



Effective climate knowledge brokering in a world of urgent transitions

Lucia Scodanibbio, Georgina Cundill, Lisa McNamara & Michelle du Toit

To cite this article: Lucia Scodanibbio, Georgina Cundill, Lisa McNamara & Michelle du Toit (2023): Effective climate knowledge brokering in a world of urgent transitions, Development in Practice, DOI: [10.1080/09614524.2022.2159932](https://doi.org/10.1080/09614524.2022.2159932)

To link to this article: <https://doi.org/10.1080/09614524.2022.2159932>



© 2023 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group



Published online: 13 Feb 2023.



Submit your article to this journal [↗](#)



Article views: 249



View related articles [↗](#)



View Crossmark data [↗](#)

Effective climate knowledge brokering in a world of urgent transitions

Lucia Scodanibbio, Georgina Cundill , Lisa McNamara and Michelle du Toit

ARTICLE HISTORY Received 7 November 2022; Accepted 13 December 2022

Climate change is causing widespread negative impacts, particularly on the most disadvantaged in society. Given that the window of opportunity to support appropriate adaptation at the scales needed is rapidly closing, the IPCC has called for systems-wide transitions, resilience building, and an urgent all-of-society response. Practitioners working to support adaptation over the past two decades have learned that treating this imperative for action as a technical problem that can be solved through more accurate information alone is a fallacy. Addressing climate change is, at its core, a socio-economic and governance issue in which systemic barriers such as power asymmetries, conflicting knowledge systems, and incentive structures, as well as institutional fragmentation are crucial impediments to action. If society is to respond to the urgent adaptation imperative, the role of the knowledge broker becomes increasingly critical – particular, one who is able to navigate a complex environment encompassing a range of sectors and stakeholders with different values and priorities, at multiple levels.

Knowledge brokers have long been understood as the link between the producers and users of knowledge (Bielak et al. 2008). Their roles range from supporting knowledge dissemination and exchange, to developing new research to driving the application of solutions. Most definitions of what knowledge brokers do, however, revolve around a unidirectional push of evidence from academia to policymakers (MacKillop, Quarmby, and Downe 2020).

In this paper, we share reflections from the Climate and Development Knowledge Network, and argue that a new, innovative, and more dynamic practice of knowledge brokering needs to be recognised and supported in response to the nature and growing urgency of the climate crisis. While in the past, knowledge brokers could focus on making knowledge more relevant and accessible to a range of users, today we are learning that the types of knowledge that matter extend far beyond academic research; that what is being brokered stretches beyond knowledge to include values and relationships (and more); and that these processes are and need to be deeply immersed in their governance, socio-economic, and political contexts to be successful.

Emergence of climate knowledge brokering as a field of practice

Recognition of the key role of knowledge brokers in the climate change field emerged as a result of, on the one hand, some users having more climate information than they could digest; and on the other, users with insufficient information for their specific needs, particularly in developing countries. The *Climate Knowledge Brokers Manifesto*,¹ published in 2015, was the first collaborative effort to describe the essential role of climate knowledge brokers in enabling climate-sensitive decisions to be fully informed by the best available knowledge. The Manifesto defined climate knowledge brokers as those who “are brokering the transfer of knowledge related to the climate from a person or organisation to another via the medium of information”. The Manifesto mainly focused on issues of knowledge accessibility, availability, credibility and relevance, to address the lack of quality climate information available to inform decision-making.

CONTACT Lucia Scodanibbio  lucia@southsouthnorth.org

© 2023 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group
This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

In reality, knowledge brokering has been understood as occurring along a spectrum, ranging from infomediaries on the one side, to innovation brokers on the other (Shaxson et al. 2012, see Figure 1). The Manifesto focused primarily on the left-hand side of this spectrum, identifying climate knowledge brokers with the first two categories. On the far left, information intermediaries, or infomediaries, guide stakeholders to access, identify and filter information that is relevant to their needs and create awareness of an issue. Knowledge translators help to summarise and synthesise research findings, translate these into more understandable language, ensure they are credible, and contextualise them to user needs. They may also assist stakeholders to interpret the information and make the knowledge legitimate and actionable.

When we move across this spectrum, new roles emerge: it is these that we want to highlight, since they have received less emphasis in definitions of climate knowledge brokers until now. In the middle of the spectrum, knowledge brokers identify, engage, and connect stakeholders to facilitate collaboration and the use of knowledge in decision-making. They may help to collectively make sense of and create knowledge, as well as facilitate feedback loops between producers and users of knowledge, to identify and address further knowledge gaps. Knowledge brokers also strengthen individual and institutional capacities, and maintain and mobilise social networks.

