is no word for 'Innovation Platform', so when talking in Xitsua the Portuguese words 'Plataforma de Inovação' were used. This language example illustrates that the concept of an IP was Western-based and did not exist in Xitsua epistemologies. The project thus imposed Western-designed concepts as well as their vision and objectives on the participants. Even more than the problems of translation, the imposition of the concept constituted epistemic injustice as we will see below.

The project team took the lead in organizing and facilitating the IP meetings. It was envisaged by the project that an IP secretariat (constituted of four elected IP members) should be able to manage and facilitate the IP meetings. As reported in one of the project documents:

> IP facilitation and management were *gradually handed over* to IP members, but this needed a lot of guidance. For these reasons, most of the decisions related to the design of the platform were influenced by former experiences of [the NGO] and [research organisation]. (PR1, my emphasis)

The use of the terms *gradually handed over* confirms the idea of a giver/receiver relation, in which the project team gives something to the IP members. In this case, the project gives knowledge to the IP members about how an IP should (continue) to function - also after the project ended. Again, the IP members were largely seen as knowledge receivers, rather than knowledge givers. Much of the project's time and resources was used to convey the idea of an IP to project participants. At the end of the project, a project team member mentioned that he "was impressed by the ideas of the persons he had met [in the community], there are really some "champions" that *have fully understood the project objectives.*" (ER, my emphasis) This quote confirms a key-assumption throughout the project: project participants should understand the pre-defined and Western-designed concepts and objectives of the project. This is a clear example of how a Western concept, such as an IP, has been imposed on people in rural Mozambique and thereby ignoring Indigenous epistemologies. For example, there may be other forms of decision making such as 'palaver', where people 'talk until they agree' (Wamba dia Wamba, 1992 in Kimmerle, 2004).

However, the question if the IP did or did not contribute to epistemic injustice, requires a more nuanced assessment. It is not only about the concept itself, but also about how the IP eventually influenced project interventions. In theory, IP's can offer space for different knowledge systems, and as such potentially be inclusive in terms African epistemologies. This raises the question to what extent the IP offered space to take indigenous epistemologies into account? With regard to commercialization of goat keeping and the organization of goat markets, the answer is negative: these interventions were largely pre-defined by the project (as discussed under point A). In fact, it seems that the IP was used as a vehicle to impose the project vision of goat commercialization. However, at one of the first meetings of the IP, project participants formulated a direct and primary need: there was a lack of pasture areas for

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goats, and they requested support in the organization of communal grazing areas (IP 2). Although the project team had not anticipated this intervention, the team tried to respond to this request. Interestingly, the project team had limited knowledge about communal grazing areas and as such had to learn from goat keepers and community members and actively cooperate with the regional government. Subsequently, an M.Sc. student got involved in the project to conduct research on the carrying capacity of grazing areas as well as the social organization of goat keeper groups to collectively herd their goats (MT). As part of this study, the student identified grass and plants species that people fed to their goats, which resulted in a herbarium of plant species. As such, the study tried to understand goat keeper's feeding practices, rather than imposing a Western development concept. Thus, through this M.Sc. research the project included some of people's Indigenous knowledge on grass and plant species.

E. Framing research within Western categories and frameworks

The project included various studies e.g. on innovation platforms (PR1), on gender roles in goat production and marketing (PR3), on modelling of value chains (PR2), on outcome mapping as evaluation method (PR4), and on the socio-cultural context of goat keeping (RP). In the presented analysis, the latter study (RP) will be used as an example of epistemic injustice in research. The reasons to select this study are twofold: 1) The sociological study touched upon aspects of African epistemologies, 2) The sociological study allows for critical retroactive self-reflection, because the main researcher of the sociological study is also the author of the current paper (see endnote 4).

The sociological research was an in-depth follow-up study of the baseline study and looked "at the different roles and functions of goats within the historical and socio-cultural context of Mozambique and more specifically in Inhassoro district" (RP). It aimed to understand goat keepers' reasoning and underlying motivations to keep goats, based on their knowledge and logic. In the light of African epistemologies, the sociological study touched upon topics like the concept of being in African communities, the spiritual realm, and the importance of mutual assistance in rural communities in Inhassoro district (as described under A). For example, the study showed that goats are often used to help others in need and that goats play an important role in spiritual rituals, such as honoring the ancestors. As such one can say that the study somehow tried to do justice to people's knowledge and practices with regard to goat keeping and marketing.

However, at the same time the study is entrenched with Western perspectives, in the sense that research questions, answers, theory, and literature were largely based on and interpreted through a Western lens. For example, the researcher identified 13 reasons why people keep goats. Through qualitative analysis, she grouped these reasons in four categories that describe the functionality of goats: goats as financial saving and insurance; goats as contributors to food security; goats as contributors to social capital; and goats as commercial production

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commodities (RP). This categorization should help "to better understand the pathways through which goats can contribute to development outcomes like increased income and food security" (RP). It can be questioned if goat keepers would have grouped their reasons in these categories. In other words, one wonders if these categories and underlying development ideologies make sense within goat keepers' worldview and their epistemologies. In terms of epistemic justice, it means that although this study tried to recognize goat keepers' knowledge, logic, and underlying motivations, it was characterized by epistemic blindness: the researcher was unaware of Indigenous epistemologies, and as such research findings were too quickly framed within a Western framework.

6. Three root causes of epistemic injustice in agricultural development

The empirical findings showed that there were five ways in which the project perpetrated epistemic injustice, namely by:

A. Imposing a Western-based development ideology
B. Labelling participants as mainly knowledge beneficiaries
C. Excluding Indigenous knowledge and epistemologies from trainings
D. Imposing Western concepts through project interventions
E. Framing research within Western categories and frameworks

Based on these findings, the answer to the main research question – if agricultural development projects in Africa maintain, reinforce, or even cause epistemic injustice – is affirmative for the presented case study. In fact, the case study showed that even participatory approaches do not guarantee that people's epistemologies are included. Whether or not this affirmative answer also counts for other agricultural projects, depends on the kind of agricultural projects and the extent to which epistemic justice is in sight of the project designers and implementors. At the same time, epistemic injustice does not occur in isolation and the findings of the current case study may reflect more structural problems in agricultural development. Hence, it is important to place the project in a broader context and to address possible underlying and structural problems that cause, maintain, cover, or even worsen epistemic injustice in Africa's agricultural development. The findings indicate towards three of such underlying and structural problems, which I briefly address below: hegemony of the agricultural modernization paradigm; Eurocentrism in knowledge-based development; and the use of the Sustainable Development Goals (SDGs) (UN, 2017), like 'Zero hunger' and 'No poverty', as legitimization.

Hegemony of the agricultural modernization paradigm
The presented project imposed a Western-based development ideology that relates to a general view in agricultural development projects that farmers need to become more

commercially oriented and connect to markets. This development ideology is not unique for the project, as there are other projects that also aim to 'modernize' and 'commercialize' Mozambique's agriculture, such as agricultural corridors in Zambezi Valley (Gonçalves 2020). The agricultural modernization paradigm – based on specialization, scale enlargement, and industrialization of agriculture (van der Ploeg, 2000) – is often associated with large scale agribusiness projects and its related devastating consequences and injustices, such as environmental degradation, exploitation of human and environmental resources, and unequal trade policies. However, the ramification of this modernization paradigm also resonates in epistemic assumptions in small-scale participatory projects when these are based on a Western ideology of modernization of food systems with a firm belief in science, technology and capital, and governed by markets and technology (van der Ploeg, 2016). This dominant Western ideology of agricultural modernization and commercialization is problematic in terms of epistemic justice, because it has been – and continues to be – imposed on farmers across the globe. For example, by using terms like 'new' and 'improved', external agricultural products and practices purport to be superior by definition to the existing Indigenous practices and knowledge (van der Ploeg, 2016). Thus, the hegemony of the agricultural modernization paradigm contributes to – or even is a root cause of – epistemic injustice and epistemicide in agricultural development in rural communities in Sub-Saharan Africa.

Eurocentrism in knowledge-based development
The presented project mainly aimed to provide knowledge to people in the rural areas of Mozambique. In doing so, epistemological inequalities between knowledge giver (project team) and receiver (project participants) were reinforced by the implicit claim that "knowledge" from Europe did not require dialogue with any other epistemology. The findings show that epistemic injustice occurred directly through trainings that were based on Western knowledge transfer and, in many more 'subtle' ways, e.g. by using Western concepts and frameworks. It seems that all five ways of epistemic injustice (A-E) were characterized by Eurocentrism. The vision, conditions, definitions, borders, and some of the interventions of the project were pre-set by the project organizations meaning that it was largely Eurocentric in its design as well as implementation. The project does not stand on its own, but there is a general tendency in international development to limit material incentives and instead focus on the provision of knowledge – i.e. to move towards knowledge-based development (e.g. Lajul 2018). Although knowledge-based development does not have to be problematic, it becomes concerning when knowledge is essentially Eurocentric, suggesting other types of knowledge are inherently inferior.[5] As such, epistemic injustice is arguably at the heart of knowledge-based development.

Interestingly, the project was based on participatory methods, which raises the question to what extent participatory methods are open to include people's epistemologies. The innovation platform (IP) was promoted as a vehicle to give a voice to project participants in innovation processes. Although epistemic justice is not the main aim of an IP, in theory, an IP

can be a space for integration of a diversity of knowledges – thus it can include Indigenous epistemologies (Boogaard et al. 2013). However, the findings of the case study show that the extent to which an IP violates epistemic justice (or not) depends largely on the way it is implemented and the interventions it will lead to: when an IP is open to include people's perspectives and their knowledge from the start - like in the example of communal grazing areas - it might be the way to contribute to epistemic justice. On the other hand, when the concept of an IP in itself is imposed and when IP interventions continue to be based on underlying Western ideologies of development, which cannot be questioned or changed during the project - it can in fact reinforce or even worsen epistemic injustice. Thus, although the use of IPs suggests a strong participatory approach under the heading of inclusive development, IPs can also be used to continue imposing Western-based development ideologies and approaches on rural people in Africa. The latter is highly concerning; it shows that inclusive approaches maybe inclusive in terms of the people involved, while their epistemologies remain excluded. As such, one can say that epistemic justice should be a fundamental component of good quality participatory projects.

SDGs are used as legitimization
Through the described interventions, the project aimed to contribute to increased incomes and food security for people in Inhassoro district. In doing so, the project was part of a broader ambition in international development: it aimed to contribute to SDGS, in this case SDG 1 'No poverty' and SDG 2 'Zero hunger". In general, the SDGs are considered 'benign' concepts, in the sense that they represent something intrinsically good: no one can be against less poverty and hunger in the world. But are these indeed 'benign' concepts? The case study is a clear example: the project was conducted in the name of benign concepts like 'increasing food security' and 'reducing poverty', while violating epistemic justice in at least five ways. As such, deep epistemological inequalities between Africa and the West are reinforced. Moreover, it seems that the SDGs are used as legitimization by Western development projects to continue intervening in Africa's agriculture, based on Western scientific knowledge. This is highly concerning, because it means that epistemic injustice continues, but is covered under 'benign' ambitions like no poverty and zero hunger. In doing so, the West imposes a claim on Africa's future that the agricultural modernization paradigm and capitalism is needed to feed a growing population. Such a future is "specified by institutionalized science through the analysis and combination of new technological possibilities and expected market tendencies" (van der Ploeg 2016: 6). In such a future there seem little space for indigenous practices and epistemologies.

Moreover, the unequal epistemological relation between Africa and the West is intrinsically and deeply intertwined with an unequal economic power relation. The problem of the current skewed international trade relations in the global economic order and Africa's unjustly acquired un-payable foreign debts find their roots in history of slavery and colonialism (Bujo, 1998). Unequal economic power relations exist until today and raise the question of where the

money for agricultural development projects comes from. In the presented project, the money came from Europe, in which the funding organization had a strong say in the expected outcomes of the project and how these should be reached. Thus, money and power are closely related in the sense that those who provide the money tend to define how the money is spent. As long as funding organizations continue to use the SDGs to legitimize Western-based knowledge interventions in Africa's agriculture, epistemological and economic relations between Africa and the West continue to be characterized by Western dominance.

7. Towards mitigation of epistemic injustice in agricultural development

A condition of injustice demands the restoration of justice (Ramose 2019). The thesis defended here is that restoring epistemic justice is an essential part of social justice for Africa (Ramose 2019, Mungwini 2018). It should be noted that the complexity of changing such a systemic, persistent, and historical injustice cannot be covered in one section here. Below I will therefore explore several ways to mitigate epistemic injustice in agricultural development – these should be seen as a start to engage in further dialogues and research.

To start with, it should be noted that the period from colonisation onwards "was a systematic, systemic and sustained epistemicide which failed, despite its intensity and vigour, to kill completely and totally the indigenous cultures of Africa" (Ramose 2014: 72). Thus, despite the ongoing epistemicide, indigenous knowledges are still present in today's Africa. Kaphagawani and Malherbe (2003) describe African epistemologies as "epistemic threads in the fabric of a culture" (Kaphagawani and Malherbe 2003: 264), which includes well-established general beliefs, concepts, theories; favoured ways of acquiring new knowledge; accumulated wisdom passed on to their youth – proverbs, traditions, myths and folk tales; the language of an ethnic group; customs and practices in religion and judicial procedure; and accepted authorities in matters of knowledge and beliefs. There is therefore a need to be more open to and aware of African epistemologies that have largely been ignored. This requires creating a distance from Eurocentric thinking (Santos, 2014). At the same time, it does not mean that one has to do away with Western epistemologies, but rather to recognize a *diversity of knowledges and epistemologies* (Ludwig and El-Hani, 2019). In practice, this means that development projects should be aware of indigenous epistemologies and actively include indigenous knowledge in participatory agricultural innovation processes. A good example of such a participatory approach is Prolinnova which promotes local innovation in ecological agriculture and natural resource management (Waters-Bayer et al, 2009).

In search for ways to move away from Eurocentric thinking various authors emphasize the importance of engaging in dialogues (e.g. Freire, 1970; Kimmerle, 2004; Fricker, 2007; Santos, 2014; Healy, 1998). There are parallels and differences between their approaches and they use slightly different headings: for example Kimmerle (2004) pleads for intercultural

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dialogues, while Santos (2014) refers to intercultural translation, and Healy (2011) pleads for transformative dialogues. I will not discuss differences and parallels in detail here – see for example Schepen and Graness (2018) who compare Kimmerle's approach of intercultural philosophy with the works of Fricker and Santos – but one of the main parallels is that most of them emphasize the *importance of listening*. For example, Kimmerle refers to his methodology of listening which refers to a specific need of listening with an open attitude and the willingness to learn from the other, while "keeping understanding in a provisional state" (Kimmerle 2004: 70). Likewise, Fricker (2007) speaks of a virtuous hearer, who practices "a more pro-active and more socially aware kind of listening than is usually required in more straightforward communicative exchanges" and who recognizes the importance of "*reserving* judgement, so that the hearer keeps an open mind" (Fricker 2007: 171). In a similar line, Santos (2018) refers to the need for deep listening.

At the same time, we should not romanticize the potential of dialogue. Mungwini (2018) warns us that "dialogue can be utilised as a talisman or magic word with the result that the different parties desire unity more than truth or justice" (Mugnwini, 2018: 7). So there is a risk of feeling pressure to achieve harmony, while that is not the main aim of a dialogue. In fact, a dialogue should also include the possibility to fail (Kimmerle, 2004). Ludwig (2019) shows that there are tensions and fundamental differences between epistemologies, which require negotiations. Moreover, there are limitations as to what the individual hearer can do, because there may be structural unequal power balances. The latter requires particular attention in dialogues with a diversity of knowledges, as these tend to be characterized by unequal epistemic power relations from the outset.[6] Thus in an ideal situation, there would be equality between dialogue partners (Kimmerle, 2004), but in practice this is far from the reality due to historically unequal power relations. It is thus unrealistic to expect to completely eliminate unequal power relations in dialogues (Healy, 1998). However, we should be seriously committed to try to minimize the influence of such inequalities. A precondition while striving for less unequal power relations is increased awareness about the historical relation among different knowledges (Santos, 2014). As such, there is need for a deep awareness of the history that shaped the current epistemic relations between Africa and the West, including slavery, colonialism, and development aid. To put it in the negative, epistemic injustice and epistemicide will continue as long as there is an unawareness of the historical context in which one is operating. As Ramose formulates it: "a philosophy without memory cannot abolish epistemic and social injustice" (Ramose, 2019: 71). Such *historical awareness* takes account of African experiences, in the sense that "history is his-story, it is yet to be our story" (Ramose, 2019: 63). This does not only count for historical awareness in philosophy, but also in agricultural development.

In addition, there may be a more complex form of epistemic injustice at work in agricultural development – that is third-order-epistemic exclusion as described by Dotson (2014). Recall that third-order epistemic exclusion refers to the dominant epistemological system and the

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challenge to change it (Dotson, 2014). Such injustice occurs for example when people with non-dominant epistemologies are "still required to utilize insufficient, dominant, shared epistemic resources" (Dotson, 2014:129). A clear example of this is when Indigenous knowledge has to be expressed through Western languages, concepts, and frameworks. In this same line, we saw that the sociological research of presented case study remained firmly rooted in Western frameworks and concepts. Dotson (2014) emphasizes that it is profoundly difficult to overcome third-order epistemic exclusion, because it requires a change of the dominant epistemological systems, which are characterized by high epistemic resilience.

The above-described difficulties, however, should not withhold us from looking at one of the potential sources of epistemic injustice: institutions where Eurocentric knowledge is produced such as schools, universities and research centers (Santos, 2018) exist across the globe. When restricting academic curricula to Western epistemologies, universities reinforce or even reproduce epistemic blindness. Such blindness does great injustice to epistemologies of the South and moreover "fails to prepare graduate students for contributing meaningfully to society" (Mungwini, 2018: 5). We thus need increased *epistemic awareness* in educational institutes, which means that universities look critically at which epistemologies are in- and excluded in their curricula (Dei, 2009). For example, agricultural academic curricula can become less Eurocentric by including African philosophies (Boogaard, 2019). Universities across the globe thus have a crucial role to play in mitigating epistemic injustice in agricultural development: curricula should not only include dominant Western epistemologies, but also be open to other epistemologies.

Finally, it is important to note that although it is very difficult to change dominant epistemological systems, this does not mean that epistemologies do not change. Epistemologies are not static and epistemological revisions have taken place and continue to take place over time, often steered by intellectual exploration or cross-culturation – or a combination of the two (Kaphagawani and Malherbe, 2003:268). Kaphagawani and Malherbe (2003) point to the important role of epistemic authorities, whose thinking "moves the epistemological traditions of their culture forward" and where "a society rich in such individuals will have a vital and progressive epistemology with a tradition of evaluation and renewal" (Kaphagawani and Malherbe (2003: 269). Contemporary African philosophers are such thinkers. Although there are strong differences between approaches and viewpoints among contemporary African philosophers, they share a profound knowledge of their culture, while at the same time their thinking moves the epistemological traditions of their culture forward. Hence, African philosophers are highly needed in the quest for epistemic justice in agricultural development. Their contributions can make agricultural development less Eurocentric, challenge dominant Western epistemologies, and rethink agricultural development in Africa.

