

**Growth
Research
Programme**

Raising agricultural productivity in Uganda

Impact case study

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Introduction

Since 2012, the DFID-ESRC¹ Growth Research Programme (DEGRP) has provided funding for and support to high-quality social science research on inclusive economic growth in low-income countries (LICs) with a high potential for impact on policy and practice.

This case study is one of a series that seeks to probe the impact of selected DEGRP-funded research projects, with the aim of delving deeper than previous reports to analyse how and to what extent DEGRP research has been taken up in policy and practice.

There are many factors that influence research uptake, including political circumstances, stakeholder characteristics, demand for certain types of knowledge, and how knowledge is communicated and shared (Jones et al., 2013). This case study, of DEGRP research project ‘A behavioural economic analysis of agricultural investment decisions in Uganda’, led by Doctor Arjan Verschoor of the University of East Anglia, explores these various conditions, paying particular attention to the deliberate and strategic actions of the project team. More specifically, this case study examines which communication and engagement strategies – and in which combinations – contributed to bringing about certain kinds of impact.

In doing so, it serves not only as a detailed investigation of impact for the project’s stakeholders and donors; by demonstrating how certain activities can contribute to or improve research impact, this case study may also provide lessons for researchers and academics interested in enhancing the impact of their own work. Researchers may rarely, if ever, be able to provoke sweeping changes, but they can engage in measured strategies that will increase the chance their findings will be considered and integrated into policy decisions.

This case study opens with an overview of the DEGRP research project, followed by a methodology section summarising the case study’s approach and analytical frameworks. The ‘Achieving impact’ section explores the project’s impacts and how they came about. The subsequent ‘Analysis’ section looks across these impacts to identify and interpret some of the most important factors and strategies in achieving them. Finally, the case study concludes with a reflection on the project’s key lessons.

¹ DFID is the United Kingdom’s Department for International Development and ESRC is the Economic and Social Research Council.

Project summary

Farmers in the developing world face many challenges in their efforts to plant, grow, and harvest crops each year. From limited access to modern agricultural technologies to a lack of exposure to advanced farming techniques, these challenges contribute to low levels of agricultural productivity, and therefore food scarcity and rural poverty, around the world. Yet limited access to these products and practices alone cannot explain the persistence of low productivity: even farmers with access to products that increase agricultural output, such as fertiliser and irrigation equipment, are often reluctant to purchase them. And it's no wonder: these products usually require a large upfront investment and cannot safeguard against risks like inclement weather or disease.

Such was the situation in eastern Uganda in 2012, where researchers from the University of East Anglia found that 35% of farmers struggled to meet their basic subsistence needs (Balungira et al., 2016). To examine the reasons behind low agricultural yield in the region, the researchers undertook a project aimed at understanding farmers' investment decisions. Working with a representative sample of 1,803 farmers from 100 villages across the Sironko District and Lower Bulambuli, the researchers conducted economic experiments and surveys to investigate perceptions of risk-taking and risk-sharing among smallholder farmers.

The findings pointed to several factors fuelling widespread risk-aversion and a corresponding reluctance to invest in productivity-enhancing agricultural practices among the farmers. With 66% reporting a failed harvest in the previous five years, many had had negative experiences with risk-taking (Balungira et al., 2016). Others were concerned about the impact of risky behaviour on their contacts and social networks. And with low rates of investment across the region, caution had simply become habit for many farmers.

But simply producing and publishing research isn't enough for it to be understood, considered, or incorporated into policy. To increase the impact of their work, members of the project team – who were initially unfamiliar with the intricacies of Ugandan agricultural policy – worked with various local and national stakeholders to draw lessons from the findings. Together with farmers' associations, government representatives, NGOs, the private sector, and members of civil society, the researchers crafted a list of policy recommendations designed to mitigate risk and encourage farmers to invest in new technologies and practices. First, they suggested improving the insurance offers available to smallholders to urge them to take measured risk. They also recommended the expansion and encouragement of community warehouse receipt systems that would allow farmers to store produce, selling not out of necessity, but when prices rise. Finally, they advocated for the sale of fertiliser in smaller bags, thus making it cheaper and less risky for farmers to purchase.

