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Linking science with policy: the importance of incorporating clear roles for knowledge brokers into research-for-development organizations

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Agriculture and food systems research and international development work will not proceed at the necessary speed without clear attention to the role of knowledge brokers within science-policy-practice interfaces. For research to be taken up and incorporated in policy frameworks, knowledge brokering is essential. Scaling of research for development findings will happen through other impact pathways as well, such as development of business models with the private sector, but development and implementation of robust and coherent policies informed by credible evidence is necessary for institutionalizing the work of agriculture and food systems research. Such policies are needed at multiple levels, and knowledge brokers are needed at these different levels as well. Examples of the importance of knowledge brokers in agricultural research for development from the livestock sector and its interaction with the climate change arena are used to illustrate this call for more attention to knowledge brokering.

KEYWORDS

science-policy interfaces, knowledge brokering, agricultural research for development, climate change, stakeholder engagement

1 Introduction

Successfully reforming agricultural research and development systems to meet current and future needs will require a multitude of approaches. The challenges to reducing hunger and poverty are immense: climatic change, malnutrition, inefficient markets and political instability are among the biggest but certainly not the only hurdles that need to be addressed. A key approach to tackling these challenges will be linking the research produced into decision making processes so evidence can be used in formulating policies and developing priorities for investment. These efforts, sometimes referred to as 'boundary work' (Hoppe et al., 2013), are gaining prominence in institutions such as CGIAR, a global research partnership of international agricultural research centers. Critically examining the success factors needed for such boundary work is crucial. The activity of linking science with policy must be deliberate; it is an area of research itself.

Current agricultural research for development systems do not conduct enough research or put enough emphasis on the methods and approaches for engaging with policy makers. This science-policy engagement needs to be deliberate and carried out by dedicated people within these systems. Such people dedicated (full-time or part-time) to linking research with policy

processes are knowledge brokers and can serve a clear role in elevating the efforts toward engaging in science-policy interfaces. Such knowledge brokering deserves to be given more prominence within agricultural research for development institutions so it is seen as a legitimate role with clear methods, activities and performance indicators. It is not a new activity within agricultural research (Klerkx et al., 2012) but treating knowledge brokering and science-policy engagement with more importance will help agricultural research organizations and institutions in other sectors to better understand the needs of policy makers and to make better use of their research findings for informing policymaking.

It should be understood that there must be a two-way nature to the engagement. Not only should knowledge brokers be translating research findings into usable evidence for policymaking, but they should also help their organizations better understand the needs of policymakers and thereby adapt their research agendas in ways that can help support policy processes. This will help support the co-design of research and co-design of policies. While co-designing research agendas is important to meet the needs of policymakers, agricultural research for development organizations should not completely forego their science-led research agendas. There are areas of research that will not be in demand by policymakers, but which are critical for advancing science and which may anticipate future policymaker needs. These should remain as part of the organizations' commitments to addressing societal concerns.

2 Why should organizations such as CGIAR engage in policy processes?

CGIAR as a boundary organization with a research-for-development goal needs to be plugged into the multifaceted problems faced by low- and middle-income countries struggling to feed growing populations under climate change and other social and environmental stressors, but its institutional culture has been dominated by technical science. Within the climate change sector, there is a call for a faster shift to understanding climate change not just as a technical problem needing technical solutions but as a complex challenge encompassing problems related to power dynamics, trust and other social issues (Scodanibbio et al., 2023). The agricultural research community needs to make this shift with more urgency as well. This is not to say that CGIAR should abandon its half-century of research on crop breeding and other foundational science but to encourage them and other agricultural research for development institutions to broaden their views on what constitutes the challenges involved in solving hunger, poverty and environmental challenges in the 21st century. The CGIAR portfolio does already include research on areas like gender transformative approaches within agricultural development, foresight and policy analysis, market improvements and more.