Acknowledgements

Endnotes

1. Eurocentrism refers to the view that the West understands itself as superior with regard to all other times and cultures, and as such defines what philosophy and science - and in this case agricultural development - is (adapted from Kimmerle 2016).
2. The focus of the current paper is on the epistemic relation between Africa and the West. Africa's epistemic relation with other parts of the world requires a separate assessment.
3. The code between parentheses refers to a project document. Appendix I provides an overview of the project documentation with codes.
4. I have a European cultural and educational background. Before I went to Mozambique, I had not learnt about other than Western epistemologies. The findings of the current paper show that I took part in a project that was entrenched in Western development thinking and doing. It means that I perpetrated epistemic injustice on rural people in Mozambique in my position as post-doctoral researcher in the project. It was only after meeting intercultural philosopher Heinz Kimmerle in 2013 (after the project), that I started to learn about African philosophies and became aware about epistemic injustice and my epistemic blindness. With the current paper, I tried to do more justice to African philosophies and epistemologies in agricultural development. No doubt, my epistemic blindness has not dissolved completely. There remains an inherent risk of maintaining a certain epistemic blindness towards African epistemologies in the presented analysis, given my Western educational and cultural background. The current paper should therefore be seen as a start and a wish to continue learning.
5. Eurocentrism is not the only imposed view on Mozambique at this moment. For example China, particularly in relation to infrastructure, has its own view of how to 'modernize' Mozambique, including agriculture.
6. Epistemic power refers to "relations of privilege and underprivileged afforded via different social positions, relevant resources and/or epistemological systems with respect to knowledge production. It is often bound up with social, political and economic power" (Dotson, 2014: 125).

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About the author

Birgit K. Boogaard has an interdisciplinary PhD in Rural Sociology and Animal Production Systems from Wageningen University and she has worked at various research institutes such as Wageningen Livestock Research and the International Livestock Research Institute (ILRI). Her research interests include African philosophy, agriculture, food systems, system transformation processes, international development, and epistemic justice. Currently, she works at the Knowledge Technology and Innovation Group at Wageningen University, where

she teaches courses on African philosophy as well as social justice, technology and development.

Email: birgit.boogaard@wur.nl

Appendix I

List of 27 open access project documents with codes:

- 4 Peer Reviewed publications (PR 1-4)
- 2 Conference Papers (CP 1-2)
- 1 Research Report (RP)
- 9 reports of Innovation Platform meetings (IP 1-9)
- 3 reports of National Steering Committee meetings (NSC 1-3)
- 5 research and Policy Briefs (PB 1-5)
- 1 Training Manual (TM)
- 1 End of project Report (ER)
- 1 Master Thesis (MT)

PR 1: Swaans, K., Boogaard, B.K., Bendapudi, R., Taye, H., Hendrickx, S., and Klerkx, L. (2014) "Operationalizing inclusive innovation: lessons from innovation platforms in livestock value chains in India and Mozambique" *Innovation and Development*, 4:2, 239-257. https://doi.org/10.1080/2157930X.2014.925246

PR 2: Hamza, K.H., Rich, K.M, Baker, D., and Hendrickx, S. (2014) "Commercializing Smallholder Value Chains for Goats in Mozambique: A System Dynamics Approach" *Proceedings in Food System Dynamics,* 117 – 134. https://doi.org/10.18461/pfsd.2014.1411

PR 3: Boogaard, B.K., Waithanji, E., Poole, J., Cadilhon, J. (2015) "Smallholder goat production and marketing: a gendered baseline study from Inhassoro District Mozambique", *NJAS - Wageningen Journal of Life Sciences* 74–75 (2015) 51–63. https://doi.org/10.1016/j.njas.2015.09.002

PR 4: Taye, H., Swaans, K., Boogaard, B.K., Bendapudi, R., Hendrickx, S. (2018) "Outcome Mapping as a Monitoring and Evaluation Tool for Livestock Value Chain Interventions: The Case of imGoats" *Journal of MultiDisciplinary Evaluation* 14: 31, 1-19. https://journals.sfu.ca/jmde/index.php/jmde_1/article/view/490

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IP 2: ILRI. 2011. Report of the Second Meeting of the imGoats Inhassoro Innovation Platform (IP), Mangungumete, Mozambique, 26 July 2011. Nairobi, Kenya: ILRI. https://hdl.handle.net/10568/5565

IP 3: ILRI. 2011. Report of the third meeting of the imGoats Inhassoro Innovation Platform (IP), 18 October 2011, Chimajane, Mozambique. Nairobi, Kenya: ILRI. https://hdl.handle.net/10568/10665

IP 4: ILRI. 2012. Report of the fourth meeting of the imGoats Inhassoro innovation platform, Manusse, Mozambique, 15 March 2012. Nairobi, Kenya: ILRI. https://hdl.handle.net/10568/16826

IP 5: ILRI. 2012. Report of the fifth meeting of the imGoats Inhassoro innovation platform, Vuca Interior, Mozambique, 10 May 2012. Nairobi, Kenya: ILRI. https://hdl.handle.net/10568/17277

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PB 5: Taye, H., Swaans, S. and Hendrickx, S. 2014. Using outcome mapping as a monitoring and management tool in a small ruminant value chain project. ILRI Research Brief 18. Nairobi, Kenya: ILRI. https://hdl.handle.net/10568/45946

TM: Costa Pereira, G., Boogaard, B., Cosijn, M., Hendrickx, S., Maheme, A. and Maute, F. 2013. Goat production and commercialization: Paravet manual. Nairobi, Kenya: ILRI and Maputo, Mozambique: CARE. https://hdl.handle.net/10568/35202

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CASE STUDY

Documenting UNICEF's response to COVID-19: applied tools and practices

Nima Fallah, Ivan Butina and Sailas Nyareza

Abstract

Learning from experience has been recognized as an essential source of organizational growth, particularly for the multilateral organizations working on development issues across the globe. Within these organizations, collective learning happens when their members: (a) understand the strategic value of documenting lessons, (b) share the lessons widely within and beyond the organization, and (c) invest in incorporating and using the lessons in future situations. Keeping these three principles in mind, this case study explores key practices and challenges from UNICEF's effort in documenting its response to COVID-19 and seeks to contribute to the global dialogue on organizational learning.

Keywords: COVID-19, Lessons learned, Evidence generation, Knowledge Exchange, Knowledge Management, United Nations, UNICEF

Introduction

Experiential knowledge and evidence-informed decision making are at the core of international development and humanitarian work. The United Nations Children's Emergency Fund (UNICEF) works in over 190 countries and territories and is responsible for providing humanitarian and developmental aid to children worldwide and advocate for their rights. To be a key player in the development sector, UNICEF is investing in putting knowledge to work to accelerate results for children. One of the main goals of UNICEF's new Knowledge Management Strategy (2021-2022) is to increase the learning from experience and uptake of knowledge and evidence in the organization's work. This includes investing in systematic documentation of what works and what does not in UNICEF programming worldwide.

Since the COVID-19 pandemic outbreak, a growing number of UNICEF offices have started documenting UNICEF's response to COVID-19. UNICEF Country Offices, starting with the China Country Office, have been documenting emerging lessons from their response to the

pandemic to share them with other country offices and retain them as a reference for the future. The work that offices are doing already on their own initiative is mostly self-developed documentation of UNICEF's operational experience in responding to the crisis, namely implicit, emergent, primarily qualitative knowledge, rather than independently verified evidence through research or evaluation. The emerging lessons captured by offices will be shared across the organization and synthesized for global learning, providing valuable insights. These emerging lessons complement or feed into more rigorous data collection, research, and evaluative efforts that are planned and underway and help foster country-to-country learning.

The UNICEF Knowledge Management (KM) team is working closely with the UNICEF's Secretariat for COVID-19 on this effort to coordinate and facilitate the documentation of the organization's response to the pandemic and extract the early lessons. The work being done during the COVID-19 response is directly connected and will feed into the implementation of UNICEF's Knowledge Management Strategy Priority No.3, which is about systematically documenting good practices and challenges in UNICEF programmes, including health, nutrition, social policy, education and others. The KM strategy includes nine priority actions: (1) embedding KM in the country programming, (2) internal KM hub (3) documenting experiences and retaining knowledge, (4) basic office-level km elements, (5) KM capacity building for staff, (6) Human resources for KM, (7) KM and UNICEF ICT, (8) external knowledge platform, and (9) knowledge sharing among partners. Likewise, the efforts to encourage the use of the knowledge products resulting from this documentation work are directly connected and will feed into the implementation of the Strategy's priority No.1, which is about integrating KM with country programmes. Improved KM on COVID-19 will help UNICEF improve its overall KM, which will help the organization be better prepared for future crises.

In addition to a dedicated community of practice, which has been set up on the Yammer platform to enable cross-sectoral learning and knowledge exchange, the KM team is facilitating the documentation effort through five approaches. This article will discuss the approaches, the applied tools, and practices and review the challenges and lessons to learn that could be applied in a similar context.

Background and review of literature

Learning from our experience is the most basic of human activities, and it is easy to learn from experience if the experiences are powerful enough (Milton, 2010). The purpose of capturing lessons learned, and good practices is to disseminate, and reuse knowledge derived from experience, either to encourage the repetition of necessary outcomes or to prevent the reappearance of failures. By preventing recurrence of failures, organizations can make

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significant savings in their future investments against the traditional measures of time, cost, and quality (Greer, 2008; Janus, 2017; McClory, Read, and Labib, 2017), and therefore, investing and strengthening organization's knowledge retention and reuse capacities could significantly impact the efficiency in the long-term.

Reviewing the literature shows that various terms are used to define lessons learned, including debriefing, post-project reviews, post-project appraisals, project post-mortem, reuse planning, reflections, corporate feedback cycle, experience factory, knowledge across projects, cross-project learning, etc. (Disterer, 2002; Magoula and Benevento, 2013). Summarizing different definitions of lessons learned in the literature, Andrade et al. (2007) have highlighted the three essential requirements as (1) significance, meaning that they can be helpful in other cases as well, (2) validity, meaning that they can give reasonable and precise associations between problems and solutions, and (3) applicability, intending at bringing results to raise the total quality of knowledge transfer.

Duffield and Whitty (2015) highlighted two key factors of people and systems for lessons to be applied. Their literature review emphasized that lessons were often identified and captured, with much of the knowledge transferred successfully; however, the application element was the issue. They recommended six success factors to tackle the application challenge: learning, culture, social activities, technology, process, and infrastructure (Duffield and Whitty, 2015; McClory, Read, and Labib, 2017). Organizations learn, like individuals (Janus, 2017). However, learning in an organization is far more complex than it is for an individual (Milton, 2010). Kotnour (2000) states that organization's knowledge competencies will increase by capturing, adapting, disseminating, and applying knowledge within the organization. It is recognized in the literature that both individual and organizations tend to learn more from failures than from success (Labib and Read 2013; McClory, Read, and Labib, 2017) and that failures contain valuable evidence. However, organizations vary in their ability to learn from them (Desai, 2008; McClory, Read, and Labib, 2017). The organizational capacity to learn is vital for international public institutions (Janus, 2017).

UNICEF has a long history of working in emergencies and humanitarian contexts, both natural and human-made. On average, UNICEF responds to more than two hundred emergencies every year. From internal conflicts in Burundi (1993), Rwanda (1994), East Timor (1999), to the devastating earthquake of the Iranian city of Bam in 2003, and Tsunami in 2004, to the several global epidemics, HIV/AIDS (from the 1980s), Cholera outbreaks, Ebola (2014), and finally, COVID-19, UNICEF's expertise in the field together with its partnership with the governments and other stakeholders allowed to support strategic interventions quickly, where they are most needed. UNICEF also has extensive experience in documenting its expertise in the field (e.g., Shusterman, 2019; Fallah and Addai, 2017; Rossel-Cambier, Olsen and Pourzand, 2007). Each emergency response comes with its own lessons – hard lessons and challenges, as well as good practices. Much of the UNICEF's

lessons in the humanitarian responses led to a more timely, effective, and better-coordinated response in the other emergency occurrences.

UNICEF's lessons learned typically emerge from various sources: documentation of lessons and good practices after or during the course of events, evaluation reports, donor reports, annual reports, video capturing and stories from the field, knowledge sharing sessions, webinars, and other online formats, and many more. To date, UNICEF offices have captured more than 500 promising lessons and good practices on COVID-19 response (including evaluations, research and policy briefs, reports, and joint publications with other agencies). These lessons and promising practices come in the forms of blogs/articles, learning briefs, case studies, mapping, programme guidance, technical strategy notes, evaluations, research and policy briefs, publications with partners (UNICEF, UNESCO, and the World Bank, 2020), reports, factsheets, videos, etc. China was the first country to face the COVID-19 pandemic and as a result, the UNICEF Country Office was one of the first offices which started documenting its experience. The education team had captured a case study on 'Supporting the school reopening for 230 million children' (UNICEF, 2020). The next section describes the implementation of the UNICEF's COVID-19 response documentation framework.

UNICEF's approach: documentation framework and stories from the field

The COVID-19 documentation group is coordinating around five streams of work (see Figure 1), known as the five-step approach. The principles behind these streams and their activities are described below.

Documentation approaches and methodological quality

Knowledge sharing and peer support

Easy access to emerging lessons and related knowledge products

Use of early lessons and related knowledge products

Identifying connections with other relevant initiatives within the Secretariat and beyond relating to COVID-19

Figure 1: Work streams of the COVID-19 documentation group (Source: Authors)

Documentation approaches and methodological quality

Having a common understanding and definition of 'what does lessons learned mean' is the building block of documentation. UNICEF defines lessons learned as 'detailed reflections on a particular project, initiative, or major work activity, and identification of learning points based on experiences and results achieved during implementation' (UNICEF, 2015, page 76). These lessons may be positive (successes) or negative (failures). In addition to the lessons learned, offices (e.g. West and Central Africa Regional Office, and Europe and Central Asia Regional Office) are capturing other types of practices, including emerging, promising, and good practices (for example, compendium of good practices: COVID-19 response by UNICEF West and Central Africa Regional Office, June 2021). The figure below shows how the quality of evidence and its impact evolve based on the types of the identified practice.
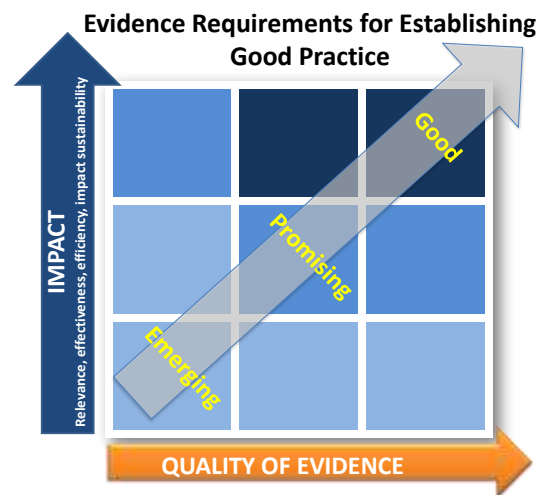
Figure 2: Quality of evidence and its impact evolve based on the types of the identified practice (Source: Bell and Miller, 2017)

The following steps have been taken by the team in terms of supporting the documentation work in its initial stages:

- Agree on common minimum definitions and standards for documenting emerging lessons including content standards and quality assurance processes.
- Pull together existing tools, guidance, and templates for the development of emerging lessons learned and practices.
- Encourage the adoption of the agreed-on definitions and methodological approaches.
- Provide feedback on the work being done by offices doing the documentation work.

Knowledge sharing and peer support

Given that several UNICEF's offices had already started doing documentation work and because of the organization's highly decentralized culture, the group decided that one way it would add value is to facilitate knowledge sharing and peer support among practitioners by:

- Encouraging the sharing of the work being done by offices and peer-to-peer feedback.
- Encouraging group members to share challenges and questions related to the work they are doing and ensure that they are addressed.
- Organizing peer assists or other online peer support sessions to address challenges faced by group members.
- Organizing sessions on knowledge sharing approaches if group members need support with their adoption.

This area of work was started even before the formal establishment of the group, by connecting a dozen practitioners already doing or starting to do documentation work. This connection happened through a Yammer community established in July 2020 following-up to a webinar in which colleagues from the China CO and the East Asia and Pacific Regional Office shared with UNICEF's KM community their approach to documenting their response to COVID-19 and making the resulting knowledge products accessible. Since July 2020, the membership of the Yammer community has passed 100 practitioners from field offices all the way to the HQ and covering all the regions in the world. The online community in Yammer has been used as a space for members to share updates on their work and ask questions. While members have been posting freely in the community space, a monthly Working Out Loud (WOL) thread has been used to collect updated. The community manager would occasionally open a new thread around an update or question shared in the WOL thread.

The updates and questions received in Yammer have informed the organization of live knowledge exchange and peer learning sessions. The group has used two different approaches in doing this: virtual peer assist around a question or challenge shared by a member; and knowledge café sessions to share approaches from different offices around a shared goal while also providing the space for small group discussion expanding the number of actively participating practitioners. The online sessions have been very successful in eliciting participation and contributions from practitioners who joined the group. The experience with knowledge sharing and peers support in Yammer has been mixed, with only a few popular threads. What the popular threads have in common is a proactive effort by the community manager to elicit contributions by personally reaching out to members.

Easy access to emerging lessons and related knowledge products

As UNICEF offices, both in HQ and the field generated a lot of lessons learned and related knowledge products such as case studies on the organization's response to COVID-19 there was need to design and implement a repository of these products to allow easy access and

feed into meta-analysis for organizational learning and feedback into programming. This work started with the general mapping of documented experiences that are scattered on various internal sites across the organization.

The team reviewed other lessons learned and good practices databases that have been developed within UNICEF and reached out to the teams to learn more about the design, technology modules used, maintenance and the processes for updating the emerging lessons. The repository will be part of the COVID-19 Secretariat intranet portal developed in SharePoint and will require some custom work. Users will be able to filter the knowledge products by the type of product, area of work, content language, country, date of publication or update and the office that generated the product. Also, users have the option to submit new lessons learned or case studies for inclusion in the repository or updating existing content.