From conducting one-on-one consultations to hosting large-scale national workshops and lobbying the national government, the researchers worked to inform and gain insight from a variety of key stakeholders to ensure the greatest possible reach and influence of their project. This case study explores these efforts and their results.

Approach and methodology

DEGRP research projects aim to influence policy and practice in various ways. They may produce new knowledge, shift debates, influence policies, transform behaviours on the ground, or bring about new networks. In order to increase the likelihood of these various kinds of impact, DEGRP's Evidence and Policy Group offers [guidelines](#) for researchers to help them plan or analyse their engagement and communication strategies. The guidelines include frameworks for categorising the different types of impact and communication strategies. Described below, these frameworks provide the foundation for this case study.

IMPACT TYPES

In its promotion of rigorous, influential research, DEGRP defines four different types of impact it hopes to see from DEGRP-funded projects. While some forms of impact may fit more easily into these categories than others, this framework provides researchers with a vocabulary to recognise and describe the many ways in which their research may influence the societies and governments with which they are working.

Conceptual impacts are changes made to knowledge, understandings, and attitudes. This type of impact can be noticed in changes to existing perceptions or by the internalisation of new ideas about the research among societies and stakeholders.

More concrete influence would fall under the category of **instrumental impacts**, which comprise changes in either policy or practice. This type of impact is generally embodied in something tangible, such as a policy document.

Capacity building impacts refer to changes in the ability of researchers, partners, or end-users to carry out similar work in the future. Research that influences the capabilities and competencies of others can be said to have capacity building impact.

Finally, **connectivity impacts** refer to a project's ability to create or strengthen networks of people and organisations that can both understand and use the research. These networks and connections may be formal or informal.

Projects may help bring about any combination of these impacts, either through direct, observable influence or by making a plausible contribution to them. Furthermore, shifts in policy and practice often take place over long stretches of time, and the impact of a single piece of research may be felt long after its publication.

This case study, produced two years after the completion of the DEGRP research being addressed, aims to capture the project's more immediate impacts. However, the project team is continuing to work towards greater impact with funding from other bodies such as the University of East Anglia, so a broader investigation into the long-term impacts of the project remains a topic for future study.

COMMUNICATION AND ENGAGEMENT STRATEGIES

What can researchers do to increase the impact of their research? DEGRP's Evidence and Policy Group (EPG) suggests that in order for research to have an impact, simply publishing findings is not enough: researchers should employ a range of deliberate and strategic communication and engagement strategies to help ensure their findings are transformed into effective policies and practices. There are many approaches and techniques researchers can use, from disseminating research results to the right audiences to co-producing policy recommendations with influential partners.

The EPG recommends the KStar (K*) framework as a tool to help researchers visualise and classify some of the ways in which their research can be disseminated, shared, exchanged, or mobilised (Shaxson and Bielak et al., 2012). Similarly to the impact framework already mentioned, it provides a common vocabulary for discussing and examining activities that are described in many different ways across sectors (ibid).

The framework defines four interconnected knowledge-sharing strategies or 'K*' activities' that researchers can employ:

Information intermediation includes those activities that help enable access to information. Examples include creating, collecting, and communicating ideas and information and putting them into the public domain.

Knowledge translation entails rewording or reworking information so that a range of different audiences can make sense of it.

Knowledge brokering, the quintessential 'relational' activity, includes strategies like networking and match-making that help connect individuals or organisations and encourage relationship building.

Innovation brokering comprises those activities that aim to improve knowledge-sharing at a systems level, such as putting structures in place to empower other knowledge practitioners in the future.

The framework does not stipulate how researchers should implement these activities, nor does it capture all of the potential strategies that project teams can employ. Nonetheless, it provides a standard language to explore and describe some common approaches.

CASE SELECTION

While we plan to assess the impact of some of the other DEGRP-funded projects in similar case studies, we have used purposive sampling to begin with what Seawright and Gerring (2008) would call an 'influential case': one that provides an unusually rich opportunity for learning. We consider the project on agricultural investment in Uganda to fit this description for two reasons. First, the project is an especially successful example of research impact, project researchers and stakeholders reporting results in all four categories of impact outlined above. Thus, analysing this project with its ample data and numerous examples of impact will enable us to draw lessons for subsequent DEGRP projects. In addition to the project's reported success, its researchers and stakeholders also employed a variety of communication strategies spanning across the K* spectrum. This project therefore also provides a useful opportunity for exploring the role of knowledge-sharing activities in bringing about each of the four types of impact.