To successfully use findings from these areas and from biophysical research to inform policymaking, organizations need to understand how to connect with policy processes. How policymaking occurs is also an area of research, and having scientists who are present during the processes makes it possible to observe the practices of policymaking (Corson et al., 2014). Having spent several years researching and engaging in policy processes related to livestock and climate change in East Africa, I have gained valuable experience as a participant observer and a knowledge broker within science-policy interfaces, particularly in Kenya where I am based. When trying to address complex topics like climate change and agriculture, the links with practice and implementation are critical. There is a need to understand the political economy surrounding policymaking, the interactions with international and regional policies and priorities, the other stakeholders involved in the processes, etc. Engaging in these spaces requires one to move within various networks, make connections between research evidence being generated and policy processes and provide the overarching messages that should be taken into consideration.

These connections can be made by having people who play the role of knowledge broker within agricultural research organizations such as CGIAR. Knowledge brokers should be embedded in research teams so they are part of research projects instead of being separated into service units such as corporate communications. Knowledge brokering is not just a function but a skill that takes practice. It is not a must that every scientist undertakes a knowledge broker role, as some will be better suited to it or interested in it than others. To be effective, knowledge brokers need legitimacy within the role by ideally having a science background and a policy background or at least some amount of experience in both. Successful knowledge brokers understand how policy processes work in their given context (because policy processes differ between governments, locations and levels) and know where and how to connect with what is happening in agricultural research. They can also feed the demands of policy makers back into the research world. This two-way interaction should help set the research agendas of agricultural research organizations.

Knowledge brokers should also play a research function by conducting research on engagement in such policy processes, including at multiple levels (regional, national and subnational). Their research on science-policy interfaces can help improve the interactions between research institutions and the decision makers they wish to inform. From my own experiences, raising the issue of the importance of knowledge brokering within my institution has brought more attention to the role and the way it can help in achieving theories of change and organizational objectives.

3 What does it take to engage in policy processes and how can this be incentivized and measured?

Knowledge brokers need to have high levels of networking ability to successfully connect into science-policy interfaces. They must build relationships within policy networks; they also need credibility within those networks. Establishing that credibility requires on-the-ground, in-country engagements and relationships with policymakers formed over the course of years. I have found that consistently interacting with Kenyan ministry staff and other stakeholders in the agriculture and climate change arenas and demonstrating my commitment to understanding and supporting national priorities has been instrumental in building credibility and legitimacy. My physical appearance as a white American woman has been somewhat of a hindrance when first meeting other stakeholders in the Kenyan science-policy interfaces because I might be seen as a foreigner living in the country temporarily who does not have sufficient motivation to understand the local context with enough depth. I have learned to counter this by establishing my positionality as someone who has married a Kenyan, gained dual citizenship and is intending to remain

in the country indefinitely. This is not to say that all knowledge brokers need to follow this path, but establishing common ground with stakeholders within science-policy interfaces is crucial for building the relationships necessary for knowledge brokering.

Agricultural research for development organizations also need knowledge brokers who can span research areas and disciplines within their organizations. While researchers can be very specialized in their areas of expertise, policymaking requires broad-based comprehension of many different issues. Knowledge brokers need to be able to strip down complex issues and simplify things for policymaking; they need to interpret knowledge to be understandable in a political context (Cramer et al., 2023). This includes being able to translate evidence from specialized 'islands of knowledge' into socially relevant transdisciplinary outcomes (Meinke et al., 2006). Knowledge brokers should also be aware of the complex field of actors involved in science-policy interfaces and the power held by themselves and by other stakeholders. These aspects are not typically part of the terms of reference for scientists employed in agricultural research institutes, so encouraging researchers to take on this role requires changes in institutional structures or performance management criteria.