Use of early lessons and related knowledge products
Like other offices at HQ level, UNICEF's Child Protection Section also set out to compile and synthetize lessons from the organization's response to the pandemic. They decided to do so through a series of learning briefs (see, for example, UNICEF Child Protection learning briefs, 2020), each one tackling a specific topic under child protection. However, additionally, to the compiling, synthetizing, and dissemination activities they asked a key question: 'How will we know that these briefs are being used?' This led to the creation of an area of work dedicated to creating a framework to assessing the use of knowledge products resulting from documentation work.

After a desk review on assessing the use of knowledge, the team is creating a framework to facilitate and assess use of knowledge, building mainly on The Knowledge Uptake and Utilization Tool (KUUT) by Skinner (2007) and the work previously done by one of the team members on developing an impact framework for communities of practice at the World Bank Group. The framework has three levels of assessment: engagement, reference, and practice. While engagement suggest several metrics that can be collected online to assess views, downloads, shares, and alike, the novelty to assess use of knowledge in UNICEF is in the reference and practice areas. In particular, the framework suggests the use of a software used for research purposes to identify references to the knowledge product in the organization's planning, policy, and advocacy, as well as other knowledge documents. The practice is assessed by surveying and interviewing practitioners from the target group to gage whether they are aware of the brief, have access it, applied its content in their work, or shared it with other practitioners. Given that several UNICEF offices have expressed interest in doing work on assessing use of knowledge, particularly knowledge products, in addition to sharing the child protection work with the COVID-19 documentation group, a dedicated group of KM practitioners has been formed to build on it and create a framework to be used by the whole organization. The same shared interest has been identified also among other organizations

within the larger UN family, leading to the creation of an informal inter-agency group on assessing the use of knowledge.

Identify connections with relevant initiatives within the COVID-19 Secretariat
The curation of a list of all the documentation work being done by UNICEF offices and sharing of regular updates with the Secretariat and sectoral COVID-19 focal points at HQ level allowed offices to know what is happening in various parts of the organization. Colleagues have been able to reach out to offices experiencing similar challenges or offices that are also documenting lessons on a similar COVID-19 related topic. These connections also helped to ensure that relevant offices and technical sections are connected to provide inputs and feedback on the thematic content of the work being done. Key part of this work is to connect colleagues working on documenting early lessons to those working on other initiatives under the Secretariat's umbrella. The emerging lessons being documented were used as inputs in many other processes in the COVID-19 Secretariat, for example, the lessons were used to prepare a UNICEF executive board paper on COVID-19 response, Humanitarian Action for Children 2021 and feeding into updating of the COVID-19 Programme Approach and Prioritization internal guidance.

The COVID-19 Secretariat and other team have been able to identify opportunities for further analysis or synthesis of emerging experiences by theme or regionally, for use in programming and advocacy. The risk communication and community engagement (RCCE) team for example has put together a compendium including analysis of the lessons learned on the role RCCE plays in breaking the chains of transmission and mitigating the impact of the COVID-19 pandemic.

Success factors, challenges, and organizational lessons learned

When it comes to capturing lessons learned, a good lesson should tell a story of change: it has a problem, actions taken to solve the issue, and a change that came about as a result (three keywords of issue-action-impact). The story is better, and the lesson is more valuable when it is not too obvious or generic. Many of the best lessons are on human 'implementation issues.' You should be able to state the lesson(s) learned in a few sentences and provide verifiable results that are evidence of the lesson(s). While identifying the lessons might look easy, both availability of time and expertise in capturing the lessons are challenging, and indeed their reuse appears limited. Implementing a new approach comes with its own challenges and learnings and UNICEF's experience is summarized in Table 1.

Fallah, N., Butina I. and Nyareza, S. Case Study. 2021.
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Table 1: Success factors and challenges in implementing the UNICEF's approach

Success factors	Challenges
- Establishment of a dedicated community of practice with more than 100 members from +50 offices - Dedicated community manager with additional budget for small knowledge exchange projects - Senior management support (to the COVID-19 documentation secretariat) - Cross-sectoral collaboration within the offices and beyond - Better use of digital platforms and online tools to collect lessons (some of the tools from UNICEF Knowledge Exchange Toolbox). e.g. KM team used the Yammer for "Working Out Loud" online discussions/practices. Other teams are also using digital platforms such as U-Report1, RapidPro2, Internet of Good Things (IoGT)3, Magic Box4 etc. to collect lessons. - Establishment of online/offline knowledge sharing/exchange routines	- Documentation can be costly and time-consuming. e.g. budget requirement for recruiting external consultants. - Limited documentation of failures – more focus on presenting the good practices rather than sharing challenges - UNICEF is a very decentralized organization: many initiatives are happening independently and are disconnected. Identification of the lessons remains a challenge. - Geographic vs. sectoral dimensions at all levels: there are office-wide initiatives (e.g. the Regional Offices, or the Country Offices) as well as sectoral level ones (e.g. health in a Regional Office, health in a Country Office) and sometimes they are not necessarily well-coordinated - Difficulty in identifying the use-cases and duplication of good practices, and as a result, the incorporation of COVID-19 lessons learned in future projects might be limited - A balance between too much technical explanation vs. consideration of public audience

Conclusions

To realize UNICEF's vision as an organization that puts knowledge to work to achieve results for children and fulfill their rights, embedding learning from experience and reuse of knowledge and evidence is a critical success factor. On the above 5-step approach, our role is to establish an enabling environment and facilitate progress by providing high-quality tools and techniques. Approaches that enable systematic documentation of practices and knowledge transfer will improve the learning among staff and offices, thus helping UNICEF better address humanitarian crises such as COVID-19 and accelerate strategic results for children. In the long-term, the sustainability of the process relies on widely institutionalized

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[1] https://www.unicef.org/innovation/U-Report
[2] https://www.unicef.org/innovation/rapidpro
[3] https://www.unicef.org/innovation/IoGT
[4] https://www.unicef.org/innovation/Magicbox

and embedded documentation and evidence generation routines. This requires leadership support, dedicated resources, and a strong culture of collaboration. To conclude, citing a pertinent quote by Millar (2019: 11): 'I see a crisis before us. An evidence crisis. I want to convince you that evidence – which is different from data, information, or facts – is critical to accountability, identity, and memory, and ultimately to democracy. If we are going to survive these perilous times for the world – and they are perilous – we need evidence.'

Acknowledgments

About the authors

Nima Fallah is currently a programme specialist (Data, Knowledge Management, and Learning) with the UNICEF HQ. Prior to joining the HQ, he used to work for the UNICEF Eastern and Southern Africa Regional Office (ESARO) based in Kenya, where he led the regional KM initiatives for 21 UNICEF offices. In addition to in-depth familiarity with UNICEF's operations and initiatives, he had contributed in several projects at the World Bank Group and various United Nations agencies (UNDP, UNECA, UNV, and ITU) in different countries. Nima holds a PhD in Economics from University of Strasbourg. His research interest includes economics of innovation, data for children, knowledge economy, and organizational learning.
Email: nfallah@unicef.org

Ivan Butina is a knowledge management specialist with the UNCEF HQ, from where he coordinates KM at global level across the organization. He has been leading a cross-organizational team that released UNICEF's first-ever global KM strategy and is now implementing it. Prior to UNICEF, he worked at the World Bank Group, where he led the work on communities of practice. Ivan has a Master of Arts in International Relations from Johns Hopkins University's School of Advanced International Studies (SAIS). Besides KM and communities, he is passionate about leadership.
Email: ibutina@unicef.org

Sailas Nyareza leads knowledge management in the Programme Division at UNICEF HQ and is also the KM Coordinator for the COVID-19 Secretariat and the ACT-A/COVAX Coordination Office at UNICEF. Prior to joining UNICEF, Sailas was Senior Knowledge Management Officer at the World Bank Group and has previously led knowledge management programs for several international organizations including, UNOPS and the American International Health Alliance. He holds a master's degree in Development

Communication from the School of Information Science at the University of Pretoria.
Email: snyareza@unicef.org

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CASE STUDY

Knowledge and data management during project execution and as an organisation prepares for closure: learning from the Technical Centre for Agricultural and Rural Development

Mejury Shiri, Imelda Mechtilde Aniambossou, Aichetou Ba and Josina Mariëtta Leguit

Knowledge and data management have gained recognition as critical factors for organisational and project success. In development organisations, knowledge management (KM) has been in place from the early 1980s, while its importance in project management emerged in the early 2000s and has become increasingly relevant for decision-makers in the development milieu. Knowledge is the foundation for equitable and sustainable development. Owing to the need for reliable data and major developments in data management – such as access to IT platforms to put data in context, access to data storage and analysis capabilities at low cost - more and more development organisations have realized the importance of incorporating data management into organisational and project management programmes. At the same time, well established development organisations are faced with an urgent need to adjust their knowledge and data management approaches due to improvements in technology, availability of data and data analysis tools. Additionally, some development organisations are facing institutional changes that will either see them changing their management approaches, or even close their doors. This was the case of the Technical Centre for Agricultural and Rural Cooperation (CTA), which came to the end of its mandate on 31 December 2020, requiring an orderly closure. CTA started as a knowledge broker to drive wider investments, and to promote innovation exchange on technologies, digital solutions, business models and relationships that have been critical to the sustainable transformation of agriculture and the improvement of food and nutrition security in African, Caribbean and Pacific (ACP) countries. After 37 years in operation, CTA's mandate came to an end on 31 December 2020, when the Cotonou Agreement between the European Union and the ACP countries, the legal and financial framework within which CTA functioned, was scheduled to end. These decades of investments have yielded knowledge and data that are extremely useful to the development sector. Though the Centre adjusted its approach from being a sole knowledge broker to driving greater sustainable

agricultural development, the agenda of knowledge and data management remained key throughout its lifetime. This article aims to discuss CTA's knowledge and data management approaches during project execution and its orderly closure phase. It is hoped that this will serve as an example to other development organisations.

Key words: Technical Centre for Agricultural and Rural Cooperation (CTA); knowledge management; data management; experience capitalization; knowledge broker; organisational closure; development organisation

Introduction

Knowledge management (KM) is "*the conscious process of defining, structuring, retaining and sharing the knowledge of employees within the organisation* (Valamis, 2021). It is basically carried out to improve the efficiency of an organisation and save knowledge within an organisation. Data management is in summation the acquisition, organising, processing, storing, and maintaining of data (Stedman & Vaughan, n.d.). The knowledge derived from data is a crucial component in making better informed organisational decisions, improving marketing, enhancing business operations and reducing costs, with the goal of increasing efficiency.

Effectively managed knowledge and data can be clear pointers to factors that contribute the most to an organisation's impact and highlight bottlenecks. In that sense, the Technical Centre for Agricultural and Rural Cooperation (CTA) was able to improve its internal KM and its M&E system, which in turn allowed it to better manage its projects, its results and organize its own closure. Further, in line with the continuous improvement of its KM system, CTA put an emphasis on innovation, and was an early and effective adopter of new digital tools and innovative approaches. Examples include Microsoft's SharePoint and its business intelligence software, Power BI. It also championed the use of the experience capitalisation approach globally to promote the capture, documentation and sharing of knowledge and lessons from experience in its own projects and initiatives, and those of partners.

CTA started as a knowledge broker for African, Caribbean and Pacific (ACP) countries. However, it rapidly began driving wider investments, and promoting innovation exchange on technologies, digital solutions, business models and relationships that have been critical to the sustainable transformation of agriculture, and to the improvement of food and nutrition security in (ACP) countries. After 37 years in operation, CTA's mandate came to an end on 31 December 2020, when the Cotonou Agreement between the European Union and the ACP countries, the legal and financial framework within which CTA functioned, was scheduled to end.

These decades of investments have yielded knowledge and data that are extremely useful to the development sector. Though the Centre had adjusted its approach from being largely a knowledge broker to driving broader sustainable agricultural development, the agenda of knowledge and data management remained key to the Centre's work throughout its lifetime.During the closure, the Centre successfully managed its knowledge and data by either transferring its intellectual property rights (IPRs) to strategic partners, or by liquidating data without losing useful information, and at the same time without breaching GDPR laws.

The main objective of this paper is to discuss CTA's knowledge and data management approaches during project execution and, as the organisation prepared for an orderly closure, the completion phase. The paper is organised into three main sections:

- CTA's diversified KM approach
- CTA digital platform for data management
- How CTA adapted its KM activities in preparation for an orderly closure

CTA's diversified approach to knowledge management for successful project execution

For some time, CTA had the mission to design high-impact, short- to medium-term projects aiming at developing the agriculture sector in ACP countries. As was regularly shown on the CTA website, these projects, thanks to their implementation design, impacted the lives of millions of farmers by reinforcing their capacities through various means including technical knowledge and technology transfers (CTA, n.d., a). The Centre's approach was based on the belief that the life support system of a thriving project was deeply rooted in how people integrated the best knowledge and turned it into competencies over time, leading to better results. The application of knowledge, skills, tools and techniques to project activities brought about positive results in the different initiatives running in the ACP region.

Different schools of thought independently agree that the planning, delegating, monitoring and control of all the aspects of the project, or rather the motivation of those involved, is a reflection of the successful execution of knowledge and data management initiatives in a project. Incorporation of a knowledge-based management criterion clarifies how the organisation generates, exploits, maintains and transfers critical knowledge in the project's activities. CTA's actions were guided by the idea that successful projects need the acquisition of external and internal knowledge and a "lifelong learning..." approach, giving the project flexibility to react to changes that occur in the development environment (Ranf & Herman, 2018).

In this context, CTA developed a methodology to implement an institutional Knowledge Management Strategy using the KM Tree approach (CTA, n.d., b). The tree analogy has helped to illustrate the framework. The approach has been applied successfully by project coordinators to conceptualise and implement KM in their projects. Other stakeholders in ACP

regions have applied it in their institutions and networks, and it has been used to promote Information, Communication and Knowledge Management (ICKM).

Additionally, CTA adopted the experience capitalization approach[1] for its projects to acquire knowledge and to learn from the experiences (CTA, n.d., c). CTA defined experience capitalization as the process by which a specific project or programme (or "an experience" in general) is described and analysed in detail, and from which lessons are drawn, shared and used to improve development interventions. CTA used the experience capitalization approach to capture hidden knowledge, to document successes, challenges, and lessons that may otherwise be lost or unused. Experience capitalization was furthermore used in CTA to co-create knowledge with project implementing partners and beneficiaries, and also to document and share knowledge among key stakeholders. CTA contributed to the development of an online learning module, joining an initiative led by FAO, and completed a training of trainers' guide (Eggens & Chavez-Tafur, 2020) and a knowledge sharing platform http://experience-capitalization.cta.int/. This approach created insights that have been appreciated by stakeholders across the agricultural development sector. One such stakeholder was the African Forum for Agricultural Advisory Services (AFAAS) that had expressed interest to learn from CTA's experience capitalization skills. Before the closure of CTA, AFAAS' staff members were trained and equipped to use the experience capitalization approach to strengthen the capacity of regional and sub-regional institutions.

Successful integration of knowledge and data leads to successful projects (Levin, 2010). Properly managed knowledge and data can offer a reference to help solve problems encountered during operations. Most importantly, reusing knowledge in project execution helps to avoid repeating mistakes made in the past. The real benefit is realised when an organisation intentionally implements and integrates its process or projects with the existing KM criteria and uniting the new system and their traditional ways of working towards harvesting most of the applied efforts. Organisational knowledge and data that have been effectively managed over the life of a project preserve valuable intellectual capital.

Inspired by the above, CTA's Monitoring and Evaluation (LME) Unit adapted its monitoring, evaluation and impact assessment activities in 2017 to capture project results data and measure the contribution of CTA's investment portfolio of more than 70 projects to the targets. The results data captured at project level were consolidated to measure the level of achievement of the output, outcome and impact targets in CTA's 2016-2020 corporate logical framework. The M&E framework adopted followed a systemic approach with four inter-related components, respectively M&E planning, data capturing, data management, and reporting results. The framework linked these four components together systemically to create CTA's results data management system, as shown in Figure 1 below.

CTA's experience capitalization approach cut across the Centre's projects and also facilitated experience sharing among the different programmes. Data captured or validated on two

projects through Experience Capitalization sessions held in Brussels (9–12 September 2019) and Cotonou (1–5 October 2019) was used to update the levels of achievement for the relevant outcome indicators in CTA's Results Data Management System (RDMS). This experience showed that experience capitalization can serve as an effective tool both for capturing new results data (as was the case for the Brussels meeting) and for validating data obtained through surveys (as demonstrated in the Cotonou meeting).
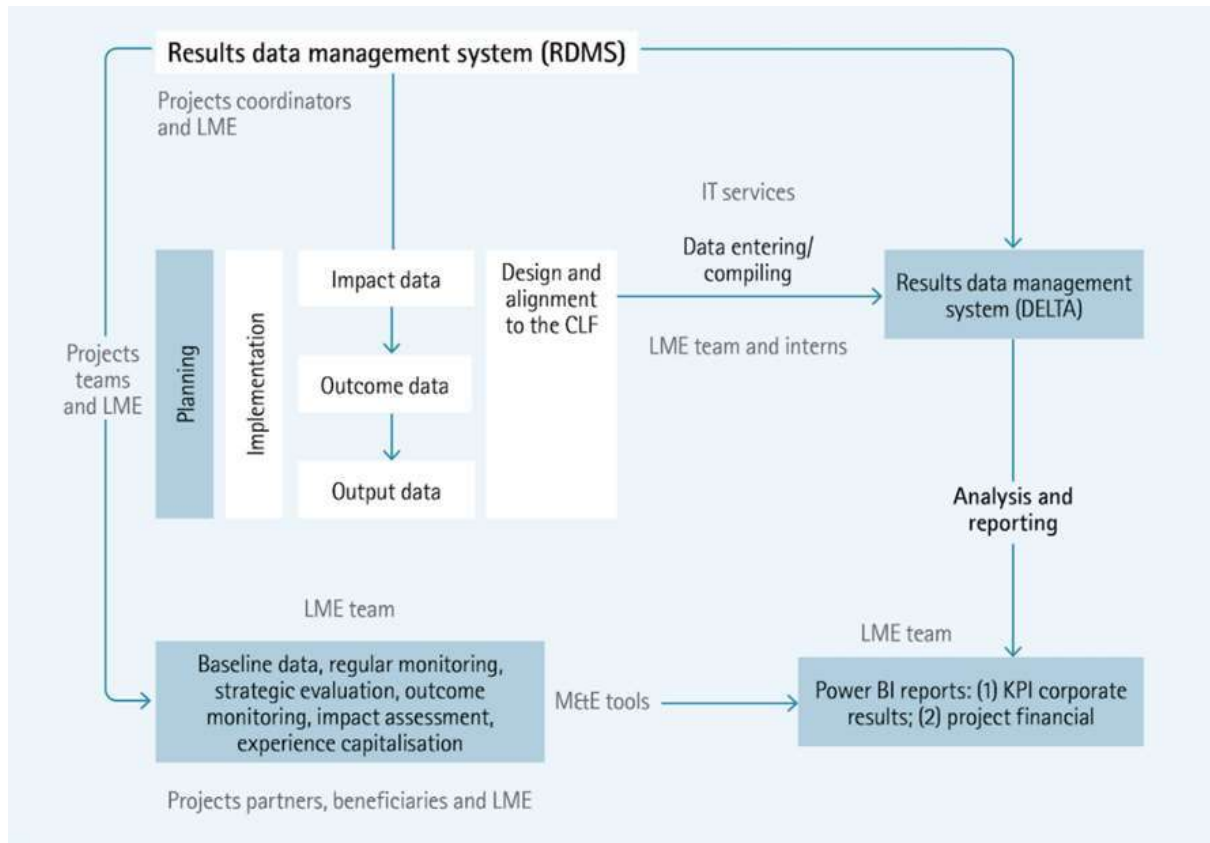
Figure 1: CTA's results data management system (Source: Khadar, 2020).

