

SCALING UP KNOWLEDGE BROKERAGE: CONNECTING PEOPLE, SCIENCE AND DECISION-MAKING

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Produced in collaboration with the Pacific Climate Change Centre (PCCC) and SPREP

MARCH 2021

From household-level choices through to national adaptation planning, people across the Pacific make critical decisions that are sensitive to climate change. In order to make the best possible decisions, they need the best possible information in a usable form. Yet, information is rarely tailored to user needs, meaning that only a small proportion of the available knowledge is reflected in decision-making. It is becoming increasingly evident that knowledge brokering can help. This briefing note looks at what the process of knowledge brokering is, and how it can be supported in the Pacific region.

Spanning the knowledge gap

It is widely recognised that knowledge is essential to building resilience and implementing effective climate change adaptation. Indeed knowledge and institutional barriers have been specifically identified as major challenges for adaptation action in SIDS (Klein et al., 2014). There are undoubtedly many gaps in climate change knowledge in the Pacific region, ranging from a lack of available data on the health of our coral reefs to insufficiently downscaled climate projections and incomplete vulnerability assessments. Yet it has become evident that it is not simply a *lack of knowledge* that is the problem.

A core challenge lies in the consolidation, translation and communication of knowledge into formats, which are useable and relevant to decision-makers. This remains an important barrier to using existing knowledge and an impediment to the application of new knowledge. To understand why knowledge is often not reaching those who need it we briefly reflect on the characteristics of knowledge users (decisions-makers) and producers and the dynamics between them.

The collective term ‘decision-makers’ masks its diversity; decision-makers span multiple sectors and scales, from the household level to national and international policymakers. Producers of climate knowledge are equally diverse and include practitioners and communities as well as researchers, while the range of disciplines producing relevant climate knowledge spans anthropology to zoology, and just about every topic in between. This diversity is a strength as we can, and should, respond to climate change holistically and systemically. However, it makes navigating and finding relevant knowledge ever more challenging. It also means that it is nearly impossible for an individual or organisation generating knowledge to understand fully the needs of all those who could potentially apply it to climate sensitive decisions.

In some cases, the users of knowledge can be more narrowly defined where the subject is relatively specific. For example, knowledge relating to climate change impacts on vector-borne diseases may have clear implications for those in the health, water and sanitation sectors. Yet, even then it is unrealistic to expect those providing information to understand the practical realities of those users in detail. Thus, a researcher may have a sound understanding of the health sector and how vector-borne diseases are managed in Australia, but little experience of the implications of their work in Kiribati. It is also possible that some important decision-makers in this example may not be immediately obvious,

for example the Church or school teachers may play a key role in communicating messages at community level.

Given these complexities, there has been a tendency to rely on reductionist provider-to-user models where knowledge is conveyed to a decision-maker, often in a simplified form, using an array of predominantly unidirectional communications products. This can be seen as a pragmatic approach by the provider of knowledge, but can sometimes overlook the context-specific nature of climate adaptation. This often leaves decision-makers knowing that something needs to be done, but no further understanding of ‘what’ or ‘how’.

If we are to move from adaptation *planning* to effective *implementation*, robust and accurate information must reach those who need it, in forms, which are pertinent to their needs. Bridging multiple sectoral, cultural and social domains and levels of understanding is critical. Yet as we have just explored, these are complex and time-consuming challenges to overcome. So, what can be done?

What is a knowledge broker and what do they do?

In recent years there has been a growing recognition of the vital role of individuals and organisations (referred to as knowledge brokers) that fulfil a ‘bridging role’ between the producers and users of knowledge. Knowledge brokers act as filters, interfaces and translators between knowledge producers and users across different disciplines, fields and sectors (Bauer and Smith 2015). Commonly, knowledge brokers work at the interface of science and policy (Bielaka et al. 2008; Dilling and Lemos 2011) thus have access to, and are trusted by, both scientific and practitioner communities.

In the context of climate change, the aim of Knowledge Brokerage is to inform people using the best available climate knowledge, to enable them to make climate sensitive decisions (Bauer and Smith 2015) and to build their resilience (Mackay et al., 2019). Rather than viewing knowledge brokers as a single stepping-stone between producers and users, they might be more usefully conceptualized as a chain. Knowledge must flow in both directions, with insights from end users informing the traditional providers of climate change information, and vice versa. Breaking away from traditional ‘supply and demand’ models can facilitate opportunities for co-creation of knowledge involving a range of stakeholders.

