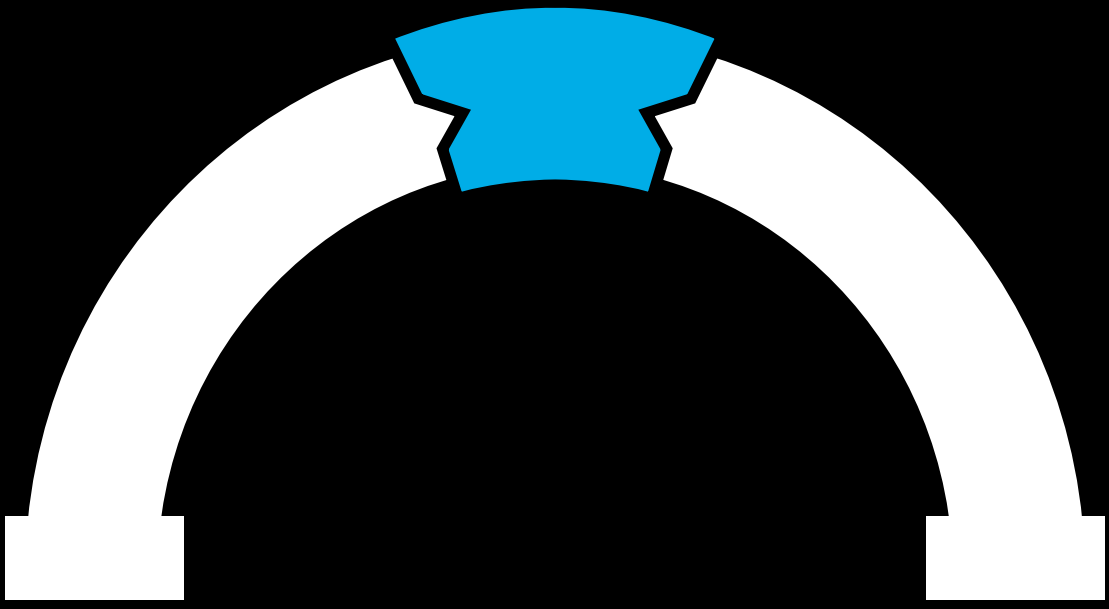
The Climate Knowledge Brokers

MANIFESTO

Informed decision making
for a climate resilient future



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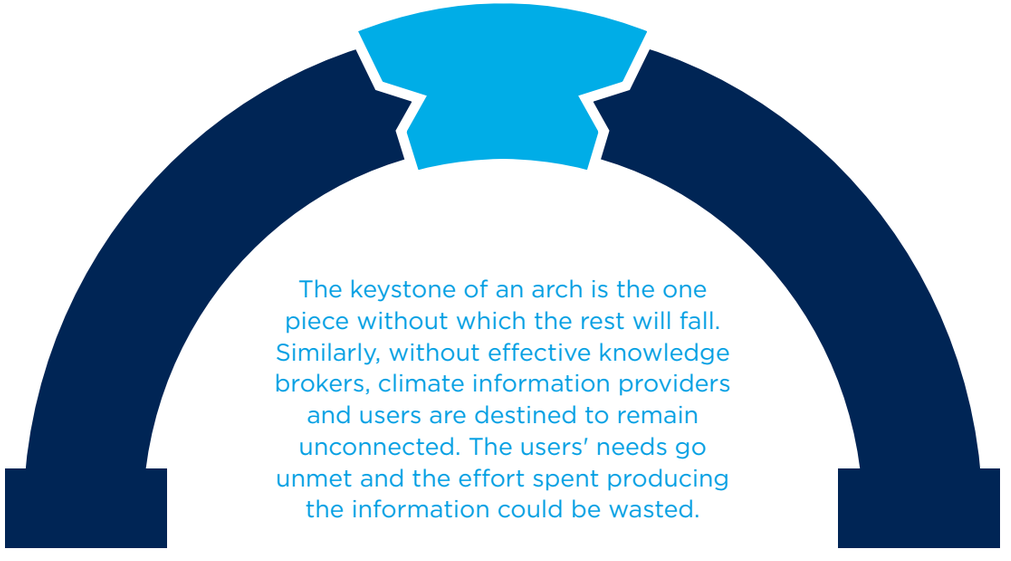
What I and many other knowledge brokers in the environmental arena have learned, I think, is that how we convey information is as important as the information we convey. There was a time when I and many of my colleagues went in search of moral victories by converting other people to our points of view. The better part of knowledge brokering, however, is to communicate ideas in the language and in the value systems of the audience.