A digital platform for data management at CTA

Microsoft SharePoint is widely used by organisations and can be described as a web-based application platform for content management, knowledge sharing and supporting collaborative work. CTA used SharePoint to store all working files and knowledge materials, in various formats. Diverse entry points and access rights to the platform and its contents were granted and managed by the IT team, meaning that the level of access for a staff member differed depending on the need. This ensured data safety and better handling of sensitive information. Access to the platform allowed staff and implementing partners in different countries to monitor what others in the team were working on by glancing through the repository as one would do in a library to look for specific information. For partners in

different countries, the platform facilitated the sharing of files and gave a good alternative to share heavy files that could not be shared by email.

One of the most important functionalities of the platform was that colleagues could work simultaneously on the same document and, therefore, work more efficiently. This facilitated collaborative work without colleagues having to be physically together. In the last year of CTA's existence, the COVID-19 pandemic influenced the way CTA staff and project partners worked. CTA's work continued efficiently during the COVID-19 pandemic, when working remotely became the norm, partly because of the effective use by the staff of KM tools like SharePoint and Microsoft Teams. Adapting to the changes in work structure due to the COVID-19 was facilitated by the fact that these tools were regularly used by the staff prior to the pandemic. Microsoft Teams proved to be very useful as it regroups different functionalities such as document sharing, simultaneous work on a document, calendar functions, virtual meetings and others in a single space therefore explaining CTA's staff's keenness to use the tool. The different tools ensured productivity through real-time access to information and were used for virtual meetings, remote trainings, collaborative work, and knowledge sharing in an efficient manner.

From a monitoring and evaluation perspective, a RDMS supports the base layer in SharePoint and allows structured classification of M&E data. Based on need, internal colleagues and external partners had access to specific components of the system. Then came applications supported by the platform – Microsoft Power BI and Microsoft Teams. Power BI is a powerful tool that was used for the purpose of monitoring and evaluation and results dissemination across the Centre. Visualization of results against key performance indicators (KPIs) was possible and accessible to staff – even when working from home. SharePoint made it easier to share results data with colleagues located anywhere in the world.

The RDMS also relied on project data that was stored in a centralised digital system, Delta, which categorised data by output, outcome and impact level. The centralization of all project data in Delta made sure that all staff members have access to the same data hence avoiding potential misreporting of project or institutional impact at any stage.

Knowledge and data management as CTA prepared for an orderly closure

The closure of an organization does not necessarily mean the end of an idea, or that its mission and work are no longer relevant or important. The desire for continuity underlines the importance of proper knowledge and data management as an organization prepares for closure. For four decades , the Technical Centre for Agricultural and Rural Cooperation (CTA) had effectively demonstrated how agricultural innovation can be documented, shared and scaled up to achieve significant impact. Following the official announcement that CTA's mandate would end on 31 December 2020, multiple requests were received from key development organisations across the globe, expressing interest in continuing the Centre's

initiatives and projects. The efficiency of CTA's data and knowledge management system allowed it to share solid sustainability plans to facilitate the adoption of intellectual legacy assets and project activities by partners without legal jeopardy or breach of data rules (GDPR). It also allowed for documentation of Project Completion Reports and publication of these on the centre's static website (https://www.cta.int/en).

In preparation for closure CTA staff realised that even though the centre was closing generated knowledge and data could help other organizations learn and upscale their operations. In that process it became apparent that properly managed data offers opportunities of easy access, sharing and updating of business knowledge so that learning from a closing organisation can become more productive and cost efficient. Properly processed and stored data gave the Centre's management confidence to widely publicise their intellectual legacy as most of CTA's impact could be quantified for example project data was stored in a central digital platform Delta which presented data by output, outcome and impact level.

As the different teams soon found out, closing an organisation comes with its own limitations, from technical closure to administrative closure. Properly managed knowledge and data helps a closing organisation to easily face limitations during the process this also helps in accountability and breaking new frontiers, if need be, for example well managed knowledge can be used if a new institution is to be created. It is worth noting also that proper KM systems allow organisations to better track and present the result of their work and legacy. It can be suggested that CTA's robust KM systems helped present her legacy to partners for continuity. CTA management made an effort to ensure that knowledge products were handed over to organisations which would in turn support their continuous operation, ensuring a wider impact. This meant that CTA's rich legacy of knowledge would remain available. Even though the institution has come to the end of its mandate, in addition to handing over some intellectual assets, CTA kept its knowledge products available on its static website (www.cta.int), and for an even wider reach some knowledge products were transferred on the CGSpace site, while CABI has been accorded the guardianship of the intellectual property rights for all of CTA's publications.

It is the responsibility of any organisation to invest in keeping its staff updated, well equipped and competitive in order to achieve and sustain an excellent knowledge and data management system, for example through training in configuration, use of tools and automation. CTA has been a leader in staff training in KM, which proved valuable during the Centre's closure. It was a priority for the organisation's LME unit to keep up with KM innovations. For example, the Centre invested in staff training in the use of business intelligence software, such as Microsoft's Power BI, which later enabled staff to manage administrative activities efficiently during the closure. Staff were able to use this software to create visualization dashboards to track the number of contracts that still needed to be closed.

Insights, recommendations and conclusions

KM was always central to CTA's strategy. From its early days, the Centre fostered data capture and interpretation, and shared information using innovative tools to empower farmers. Back in the 1980s, the Centre was one of the first institutions to create CD-ROMs with training materials for farmers on different agriculture best practices. It also promoted use of radio broadcasts to share best practice. To collect reliable data, CTA worked with partners in ACP countries. This strategy was carried forward and used for project management with adapted solutions drawn from data collected from beneficiaries during impact studies and capitalization exercises.

In addition, to allow for efficient internal KM in the context of project management, each project was attributed a logical framework with performance indicators linked to the CTA's corporate logical framework. The data, as well as projects' contracts, were collected in a system accessible by all staff members and shared with implementing partners for transparency, and to enable better decision making for project success. This information was then shared in Power BI through the creation of visualization reports. The introduction of innovative tools and platforms was accompanied by training sessions for the staff so that each could contribute to knowledge generation and retention. CTA's KM in the context of project management also allowed: i) better teamwork as the centralization of information allowed all team members to access the information; ii) better decision-making and capabilities to face unforeseen blockages in project implementation; iii) better identification of needs for optimal project execution.

The early setup of an efficient KM system allowed CTA to properly organize its closure and project handover while foreseeing issues linked to data privacy. Also, the clear allocation of tasks between the different staff members allowed for more efficiency in meeting deadlines of all closure requirements. This phase was made particularly challenging for CTA with the outbreak of the COVID-19 pandemic. However, with the collaboration of partners on the ground and the already well-established use of Microsoft SharePoint and Microsoft Teams, communication was still possible, and final impact data was collected and used to define sustainability measures to capitalize on CTA's projects.

The achievements in inspiring innovation, nurturing networks, promoting policies and driving digitalisation are notable and many of CTA's partners have recognized the efficiency of its KM system (CTA, 2020). However, there was room for improvement. Following are our observations and recommendations based on the CTA experience:

Data inputting
At the level of project management, the project teams had the responsibility to feed the data into the system with the support of the LME team. The task, however, sometimes led to discordance in the data, requiring an investigation to correct the mismatches and therefore delaying the processing of the data. Also, considering that the data had to be inputted in the

results data management system, some staff had difficulties using the system despite the training received or were reluctant to adopt new systems. Here, our recommendation would be to encourage and enforce accountability of those in charge of data inputting through periodic meetings between programme implementing staff and M&E staff consisting of reviewing and pointing out inaccuracies to those in charge. Further, to ensure that all master the systems, mandatory exercises should be carried out and controlled by M&E staff to identify those who need additional training.

Systematic updates

Although the information was available, it was sometimes outdated in the system and since outdated information limits proper decision-making, we recommend that systematic updates be carried out and that this is monitored by a designated staff on a weekly basis.

Action on system errors

Shared leadership often limits corrective actions by requiring the consent of those in charge. We recommend that clearance be given to data specialists within organisations to correct possible errors without requiring consent, and by preparing a weekly report indicating the corrective measures carried out during that week.

Prepare staff

In the specific case of a closure, the (gradual) reduction in staff might require the remaining staff members to take on tasks that are not part of their initial duties. To better prepare staff for this situation, we recommend that the organisation encourage staff rotation in order to get accustomed to the different responsibilities within the organisation at an early stage. Transparency and knowledge sharing allow for a more efficient handling of a closure.

About the Authors

Mejury Shiri is a consultant at the Alliance for a Green Revolution in Africa (AGRA) supporting AGRA's women empowerment program #VALUE4HER. Mejury has also provided consultant services to the International Fund for Agricultural Fund (IFAD), where she supported the Lesotho, Namibia and Botswana country teams in consolidating successes and lessons learnt, and documenting IFAD's strategic thrust in the three countries. Prior to that Mejury served as an agribusiness and value chain Junior Expert at the Technical Centre for Agricultural and Rural Cooperation ACP-EU (CTA). Email: mejuryhungwe@gmail.com

Imelda M. Aniambossou is a consultant at the African Development Bank (AfDB). She is currently working on the evaluation of the Bank's assistance to Djibouti and Mauritania (2011-2020). Before joining the Bank, Imelda worked as a consultant in Monitoring and Evaluation of agricultural development projects at the Technical Centre for Agricultural and Rural Cooperation (CTA) in Wageningen, the Netherlands. She contributed to the establishment and monitoring of the Centre's data management and analysis system. She was

in charge of data analysis and ensuring the visualization of project performance results at the corporate level. Email: mechtilde.ime@gmail.com

Aichetou Ba has a background in Agricultural Economics. She is currently working as a young professional in the Agriculture and Commodities Division of the World Trade Organization (WTO). Prior to that she was working as a consultant for the Technical Centre for Agricultural and Rural Cooperation where she was involved in Project Management and Learning Monitoring and Evaluation (LME) of projects. Her past experiences also involve work with the private sector and other international organizations.
Email: aichetouba6@gmail.com

Josina M. Leguit is an international development professional with a background in communication. In her previous role as Administrative and Research Assistant in the Director's Office of the Technical Centre for Agricultural and Rural Cooperation ACP-EU (CTA), she worked closely with the Directors by supporting them in accomplishing CTA's mission. Prior to joining CTA she worked at Elsevier's corporate responsibility programme and at the Media Council of Tanzania. She holds a Master's degree in International development of the Wageningen University (the Netherlands) and a Bachelor degree in Communication science. Email: jmleguit@gmail.com

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[1] The experience capitalization followed a 'learning-by-doing', hands-on approach, and the activities that make up the project help participants develop the necessary skills to start and complete a capitalization process (CTA, n.d., c). It was expected that participants will then follow it within their development projects, institutions and thematic networks, and draw lessons that will help them improve the work they do. The project was also supporting an international community of practice on the approach.

CASE STUDY

Lessons from working with the Technical Centre for Agricultural and Rural Cooperation: the case of the Ghana-Question and Answer Service

Joel Sam

In Ghana from 2000 to 2011, the Council for Scientific and Industrial Research-Institute for Scientific and Technological Information (CSIR-INSTI) with technical and financial support from the ACP-EU Technical Centre for Agricultural and Rural Cooperation (CTA), implemented the Question and Answer Service (QAS) to contribute towards the country's developmental goal of achieving national food security and sustainable livelihoods. The overall objective of the QAS was to contribute towards improved agricultural productivity, food security and rural livelihoods through effective management and dissemination of agricultural information. The service impacted positively by way of timely, relevant and current information provision leading to the adoption of improved technologies by farmers and fisherfolks, improved teaching and learning, and better research outcomes by the scientists and the embedding of QAS in the activities of CSIR-INSTI. Formal partnerships with local and international organizations were formed. As a result of the Ghana-QAS, CSIR-INSTI had the opportunity to work with development agencies in the management of agricultural information products and services. The study concludes with CTA's lasting legacy in terms of value propositions with respect to its unique approach in supporting partnership building and organizational learning/adapting strategies to address new challenges which ensured the success of the project.

Keywords: information and communication technologies; agricultural development; question and answer services; agricultural information; information services; Ghana

Introduction

The Technical Centre for Agricultural and Rural Cooperation (CTA) was established in 1983 under the Lomé Convention by African, Caribbean and Pacific (ACP) states and the European Union states. From June 2000, CTA operated under the Cotonou Agreement and its mission as

described in Article 3 of Annex III of the agreement was 'to strengthen policy and institutional capacity development and information and communication management capacities of ACP agricultural and rural development organizations'. The Centre was therefore expected to 'develop and provide information services as well as ensure better access to research, training and innovations, and develop and reinforce ACP capacities…' (Mukhebi-Barasa, Niang and Traore, 2001). A major issue for CTA was how to ensure effectiveness of its operations as required in its new mission.

Origin of the Question and Answer Service (QAS)
Following the establishment of the CTA in 1983, a meeting of delegates was held in Wageningen in 1984 to develop CTA's framework of operation. The meeting recommended that CTA collect, collate and distribute information to satisfy information needs. A follow-up meeting in Montpellier, France, further recommended that CTA offer various documentation services, including bibliographic searches, retrospective studies and selective dissemination of information, to ACP partners. Consequently, CTA established a question-and-answer service (QAS) in 1985 to provide information and documentation services to ACP partners on demand. This service operated from Wageningen in the Netherlands and relied on in-house library resources and expertise, other major online databases and CD-ROMs, and contact with external specialized European information services. Initially the purpose of QAS was to serve as a conduit between the European community and the ACP countries, so that the extensive information of European countries could become freely available to ACP users. By 1997 the average annual number of requests was approximately 1500 enquiries from researchers, farmers, planners, factory workers and others on a wide range of topics in agriculture and related fields (Mukhebi-Barasa, Niang and Traore, 2001). A 1997 CTA evaluation of QAS recognized the increasing competence of ACP information managers and the need to switch resources from general improvement of access to information to more specific strengthening of ACP capacity in information and communication management. The evaluation also established that although QAS was useful, there were problems with cost-effectiveness, timeliness and completeness of answers. The main conclusion was that the QAS function of CTA should be substantially devolved to appropriate sites in ACP countries over a two- to three-year period (Mukhebi-Barasa, Niang and Traore, 2001).

Devolution of QAS
Subsequent to the evaluation, CTA developed a strategy for devolving QAS, which began in 1997 and favoured developing regional QAS, and the need to promote regional networking activities and regional and linguistic considerations (Mukhebi-Barasa, Niang and Traore, 2001). During March 1997, CTA scrutinized various institutions in southern Africa to find a suitable

location for the service in the region. The University of the Free State was selected as the leading institution, with the South African Agricultural Research Council and the South African Bibliographical and Information Network (SABINET) as back up sites (van Dyk and van Tonder, 2001). Following the success of the pilot project in southern Africa, CTA set up QAS centres in other ACP regions: eastern Africa (to cover Ethiopia, Kenya, Tanzania and Uganda), Mauritius (Indian Ocean countries), the Caribbean and the Pacific. In Central and West Africa, QAS centres were established in Benin, Cameroon, Chad, Cote d'Ivoire, Gabon, Ghana, Mali, Niger and Nigeria. The centres in Samoa covered all the Pacific ACP countries (Sam and Verster, 2006).

QAS in Ghana, called the Ghana Agricultural Information Service (GAINS), was established following a study commissioned by CTA in June 1999 to identify an agriculturally-based institution with an information facility that had the potential to provide such a service. In accordance with the recommendations of the study, the Institute for Scientific and Technological Information (INSTI) was selected as the focal point for delivering the service to Ghanaian agricultural actors. The service was launched in February 2000; and it was followed by the signing of a formal contract in March 2000. The service aimed at improving the networking activities, developing partnerships, providing advisory services, and offering training in information handling skills (Sam, 2001).

Development of Ghana-Question and Answer Service: 2000-2005

It was recognized from the outset that the design of a system for providing information should be based directly on the needs of the identified potential clients. To gather basic information on client needs, a questionnaire was administered to actual and potential users of GAINS from mid-March to end of April 2000. The survey results were analyzed to determine the format and medium of communication that users preferred to ensure that the future of GAINS reflected those needs. The questionnaire was also used in the pilot as a promotional tool to stimulate potential users to think about the service and to direct their expectations. It also enabled the service to register users and include them on the mailing list. The GAINS study clearly demonstrated that the need for information was critical to users and that they preferred journal articles that were timely and relevant. Respondents also indicated a willingness to pay a modest fee for the services. The result of the information needs study formed the basis for developing the service (Sam and Verster, 2006). The results of the information needs study formed the basis for developing the Ghana-QAS and was expected to be a regular feature for new users, but that

was not the case in actual practice due to lack of capacity of the librarians of the partner institutions and financial difficulties to carry out the regular needs assessment.

Implementation of Ghana-Question and Answer Service
As part of the implementation strategy of the Ghana-QAS, the GAINS Coordinating Centre interacted with the partners at the various levels to explain to them the objectives and operation of QAS, particularly:

- the expected role of the partners
  the work processes and flows
- the type of questions answered or considered appropriate for QAS
- the commitment to provide an efficient and effective time-bound service
- the goal to provide up-to-date information
- the goal of reducing the cost of information (Sam, 2001).

The Ghana-QAS project involved a large network of partner organizations. Each partner was responsible for promoting the QAS within their locality, encouraging people to use the service, receiving and documenting questions and responding to them. In situations where questions received could not be answered based on the resources at any of the partner institutions, they were forwarded to the relevant partner institutions depending on the topic/theme of the question. Questions were transferred between partners mainly by email and post as some partner organizations did not have telephones in their libraries.