Whose knowledge counts?

Knowledge should not be viewed as something to be imparted by the scientific domain and received by the grateful decision-maker. Knowledge is a two-way street. If our objective is to deliver more effective adaptation interventions then knowledge of how decisions are made - in particular the social, economic and cultural contexts - is just as vital as climate science. For example, by understanding the use of traditional knowledge in the Pacific (Chambers et al, 2019) it is possible to make better use of scientific (meteorological) data to support communities in planning for extreme weather events or seasonal changes.

Understanding user needs is central to Climate Knowledge Brokerage (CKB) and supports a range of functions ranging from improved access to data through to tailoring and synthesizing information. As the range and depth of climate-related information has grown, providing access to information has evolved from collating information to navigating the knowledge landscape as determining information credibility, relevance and legitimacy. The Climate Knowledge Brokers Manifesto (Bauer and Smith, 2015) has clustered six aspects of the needs of climate knowledge, which are summarized below:

Figure 1: Knowledge users' needs (source: Elaborated from Bauer and Smith (2015))

Increased availability of/access to information from trusted sources	Information tailored to specific needs	Synthesized climate information	Contextualised with sectoral information	Enriched with local information	Access to raw data, further information and sources
Climate related decisions should be based on available, accessible, reliable and relevant climate knowledge	Information that is filtered to the purpose and adjusted according to the users, language, context, terminology	Aggregating knowledge into digestible pieces through process of identification, appraisal and integration of data and information	Specify how climate change affects them, within the sector they work in. Thus, making climate information actionable	Information that is tailored at a local scale and integrated with local information	In addition to a synthesis data, more information should be offered for deepening user understanding and allowing for their own interpretation and analysis

Climate knowledge brokerage for Pacific SIDS

The success of these brokers, who often work in the ‘messy space’ between climate science and practice, has led to a number of initiatives to support knowledge brokerage and to better understand the skills which are needed to fulfil this role. This is also the case in the Pacific, where there has been a steady evolution from a focus on the collation of available knowledge, for example on online portals, to greater consideration of knowledge brokerage as a continuous process.

There is evidence of this change at institutional level, in donor priorities and in the delivery of projects. At institutional level, the establishment of the Pacific Climate Change Centre (PCCC) in Samoa has placed knowledge brokerage at the heart of its work, while the regional Information Knowledge Management Technical Working Group is now considering not only the management of information and data but also how knowledge is exchanged and translated. Donors, including the Government of New Zealand (via its investment in the PCCC) and the Australia Pacific Climate Change Partnership (APCP) are also looking to build upon previous investments in knowledge management, such as the iCLIM and iCLIM2 Projects, to support more effective knowledge brokerage.

Practical examples of climate knowledge brokerage are most evident where the meteorological departments of PSIDS engage with agricultural extension workers and fishing communities to communicate seasonal and ENSO forecasts. There are now examples of the same communities developing knowledge chains in relation to medium- and long-term climate change impacts, for example impacts on the Cocoa sector in the Solomon Islands and the pearl industry in the Cook Islands. The advantage of such initiatives is that they not only involve brokers (who sit between the producer and user) but also the producers and users themselves. This facilitates learning outcomes for all stakeholders along the knowledge chain; the providers of climate projections gain insight into the applicability their work, extension workers better understand what the science can (and cannot) do, while the end users receive information of practical relevance to their future planning. With similar projects being undertaken in other sectors in our region, PSIDS will gain valuable insights into how knowledge brokering can be supported.

Lessons from the LAKI

The Lima Adaptation Knowledge Initiative (LAKI) is joint action pledge established under the Nairobi work programme to address knowledge barriers that impede the implementation and scaling up of adaptation action. In a review of the first phase of the LAKI, stakeholders from across six sub-regions identified 85 gaps that were categorised into 5 clusters:

- Lack of data (or limited data)
- Lack of access to existing knowledge
- Lack of actionable knowledge (e.g., in need of repackaging existing knowledge)
- Lack of tools and methods to process knowledge into actionable form;
- Mix; knowledge gaps that fall under a combination of two or more of the four clusters.

The clusters identified above highlight the need for more or 'new' knowledge, but also for improved access to reliable, relevant knowledge in usable formats. Even when we do have sufficient knowledge, it is evident that it is not always reaching decision-makers in ways they can use.