On the far right of the spectrum, innovation brokers seek to re-organise technical, social, and institutional relationships at different levels; they bridge divides (e.g. values, incentive structures, knowledge systems, power), and help to gain access to political support, capital, and services, including through their connections and championing activities (Klerkx et al. 2012). For innovation to happen, the authors go on to argue, pre-existing institutional frameworks need to be reshaped, with a focus on changing relationships, rather than on increasing knowledge access and use.

From brokering knowledge to brokering innovation

As the scale and urgency of the climate crisis has become more apparent in the past decade – and we have learned that a lack of information alone is not the only (or even the most important) barrier to climate action – we increasingly see a need to shift the practice of knowledge brokering towards

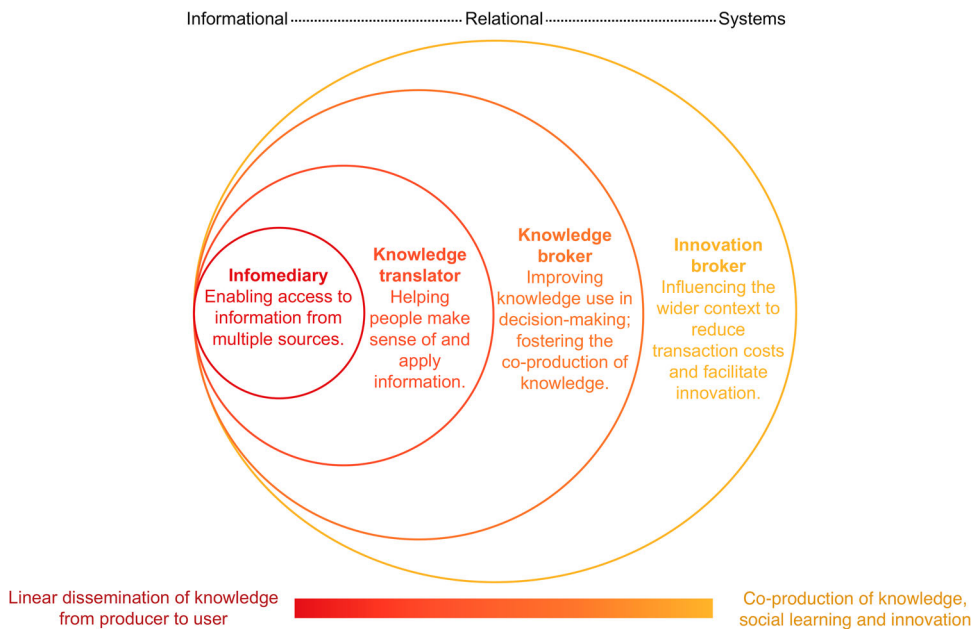


Figure 1. Spectrum of knowledge broker roles, adapted from Shaxson et al. (2012).

the right side of the spectrum. This means that to increase the impact of knowledge, we need to move beyond a focus on knowledge products (on the infomediary and knowledge translation end of the spectrum), to “knowledge activities” that revolve around the creation of strong, lasting, and reflexive relationships between the science and policy worlds (Bielak et al. 2008), and beyond.

Indeed, in the past, knowledge brokering has often been unsuccessful, not because of a knowledge transfer failure, but due to knowledge production not consisting of collaborative co-construction and synthesis processes (Bowen and Graham 2013). These are needed to identify and address the needs and perspectives of multiple audiences, a key to reaching sustainable and equitable adaptation solutions. A growing body of evidence points to the need for an engaged approach that sees knowledge users as partners in defining the questions, interpreting the answers, and contributing their expertise and learning (Bowen and Graham 2013).

Furthermore, the perception of climate change as a technical problem that can be fixed through technical solutions also needs to be shifted toward a more multifaceted appreciation of climate change in which relationships, power dynamics, trust, and conflict management are as important as access to accurate information in moving towards climate resilience. This shift is not occurring sufficiently fast in knowledge brokering practice. A review of 75 papers on knowledge brokering found that more than half made scant or no reference to politics, for instance, and those that did referred to policymakers as a homogeneous group (failing, for example, to recognise the difference between politicians and civil servants) (MacKillop, Quarmby, and Downe 2020). Further, they showed a simplistic understanding of the complexity of the policymaking process, the diversity of actors involved, and the role of interests, values, and power.