DATA COLLECTION AND METHODS

A number of qualitative approaches were used to collect and analyse data for this case study. The first step was detailed desk research. Relevant project documents were read and analysed including: an overview of the research findings, reports written by the researchers and collaborators, and - most importantly - the project team's DEGRP Impact Log, a document in which the researchers recorded their observations about impacts over time.

Next, semi-structured interviews were conducted with three key stakeholders: Arjan Verschoor, the project lead and head researcher; Joshua Balungira, the primary local researcher; and Grace Tino, the CEO of AT Uganda, a close partner of the project. The interviews lasted about one hour each and consisted of open-ended questions about the observable impacts of the research and how they were brought about. The insights and findings from the interviews were analysed and cross-referenced with the results of the desk research.

It's important to note that this case study takes an internal perspective on impact: individuals external to the project, such as the farmers or policymakers involved, have not confirmed its findings. While input from other key stakeholders would have enhanced the scope of this research, the total number of interviews was kept to a minimum due to time and budget restraints. Further research may entail broadening and expanding this analysis with alternative voices and viewpoints, including those individuals and organisations on the receiving end of the researchers' communication strategies. Furthermore, as aforementioned, this case study was produced two years after the project officially ended, it must be seen as a preliminary look at impact. With time, other impacts may emerge.

Achieving impact

CONCEPTUAL IMPACTS

Changes in knowledge, understanding, and attitudes

Overview of conceptual impacts

The project revealed insights into how farmers in eastern Uganda perceive risk and how these perceptions influence their investment decisions. In addition to making this newfound knowledge available, the **project is also helping transform the perspectives of local and national stakeholders on smallholder farmers, their risk habits, and the feasibility of suggested agricultural policy solutions.**

The words and actions of members of the Ugandan government's Ministry of Agriculture, Animal Industry and Fisheries (henceforth 'the Ministry' or 'the Ministry of Agriculture'), for instance, suggest that these changes can be found at the highest levels of government. Though the Ministry had previously expressed interest in risk management for farmers, they had not considered weather index insurance as a possible solution prior to learning about the research. Since reflecting on the project's findings and policy recommendations, several Ministry staff expressed both appreciation for the policy suggestions and a willingness to implement them. Godfrey Wakula Kivunike, Principal Policy Analyst at the Ministry, told Verschoor in an email that their 'contribution to the policy is highly appreciated.'

Tino also observed conceptual impact in the newfound optimism about the project among other stakeholders. She explained that individuals from the insurance companies, banks, and farmers' organisations – many of whom had long noticed the need for change – seemed convinced that the recommended solutions could be implemented and would make a difference. Verschoor echoed Tino's observations, noting that the research and recommendations are helping people see that weather index insurance could be a positive and practical solution to underinvestment among farmers. In a more concrete display of their changing perceptions, some of these organisations have also agreed to take part in piloting the new insurance offers.

The researchers also noted another more tentative conceptual impact: a shift in the government's perception of smallholder farmers. Though it's still too early to garner much evidence for this observed shift, both Balungira and Tino suggested that the project seems to have helped boost the standing of smallholder farmers in Ugandan policy discussions. Though much of the existing research on agricultural practices in Uganda focuses on large farms, this project has encouraged national policymakers to consider those farmers who run much smaller operations and are often excluded from policy considerations.

How conceptual impacts were achieved

How, exactly, did these policy recommendations manage to influence the way farmers, insurance agents, bankers, and leaders of the Ugandan government think about these issues?

According to the research team, stakeholders changed their attitudes gradually, during a sustained process of engagement with the researchers and their findings. At the same time, the researchers paid attention to the various reactions of these stakeholders and adapted their messages accordingly.

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After the data collection was complete, Balungira set up consultations with 27 local agricultural experts, district officials, and prominent members of a farmers' organisation to explain the research findings and listen to their feedback and concerns. In these one-on-one meetings and small-group consultations, Balungira didn't simply present the findings; he helped bring the research to life by taking the stakeholders through simulations of some of the experiments conducted with the farmers. Explaining the choices the farmers had made in the original experiments, Balungira asked the participants to reflect on the results and what they might mean for policy – a process that helped them internalise the new insights and understandings. Once these smaller consultations were complete, the researchers then brought the local contributors together in a workshop, where they co-produced a preliminary list of policy recommendations.