Fostering and supporting knowledge brokers in the Pacific

There are a number of steps that could be taken to strengthen knowledge brokerage in the Pacific and thus improve the flow of usable knowledge to decision-makers, while ensuring that providers better understand user needs. These steps can be grouped around the themes of a) understanding and mapping b) connecting and capacity building c) mainstreaming and investing.

Understanding and mapping climate knowledge systems

In order to build upon existing knowledge brokerage activities, it will be important to better understand knowledge brokering at regional, national and sub-national levels, including the role of formal and informal networks and how knowledge is currently accessed and mediated. Network analysis has proved to be a valuable tool in understanding the nature and strength of relationships within networks and could be better used in the future to understand the nature and flow of climate change knowledge in the Pacific region. This could focus on international/regional organisations operating in the Pacific region, especially in understanding how knowledge chains are formed and used in regional projects and programmes and, critically, the assumptions that underpin them. From this information, a series of network maps and analyses could be developed. However, arguably, it is at the national and sub-national levels, where decision-

To date, the global adaptation community has focused its efforts on the 'bricks' to build the wall – climate science, adaptation plans, climate adaptation finance and new projects. To be effective we also need the 'mortar' – the relationships which hold together effective adaptation interventions.

makers in key sectors operate, that the greatest value may exist for mapping and examining relationships. Realistically, a comprehensive mapping exercise may not be possible across the region, however detailed case studies from specific sectors in a variety of countries could provide extremely valuable insights. Further support needs to be provided to PSIDS to map their own knowledge broker networks enabling them to benefit from targeted capacity building support.

Connecting and capacity building

As explored earlier in this briefing note, knowledge brokers are diverse in their roles, skills and experience, therefore at first glance it can be hard to find the common ground which they share. A closer examination of the challenges which knowledge brokers face and the solutions they find show that there is much to learn with, and across, a community of knowledge brokers. This can range from how to engage different stakeholders to which communication tools work best, how to design projects which incorporate knowledge brokerage to how to build trust-based relationships – the list is endless. While we should not assume what works well in one place will be effective in another, there are undoubtedly lessons that can be shared across the region. Establishing regional and national networks to explore and better understand knowledge and its use, and to share experience, can be a really useful way to enhance the utility of knowledge. Instead of investing only in the production of knowledge we need to begin investing in and supporting these conduits of knowledge.

Establishing a network presents the opportunity to build the capacity of its members, both through the exchange of experiences and more formal capacity building to support knowledge brokerage. This could involve enhancing practical skills such as stakeholder mapping or workshop facilitation or on enhancing technical knowledge, such as updating members' knowledge relating to the latest climate science. For example, sector champions in a given country could benefit hugely from an overview and discussion in the latest IPCC science, while exploring which decisions in key sectors may be most sensitive to this knowledge, who needs to know what and which formats might it be most effective.

Mainstreaming knowledge brokerage

The flow of knowledge between producers and users is often hierarchical and underpinned by assumptions. It is essential that these assumptions are articulated and examined; it is easy to assume the needs of end users and the barriers that prevent them from making use of knowledge. Institutions, including governments, can play an important role by mainstreaming and valuing knowledge brokerage in their work and testing their own assumptions.

In the Pacific, the CROP Agencies could lead the way by highlighting the importance of knowledge brokerage. To date there has been a tendency to focus effort on the production on knowledge rather than on understanding and supporting the processes, people and relationships that increase the utility of knowledge. The new Pacific Climate Change Centre in Samoa (PCCC) places knowledge brokerage at the heart of its functions and can play a catalytic role in the region if supported by other regional agencies, countries and territories.

At national level, it is vital that knowledge brokerage is mainstreamed into National Adaptation Plans (NAPs and JNAPs), programmes, and projects as a primary component of building adaptive capacity. This will help to ensure that adaptation actions are informed by the latest climate science but also by a deeper understanding of decision-making processes and of the values and needs of those who will be impacted. Traditional knowledge should not be overlooked as it provides vital contextual information and has often evolved to address specific decisions made at community level.

Reflection

It is evident that the speed and severity of climate change impacts in the Pacific region requires the rapid uptake of both incremental and transformative adaptation actions. This requires decision-makers at all scales and sectors to have access to salient and legitimate information through trusted and credible sources. While there are vital knowledge gaps which must be addressed, it imperative that we also invest in the knowledge chains which connect producers and users of climate change knowledge, but which are often overlooked. It is in this often-fuzzy frontier between science and policy that we can accelerate meaningful adaptation actions and ensure they address local needs.

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