This focus on policymaking alone in knowledge brokering efforts is also a shortfall. As the climate adaptation imperative calls for more integrated, all-of-society responses that lead to systems-wide transitions, it is clear that it is not through additional knowledge alone that this will be achieved. The following section shares reflections from the Climate and Development Knowledge Network and underscores the urgent role that knowledge brokers are increasingly called to fulfil as they shift away from a linear view of the relationship between knowledge producers and users, towards innovation brokering.

Reflections from the practice of climate knowledge brokering

Since 2010, the Climate and Development Knowledge Network (CDKN) has partnered and collaborated with countries and key stakeholders from the Global South to design and deliver climate-resilient development. Our experience indicates that while communicating and disseminating credible, relevant knowledge outputs remains important, knowledge brokering must move beyond the knowledge translation process to actively engage with, and seek to shift, the broader decision-making, governance, cultural, and political context (at different scales) in which such findings can take root. In this section we share a growing body of lessons learned, drawing from CDKN’s experience and the work of others. In so doing, we challenge knowledge brokers to increasingly focus on innovation brokering in order to facilitate change processes that achieve climate resilience.

It’s not just about science

Many sources of knowledge (local, experience-based, indigenous, scientific) are relevant in adaptation decision-making and implementation contexts. The work of the knowledge broker thus becomes to create inclusive, safe spaces for these different types of knowledge to be recognised, learned from, and debated. They should further facilitate the process of weaving together these different types of knowledge, acknowledging the hierarchies that exist between them and the conflict that may arise – and needs to be embraced (as potentially productive) – in order to challenge such asymmetries (Turnhout et al. 2020). The work of the Southasia Institute of Advanced Studies (SIAS) in Nepal² bears witness to the value of mobilising different types of knowledge, particularly

in contexts where limited localised scientific data can be used as a reason to delay decision-making on addressing environmental issues. In this case, bringing together evidence from multiple knowledge systems opened the door for reviving and piloting local workable solutions to address urban water challenges, as a crucial complement to large-scale physical infrastructure measures.

It's not only about knowledge

Knowledge is just one component of any decision-making process, according to the Values–Rules–Knowledge framework (Gorddard et al. 2016). Here, knowledge refers to a range of sense-making systems, and interacts with rules and values to define the decision context. Rules may be formal, such as laws and regulations, or informal, such as social norms and behaviours. Values determine people's preferences and the way they select actions and evaluate events. To facilitate effective and appropriate change, the knowledge broker must consider these complex dynamics, including governance and institutional contexts that are riddled with societal rules, fragmentation, politics, and power asymmetries, as well as people's values, aspirations, and world views. They must furthermore navigate these, pushing boundaries where needed to help overcome silos, inequities, patterns of exclusion, etc. Indeed, for climate change adaptation to be transformative – as is currently urgently required – there is a need to challenge the status quo and thus existing power relations – a process that is inherently political (Colloff et al. 2021). In Namibia,³ CDKN colleagues from the University of Namibia and their partners used multiple strategies, tools, and approaches to contribute to the integration of climate and gender issues across sectors from the national to the local level. They showed that knowledge products are just one ingredient for evidence to inform decisions and practices and that creating strong relationships with diverse governmental and non-governmental partners was crucial to their success.

The innovation broker

Based on these reflections, CDKN understands the role of the climate knowledge broker as a facilitator of change, to ensure better decisions are taken (based on evidence, including multiple perspectives) and that these are effectively implemented for a more climate-resilient world. Given that the process of facilitating change requires working on contested issues, where governance arrangements are complex, a knowledge broker must deliberately engage with decision-making processes, multiple stakeholders and their varied goals, values and degrees of power (Colloff et al. 2021). Knowledge brokers thus navigate challenges such as limited political will, competing priorities, bureaucracy, and various types of asymmetries. Not only does this mean overcoming barriers ranging from limited awareness and capacities to tackle climate change issues, but also assisting to overcome fragmentation and lack of collaboration between actors, sectors, and levels.

In the context of today's urgent climate crisis, some of the key roles and approaches that innovation brokers are therefore increasingly called to perform include the following:

- *Create bridges and foster a mutual understanding – and over time, trust – across a plurality of perspectives and actors.* In so doing, encourage the identification of shared interests and agendas, and promote a broader understanding of these complex dynamics so they can be embraced as part of reality, rather than ignored – given that this work is often naively seen as occurring in a political vacuum (MacKillop, Quarmbay, and Downe 2020; Turnhout et al. 2020).
- *Nurture and create space for more collaborative and transdisciplinary decision-making processes, grounded in political and social realities.* Deliberately acknowledge and address power dynamics, and consider the empowerment of more marginalised actors as a core goal (Turnhout et al. 2020).
- *Develop, utilise and facilitate the use of interactive, experiential, solutions-oriented approaches.* Apply these approaches and associated tools to create dynamic and safe spaces where multiple

knowledge holders – including the most marginalised – play a part in the development of responses to the climate change adaptation challenge.