— William Becker, Executive Director, Presidential Climate Action Project



The keystone of an arch is the one piece without which the rest will fall. Similarly, without effective knowledge brokers, climate information providers and users are destined to remain unconnected. The users' needs go unmet and the effort spent producing the information could be wasted.

Overview

The Climate Knowledge Brokers Manifesto was developed in a collaborative process by the CKB Group ("CKB"), a network of organisations and professionals focused on improving the quality and use of climate knowledge in decision making. Our vision is a world in which people make climate sensitive decisions fully informed by the best available climate knowledge. This manifesto describes the essential role of climate knowledge brokers in achieving that vision and sets out how CKB will help them become more effective and efficient through collaboration.

www.climateknowledgebrokers.net

THE MANIFESTO

Society is only now grasping the full extent to which our lives, jobs and environment are sensitive to a changing climate. Effective decision making will be needed in many areas if we are to build a climate resilient future.

Many more people will therefore need to make use of climate knowledge to support them in making their decisions. We understand that these users of climate knowledge require access to high quality information that is tailored to their specific circumstances. This includes a synthesis of relevant climate information, contextualised with an understanding of their sector and locality.

The availability and quality of climate related information is uneven. It depends on who and where you are. Some are deluged by datasets, reports, scenarios, toolkits and other publications. For others, especially in developing countries, there is still a lack of relevant information. In both cases the result is similar: people struggle to find what's useful to them in their daily work.

Chains of 'knowledge brokers' act as filters, interfaces and translators between knowledge producers and users, across different disciplines, fields and sectors. They employ a range of methods and communication approaches to meet users' needs. Effective brokers recognise that knowledge is often more readily accepted if the knowledge production process is transparent and participatory.

The CKB Group ("CKB") aims to help climate knowledge brokers become more effective and efficient in their efforts to meet the information needs of current and future users. We believe this will only be achieved through collaboration, sharing and a commitment to open knowledge[1]. We promote this through a community of practice to enhance trust, build relationships and encourage peer learning. We also coordinate efforts to realise the potential of digital technology for efficient transfer of knowledge at scale.

The origins of CKB lie with pioneers in the use of online portals, linked open data and semantic tools. It has since broadened to be inclusive to any organisations and professionals who attempt to deliver tailored climate information to those who need it.

We support the intelligent use of climate-related knowledge; we urge the coherent and strategic funding of climate knowledge brokering activities; and we invite the participation of all collaboration-minded climate knowledge brokers.

[1] By a commitment to "Open Knowledge" we refer to having an open mindset, actively seeking to share our knowledge and working with others who have the same attitude. We aim to make re-use of data and information easy for others by applying the "open data" principle wherever possible.

CLIMATE KNOWLEDGE BROKERS ADDRESS DIVERSE USER NEEDS

No awareness of issue

Lack of quality information

Hidden information

Untailored information

Too much information

CLIMATE KNOWLEDGE BROKERS

outreach

feedback to producers of information

finding & interfacing

contextualising & synthesising

filtering

Informed and aware users of tailored climate knowledge, making better decisions.

Principles of CKB:

01 People who are trying to address the impact of a changing climate **deserve high quality information** to support them in their decision making.

02 CKB champions the **importance of climate knowledge brokers** in ensuring high quality climate relevant information is available and accessible to all who need it.

03 We believe that **understanding user needs** in their multiplicity is the starting point for effective climate knowledge brokering.

04 We are committed to **learn together** to improve the effectiveness of climate knowledge brokering.

05 We support climate knowledge brokers in **choosing appropriate tools and methods** to address their users' needs, including intelligent use of digital technologies.