Summary time path
The provision of the CTA supported Question and Answer Service (QAS) in Ghana begun in March 2000 and ended in July 2011 after the seventh phase of the project. Each phase ran between 4 months to 12 months during which period, GAINS responded to 5471 requests for information from 3070 users (researchers, farmers, lecturers/teachers and students). During the first phase of the project (2000-2001), GAINS provided answers to 748 questions which was higher than the set target of 150 questions. The second phase (2001-2002) responded to 698 questions against a projected figure of 750. It was during this phase that the service was extended to extension workers, farmers and fisher folks. In the course of the third phase (2003-2004), emphasis was once more put on meeting the information needs of farmers and fisher folks as well as extension agents through radio and the Agriculture Information Centres (AICs). Research scientists and academia were served through the Coordinating Centre and other partner institutions using databases provided by CTA as well as local databases. In all CSIR-INSTI responded to 734 questions during this phase. Under the fourth phase (2004-2005) which started

in April 2004, the Ghana-QAS project answered 714 questions. In implementing the fifth phase (August 2006 to July 2007) of the project, a total of one thousand three hundred and forty-one (1341) users made use of the service. One thousand seven hundred and fifty-eight (1758) requests were received and responded to against the projected figure of eight hundred (800) from researchers, farmers, lecturers/teachers and students. Majority of the users were farmers (801), an indication of the success of the outreach programmes of the agricultural information centres and the radio programmes.

The 6th phase (2008) of the Ghana-QAS project was undertaken within 4 months. The short project duration made it difficult to efficiently mobilize QAS partner organizations. 120 questions were answered from 80 users against the projected 200 questions for this phase of the project. Between November 2010 and July 2011 when the seventh phase of the project was implemented, a total of three hundred and thirty-one (331) users made use of the service. Six hundred and sixty-nine (669) requests were received and responded to against the projected figure of eight hundred (800).

Information provision
The Question and Answer Service was intended to allow stakeholders in agricultural development to access information services on demand in the form of responses from researchers, bibliographic references, and full text documents. The partner institutions were also to have the necessary information resources (books, journals, online databases, computers, internet connectivity) to be able to provide current information in a timely manner. The concept of information provision used in the implementation of the project relates to the type of information requests considered appropriate for QAS, the efficient, effective time-bound service and current information provided, how the information provided is documented for future use. It also involves the challenges and issues that evolved and how they were addressed through diversification of service, addressing diversity, partnership building, capacity building, change of implementation strategy, evaluations, needs assessment. This approach is demonstrated in the case study presented which describes the actions, interventions and strategies adopted with the active support and encouragement of CTA to have a successful project. The paper concludes with a presentation of lessons learned, other benefits of Ghana-QAS implementation and CTA's lasting legacy in terms of value propositions with respect to its unique approach in supporting partnership building and organizational learning/adapting strategies to address new challenges which ensured the success of the project.

Change in implementation strategy and addressing diversity: 2005 onwards

Towards the end of 2005, it was realized that requests from the research community were gradually reducing. Therefore, GAINS embarked on an outreach programme in the research community, interacting on a one-on-one basis, to assess their information needs. The study revealed that researchers preferred a more regular flow of information on specific topics. However, most of them did not know where to obtain information. It was suggested that GAINS take a more proactive approach in information delivery rather than expect the scientists to ask questions. This suggestion was counter to the demand-driven QAS approach but was taken into consideration towards the development of the service. The service from then on moved from its demand-driven nature to a supply-driven one which required additional human and material resources. The CTA supported the service by providing the material resources for the partner institutes. This is a case of willingness to learn and adapt resulting in strategy refresh by the partners.

During the same period (2005), targeted marketing was carried out to user groups with low usage statistics such as female scientists. The service also realized that whenever there was any training in information management and related issues, male scientists were more often than not nominated to attend to the neglect of female scientists. In this regard, with the technical and financial support of CTA, a sensitization seminar was organized for seventeen female research scientists of the CSIR to encourage them make full use of the information facilities at the Coordinating Centre. This is an example of CTA's support for organizational learning /adapting strategy to address new challenges observed during project implementation.

The project undertook a needs assessment survey for extension officers in 2003 in order to provide them with the requisite information to enable them undertake their role as intermediaries between the research scientists and farmers. Again, it was realized that the information needs of the various stakeholders were changing due to changes in the way agriculture is practiced and changing demands. It was therefore necessary to assess the information needs of extension agents and provide them with the requisite information so that they could more appropriately meet the information needs of the numerous smallholder farmers they served. It was also a strategy used to reach out to the farmers and fisherfolks in a timely manner with information in appropriate formats. The Ghana-QAS undertook a further information needs assessment with the technical and financial support of CTA in 2005 to determine the best ways to support linkages between research and extension agents, and held a stakeholder workshop in November 2006 to discuss how to reposition itself in order to increase its usefulness to non-research stakeholders and to increase participation. The workshop allowed stakeholders to contribute their views on the

need to create a coordinating centre in each of the agro-ecological zones in the country as a way of reaching non-research stakeholders. The effort to become a resource for non-research research stakeholders tie into Government efforts to improve linkages between agricultural research and extension, in response to concerns that Ghanaian agricultural research was not contributing effectively to Ghana's agricultural development.

In early 2006 there was an internal review of the project from March 2000 to March 2005 and this revealed that report writing and provision of usage statistics remained an issue for partner institutes. Following discussions with the partner institutes and CTA to develop the next phase of the project in 2006, a number of issues were taken into consideration, activities undertaken and decisions taken, among which were the following:

- CTA undertook missions to Ghana to provide technical support in the submission of reports and developed reporting templates
- CTA held a major capacity building workshop for QAS partners in ACP countries in the Netherlands in March 2006. CSIR-INSTI was represented by 3 staff members including the accountant responsible for the management of QAS funds.

As a result of these discussions and interventions, the proposal for the fifth phase reflected the lessons learnt at the March 2006 project review workshop such as the need for properly reporting and documenting activities, regular needs assessment, the gathering of impact data and the need to contribute to the sustainability of the project by integrating it into the national agricultural information project, GAINS.

A significant achievement of the fifth phase (2006-2007) was that some of the partners (Radio Peace, University for Development Studies (UDS), Oil Palm Research Institute (OPRI) and the Agricultural Information Centre (AIC) at Agona Swedru reported on their activities. Radio Peace reported on development of programme content through community consultation at the local level, how the findings at the community consultation are analyzed and synthesized to form the basis for the topic/issue to be discussed and the recruitment of resource persons. The topics/issues discussed were reported on, the questions and the responses during the phone-in segment of the programme were included in the report. They also reported on how the phone-in facility from listeners provide a good feedback mechanism to evaluate the programme and also receive follow-up of related questions. Additionally, it was reported that prior to working on the project, the radio station was not keeping track of issues discussed and recording them for future use. However, with their involvement in the project, they now keep record of questions and responses for future use. With respect to the UDS and OPRI, they reported on the increasing use

of their facilities by lecturers, students and research scientists for teaching, learning, research and grant proposal writing. This was attributed to the fact that they received direct support from the project in terms of resource acquisition, short training on report writing and maintenance of library statistics.

An Information Outreach and Impact Review (INFOIR) of CTA products and services, including the QAS conducted in 2008 and revealed goodwill and interest in the QAS by users and partners. Case studies were carried out in 10 countries, Ghana being one of them. The feedback workshop held at CTA ranked the QAS as an area of high impact with growth potential. Some issues, however, needed to be taken into consideration such as the limited capacity of some partners to manage the service and/or implement a significant level of activity and the inappropriate location of some QAS centres, taking into account the revised objective of reaching farmers and extension agents as the direct beneficiaries of the service. In line with INFOIR findings, 2 main approaches were applied to QAS projects that were receiving support from CTA prior to the external evaluation of the project: strengthening of QAS activities of partners that were performing well; and experimenting with some of these partners on the use of methods that increase the outreach of Questions and Answers, such as the use of mass communication channels, including radio.

The Ghana-QAS project fitted into both categories. It was on the basis of this that the 7th phase (2010-2011) of the Ghana-QAS project was developed and implemented. This phase of the project sought to contribute towards the country's developmental goal of achieving national food security and sustainable livelihoods. The challenge was how to improve accessibility to information to support the activities of farmers, fisherfolks and extension agents in the country through the timely provision of information and the use of appropriate communication tools and channels. More specifically, the 7th phase of the project aimed to: increase the number of people using and benefitting from the service particularly farmers and fisherfolks; and improve the quality of responses and better respond to questions that interest the masses.

A significant activity of the final phase of the service in 2011 was the conduct of a kick-off workshop and training programme for twenty-five partners on QAS Management and Report Writing to sharpen the knowledge and skills of partners in QAS methodologies and proper presentation of reports. Although some of the institutions had been with the project since its inception, high rate of staff attrition informed the decision to conduct the training programme in order for the new staff managing the service to fully understand the purpose of the project and what was expected of them in terms of proper documentation and reporting of project activities. A database developed to document questions and responses for re-use to save time and resources

was made available to all the partners during the kick-off workshop to assist them in keeping record of their QAS.

Partnership building

An important activity of the fifth phase (2006-2007) was a workshop for national stakeholders in November 2006 to "identify mechanisms to best address the information needs of all agricultural stakeholders in Ghana". Specifically, participants wanted to develop a clearer vision and strategy for the 'next generation' GAINS (Ballantyne, 2006). The workshop was supported by the CTA, FAO, and IICD. Each of these organizations was represented and had provided material and intellectual support to GAINS prior to and after the workshop for a number of years. As a result of the workshop CSIR-INSTI signed a letter of agreement with FAO (US$ 240,000) for a 3-year period (2007 – 2010) to develop open access to public domain scientific and technical information on agriculture through interlinked full-text repositories at institutional level as part of a Ghanaian national agricultural science and technology information system.

Promoting the QAS

Promotional activities were an important element in the success of the QAS. From the inception of the service, promotion directed at target groups, namely: researchers, lecturers, students, farmers, fisherfolks and extension agents were considered an important aspect of the service. Initially the service concentrated its efforts on the traditional users of its facilities (researchers, lecturers, and students). Promotional materials developed included brochures, newsletters, posters, newspaper articles, radio broadcasts and websites. The brochures were developed to promote the service to users and potential users. The brochure provided details on the background, goals, users, activities of the service. They were distributed to clients on the mailing list and to participants at meetings, seminars, exhibitions, conferences and workshops.
The service also produced a quarterly newsletter (*GAINSNEWS*) that was distributed to clients on its mailing list and other institutional subscribers. The newsletter contained articles on a variety of issues that reflected the interests of all the user categories as well as major QAS activities. Frequently Asked Questions (FAQs) and their answers were sometimes published in *GAINSNEWS* as a means of sharing questions and answers with a broader audience. The questions submitted to the service and their responses are filed (hardcopy) and it is from the files that FAQs are identified. As the implementation of the project progressed, the partners realized that in order to save time and cost, it was necessary to document the FAQs and their responses and shared with all the partners. In 2010, this activity was started by the coordinating centre so a database was developed to keep record of QAS questions that were filed together with their responses. The database was a valuable tool particularly in identifying FAQs. It was made available to all the partners in 2010 during the kick-off workshop to assist them in keeping

record of their QAS. The service started to analyze the questions on a regular basis to feed into the decision-making process of Ghana's Agriculture Research and Development (ARD). The newsletter included request forms to enable clients to request for information. The effectiveness of the newsletter was borne out of the number of requests based on articles in it. These requests were received via the request form included in the newsletter.

The Ghana-QAS also produced and distributed posters as part of its promotional strategy. During the pilot phase (1st phase) an announcement was placed in the two national dailies (***Daily Graphic and Ghanaian Times***) in Ghana on how to contact and use the service. This was particularly useful in targeting potential users outside the CSIR, the parent organisation of the Coordinating Centre. As part of its continuing efforts to create awareness of the service and encourage the use of the service a dedicated website (http://www.gains.org.gh) was developed. It contained information on the service and its partners, contacts and links to vital agricultural websites, how to use the service, the newsletter and an online request form. Three in-house databases: Ghana Agricultural Research Information (GHAGRI), Ghana Science Abstract (GHASAB) and Agricultural Experts in Ghana (AGRIEX) were uploaded on the website. The website was a good promotional tool for the service, and 8457 people visited the site between November 2010 and July 2011. The breakdown of the usage statistics is shown in the graph below.
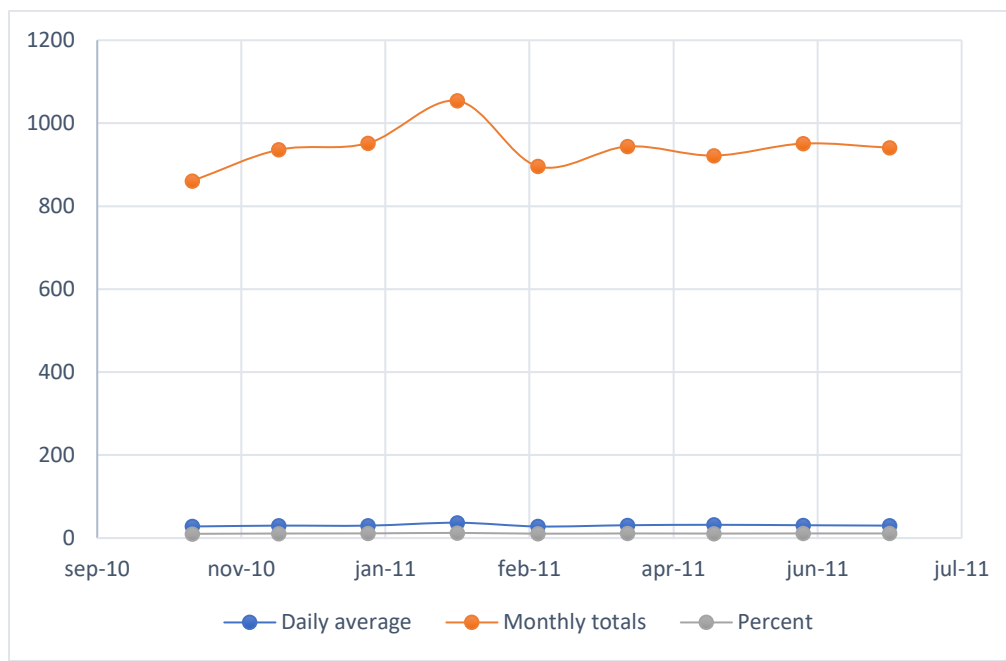

Figure 1: Usage of Ghana-QAS website November 2010-July 2011[1]

The usage statistics as shown in above graph (Figure1) showed how useful the website was as a source of information and how important a role it played in information provision as connectivity and access improved.

Use of radio programmes and information repackaging
The use of radio to deliver the service was not envisaged during the project design/conception phase but had to be incorporated during implementation in order to reach out and serve the needs of farmers and fishermen to provide information in formats that suit their needs. Radio was identified as a tool via which the information needs of farmers and fisherfolks could be met. The Frequently Asked Questions (FAQs) that the project received revealed recurring grass root problems in the country. FAQs allowed for the identification of (i) agricultural issues that could be addressed by scientists, policy-makers and other stakeholders, and (ii) priority information needs of the larger farming and fishing community. Once the priority information needs of the farming and fishing community were identified both from Questions received by partners and from community consultation in the catchment areas of the radio stations, topics were selected for the development of radio programmes by CSIR-INSTI in collaboration with the radios based on these findings. Radio programmes thus increased the outreach of responses to FAQs.
The repackaging of information into radio programmes started in 2004 with Radio Peace, a Community-based FM station in Winneba in the Central region of Ghana. Initial studies carried out by the Ghana-QAS project found out that it was better to work with Community-based FM stations as they broadcasted programmes in local languages understood by farmers and fisherfolks. It was also found to be more viable economically to work with community-based FM stations as opposed to the national broadcasting station. There were ten operational community-based FM stations in Ghana in the early 2000s during the implementation of the project. Through discussions with the ten radio stations, it was observed that 4 stations (Radio Peace, Royals FM, Rite FM, Lorlonyo FM) had the capacity to develop and produce tailor-made agricultural radio programmes to empower farmers and fishermen with relevant agricultural best practices. The 4 radio stations were also found to be very committed to agricultural development.

The Ghana-QAS worked closely with four community-based FM radio stations, namely: Radio Peace (Central region), Royals FM (Brong Ahafo region), Lorlonyo FM (Volta Region) and Rite FM (Eastern region). The radio programmes were aired in 4 local languages (Asante-Twi, Ewe, Fante and Krobo). There was a phone-in facility where farmers and fishermen called into the programme and had their questions answered by experts in the studio. Farmers and fishermen who did not have the means or know-how to call into programmes were encouraged to visit the radio stations with their problems or success stories so that it could be shared with a wider community. The phone-in facility was also a good feedback mechanism to evaluate the

programme and also receive follow-up of related questions. It also made the programme more participatory, interesting and widened the listenership.

Experts who assisted in developing and hosting the radio programmes were drawn from the CSIR, universities, and extension agents. In a few instances, farmers and or farmer-based organisations who adopted improved technologies volunteered to share their experiences. For example, the Cashew Farmers Association of Wenchi in the catchment area of Royals FM in 2010 requested to be provided the platform to share their experiences with other farmers who wanted to venture into cashew production. The gesture was deemed to be very good as it was a departure from the widely held view locally that farmers are reluctant to share their rich experience with others. The feedback from listeners to the presentation was overwhelming (CSIR-INSTI, 2011). CTA's Rural Radio Resource Packs were utilised for relevant topics produced for some programmes. The programmes were broadcasted every 2 weeks for one hour with a repeat broadcast the following week. Copies of all the radio programmes were provided to CTA for uploading onto its virtual library "Anancy".

In April 2011, an assessment of Rite FM agricultural programmes was undertaken to determine the impact of agricultural radio programmes on the target audience (farmers and fishermen). The programme was found to be relevant to the agricultural information needs of the respondents and had the desired impact on the listeners. However, the time of broadcast was a constraint to most of the listeners. Earlier in 2009, Radio Peace undertook a similar study and the results indicated improved livelihood of the target audience (farmers and fishermen) by way of improved production practices, adoption of improved technologies and the setting up of new businesses (agro-chemical shops) to supplement their farm income (Dzandu, Osei and Sam, 2012). CSIR-INSTI established contracts with the radio stations and ensured that they submitted reports on: the process of developing the programmes, challenges faced, titles and summary of radio programmes, any feedback they may have received during broadcasts, what additional questions the experts had to respond to during the broadcasts, follow-up undertaken after the programmes, feedback if any of the broadcasts and recommendations.

Through the financial support of CTA, twenty *tongshi radio* receivers were acquired in 2008 and distributed to assist the partners to facilitate access to agricultural research and development information available via digital satellite broadcasts for QAS partners. Personnel of the beneficiary institutions were trained on the installation of the equipment and downloading of information. The information downloaded was then disseminated to the various stakeholders to meet their information needs. The radio programmes assisted in promoting food security in the country, introduced farmers and fishermen to new and improved varieties of crops, improved

fishing practices and fishing resources, marketing skills, financial management, proper storage practices to reduce post-harvest losses, proper and beneficial uses of fertilizers, good agronomic practices, pest and disease control of crops (CSIR-INSTI, 2011).