The researchers then took this policy brief to the Ugandan capital, Kampala, to set up small-group meetings with representatives from government, the private sector, development agencies, and NGOs, to discuss and refine the policy recommendations. The team noticed that establishing contact with relevant parties on the national level was more difficult than it had been on the local level, where they could simply walk into the local district agricultural office, so they reached out to AT Uganda for help. An organisation dedicated to promoting agricultural productivity, and whose mission aligned closely with the researchers' work, AT Uganda used their knowledge of the political environment and extensive connections to grow the national workshop, helping the researchers identify potential partners and invite key individuals. With Tino's support, the national workshop convened 90 national stakeholders to engage with the findings and share their insights and concerns. Through the process of exchanging ideas and refining the policy recommendations, the attendees began to shift their perspectives.

Finally, the project's ability to bring the concerns of smallholder farmers to the highest levels of government can be attributed to a combination of factors. On the most basic level, it was necessary that the research focused on this demographic from the start. Then, by explaining the findings to such a wide variety of stakeholders through consultations and demonstrations, the researchers were able to increase exposure to the results, thus promoting greater awareness about issues concerning smallholder farmers, including at the national policy level.

INSTRUMENTAL IMPACTS

Changes to policy and practice

Overview of instrumental impacts

Although the government's expressed willingness to incorporate the findings is a notable impact in and of itself, the research project also brought about a more tangible instrumental impact: **the Ministry of Agriculture included the project's recommendations in their official list of policy objectives.**

As government policy analyst Kivunike explained in an email to Verschoor, weather index insurance was not featured in the original draft of their Agricultural Strategic Plan 2015/16 - 2019/20. 'As a result of your research recommendations', Kivunike wrote, 'weather index insurance was incorporated into the final draft.' He goes on to recognise the direct and pivotal impact of the research, stating 'This would not have been possible if [the researchers] had not shared with us [their] research recommendations as this provided the necessary evidence to lobby for these changes.'

Kivunike also drew attention to the project's influence on another key document: the Agricultural Sector Development Plan 2015/16 - 2019/20. He explains that the researchers' emphasis on the shortcomings of agricultural insurance was the reason they promoted weather index insurance, both by itself and in

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combination with warehouse receipts systems, in the document. ‘As a ministry, we feel highly indebted to you for conducting the research and deducing the relevant recommendations on weather index insurance,’ Kivunike wrote to Verschoor.

How instrumental impacts were achieved

As with conceptual impact, stakeholder engagement – in particular the co-production of policy recommendations – was critical to the project’s ability to influence Ugandan policy objectives. While the project team had a strong grasp of the project’s findings and their implications, they relied on the expertise and input of others more familiar with Ugandan policy and politics to convert this knowledge into relevant policy recommendations. Various stakeholders, including prominent farmer advocates, local officials, and experts with different knowledge sets and opinions, had assessed the feasibility of the recommendations and made sure their concerns were addressed. As a result, the final document was not simply evidence-based, it was also inclusive, informed by local and national knowledge, and thus more likely to resonate with all parties involved.

However, even getting a widely-approved list of recommendations onto the Ministry’s desk was no easy task: Balungira referred to the frustrating bureaucracy he encountered which made it difficult to arrange meetings with government officials. Thus, in order to take their recommendations to the highest levels of government, the project team contracted an organisation called PASIC (Policy Action for Sustainable Intensification of Cropping Systems) to work as brokers. PASIC representatives, who had an existing presence inside the Ministry and a strong understanding of Uganda’s policy landscape, convened meetings with government officials and relayed messages on the researchers’ behalf. More specifically, the brokers presented the Ministry with a list of policy suggestions that had emerged through the stakeholder engagement, asking the officials for their opinions and then relaying this information back to the researchers. ‘What they did is what I would have done, but it would have been more difficult for me,’ Balungira explained.