- *Undertake a suite of related, complementary activities to encourage change, evidence-based decision making and action.* For example, combine strengthening capacities with networking, partnerships, formal and informal engagements, among others.
- *Continuously reflect and learn about what is working well and less well, and modify accordingly.* Understand that any given context is unique and that failure is an acceptable outcome, as it can promote the exploration of different, potentially successful solutions moving forward. Approach knowledge brokering as an adaptive, circular process that needs to be strongly driven by reflection and learning.
- *Challenge the constant drive toward disciplinary refinement as the only goal of research.* Create broader awareness, especially among the climate change academic community, that understanding and working with and within one's governance, social and political context is as crucial (if not more) as developing and communicating – *post facto* – ever-more refined disciplinary knowledge. Going further, promote a systems perspective.
- *Showcase the importance of collaborative decision-making spaces as places that can lead to the co-creation of more sustainable, inclusive and effective solutions than those developed top-down* (Butler et al. 2022). At the same time, avoid being idealistic, and recognise the limitations of co-production spaces, which, within a project context alone, are still insufficient to bring about broader societal change (Turnhout et al. 2020).

It follows that to be effective, knowledge and innovation brokers need to:

- Work at the interface of different knowledge types, sectors, disciplines and fields, and develop a suite of skills and capabilities that cut across a number of these: from political economy to psychology, from climate to communications science, from conflict management to business acumen.
- Work as part of a team, as it is unlikely that any one individual can possess such a range of skills and expertise. This could mean partnering with other brokers from outside the climate field, for example, or with a range of actors that can open doors.

At an individual level, knowledge brokering is made easier by some key personality traits (e.g. adaptability, humility, openness, reliability, listening skills, tirelessness, and enthusiasm for this type of work), as well as other intangible characteristics like authenticity, empathy, courage, tact, trust, honesty, and morals (Phipps and Morton 2013; Butler et al. 2017). While some task-specific training (e.g. on communications or facilitation) exists, cultivating intangible personality traits is neither the focus of university curricula, nor easily developed through training programs within educational organisations. As recognised by Butler et al. (2017), “a cultural shift in how science values and supports these skills” is needed. Having communities of practice for practitioners to exchange lessons learned may be one way to do this (Phipps and Morton 2013). Undoubtedly, more emphasis is needed to understand how to strengthen the range of knowledge brokering capacities (e.g. how to facilitate change, resolve conflicts, foster learning, and build thriving partnerships), including in developing country settings and across diverse cultural contexts (Butler et al. 2017).

As a last point, we wish to encourage those working in the knowledge brokering field (including its funders) to understand that successfully facilitating collaboration across diverse actors and addressing barriers in the innovation brokering arena requires time and often shows limited concrete, measurable outcomes in the short term. Bounded project timescales with inflexible monitoring and evaluation systems are thus unfit for the purposes of capturing impacts from innovative knowledge brokering and transformative climate change adaptation. Such investment and “faith” has been shown to be worthwhile, however. Once stakeholders are given an opportunity to better understand the climate-related problem and solution space through transdisciplinary

dialogue and action at multiple scales, often the process of developing responses is unleashed, agency is engendered and change starts to take place (Butler et al. 2022).

Knowledge brokers thus have a crucial responsibility to contribute to shifting the discourse away from the linear production of (broad, untailored) scientific-only knowledge (e.g. on the climate problem) to understanding, navigating and “acting” in this complex decision-making and implementation reality. In this space, they will be increasingly required to broker relationships alongside information, be comfortable engaging with politics, cultural and governance issues, and challenge the very idea of whose knowledge and voice counts in climate action. Nevertheless, all actors along this spectrum need to remember that there are no clear answers yet as to how to do this “right” and so we need to be continuously exploring different approaches and tools, learning and reflecting, and sharing lessons as we go along.

Notes

1. <https://www.reeep.org/sites/default/files/CKB-Manifesto.pdf>.
2. <https://cdkn.org/sites/default/files/2022-08/CDKN%20Nepal%20Learning%20Story%20DIGITAL.pdf>.
3. <https://cdkn.org/resource/inside-story-lessons-from-mainstreaming-climate-change-in-namibia>.