A significant achievement of the QAS radio programmes was that the President and the Vice-President of Ghana cut the sod at Mumford and Winneba in the Central region respectively in 2008 for landing sites for the fishing communities as a result of the programmes which strongly highlighted the needs of the fishing communities. The construction of landing sites at the beaches along the southern border of the country from Axim in the Western region to Keta in the Volta region was also given priority attention by successive governments. Fishing issues received greater government attention through resourcing the Ghana Navy and the Marine Guards of the Maritime Authority to police the water bodies against the use of unapproved fishing vessels (pair trawlers), fishing nets, use of dynamites and or chemicals to fish.

Since the inception of Ghana-QAS in March 2000, the Essential Electronic Agricultural Library (TEEAL) database was found to be a very relevant source for providing information to users. In order to expand the base and to serve more clients, a new set of LAN TEEAL was acquired for the Kwame Nkrumah University of Science and Technology (KNUST) to complement that of the University for Development Studies (UDS) to serve clients in the northern part of the country.

The Ghana-QAS Coordinating Centre duplicated more of the agricultural technologies produced by the CSIR 'Technology for Livelihoods' programme and converted them from VHS cassettes to DVD with the financial support of CTA and distributed to some of the functional Agricultural Information Centres (AICs) of the Ministry of Food and Agriculture (MoFA) and community radio stations which broadcast agricultural programmes (Dzandu, Osei and Sam, 2012).

External evaluation of QAS
There was an external evaluation of CTA's QAS in ACP countries in 2011 of which Ghana was part. The evaluation of the QAS was requested by CTA's management for the following reasons:
- The QAS is one of the longest running services at CTA and has not been subject to a detailed evaluation in recent times;
- Rapidly evolving information and communication technologies (ICTs) and changes in the policy environments in ACP countries begs the question regarding the mode of delivery of agriculture-related information;
- Limited budgets and increased demand for CTA's products and services, means that critical decisions needed to be made regarding the most effective and efficient use of funds;

- CTA has embarked upon the planning exercise for the development of the Centre's strategic plan for the 2011–2015 period. The findings from this evaluation will feed into the strategic planning process (Batjes-Sinclair, 2011).

The overall objective of the evaluation was threefold:
- to evaluate the impact and sustainability of CTA's QAS in its classical format;
- to undertake a comparative analysis of the different experimental approaches used for QAS delivery, paying particular attention to cost, consistency, efficiency and up-scaling opportunities;
- to provide insights into how the experimental QAS approaches such as the use of mobile phones, radio, agricultural newspapers and newsletters, and vouchers, could complement the delivery of information through rural advisory services (Batjes-Sinclair, 2011).

The consultant worked with a local advisory committee in Ghana in the course of the evaluation of the Ghana-QAS. Data was obtained through individual Interviews from a range of stakeholders – farmers, extension agents, researchers and a student. Non-users were also interviewed in an effort to capture other perspectives. A feature of the evaluation process was the participation of key stakeholders from the beginning to end of the evaluation visit, thereby offering an opportunity for those intimately involved in the provision of the service to reflect on the future direction of the QAS. A focus group was used to validate the evaluation findings. The key findings, conclusions and recommendations of the field visit to Ghana within the context of the CTA external evaluation of the question-and-answer service are summarized below:

Findings
- QAS management and staff and users interviewed, value information that is easy to access, timely, up-to-date, relevant and appropriate.
- Both the field visit and interviews with QAS staff, 2 partners from the community radio station indicate there is good evidence of impact of the QAS
- There is general satisfaction among those interviewed with QAS answers in terms of the usefulness of the answers, presentation and timeliness.
- E-resources offered by the QAS are appreciated by all of the librarians, researchers and students interviewed. There is evidence that access to these resources has enabled the publication of local content material for use within the farming community, e.g., research done on the grasscutter.

Conclusions

- The evaluation process offered the opportunity for QAS management and staff and key stakeholders to reflect on the QAS, its current operations, develop ways to overcome challenges encountered in the implementation of the QAS as well as develop strategies for future action.
- Although ICT use is growing slowly, the use of mobile phones is steadily increasing, thereby opening up opportunities for the provision of agricultural information.
- CTA plays an enabling role in the provision of rural advisory services in Ghana

Recommendations

- QAS staff should systematically document data on the QAS and the record of impact stories.
- INSTI and radio stations should actively find ways to diversify the funding sources of their QAS and reduce their dependence on CTA funding. Respondents indicated that they would be willing to contribute to the costs of information provision, providing it was not prohibitive. CTA can facilitate the process by way of continuing its support to the QAS and radio stations in the medium-term and facilitate discussions locally and regionally in an effort to set up mechanisms to support the QAS.
- The QAS should make efforts to collaborate with all the eleven district agricultural information centres (AICs) of the MoFA. Such collaboration will assist greatly in reaching a significant number of the farmers and fishermen in a cost-effective manner. Attempts should also be made to work with the Community Information Centres (CICs) scattered around the country, most of which are in the rural areas where majority of the farmers are.
- CTA should use a key partner (e.g. INSTI) to channel all its development assistance in Ghana.
- CTA should provide assistance to QAS partners to enable them to provide practical information to extension agents and farmers from research materials that are of relevance to them- including funding the translation of practical materials into local languages and provide documentation on FAQs.
- CTA should play an important role in facilitating discussions between MoFA and INSTI and other rural advisory services at the policy level to enhance in a coordinated and more efficient way of providing agricultural information to extension agents and farmers.
- CTA in collaboration with other development agencies should support strengthening the capacity of researchers, librarians, extension officers and farmers, and post-graduate students in the storage, management and use of the databases (Batjes-Sinclair, 2011).

Challenges in the implementation of Ghana-QAS

In the course of the implementation of the Ghana-QAS, the service faced a couple of challenges, namely:

- Lack of adequate staff, information resources and unreliable internet connectivity in some partner institutions hampered the use of e-resources. Staff turnover at some of the partner institutes affected the operations of the service as it took some time for new staff to be employed and trained in QAS methodologies
- Finding staff with core competencies and sufficiently motivated to provide technical support to facilitate the information delivery service at the partner institutions was a major challenge for the service
- Proper documentation of the services provided and writing of reports was very challenging for most of the partner institutions in spite of the fact that a training course on report writing was run for most information professionals engaged in the management of the QAS. This made the consolidation of the reports very difficult for the national QAS centre
- Poor internet connectivity affected communication between partners and also with the users of the service resulting in long delays in retrieving online information
- In most cases partner institutes had limited computers which were used both for administrative and core information retrieval services and this delayed responses to user enquiries. Additionally, disc space of most computers was limited so some of the partner institutes could not upload most of the local databases (GHAGRI, GHASAB).

Lessons learned and other benefits of Ghana-QAS implementation

In implementing the Ghana-QAS, a number of useful lessons were learned and benefits derived, namely:

Formal relationships
Prior to the implementation of Ghana-QAS, the Coordinating Centre of GAINS had informal relationships with several farmer organizations, which generally arose from the heads of organizations contacting GAINS for information requested by their members. With the support of CTA, the Ghana-QAS piloted more formal relationships with district agricultural information centres and community-based radio stations in an attempt to extend its QAS to end user stakeholders. Prior to this, GAINS had almost no formal relationships with communities or local government.

Development of radio programmes

Community radio was a very useful channel and cheaper means for reaching many farmers and fishermen in rural communities. The phone-in facility was a good feedback mechanism to evaluate the programme and also made it more participatory, interesting and widened the listenership. Role of information intermediaries (extension agents) in disseminating research findings to farmers was found to be very critical in the adoption of improved technologies

Commitment and collaboration

Commitment and collaboration of partners are key ingredients for the success of the service. Provision of information to agricultural stakeholders can be effective with the cooperation of various actors. There was, however, general recognition that no one institution or agency could meet the information needs of the numerous stakeholders in the agriculture sector. Collaboration with other development partners, for example, FAO, IICD and KIT in the development and management of agricultural information for stakeholders. Through the implementation of the QAS, CSIR-INSTI had the opportunity to work with these development agencies in the management of agricultural information products and services.

Promotion

Promotion of the service through outreach to the users, continuing education of users and potential users of the service on a regular basis was a key element in the success of the project.

Access to up-to-date information

Access to current and up-to-date electronic and paper information resources in a timely manner encouraged use of the service. There was improvement in Internet connectivity for some of the partner institutes.

Training and staff

Staff turnover at partner institutes affected the operations of the service, as it took more time to employ new staff and for them to grasp the QAS methods. It was therefore useful to train more staff to handle the service. However, very little could be done in situations where the libraries were manned by only one trained librarian. Training of key beneficiaries was crucial to the implementation of the project – *Tongshi* radio receivers and QAS management training. Also training of women scientists, in proposal writing, in report writing, etc. Experience in the management and organization of training programmes. Based on some of the lessons at each stage of the project, a number of collaborative training programmes and seminars were conducted which improved the skills of key project staff and other stakeholders (research scientists, lecturers) with the technical and financial support of CTA, namely:

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- CTA/CSIR-INSTI Training Workshop on Web 2.0 for Agricultural and Rural Development (2011);
- Workshop on Information and Communication Management (2010);
- CTA Information and Knowledge for Development Week (2010);
- CTA/CSIR-INSTI Training Course on Scientific Data Management (2008);
- Agricultural Information Production with Satellite Receivers for Anglo-Phone Countries (2008).

Additionally, other very useful skills were learnt, namely: advanced information and knowledge management skills, monitoring and evaluation skills, report writing, proposal writing, writing for a journal and public speaking through formal and informal interactions with various categories of CTA staff during the decade of project implementation.

Evaluation and lessons learned
Evaluation of information services by clients was key to the development of the programme to serve the users better with timely, relevant and current to meet their information needs. Evaluation assisted the service in improving the timeliness of information delivery Monitoring and evaluation of information products and services was very crucial in the smooth implementation of the project. Documentation of the questions and answers for reuse when same questions are asked in future in order to reduce the time lag between questions and responses. The documentation of the questions and responses improved the time lag between request for and receipt of responses and also saved cost. Reluctance on the part of the users to pay for a token fee as administrative charges for the delivery of the service. They were used to receiving information services for free and did not see the reason why they should pay for it. Key lessons learnt at each phase in the implementation of the service was deployed to improve the next phase and imbedding of sustainability plans from the 5th phase of the project.

Conclusions

As noted earlier on, CTA established a QAS in 1985 to provide information and documentation services to ACP partners on demand. After the devolution of the QAS in 1997, CTA signed an initial agreement with Ghana in March 2000 to provide information on demand to agricultural stakeholders and also to improve networking activities, develop partnerships, provide advisory services, and offer training in information management skills. With the success of the pilot phase of the project after its conclusion in 2001, subsequent yearly contracts were signed with

adaptations owing to the service expanding. The service was invaluable and provided timely and up-to-date information to the various agricultural stakeholders.

The implementation of the QAS led to the formation of formal relationships with several farmer organizations, district agricultural information centres and community-based radio stations. Prior to this, GAINS had no formal relationships with communities or local government. Through the project, partnerships were developed with other development agencies (FAO, IICD, KIT) leading to improvement in agricultural information and knowledge management services. These formal linkages with other agricultural stakeholders led to the visibility of GAINS nationally, regionally and globally. A number of useful lessons were learned during the implementation of the service, namely: improved management of information services, proper documentation of questions and responses which led to cost saving, monitoring and evaluation of information products and services, administration of training programmes, proposal and report writing. These useful lessons have impacted positively on the management and administration of information provision to agricultural stakeholders in Ghana.

The enduring legacy of the Ghana-QAS CSIR-INSTI project of CTA is the very positive impact on the information value chain in the Ghanaian national system from information generation and retrieval to dissemination and institutional knowledge management. Years after the formal closure of the project, its impact on the system can still be felt by way of timely, relevant and current information provision leading to the adoption of improved technologies by farmers and fisherfolks, improved teaching and learning, and better research outcomes by the scientists and the embedding of QAS in the activities of CSIR-INSTI. Formal partnerships with local and international organizations were formed which enabled the Ghana-QAS, CSIR-INSTI to work with development agencies in the management of agricultural information products and services.

CTA's catalytic role in these developments will forever be remembered. This was in terms of value propositions with respect to its unique approach in supporting partnership building and organizational learning/adapting strategies to address new challenges which ensured the success of the project. Learning was demonstrated through the strategic changes that were introduced at different stages throughout the life of the project. The Ghana-QAS also benefitted from adopting a number of strategic measures with CTA support and encouragement, which included taking a more proactive approach to information delivery as opposed to being demand-driven; gradual diversification of target beneficiaries based on demand and feedback from needs assessments; adoption/use of channels of mass communication such as radio and the web for upscaling information dissemination. These changes were introduced to respond to challenges that the project was facing. With respect partnerships, CTA embraced multi-stakeholder collaboration,

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provided technical and financial support, treated local institution (CSIR-INSTI and its partners) as an equal, no micromanagement of the project and encouraged working with other development partners in the information landscape.

About the author

Joel Sam is the Director of Research of the African Library and Information Associations and Institutions (AfLIA) with over 30 years working experience in research, academic and NGO environments. He previously worked as the Coordinator of the Ghana Agricultural Information Network System (GAINS) and Director of CSIR-Institute for Scientific and Technological Information (CSIR-INSTI). Joel holds a Doctor of Philosophy degree in Information Studies awarded by the University of Ghana, serves on the Management Board of Electronic Information for Libraries (EIFL) and the Immediate Past Chairperson of the Management Board of the Consortium of Academic and Research Libraries in Ghana (CARLIGH).
Email: egy28@yahoo.co.uk

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[1] Source: http://www.gains.org.gh.stats/stats.php/index.html

ÉTUDE DE CAS

Mécanisme d'insertion et d'appui à l'Entreprenariat des jeunes ruraux dans les filières agricoles, Mali/*Mechanism for the integration and support of rural youth entrepreneurship in agricultural sectors, Mali*

Makono Coulibaly

Pour faire face à la problématique d'insertion et d'emploi des jeunes en milieu rural, l'Etat du Mali avec l'appui financier du Fond International de Développement Agricole (FIDA), a initié en 2014 le projet de Formation professionnelle Insertion et appui à l'Entrepreneuriat des jeunes Ruraux (FIER). Le projet FIER vise à faciliter l'accès des jeunes ruraux à des opportunités d'insertion et d'emplois attractifs et rentables dans l'agriculture et les activités économiques connexes. L'insertion économique des jeunes ruraux passe par un processus composé de trois grandes étapes à savoir (i) l'appui à l'identification de l'idée de projet économique ou choix d'idée de projet, (ii) l'appui à la préparation de plan d'affaires bancable et (iii) l'appui la mise en œuvre et consolidation du projet économique. Au bout de trois (3) années de mise en œuvre, le projet a inséré 3216 (FIER, 2018) jeunes ruraux dont 47% femmes dans les filières agricoles et activités connexes. Le défi surmonté au départ a été surtout l'adhésion des jeunes aux institutions de microfinance (IMFs) ou de systèmes financiers décentralisés (SFD). L'adaptation du mécanisme de financement des IMF au cycle des filières agricoles choisies par les jeunes et la fidélisation des jeunes aux SFD à travers la mobilisation de leur épargne restent les défis à relever.

To address the issue of integration and employment of young people in rural areas, the government of Mali with the financial support of the International Fund for Agricultural development (IFAD), initiated the Vocational Training Project for Intergation and Support of Rural Youth Entrepreneurship (FIER) in 2014. The FIER project aims to facilitate the access of rural youth to attractive and profitable employment and integration opportunities in agriculture and related economic activities. The economic integration of rural youth goes through a process made up of three main stages, namely (i) support for the identification of the idea of an economic project or choice of project idea, (ii) support for preparation of a bankable business plan and (iii) support for the implementation and consolidation of the economic project. After three (3) years of implementation, the project has inserted 3,216 (FIER, 2018) rural young people, 47% of whom are women in agricultural sectors and

related activities. The challenge initially overcome was above all the adhesion of young people to microfinance institutions (IMFs) or decentralized financial systems (SFDs). The adaptation of the financing mechanism of IMFs to the cycle of agricultural sectors chosen by young people and the loyalty of young people to IMFs through the mobilization of their savings remain the challenges to be overcome.

Keywords: young people; agricultural development; microfinance; development projects; Mali

Contexte

La pauvreté concerne la majorité du monde rural au Mali. Le taux de pauvreté monétaire 53% y reste plus élevé que la moyenne nationale 43%. En 2010, les ménages agricoles représentaient 81% de la pauvreté du pays alors qu'ils représentaient 62% de la population. Cette pauvreté généralisée entrave le devenir des jeunes dans un contexte de croissance démographique forte. Il y aurait à peu près 3,5 millions de jeunes ruraux pauvres au Mali en 2012, ce qui représente 22% de la population totale. Les jeunes ruraux sont au travail très tôt-près de 7 enfants sur 10 (5-17 ans), participent régulièrement aux activités productives et restent longtemps dans le statut d'aide familial avec peu de revenus, d'accès aux ressources foncières et de possibilité d'évolution économique : 37,8 % des emplois dans les activités agropastorales correspondent à des aides familiales.

Formation professionnelle Insertion et appui à l'Entrepreneuriat des jeunes Ruraux (FIER) Projet s'inscrit dans la recherche d'une croissance reposant sur la promotion des ressources humaines et le développement des secteurs porteurs, en particulier le secteur primaire. L'objectif du projet est d'aider les jeunes ruraux à accéder à de l'emploi en zone rurale. L'emploi salarié étant rare, c'est donc vers l'exploitation agricole et l'entreprise rurale que jeunes peuvent s'orienter pour une insertion en milieu rural. Pour l'insertion des jeunes, le Projet cible les jeunes âgés de 18 à 40 ans répondant à des profils ou trajectoires différents et qui seront appuyés dans leur choix soit pour initier une activité génératrice de revenus (AGR) ou promouvoir une microentreprise rurale (MER). Le Projet adopte une stratégie inclusive genre permettant de promouvoir un accès équitable aux dispositifs et aux investissements envisagés.

Description de l'expérience

Pour résoudre le problème de chômage des jeunes ruraux, certains projets (LUX DEVELOPPEMENT, the aid and development agency of the government of Luxembourg; Formation Insertion dans le Bassin du Niger, FIBANI), organisations non gouvernementales (HELVETAS et Born-Fondaine) et des Agences de l'Etat (Agence pour la Promotion de l'Emploi des Jeunes, APEJ; Agence Nationale Pour l'Emploi, ANPE; Fonds d'Appui à la Formation Professionnelle et à l'Apprentissage, FAFPA) ont tenté d'insérer des jeunes à travers: des formations techniques sans faciliter l'accès aux ressources financières, des appuis

pour faciliter l'accès aux équipements ou au financement pour certaines filières agricoles pour les jeunes. Bien que ces appuis on fait leurs preuves ils ont révélé quelques insuffisances au niveau de l'accompagnement post financement, de l'accès au financement et au niveau de la formation technique sur les itinéraires techniques.