CAPACITY BUILDING IMPACTS

Changes in the ability of research collaborators or end users to conduct similar work in the future

Overview of capacity building impacts

The impacts of this project also reverberated beyond policy documents, lending support to project collaborators and end-users. Perhaps most significantly, **the project helped create an opening for local researchers to continue conducting similar research** in the region. After collaborating on the project, the team’s Ugandan researchers – led by Balungira – established the Field Lab Research Services Institute to formalise their expertise and services. This local research company, specialising in ethnographic research, economic experiments, and surveys, provides talented and previously underemployed graduates from Uganda the opportunity to share their local knowledge and research expertise. With support from Verschoor and this project, the Field Lab has become an important resource for improving evidence-based research and helping academics conduct locally-informed experiments beyond the university laboratory.

Although the project team reached out to AT Uganda for their expertise and support, **the project also helped support the capacity of AT Uganda** in return, providing evidence that bolstered the organisation’s mission to promote agricultural innovation in Uganda.

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The project has also prompted many organisations to begin testing out new insurance offers. In fact, a group of insurance companies, micro-finance organisations, farmers' organisations, and agricultural service providers have agreed to work towards providing the new insurance products recommended.

How capacity building impacts were achieved

If changes in the capacity of collaborators and their organisations are often difficult to pinpoint or measure, then determining how those changes come about is even harder, as these efforts are usually informal and intangible. Nonetheless, the work of the project team certainly made contributions to many of the changes described above.

First, the project gave the network of researchers that would comprise the Field Lab the experience to strengthen and refine their skills. The team is also continuing to support the organisational capacity of the Field Lab by helping design a website promoting its services.

The project team's success in bringing about clearly observable conceptual and instrumental impacts also reinforced their credibility, which has helped them acquire new clients and projects. Moreover, Verschoor, whose role as a Research Director at the University of East Anglia affords him both credibility and many contacts in the field, has recommended the group to other academics, helping supply the Field Lab with new projects.

The project strengthened the capacity of AT Uganda by furnishing the organisation with strong, evidence-based knowledge to support their messages. For instance, AT Uganda had already carried out projects to make small packs of fertiliser available to farmers, so the project's findings, which pointed to the benefits of such efforts, helped validate their work.

How has the project been able to bring organisations closer to providing new weather index insurance offers? First, the policy recommendations, backed by strong research findings and evidence, provided the rationale for these offers. Then, the consultations and demonstrations conducted by Tino and Balungira helped these organisations see the value and potential of the offers, thus making them more likely to undertake efforts to see them through. Finally, as a result of the project's initial success in influencing policy and practice, the School of International Development at the University of East Anglia has agreed to finance the trial rollout of these new products in 2017.

CONNECTIVITY IMPACTS

Changes in networks that can make use of the research

Overview of connectivity impacts

The project has helped foster collaboration between many groups concerned with improving agricultural productivity in Uganda. For instance, **the researchers joined the Agricultural Finance Platform**, hosted by the Uganda Agribusiness Alliance, an organisation that has agreed to support the provision of weather index insurance.

Similarly, as a result of the project, a group of **organisations** including insurance companies and micro-finance organisations have committed to **collaborating on piloting of these new insurance products**. With a mock rollout of the products in 2017 and product testing after that, these organisations are working towards making these offers a reality.

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The researchers themselves have also forged connections with the Ugandan Ministry of Agriculture, the Ministry of Finance, insurance companies, banks, development partners, researchers, NGOs, civil society organisations, and many agricultural experts and officials.

How connectivity impacts were achieved

The project has been successful in building coalitions and encouraging collaboration within the agricultural improvement sector through a mix of many factors and activities, some of which have already been described above, including a variety of communication strategies and fortunate timing. While fostering these connections was not among the researchers' initial intentions, it has been a welcome consequence of their efforts.

One form of collaboration, the researchers' involvement in the Agricultural Finance Platform (a forum for organisations to discuss Uganda's agricultural productivity and innovation), came about under serendipitous circumstances. While academic conferences rarely seem to have an impact outside university walls, one academic presentation helped spark collaboration on the ground. After presenting his research findings at an academic conference, Verschoor was approached by one of the attendees, Steve Hodges of the Uganda Agribusiness Alliance, who invited him to join the Agricultural Finance Platform.