Knowledge brokering can be incentivized by adding it as a criterion for evaluation and promotion within agricultural research for development organizations to help the overall institutions and their employees shift their focus and achieve better impact. Specific knowledge broker roles can be established that can be evaluated based on the engagements they cultivate between the research institution and stakeholders within policy networks. This helps address a challenge identified in an earlier CGIAR reform process wherein researchers in the CGIAR feel a tension between generating 'scientific outputs' and trying to achieve 'development outputs', which speaks to a broader issue around whether CGIAR is a research organization or a development organization (Leeuwis et al., 2018). Under the current reform of the CGIAR structure, impact platforms have been created in its five impact areas[1] (in brief: climate, environmental health, gender, nutrition and poverty reduction). These impact platforms can be seen as the organization's foray into becoming more of a boundary organization, and as such, knowledge brokering should be elevated as one of the activities that are expected going forward. Those inhabiting such a role should not be evaluated based on actual inclusion of evidence in policy making, however, because this is too far outside the sphere of control and many other factors play into policymaking processes. How to measure and evaluate those in knowledge brokering roles should be discussed and trialed within a community of practice so people taking on these roles can learn from one another.

4 Cautions around engaging in science-policy interfaces

One of the key considerations when engaging in knowledge brokering is that policy processes take time and may not align with research funding cycles. A longer-term view is needed from research organizations, and knowledge brokering efforts should not be contained solely within projects because the timelines for informing policy are different. Retaining knowledge brokers by funding part of their time from core funds rather than 100% project funding can help agricultural research institutions ensure the relationships cultivated over time are maintained.

Not all agriculture research that is funded and conducted should be aimed at informing policy. There will be some research topics that are not requested by policymakers, and those topics are still important for research for development organizations to pursue. There should be a balance in an institution's research portfolio of activities that are informed by policymaker needs and those that advance knowledge on addressing societal problems but are not based on the needs of decision makers whether because the problem has not yet come to the fore in political discourse or is not welcomed as a topic of discussion among those in power.

Those engaging in knowledge brokering roles should be aware that there will be colleagues who do not see eye-to-eye with them and will be uncomfortable with what they perceive as being 'political' (Donmoyer, 2012). Strong and clearly communicated organizational strategies can stave off much of the criticism but will not curb it entirely. Based on my own experience, there will also be peer reviewers who perceive manuscripts describing research on science-policy interfaces as being written from a 'development practitioners' perspective' and seemingly unfit for publication in journals. In such cases, knowledge brokers must come to terms with justifying their engagement in science-policy interfaces as people with multiple identities. They are employed by their organization, but operating in the interfaces with other stakeholders adds additional responsibilities to their roles.

It is critical to remain conscientious of these multiple roles one plays. In delving into the practice of knowledge brokering and working within science-policy interfaces, I have learned to 'work the hyphen' and explore the 'Self-Other border' (Fine, 1994) by examining what role I play within those interfaces rather than just sitting on the outside and contributing to 'Othering' of policymakers by only writing about them and setting them starkly apart from myself and other researchers. This social science research plays an important role in agricultural research for development and should not take a back seat to the research on technical solutions to the world's problems.

5 Conclusion

The benefit of having knowledge brokers within agricultural research-for-development systems is that research findings are more likely to be used to inform policy formulation and implementation. Knowledge brokers can also help these research institutions better understand the needs of policymakers and shape the research agenda where necessary to meet those needs.

My recommendation is to institutionalize the role of knowledge brokers within research institutions and create specific means of evaluating their performance that are different from how those strictly conducting research are evaluated. They should not be fully tied to short-term projects but must have longer time horizons for their activities so that they have time to build the necessary relationships with other stakeholders in relevant science-policy interfaces.

Finally, agricultural research for development organizations such as CGIAR should develop a research agenda around the topic of knowledge brokering. This can help further our understanding of how

1 See https://www.cgiar.org/research/cgiar-portfolio/ for more information on the CGIAR Impact Areas.

knowledge brokers exercise power, the effective qualities of knowledge brokers and the benefits of employing people who have diverse backgrounds outside of research.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Author contributions

LC: Conceptualization, Writing – original draft, Writing – review & editing.

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Conflict of interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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