A la différence des autres solutions proposées, le mécanisme d'insertion et d'appui à l'entreprenariat des jeunes ruraux est innovant dès lors que jeune, au centre du dispositif, bénéficie de l'assistance du projet depuis l'étape d'identification jusqu'à l'accompagnement post financement de son projet pendant un cycle. La mise en œuvre du projet, étant basée sur le faire-faire, implique différents acteurs et s'articule autour de six étapes clés. Les différentes étapes successives portent sur : (i) l'appui à l'identification de l'idée de projet à travers l'opérateur de facilitation contractualisé par le projet FIER. L'opérateur est formé sur la méthodologie de facilitation et ses outils. (ii) La seconde étape consiste à l'orientation et pré approbation des demandes des jeunes par un comité qualité cercle (CQC) composé des représentants des collectivités, des organisations paysannes, des SFD, des services techniques, de centres de formation et de l'équipe du projet. La pré approbation est faite à partir des critères de sélection prédéfinir par le projet. (iii) Au niveau de la troisième étape, les jeunes sont appuyés par un opérateur pour la co-construction ou élaboration de leur plan d'affaires AGR ou MER. Cet opérateur bénéficie de la part du projet FIER une formation sur les techniques de co-construction et d'accompagnement post financement du jeune. (iv) L'analyse et l'approbation des plans d'affaires élaborés constituent la quatrième étape. Elles sont faites par un Comité Régional de sélection (CRS). Ce comité présidé par le Conseil Régional, comprend un représentant par SFD partenaire, des organisations paysannes, des services techniques, du centre de formation et de l'équipe du projet. (v) La cinquième étape est la mobilisation des ressources financières qui se fait à la suite de la validation. Les projets validés sont transmis au FIDA par la Coordination du projet pour financement. Le FIDA vire le montant total sollicité par les jeunes comme subventions dans les comptes ouvert par les SFD au niveau des banques de la place. Lorsque les SFD reçoivent les virements dans leur compte, ils transfèrent fonds au niveau des guichets de leurs caisses en milieu rural qui procèdent à alimenter les comptes des jeunes ouverts dans ces guichets. Les montants virés dans les comptes des jeunes sont mis en Dépôt à terme (DAT) pour la durée du cycle du projet du jeune. Lorsque le contrat de dépôt à terme est signé entre le jeune et le SFD, ce dernier procède à la mise en place du crédit du jeune. (vi) La dernière étape du processus est l'accompagnement post financement. Le jeune et l'opérateur d'accompagnement se mettent ensemble pour la mise en œuvre des activités du projet jeune. Avant et au cours de l'exploitation, le jeune bénéficie d'une formation technique sur son activité et d'une formation en comptabilité simplifiée. Une convention de partenariat a été signée avec les SFD viables et qui disposent de plus de points de services en milieu rural. Le suivi de la mise en œuvre des activités par les partenaires est assuré par l'équipe du projet FIER.

Résultats obtenus

Le projet a permis de renforcer les aptitudes individuelles en termes de conduite d'activités économiques rentables, de faciliter d'accès à des marchés locaux des jeunes. 1469 femmes rurales soit 47% des bénéficiaires ont acquis une autonomisation financière. De 2014 à 2018,

3216 jeunes ont reçu une formation sur les itinéraires technique de leur activité. Les 3126 jeunes ont bénéficié d'un financement de la part du projet et des SFD. La majorité des activités financées ont des taux de rentabilité au-delà de la cible de 18%.

Les effets cumulés de l'accroissement des revenus, de la diversification de la production, de l'amélioration de la maitrise des itinéraires techniques de production et de l'accès aux services financiers ont permis d'améliorer de manière conséquente la sécurité alimentaire et de limiter l'exode rural des jeunes dans les zones d'intervention du projet.

Témoignages
Le jeune Boubacar TRAORE après deux (2) années de séjour infructueux en Algérie a décidé de retourner dans son village Sokourani, commune de Naréna cercle de Kangaba région de Koulikoro suite au décès de son père. A son retour, il décida d'exploiter un demi-hectare (1/2 ha) de périmètre maraicher légué par son père. Après deux années d'exploitation, les revenus tirés n'arrivaient plus à satisfaire les besoins de sa famille. Il décida alors de tenter une seconde chance en allant en Algérie. A la veille de son départ, il fut mandaté par les jeunes de son village pour aller les représenter à une réunion du projet FIER à Kangaba. A la suite de cette réunion, il intégra alors le mécanisme d'insertion et appui à l'entreprenariat du projet FIER. Il passa par les différentes étapes du mécanisme d'insertion et appui à entreprenariat du projet FIER à savoir : l'identification de son idée de projet à travers l'ONG-Appui Conseils aux Enfants et aux Femmes du Mali (ACEF), l'orientation et pré approbation de sa demande par un comité qualité cercle (CQC), la co-construction ou élaboration de son plan d'affaires AGR; l'analyse et approbation de son projet formulé par le comité régional de sélection (CRS); la mobilisation des ressources financières et la mise en place de son crédit et l'accompagnement post financement:

> Ma production est passée de Production Concombre de 2 sacs à 30 sacs, celui de l'aubergine de 5 à 20 sas par an. Mon revenu annuel est passé de 382 000 FCFA à 925 000 FCFA. J'emploie un permanent et quatre (4) temporaires.

Défis rencontrés
Les contraintes rencontrées dans la mise en œuvre de cette expérience ont porté essentiellement sur la méfiance du jeune à adhérer aux SFD suite aux échecs de certains; l'absence de guichet SFD dans certaines zones couvertes par le projet. Pour surmonter ces défis, des actions ont été menées. Pour l'adhésion aux SFD, il a fallu organiser des rencontres d'informations et de sensibilisation au niveau village. Ces rencontres ont regroupé les jeunes hommes et femmes, les chefs de ménages, les leaders, les agents des institutions de microfinance et l'ONG de facilitation. Des jeunes déjà financés ont témoigné de la véracité des actions du projet. Pour faciliter l'ouverture des comptes par les jeunes, certaines ont mis en place le système de guichets mobiles qui ont permis aux jeunes d'ouvrir leur compte sur place au niveau village. L'adaptation du mécanisme de financement au cycle des activités des jeunes et la fidélisation des jeunes aux SFD à travers la mobilisation de leur épargne restent les défis à relever.

Innovations dans l'intervention
Le Projet FIER est innovant dans le paysage malien puisqu'il propose une entrée par l'insertion des jeunes. Dans de nombreux projets, les jeunes ont accès à la formation mais ne sont pas ensuite accompagnés dans leur activité économique. L'innovation que propose le Projet est d'aider le jeune à élaborer d'abord son projet d'insertion de son choix dans lequel sont regroupés ses différents besoins en termes de formation technique, de gestion et de financement. L'innovation du projet est aussi institutionnelle: les coordinations régionales du projet vont pouvoir renforcer durablement les capacités techniques des conseils régionaux, dans lesquels elles seront logées, pour piloter les secteurs de la formation et de l'insertion professionnelle des jeunes ruraux en coordination avec les services décentralisés de l'Etat, les représentants des producteurs, les ONG, les opérateurs privés, etc.

Nom et contact : Boubacar TRAORE
Lieu de l'expérience: Village de Sokourani, commune de Naréna, Cercle de Kangaba, Région de Koulikoro.
Date de l'expérience : D'août 2015 à août 2018

Facteurs de réussite
La réussite de l'expérience s'explique par l'approche méthodologique du projet FIER basée sur le faire–faire. Des contrats de performance ont été signés avec des opérateurs financiers et non financiers. Les opérateurs ont été renforcés sur le Guide méthodologie et ses outils élaborés par FIER pour assurer l'appui conseil aux jeunes dans le cadre de la formulation, l'appui conseil accompagnement post financement et la formation technique sur les activités choisies. Chaque opérateur devait avoir au minimum dans son équipe deux femmes. Pour l'animation de la facilitation au niveau village, il y avait un couple composé d'un homme et d'une femme. Pour le financement des jeunes sous forme de crédit, des conventions de partenariats ont été signées avec les SFD basés en milieu rural. Pour créer la concurrence, au minimum deux SFD ont été retenus par cercle d'intervention.

Leçons apprises
Cette expérience nous enseigne que:

- La mise en place d'un dispositif participatif qui implique un certain nombre d'acteurs comme les jeunes, les chefs de ménage, les collectivités, les organisations paysannes et les partenaires financiers est un moyen efficace pour la réussite de l'insertion des jeunes
- La réussite du financement des jeunes est liée à la mise en place du système de bonus qui consiste à mettre en relation le jeune et une institution financière (IMF), mettre la subvention en dépôt à terme (DAT) au niveau du IMF qui va lui octroyer le montant équivalent sous forme de crédit. Après remboursement cette subvention est restituée aux jeunes sous forme de bonus avec l'intérêt généré.

A propos de l'auteur

Titulaire d'une maîtrise en Économétrie de l'Ecole Nationale d'Administration du Mali de Bamako, d'un master II en Banque et Microfinance et Master II en Management de projet et Développement Durable, *Makono Coulibaly* dispose de nombreuses attestations dans des domaines variés comme la gestion axée sur les résultats, la gestion des risques, l'entreprenariat rural, la finance islamique etc. Il a commencé sa carrière professionnelle par l'ONG AMPJ comme animateur pendant un (1) an avant de rejoindre le secteur de la microfinance au niveau de la Caisse Associative d'Epargne et de Crédit des Commerçants et Entrepreneurs du mali (CAECE-JIGISEME). Il occupa successivement le poste d'agent de crédit, Chef secteur de crédit et Directeur Régional de Ségou et de Bamako. Après quinze (15) ans passés dans le secteur de la microfinance, Il s'engage dans le secteur du développement Rural à travers un projet initié par la Coopération Belge (CTB) et le Ministère de l'Elevage et de la Pêche la comme Expert National Chargé du secteur privé et des organisations paysannes au niveau du Projet de Développement des Filières Aquacoles dans la région de Sikasso (PRODEFA) pendant trois (3) ans. Actuellement M. COULIBALY est l'Expert National chargé de l'Insertion et Appui à l'Entreprenariat des jeunes ruraux au sein du projet FIER depuis plus de quatre (4) ans avec à son actif plus douze mille (12 000) jeunes (hommes et femmes) insérés dans les filières agricoles et activités connexes dans quatre régions du Mali. Email: makono27@gmail.com

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REFLECTION

Communicate and collaborate to prepare for the unexpected: the International Institute for Communication and Development in the Netherlands

Caroline Figueres

Some 20 years after its foundation in 1996, the International Institute for Communication and Development (IICD), definitively closed. Over the years, IICD proved that Information and Communication Technology (ICT) can accelerate socio-economic development and that a methodology based on principles such as multi-stakeholder engagement, demand-driven approach and local ownership, is key to integrate and sustain ICT-enabled activities. IICD investments in enabling individuals, organisations and networks to adequately serve the ICT needs of local stakeholders resulted in conducive environments with experienced partners well suited to offer cost-effective and locally relevant ICT-enabled solutions. Based on the experience of the former Managing Director, this story explores the impact of the organization, some five years after its closure. It also expresses her opinions and shares ideas related to the importance of knowledge sharing for preparedness in a post-pandemic world.

Keywords: ICTs; multi-stakeholder partnerships; knowledge sharing; organizational closure; COVID-19 pandemic; The Netherlands

Introduction

The International Institute for Cooperation and Development (IICD) was founded in 1996 with the support of the former Dutch Minister for Development Cooperation, Jan Pronk, a visionary who anticipated the importance of the Digital Revolution for low- and middle-income countries. When I met him at IICD in early 2013, he told me that IICD might very well be the last piece of heritage still left from his development cooperation policy. He was convinced that communication and collaboration were paramount to spur development. Sadly, in 2016, some 20 years after its foundation, IICD officially closed down.

Over the years, IICD has indisputably proven that Information and Communication Technology (ICT) can accelerate socio-economic development. In addition, however, a methodology based on the principles of multi-stakeholder engagement, demand-driven approach and local ownership, has shown to be key in integrating and sustaining ICT-enabled activities in low- and middle-income countries. IICD's investment in individuals,

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organisations, networks and communities of practices resulted in conducive environments with experienced partners well-suited to offer cost-effective and locally relevant ICT-enabled solutions. In short, IICD made possible that the ICT needs of different local stakeholders such as farmer organisations or teachers were adequately served.

IICD-next

In 2014, IICD prepared itself to become more independent from grants. IICD would transform into IICD-next, a not for profit, not for loss social enterprise made up of similar-minded organisations from the South and the North dealing with ICT4Development (ICT4D). It was premeditated that IICD-next would foster the self-reliance of local partners, making IICD as such, obsolete on the long term. IICD-next embodied an innovative approach to reach scale and create impact by supporting the local digital ecosystem, in particular by filling the gap of the so-called missing middle. In many low- and middle-income countries, there is a wide gap between large international corporations offering ICT services and products (for example, IBM and Accenture) and local ICT-skilled individuals. Often, large corporations and national governments outsource their IT challenges to large ICT companies, while small companies design robust solutions at a low cost for institutions that cannot pay for the services offered by the large IT companies or want a tailor-made solution. Though many of these small local companies have very good ICT skills, they often lack experience working on larger scale projects nor do they possess the credibility of larger corporations. In order to improve the situation for smaller ICT companies and local ICT-skilled individuals, IICD-next aimed to address the missing middle issue. Especially, around 2014, many donors started promoting entrepreneurship for youth, organising hackathons and giving small funding to support individuals. Although all of these examples were well-meant and useful, they did not tackle the fundamental issue of the lacking middle segment that is very much needed for scaling.

At IICD, we learned that to reach impact with local people, it was better to focus and support the growth of the 'missing middle'. Based on IICD's focus on people-centred capacity development in the use of ICTs, the IICD-next network would have applied IICD's ICT-led social innovation approach to co-create and co-deliver smart combinations of proven ICT solutions (products and services) and to favour scaling-up. The proposed solutions would have been developed together with the local partners and small and medium enterprises (SMEs), based on an in-depth analysis and understanding of the needs of the client and the specific local environment. Furthermore, relying on its large international network of partners from the private, public and non-profit sector, IICD's social enterprise would have prioritised investments in cross sector collaborations to stimulate growth of local markets in low- and middle-income countries.

IICD-next would have pursued programme development opportunities in collaboration with local partner networks and regional brokers by seizing on their particular capabilities,

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specialisations, networks and markets. By ensuring responsible and sustainable use of the technologies, through skills training, coaching and mentoring services, the ICT investments would have been better capitalised. These services would have been focused on e-readiness, use of robust and local relevant solutions and change management. All combined, these approaches would have supported a stronger middle segment (SMEs) and favoured sustainable changes.

As a consequence of the 2015 European 'refugee crisis' (during which close to one million people came to Europe fleeing war and persecution in Syria, Afghanistan and Iraq) a quick shift in policy priorities from the Dutch Minister for Foreign Trade and Development Cooperation took place. Unfortunately for IICD, this led to a decision to reallocate funds that were not already committed. The implementation of IICD's transformation which would have taken place in 2016, could no longer take place. As such, the IICD Board of Trustees decided to close down the organisation, not because its work became irrelevant or had deteriorated but simply because without the financial support from the Dutch government, IICD had insufficient funding for a smooth transition. Ironically, three years later, in 2019, the very same Dutch Ministry for Foreign Trade and Development Cooperation (BHOS) launched its digital agenda for Trade and Development Cooperation (Ministry of Foreign Affairs, 2019), in which they shared digital opportunities for global prospects and stated their importance for low- and middle-income countries. Unfortunately, a lot of knowledge that might have been very useful for the design and implementation of the Dutch Digital Agenda, was lost during the unexpected fast closing down process of IICD. Some people even spoke of an incredible 'knowledge destruction'. From this experience we learned (albeit the hard way) that good (political) timing and secured funds are imperative to remain a front-runner and innovator in the development field, as long as the environment is not enabled enough.

The IICD legacy

That said, good ideas never die. Many of IICD's local partners of whom most never depended on IICD funding, are still around, grow their businesses and surf the digital wave. And, multiple former IICD staff members are still operative in the development sector, where they bring the IICD spirit and way of working to other organisations and promote and support wise ICT4D approach. Maybe one could say that IICD bears resemblance to a phoenix, the mythological bird known to be reborn from its ashes after death? That is to say, the end of IICD had also a very positive impact. It enabled the accelerated spread of the IICD-approach and it ended up sowing seeds of digital interests in many other organisations in particular throughout the Netherlands.

Many documents produced by IICD and based on project experiences were gathered on the IICD legacy website at www.iicd.org. Multiple other IICD records proved to be a source of inspiration for many, such as the article with recommendations on ICT for a greener economy to the Dutch Platform Rio 20+ (IICD, 2011). Of course, IICD was not the only organisation working in the ICT4D field (but one of the oldest ones) and several other actors joined forces

and together worked to produce, for instance, the Principles for Digital Development (undated). Many of them were already applied by IICD and described in 2014 in a peer-reviewed chapter presenting the major challenges, commonly faced in implementing ICT4D projects (Figuères et al, 2014).

Another of IICD's realisations was developing capacities, specific skills and competences that are needed when working with ICT in the development sector. For example, Data4Development (D4D) as part of ICT4D, was and is much more than monitoring and evaluating projects in order to report and be accountable. In the same way that one needs a gender expert or a capacity development specialist, data and ICT4D experts are needed to make the role and importance of data in (development) work not only understandable but more effective and efficient. However, as many specialists felt isolated in their own organisation, where they often were the only person involved in data and digitalisation activities, it became clear that the creation and maintenance of the community of practices was very important for these experts and their work.

This brings us to one of IICD's strengths: its determined knowledge sharing approach. IICD persistently supported and enabled its networks and community of practices, also when other organisations and institutions refrained from doing so. For many donors 'impact' and 'sustainability' are decisive features when allocating funds. Unfortunately, it is often complicated to show the impact of such networks and communities of practices. They are intangible and even today frequently donors still prefer to fund assets (visible results on the short term: fast track development to fix an issue) than to support knowledge development processes also known as slow track development (investment in people who will address and solve issues on the long term).

Supporting processes and professional communities, as opposed to prioritising short term outputs and checklists, means taking bigger risks and having the capacity to continuously adapt by monitoring processes, since outcome and impact cannot always be made fully clear from the start. However, IICD's approach allowed networks and community of practices to be creative in their work, to develop activities based on the real needs of their members and adapt depending on feed-back loops, using the knowledge and experiences of networks and communities of Practices.