Connecting with other organisations, including the government, insurance companies, and agricultural experts, however, was much more deliberate. The researchers strengthened their networks through a variety of strategies, including setting up meetings and consultations, demonstrating the findings, and inviting the stakeholders to share their opinions. In fact, much of the connectivity this project brought about can be attributed to comprehensive stakeholder engagement and the co-production of the policy recommendations explained in the previous sections. Sometimes forging these connections required that the researchers deferred to the skills, local knowledge, and connections of others. This characterises much of their work with AT Uganda, who held consultations with 14 insurance companies and other organisations to explain the findings and build their network. Other times, this process was even more formal, as when the researchers hired brokers from PASIC to communicate with the government.

Analysis

The DEGRP project revealed insights into how farmers in eastern Uganda perceive risk and how these perceptions influence their investment decisions. Conducting and publishing this high-quality research provided the basis for the co-production of relevant policy recommendations; it also gave those recommendations credibility.

However, if the team had simply conducted the research and published the results - that is, if they had only employed what the K* framework terms information intermediation - the research project might not have had any of the impacts outlined in this case study. Research impact was made possible not simply by generating the research and making it available, but by a composite process of producing knowledge, tailoring the messaging to various audiences, and reaching individuals or organisations through relationship building and networking. In other words, though in different combinations and to varying extents, information intermediation, knowledge translation, and knowledge brokering all contributed to generating each of the four types of impact.

With reference to the K* framework, this section discusses the links between the project's various types of impact and the knowledge-sharing activities the project team employed. It also reflects on factors outside of the framework that may have contributed to these impacts.

CONCEPTUAL IMPACTS

Summary

- *Deep engagement with the findings and co-production of the policy recommendations with stakeholders were the most important activities for changing attitudes.*
- *This engagement came about through a combination of knowledge translation and knowledge brokering.*
- *Knowledge brokering broadened the reach of the knowledge translators by enabling them to influence people they might not have reached through translation efforts alone.*
- *Translation was most effective when the participants took part in translating.*
- *Impact was strongest among those already interested in the ideas from the start; the project was more effective in solidifying attitudes than changing them altogether.*

In order for research to influence thoughts and attitudes, it must be thoroughly understood and internalised. Knowledge translation – the reworking or deciphering of information so that different audiences can make sense of it – is paramount to this process. Balungira, for instance, tailored his messaging to policymakers who had limited understanding of the day-to-day realities of farming by engaging them in simulations of the original economic experiments conducted with farmers. These immersive demonstrations enabled the participants to imagine themselves as farmers, making the findings seem more realistic and convincing. Conveying the findings and implications differently to different audiences maximised conceptual impact, enabling the researchers to broaden and deepen the reach of their knowledge.

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Through effective knowledge brokering, the project team was able to broaden the reach and impact of their ‘translated’ messages. By forging connections on their own or hiring brokers to relay messages on their behalf, the project team ensured that their communication reached a greater number of relevant stakeholders. For example, Tino, who was acting as a knowledge broker, reached out to her industry connections to ensure that the right people attended the national workshop. As a result of her effective knowledge brokering efforts, 90 industry stakeholders attended and participated, gaining access to ‘translated’ findings and thus shifting their attitudes accordingly.

The project’s conceptual impacts were not even across the board, however. Tino explained that a small number of insurance companies appeared sceptical about the research and declined her invitation to participate in the workshops. These individuals, who were not originally interested and therefore did not take part in the consultations, did not change their minds. Individuals from other insurance companies, on the other hand, received the ideas openly and warmly. They accepted her invitation to join the workshops and shifted their perceptions noticeably. Thus, rather than transforming people’s ideas altogether, the project was more likely to help uncover and strengthen latent positive perceptions through engagement. In other words, the strongest conceptual impact was seen among people already interested in or open to the project’s basic ideas.

Despite these observed impacts, Verschoor pointed out that these conceptual shifts are still new and very fragile; the team does not know how ingrained or long-lasting these new perceptions will prove to be. Tino, however, was optimistic: ‘I strongly believe it will make a difference,’ she said.

INSTRUMENTAL IMPACTS

Summary

- *Knowledge translation and knowledge brokering contributed to bringing about changes to Ugandan policy documents.*
- *The process of knowledge translation took place over a long period of refining the policy recommendations.*
- *Knowledge brokering enabled these ‘translated’ messages to reach and influence policymakers.*
- *The project team has consistently indicated that instrumental impact has been the project’s most significant impact.*
- *Although the project has impacted written policy objectives, these policies have not yet been implemented.*

The research findings were not simply handed to the policymakers; they were deciphered and delivered through a complex process involving various combinations of both knowledge translation and knowledge brokering.