Acknowledgements

The authors wish to thank CDKN colleagues for their valuable comments on earlier drafts of the paper as well as the anonymous reviewers.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This work was supported by the Ministry of Foreign Affairs of the Kingdom of the Netherlands and the International Development Research Centre (IDRC), Canada, as part of the Climate and Development Knowledge Network (CDKN) program under IDRC grant agreement number 109969-001. The views expressed herein do not necessarily represent those of the Ministry of Foreign Affairs of the Kingdom of the Netherlands, or of the International Development Research Centre (IDRC) or its Board of Governors, or of the entities managing CDKN.

ORCID

Georgina Cundill  <http://orcid.org/0000-0002-9024-8143>

References

- Bielak, A. T., A. Campbell, S. Pope, K. Schaefer, and L. Shaxson. 2008. “From Science Communication to Knowledge Brokering: The Shift from Science Push to Policy Pull.” In *Communicating Science in Social Contexts: New Models, New Practices*, edited by D. Cheng, M. Claessens, T. Gascoigne, J. Metcalfe, B. Schiele, and S. Shi, 201–226. Amsterdam, Netherlands: Springer.
- Bowen, S. J., and I. D. Graham. 2013. “From Knowledge Translation to Engaged Scholarship: Promoting Research Relevance and Utilization.” *Archives of Physical Medicine and Rehabilitation* 94 (1): S3–S8. doi:10.1016/j.apmr.2012.04.037.
- Butler, J. R. A., T. Darbas, J. Addison, E. L. Bohensky, L. Carter, M. Cosijn, Y. Maru, S. Stone-Jovicich, L. J. Williams, and L. Rodriguez. 2017. “A Hierarchy of Needs for Achieving Impact in International Research for Development Projects.” In *Social Science and Sustainability*, edited by H. Schandl, and I. Walker, 109–129. Melbourne: CSIRO Publishing.
- Butler, J. R. A., R. M. Wise, S. Meharg, N. Peterson, E. L. Bohensky, G. Lipsett-Moore, T. D. Skewes, D. Hayes, M. Fischer, and P. Dunstan. 2022. “Walking Along with Development’: Climate Resilient Pathways for Political Resource Curses.” *Environmental Science & Policy* 128: 228–241. doi:10.1016/j.envsci.2021.11.020.

- Colloff, M. J., N. Abel, R. Gorrdard, S. Lavorel, J. R. A. Butler, L. van Kerkhoff, S. Meharg, et al. 2021. "Adapting Transformation and Transforming Adaptation to Climate Change Using a Pathways Approach." *Environmental Science & Policy* 124: 163–174. doi:[10.1016/j.envsci.2021.06.014](https://doi.org/10.1016/j.envsci.2021.06.014).
- Gorrdard, R., M. J. Colloff, R. M. Wise, D. Ware, and M. Dunlop. 2016. "Values, Rules and Knowledge: Adaptation as Change in the Decision Context." *Environmental Science and Policy* 57: 60–69. doi:[10.1016/j.envsci.2015.12.004](https://doi.org/10.1016/j.envsci.2015.12.004).
- Klerkx, L., M. Schut, C. Leeuwis, and C. Kilelu. 2012. "Advances in Knowledge Brokering in the Agricultural Sector: Towards Innovation System Facilitation." *IDS Bulletin* 43 (5): 53–60. doi:[10.1111/j.1759-5436.2012.00363.x](https://doi.org/10.1111/j.1759-5436.2012.00363.x).
- MacKillop, E., S. Quarmby, and J. Downe. 2020. "Does Knowledge Brokering Facilitate Evidence-Based Policy? A Review of Existing Knowledge and an Agenda for Future Research." *Policy & Politics* 48 (2): 335–353. doi:[10.1332/030557319X15740848311069](https://doi.org/10.1332/030557319X15740848311069).
- Phipps, D., and S. Morton. 2013. "Qualities of Knowledge Brokers: Reflections from Practice." *Evidence & Policy* 9 (2): 255–265. doi:[10.1332/174426413X667784](https://doi.org/10.1332/174426413X667784).
- Shaxson, L., A. T. Bielak, I. Ahmed, D. Brien, B. Conant, C. Fisher, E. Gwyn, et al. 2012. "Expanding Our Understanding of K* (KT, KE, KTT, KMb, KB, KM, etc.) A Concept Paper Emerging from the K* Conference Held in Hamilton, Ontario, Canada, April 2012." Hamilton, ON: UNU-INWEH.
- Turnhout, E., T. Metzke, C. Wyborn, N. Klenk, and E. Louder. 2020. "The Politics of Co-Production: Participation, Power, and Transformation." *Current Opinion in Environmental Sustainability* 42: 15–21. doi:[10.1016/j.cosust.2019.11.009](https://doi.org/10.1016/j.cosust.2019.11.009).