Where do we stand now?

Luckily, the networks and community of practices initially spurred and supported by IICD and partners to facilitate knowledge exchange proved to be more resilient than anticipated and allowed for a certain continuation after IICD discontinuation. Once part of the community of practices people continued to share knowledge and experiences. Today, numerous reports and policies recognise the importance of digitalisation and data and ICT for

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the development and humanitarian sectors. As an example, in his recent data strategy, the UN Secretary-General stated that:

> …a better use of data - combined with approaches founded in UN values and human rights - are integral to our future and service. (…) Starkly and powerfully, the COVID-19 pandemic illustrates how critical data use, with a human face, is to protecting lives & livelihoods. (UN, 2020: 2)

Additionally, ICT-led start-ups are mushrooming with many (private and public) funds dedicated to entrepreneurship development, and they make use of the creativity of young people all around the world. The number of SMEs in the 'missing middle' niche is also growing, but they should be supported even more. They can provide services to the big companies (sub-contractors) and give work to a much larger group of individuals that are not entrepreneurs themselves. As such, the potential for sustainable job creation and for impact at scale is higher.

Implications of the pandemic

One can see that during the last years a transition starting to take place, away from developing fancy ICT-based apps and solutions, and towards a more general understanding of the power of ICT and data and need to work at a much larger scale. Today, data is increasingly understood as a strategic asset for development, if and when accessible. But data without knowledge and experience to understand and assess its value does not mean much for development. The importance of human knowledge and experience to give meaning is paramount. One of the things we learned from the COVID-19 pandemic is that the Global North was not prepared for the unexpected. The 'Global Risks Report' (World Economic Forum 2020), published mid-January 2020, indicated that infectious diseases only ranked 10th in the top ten risks in terms of impact. In the top ten risks in terms of likelihood it was not even mentioned. Two months later perspectives changed completely. From the COVID-19 crisis we learned (if needed) the same lessons as the lessons we should have learned from the climate crisis: our actions have undesired and unexpected consequences that are often out of our control. And we are not living in a world under control.

But one main difference between both crises is that the effects of the pandemic are also felt by people in the Global North. As a result, many people are now preparing for the unexpected by recentralising science, data, information and knowledge at the heart of our decision-making process. To fight the pandemic, most countries have transitioned to basing their political decisions on the latest available scientific knowledge with the aim of saving human lives and economies. As it has become clear from fighting COVID-19, actively learning on the go from day-to-day practice and experience is paramount to booking success. Reliable data, knowledge sharing, collaborating and communicating turn out to be crucial skills for making effective decisions in times of crisis.

Disturbingly something else became also visible during the pandemic: disinformation, fake news and conspiracy theories can develop and spread very fast, confusing people's sense of reality. We know that often people are not taking decisions based on data, facts and evidence. Human beings are making choices based on emotions, whether they are informed by knowledge gained from data, facts and correct information or not. Trust and sense of belonging are fundamental for the well-being of humans. Therefore, IICD has always intended to create an atmosphere of openness where exchange and knowledge sharing amongst local partners, shareholders and employers went hand in hand with a feeling of belonging and interpersonal trust. This is another reason why it is so important for communities of practices to decide on a code of conduct or a set of values for its participants to abide by and avoid unacceptable behaviour. It also prevents a community of practices to slide down to and potentially become a conspiracy group. As rightly stated by the USA's former President in his farewell address (Obama 2017), digital bubbles can be dangerous for human development:

> We retreat into our own bubbles, whether in our neighbourhoods, or on college campuses, or places of worship, or especially our social media feeds, surrounded by people who look like us and share the same political outlook and never challenge our assumptions. In the rise of naked partisanship and increasing economic and regional stratification, the splintering of our media into a channel for every taste, all this makes this great sorting seem natural, even inevitable. And increasingly we become so secure in our bubbles that we start accepting only information, whether it's true or not, that fits our opinions, instead of basing our opinions on the evidence that is out there.

So, what will be the 'new normal' in a post-pandemic world? How can we be prepared for the unexpected in a world where we cannot always trust data, facts, information and knowledge? And, as learning capacities to adapt are at the heart of preparedness, how can we get insights and develop wisdom if we are not even sure from what data, facts and information to learn? What groups, networks or communities can we create where trust and belonging enable us to act in an increasingly uncertain and precarious world? In the past there were many institutions, such as the family, the school, the factory and the church enabling the building of trust and belonging. And although there certainly are many such institutions left in place, their influence, in at least high-income countries, is decaying. Since trust is built on knowing the people you share space with, a place, especially in an educational context, is defined by its community's shared values in which communication and tone are paramount. The COVID-19 pandemic taught us that a sense of belonging can be quickly created and does not have to be in the physical world. It can also be a virtual place.

Conclusions

This is why, in my view, purpose-based networks and community of practices are so relevant for the future. They combine the sense of belonging and trust of the participants to the process of learning and sharing. Furthermore, they are constituted of people that are rooted in

daily evidence-based practices, allowing us to continuously do a reality check of the facts and information on the ground. It is about people we trust and about places where clear and respectful communication foster collaboration. A community of practices breads a culture of learning, mutual accountability and shared responsibility. The role of the 'mother organisation' in supporting the community of practices is therefore to eventually make herself obsolete on the long term. IICD aimed at nurturing the community of practices until the latter became self-sufficient and as long it serves the purpose. To that end and in order to survive, communication and collaboration have always been essential. But it takes time.

In the digital environment of a post-pandemic word, new communities of practices will spring of institutions and/or (informal) interest groups and will help us to be better prepared for unexpected change. We have to support them and prevent bubbles of comfort taking over. And, we have to sustain places where knowledge can be shared, beliefs can be challenged and where people can grow in a safe environment. I truly believe that (informal) communities of practices will complement the traditional institutions and offer us additional possibilities to better communicate and collaborate in a fast-changing world, full of unexpected events.

About the author

Caroline Figueres received an MSc. degree from the French National School of Engineering for Water and Environment (ENGEES) in 1985. She has a broad range of experience of working in Europe and developing countries, particularly in Africa and Asia. Caroline worked for French and Dutch consulting companies in the water and environment sectors, starting the French branch office of a Dutch consulting company in France (IWACO-France part of Royal Haskoning Group). While working at the UNESCO-IHE Water Education Institute in the Hague, she gained a high level of expertise and experience with knowledge and research institutions, training, education, capacity building and learning. In January 2008, Caroline was appointed Managing Director of IICD, a not-for-profit organisation specialising in empowering organisations to develop and implement ICT solutions relevant to their needs. Email: cfigureswork@gmail.com

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REFLECTIONS

Investments in learning during the Ebola outbreak shape COVID-19 responses in West Africa: evidence from Sierra Leone and Nigeria

Alfred S. Makavore and Emily L. Janoch

In emergency response investing in learning is often seen as a luxury that will take resources and focus away from the people most in need. However, in COVID-19, building on learning from the Ebola outbreak in 2014, and from previous experiences responding to Ebola, was critical to getting an effective response mobilized quickly. The time and investments in documenting lessons learned and in building learning and collaboration spaces allowed many countries in West Africa to quickly respond to COVID-19 in more effective ways. In particular, we were able to quickly apply lessons about communicating risk more effectively, about engaging with community leaders to reinforce healthy behaviors that would protect people, and about collaborating across partners to develop tools and resources that would support the government's public health response. We are applying the lessons from Ebola about how to learn and document good practices to our COVID-19 response. This includes special attention to working with communities to document learning and understand what is and is not working.

I am Alfred S Makavore, a Public Health Professional from Sierra Leone. I have worked for CARE International in the West Africa Region for well over a decade now. Given my background, I was tasked to lead and coordinate the Ebola Emergency Response for CARE Sierra Leone when the epidemic struck in 2014. It was a herculean task since Sierra Leone was faced with an epidemic of such magnitude for the very first time and the consequences were huge. CARE Sierra Leone's response at that time, was mainly focused on Risk Communication and Community Engagement, community-based surveillance, coupled with an integral element of institutional support to both National and District Ebola response Coordinating structures. With that firsthand experience in the emergency Ebola response, I was a frontline responder to

the COVID-19 pandemic with CARE Nigeria, which gave me an opportunity to practically adapt and apply most of the learning, models and good practices from the past Ebola epidemic in Sierra Leone, Guinea, Liberia and Cote d'Ivoire. Invariably, the models adapted, particularly the Risk Communication and Community Engagement (RCCE) proved to be very effective in Nigeria since there are lots of cultural similarities. Epidemics can be a time of information overload and great confusion leading to rumors and stigma associated with the disease. RCCE focuses on providing accurate, timely information from credible sources, delivered in a way that expresses empathy, promotes action (not fear!) and shows respect for all.

Never give up hope: the importance of learning from communities in times of crisis

In my 20 years as a professional working in the health sector, I've seen that we learn best from a wide range of sources —not just one or two, including unofficial ones. The most important way we can learn is actively interact with and listen to local communities' own experience. They are the actual people whose lives are affected. We have to buy-in more to what they tell us than just work with technocrats' perspectives, who sit in offices and come up with recommendations. When Ebola hit Sierra Leone in 2014, we knew we quickly had to learn how to respond, because this was the first time Sierra Leone had to deal with a viral epidemic. This was a massive crisis that affected the country as whole, including the humanitarian sectors and actors. There was an urgent need for action to save lives. We tried to learn everything we could about the disease, as we save lives and learn how to better organize the respond. Ebola wasn't new to the world, but it was new in our context. So we used the internet, radio shows, and other people's experiences to find out more about what to do.

Learning from the past

A lot of the learning was based around people. One of the first things that happened was we tried to learn from what had been happening in Uganda and the Democratic Republic of the Congo (DRC), because they had a lot more experience with Ebola. A lot of the experts who came to Sierra Leone to deal with the outbreak had worked in Uganda and DRC, and they brought a lot of their tools with them—like risk messaging tools such as posters, handbooks, and key messages they had used in previous Ebola outbreaks.

Depending on previous experiences wasn't always positive. We have to adapt and tailor other's experiences to suit our own realities on the ground. Ebola presented differently in Sierra Leone that it had in different outbreaks. For example, in Uganda and DRC, people with Ebola often

bled from all body openings. That was never the case with the type of virus we had in Sierra Leone. By using communications tools from DRC and teaching communities to look for those symptoms meant we lost a lot of time because communities thought they didn't have Ebola because they didn't have those symptoms, so they didn't take action early enough.

The big advances we got by learning from the previous experiences was on social behavior change communication. That gave us a place to start. From other contexts, we learned to work with religious leaders to promote change. That was especially important in Sierra Leone, where religious leaders were initially main contributors to Ebola transmission because they reinforced traditions around burial practices that spread Ebola. Uganda taught us a lot about how to work around that. We were able to apply that to our context. We also were able to apply learning about how critical it was to work with the government to set up coordinated responses, and not just do something on our own.

After implementing for a few months, we realized we needed to have a paradigm shift. We had to think of risk communication more as social mobilization. Instead of thinking of the response as purely sharing information with communities about the disease, we had to find ways to engage the community in responding to Ebola. We had to engage people's emotions instead of just presenting facts by using real examples and having conversations. The measures you need to control Ebola are a contrast to some of people's most deeply held values about caring for the sick, connecting to their families, and respecting the dead. Those values matter a lot to them, and just giving them information is not enough.

Learning in the present

The most valuable learning investments were when we shared between people responding to Ebola in Sierra Leone. We were part of the cluster coordination meetings, and the government set up other platforms to share. The Risk Communication and Social Mobilization coordination group—through the Health Education Division of the Ministry of Health and UNICEF—that brought together civil society and different government actors was the most useful. In that group, we had our ears to the ground and are always learning from communities. I really appreciated that because it allowed us to exchange that information we were hearing from communities and adapt what we were doing based on their perspectives. When we adapted our messages and communication strategies, that was informed by first-hand information we received from the communities.

Online platforms were helpful as a way to harmonize messages and key priorities across different actors. The Ministry of Health had a website that took in messages from all kinds of different

actors and validated them so people were consistent with the information they shared. We were always consulting the CDC website, which helped us understand how the disease was evolving and what was happening.

Not only did we learn from others, we were also able to share our learning from our own work. The whole process was done with lots of reflection in between the implementation. When things didn't work, we could always go back to the drawing board, do some reflection, and think about new ways to adjust our strategies and approaches. The cluster system and coordination meetings gave us an opportunity to present our learning to others. As a team, we had a whole unit for communication to document what we learned and share it out so other people could access it and work from it.

Learning for the Future

After the Ebola crisis was over, we did an After Action Review (AAR) with CARE in Sierra Leone and Liberia to document what worked, and what we would do differently if something similar ever happened. CARE's regional team hosted that meeting, documented it, and saved the information into CARE's Knowledge Management Systems for the long term. This learning is paying off. That's especially true because one of our biggest learning in the Ebola experience is that we are very slow to apply previous learning, and often reinvent learning and tools instead of drawing from what we already knew. As soon as the COVID-19 crisis happened, we were able to learn our After Action Review from Ebola, and combine it with findings from AARs in Haiti and the cholera epidemic to quickly produce guidance about what we needed to do in COVID-19. We were able to share that document with CARE teams all over the world. We also recorded a podcast capturing recommendations for what to do differently to share with staff all over the world. That podcast highlighted the importance of community engagement—not just health messages—because we needed that lesson to be ringing in the ears of everyone responding to COVID-19, especially if they had not worked in an epidemic before.

Applying learning now

The biggest lesson we have brought forward from the Ebola crisis into the COVID-19 response is that we need to bring hope to the communities. When Ebola first started, the whole way it was presented was so scary. Even when communities had potential and capacities, they did not make use of those because they had already given up hope. That's something that we have taken even further in the COVID-19 response, and it has already given dividends. It has mattered so much in

the COVID-19 response because the entire world is overwhelmed. In Ebola, we were still able to access resources from other countries and we got donations from lots of other parts of the world. That hasn't happened as much this time because the situation is affecting everyone, and not just a few countries.

We see learning paying off beyond just CARE. When COVID-19 hit, the Health Education Division reactivated the Risk Communication and Social Mobilization group, and it's really active now. That group is actively responding to COVID-19 and using learning from the Ebola experience to shape that, as well as continuing to learn from the current crisis.

Maybe the biggest change we see is how we work more with communities, and how we are better partners now—so community responses are much more effective. We communicate more confidently and reassure communities, because we have seen what they can do. We know what is possible. More importantly, the communities themselves know what they can do. The communities in Sierra Leone don't feel overwhelmed, because they understand that they can take action to change the situation. We see local communities producing their own facemasks. If they had waited for other countries to bring them masks, it would have been catastrophic.

In Ebola, we were all so scared at all levels. Nobody had seen anything like that before. Nobody knew how to do it. But in COVID-19, we already had structures in place so we could work with communities. We were already proactive to restore trust and confidence with communities. We didn't lose sight of their potential and their capacities. We engaged communities to solve problems right from the beginning, rather than focusing on ourselves as the experts who were bringing information to communities the way we did with Ebola. That disconnect at the beginning of Ebola didn't happen this time.

Learning about learning

We're still learning about how to do this better. In COVID-19, we haven't had the same kinds of platforms and coordination because everything is remote. It can be harder to find ways to connect when we can't have the same kinds of interactions and connections with each other. Even with online meetings and coordination, it doesn't work quite the same way; learning has to be more formal and structured. There are also some things I would do differently next time. I would publish more externally and try to find more ways to ensure that what we learned was available through the media and online. I would focus more on written documentation and less on presentations and in-person learning, because it's harder to do the in-person learning and the exchange of experts in COVID-19 than it was during Ebola. I'd invest more in internet infrastructure because the lack of good internet infrastructure in West Africa has limited our

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capacity to exchange with each other to a large extent. And it changes who we can exchange with, because not everyone can access the internet or virtual coordination meetings.

I'd also invest more in sharing learning with communities. We learn from all kinds of sources, but from the communities most of all. We need to make sure that we are giving feedback and sharing lessons. We often find it very difficult to go back to communities to share what we have learned with them. But we need to take that time. Responding to emergencies should be a collective effort. Given that communities are the ones who are affected, they should always be at the forefront of the effort. We should specifically involve affected people in identifying appropriate learning mechanisms, in understanding what their preferences are with regards to sharing information, to providing feedback and complaints, to discussing solutions etc. Often an AAR is just done in house, and we need to step out and get the communities' side of the story.

What's next?

As we compare lessons from Ebola and COVID-19, we're seeing that both crises have personal hygiene as critical causes of the emergency. We need to invest in Water, Sanitation, and Hygiene programming for the long term, and not just as an emergency response. That means investing in water systems that will benefit people all the time. To do that, we have to focus on long-term inclusive governance and community-based management of such efforts.

We're also in the process of holding COVID-19 reflection sessions to see what we need to change in our COVID-19 response. The team in Sierra Leone used findings from their Rapid Gender Analysis to engage communities more around preventing Gender-Based Violence in the pandemic and to scale up the way they share GBV and COVID-19 information. In Nigeria, we're using our learning to We are pioneer cash & voucher assistance (CVA) among women headed households and SGBV survivors as a risk mitigation measure to reduce the risk of negative coping options such as survival sex, early/forced marriage etc.

Conclusion

Investing in learning during the Ebola outbreak didn't just help us respond to Ebola at the time. It also taught us invaluable lessons about the importance of community trust, communications strategies that built on connecting to people's emotions, and truly engaging with communities and leaders to respond to a pandemic. We also learned practical ways to connect different experts across the whole country and between countries to accelerate learning and programming in a crisis. Those lessons have helped us respond more effectively to COVID-19 and react more

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quickly and effectively because we could apply them to the situation in front of us. That learning investment is critical to rapid responses in emergencies.

About the Authors

Alfred S. Makavore is a Public Health Professional from Sierra Leone, that has worked for CARE International in the West Africa Region for well over a decade now. He currently runs CARE's health programming in Nigeria. Alfred is also involved as a frontline responder to the COVID-19 pandemic this time around with CARE Nigeria, where he and his team are practically adapting and applying most of the learning, models and best -practices from the past Ebola epidemic in Sierra Leone and the Mano River Union Region (Sierra Leone, Guinea, Liberia and Cote d'Ivoire) at large.
Email: alfred.makavore@care.org

Emily Janoch is the Director for Knowledge Management and Learning at CARE, focusing on ways to better learn from, share, and use implementation experiences on eradicating poverty through empowering women and girls in order to improve impact. With 14 years of experience, she is an expert in designing systems to capture and share information across many sources, and facilitating conversations with practitioners and decision makers. She has a BA in International Studies from the University of Chicago, and a Masters' in Public Policy in Internationals and Global Affairs from the Harvard Kennedy School.
Email: emily.janoch@care.org