Determined to ensure that the recommendations would have maximum influence on policy, the project team developed a thorough and inclusive knowledge translation process. They brought together a wide range of local and national stakeholders (knowledge brokering) to support them in refining the list of recommendations (knowledge translation). The national workshop in Kampala was a particularly significant part of this process. Organised by Tino and Balungira - acting as knowledge brokers, in this case - the national workshop was the site of extensive knowledge translation as various stakeholders

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worked together to turn the preliminary policy suggestions into feasible and well-informed policy recommendations. In order to get this list of suggestions into the Ministry's hands, the project team turned to knowledge brokering again, this time hiring knowledge brokers from PASIC.

Although knowledge translation and knowledge brokering contributed to the instrumental uptake of the project's recommendations, they were not the only conditions and behaviours necessary to facilitate instrumental impact. Balungira pointed to another integral piece of the puzzle: good timing. When the Ministry received the policy recommendations, they were in the process of drafting the upcoming Agricultural Sector Development Plan. In fact, they were already thinking about including some kind of agricultural risk management objectives, but didn't have any research to support their thinking. 'We caught them at the right time,' Balungira said, noting the possibility that had they contacted the Ministry after the publication of the plan, their recommendations might not have been incorporated.

Similarly, Balungira noted that deteriorating weather conditions have created a sense of urgency around the need for better insurance offers for farmers. Severe drought in eastern Uganda (see e.g. Okiror, 2016) is causing dangerous food shortages, and the government has begun handing out emergency relief. As a result of these circumstances, the government may have been more open to implementing the researchers' policy suggestions to pursue long-term solutions to the problem of low agricultural productivity. These conditions, Balungira surmised, will also make farmers more likely to seek insurance offers.

Each of the interviewees considered the instrumental impact – the changes made to Ugandan policy documents – to be the project's most significant impact. While impacts such as shifting attitudes and building coalitions are important, the project team was most interested in influencing Ugandan policy, so they count this instrumental impact as the project's biggest success. Verschoor noted, however, that although the policy document has been changed, there is still no guarantee that these policy objectives will become reality. Balungira, on the other hand, was optimistic that these policies would soon be enacted, pointing out that in 2016, the government allocated five billion Ugandan shillings, roughly equivalent to US\$ 1.3 million at the time of writing, to agricultural insurance (Ugandan government, 2015). 'There's a lot of good will,' Balungira said. 'There's momentum.'

CAPACITY BUILDING IMPACTS

Summary

- *Knowledge translation and knowledge brokering made capacity building impact possible.*
- *The connections forged through knowledge brokering often relied on pre-existing connections.*
- *The high quality of the research and its various impacts were especially important factors in bringing about capacity building impact.*

Knowledge brokering and knowledge translation preceded the project's effective capacity building impact. These activities laid the foundation for the project team to support the researchers in setting up the Field Lab, for AT Uganda to continue their mission to promote agricultural productivity, and for the various insurance organisations and banks to begin creating new insurance offers. By networking with each of these groups (knowledge brokering) and communicating with them through tailored messaging (knowledge translation), the research team made capacity building impact possible.

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This combination of knowledge translation and knowledge brokering was most important in strengthening the insurance organisations' ability to create new insurance products. Through consultations with these organisations—forged by knowledge brokering and carried out with effective translation—the project team helped convince the organisations of the importance and feasibility of these new insurance offers.²

Information intermediation has already been highlighted as important to all impact types. That is, conducting and publishing the research was a prerequisite for all impact types in this case. But the nature of this research itself also matters, especially when it comes to capacity building. For instance, the project's success in bringing about impact was part of the inspiration for founding the Field Lab. Similarly, the project's support for AT Uganda was predicated on the strength of its research findings. That is, the project's evidence-based research helped bolster the credibility of AT Uganda. If the research itself had not been sound, it could not have provided the same kind of support. Thus, the strength of the project and its impacts served as fuel for capacity building.

CONNECTIVITY IMPACTS

Summary

- *Knowledge brokering and knowledge translation contributed to the project's ability to bring about connectivity.*
- *Stakeholder engagement – including the co-production of policy recommendations – was key to strengthening connections between various stakeholders.*
- *Achieving connectivity requires openness and flexibility on the part of the project team as well as those with whom they are forging connections.*
- *Overall, connectivity impact was an unplanned but welcome by-product of efforts to bring about other types of impact.*

Many of the activities that fuelled connectivity impact have already been explained in the sections above: knowledge brokering brought the various stakeholders together, while knowledge translation helped foster better communication between them. These interactions helped establish and strengthen networks of people and organisations that may continue to make use of the research.

The process of co-producing the policy recommendations was also important to achieving connectivity impact. By continuously involving stakeholders throughout the process of defining and refining the recommendations, the researchers were strengthening their relationships with them. This process of co-production, in turn, was enabled by the project team's willingness to listen to and incorporate the ideas and feedback of others.

In fact, this open-mindedness – on the part of both the researchers and the other stakeholders – was important to bringing about connectivity impact in other ways as well. For example, Verschoor exhibited open-mindedness when Hodges of the Uganda Agribusiness Alliance approached him about potential collaboration – an interaction that led to the organisation's involvement in the project as well as the project team's involvement in the Agricultural Finance Platform. On the other hand, Tino was unable to

² Although this case study focuses on the impact of the project on Ugandan policy and various stakeholders, these activities also had capacity building impact on the project team itself; knowledge translation and brokering helped the team develop their understanding of Ugandan policy processes, which will improve their capacity to carry out projects in the future.

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build connections with those insurance companies that simply did not want to be involved. Thus, connectivity impact was strengthened by the stakeholders' adaptability and willingness to respond to networking opportunities as they arose.

This case study has also demonstrated that building networks was often a by-product of efforts to bring about other types of impact. That is, the researchers did not actively pursue connectivity impact as a goal in and of itself; connectivity impact was the result of activities performed in pursuit of other types of impact. Furthermore, connectivity 'impact' as the strengthening of networks can also be seen as an activity employed to bring about other types of impact: the project's effects feed into one another. Thus, classifying connectivity as its own impact will enable researchers and stakeholders to see the strengthening of networks not simply as a means to an end, but as a significant and lasting impact of its own.

Conclusion

The DEGRP agriculture project analysed in this case study is a particularly successful example of how academic research can generate conceptual, instrumental, capacity building, and connectivity impacts. By analysing the origins and depth of these impacts, we can draw lessons for other researchers interested in contributing to or achieving impact.

The DEGRP's list of four types of impact may help readers identify and categorise the different effects a project may have. However, rigid definitions of impact may limit the types of influence researchers seek to have. Thus, researchers may benefit from interpreting the DEGRP's impact types broadly so as to recognise less tangible or obvious impacts than a change made to a policy document, for instance.

This case study suggests that there are many paths to impact, and that each requires a combination of different communication strategies and activities. The K* framework is a useful tool for exploring these activities and their impacts, as it provides a vocabulary to discuss them. But the framework alone does not account for the complexity involved in achieving impact. For instance, it does not take into account the importance of *how* each activity is performed or implemented. As this case study indicates, the nature of these activities and the spirit in which they are conducted are perhaps just as significant as the activities themselves.

Analysis of the project suggests at least three important approaches or values that could help foster impact. First, researchers will benefit from greater likelihood and depth of impact if they are willing to collaborate with key stakeholders in generating and communicating knowledge. The project team's collaborative approach to producing, communicating, and refining the policy recommendations was key to fostering uptake.

Next, researchers should acknowledge their own shortcomings. This may mean relying on the strengths of others or pursuing impact where it seems most likely to come about. For example, when it seemed it would be too complicated to speak directly to the Ministry, the project team enlisted the help of PASIC. Similarly, Tino used her time and resources wisely by garnering support from insurance professionals already interested in the project, rather than trying to change the minds of those who were not.

Finally, the case study suggests that on the path to impact, there is still much that remains out of the project team's control. For instance, some of the impacts were helped along by events that are difficult to anticipate or control, such as timing or chance encounters. Researchers can increase the likelihood that they will benefit in these situations by remaining open to such opportunities and flexible when they arise.

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