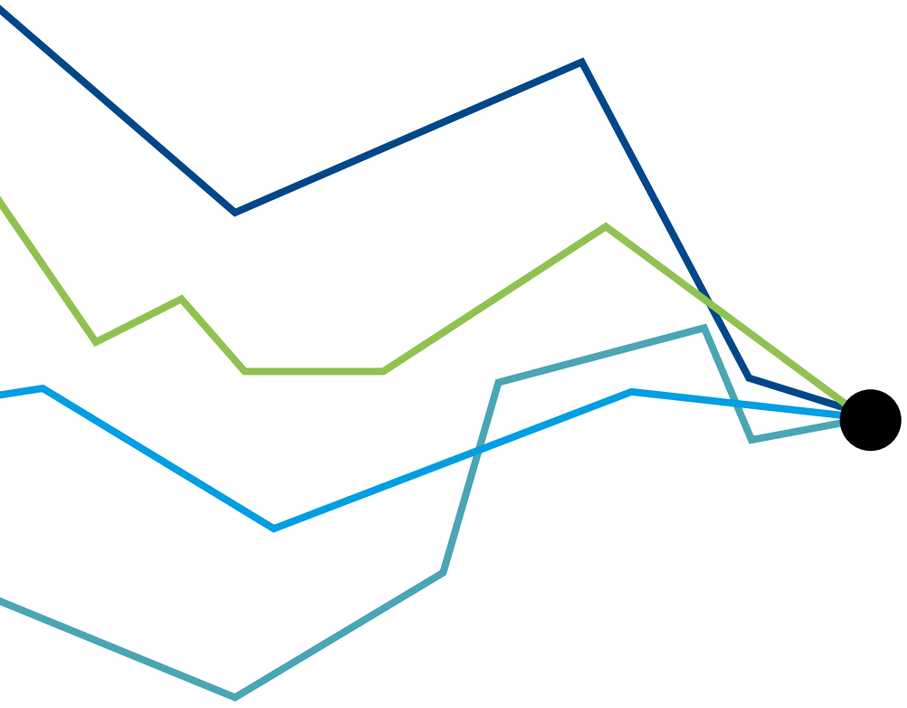
06 We apply **collaboration as a standard** in our work.

07 We promote open knowledge; meaning we have an open mindset, are actively seeking to **share our knowledge** and want to work with others who have the same attitude.

Structure

1.
The challenge ahead

Society is only now grasping the full extent to which our lives, jobs and environment are sensitive to a changing climate. Effective decision making will be needed in many areas if we are to build a climate resilient future.



The challenge ahead

Human beings are facing up to an unprecedented challenge with climate change; one that impacts on the most basic systems we have created for our survival – agriculture, water and energy use – as well as the places in which we live and our quality of life. Our decision making is likely to become increasingly climate constrained.

CKB believes that people who are trying to address climate change or adapt to its impacts deserve high quality information to support them in their decision making. At one time climate information was a small field of modelling and projections used by scientists and those working directly in climate and the environment. Now it is a much wider domain of climate-related and climate-relevant information and knowledge, increasingly used in different sectors of society, in ways that were not previously imagined, by people who never thought they would have to take the climate into account. In this manifesto we have therefore used the terms ‘climate information’ and ‘climate knowledge’ as a short-hand to encompass information and knowledge that is not only about the climate, but also about systems and human activities that impact on, or are affected by climate change.

Although there has been greater uptake in recent years, we are a long way off meeting current needs for climate information effectively, and nowhere near the limits of potential future need. Current use of climate knowledge is insufficient to give us the best chance of mitigating human contributions to climate change, of adapting our society and way of life to the impacts of an increasingly variable climate, and ensuring we are resilient against potential future shocks.

In large part the problem lies in access to and availability of climate data and information. Many climate information users are deluged by the huge number of reports, scenarios, datasets, toolkits and other publications that is produced each year, and consequently fail to find what they need.

Other users search but struggle with a lack of appropriate information. Still other people are not yet aware of their need to incorporate climate considerations in their analysis, planning and decision making.

Climate knowledge brokers work between information producers and people who use it to ensure climate knowledge is transferred effectively.

CKB has its origins in a 2011 workshop to test the appetite for collaboration between online climate knowledge players. It started as an informal group of collaboration-minded climate websites and portals and has grown to become a thriving community of practice embracing many of the leading global, regional and national information actors. With the support of one of its founding members, the Climate Development Knowledge Network (CDKN), several collaborative projects were started which resulted in a set of tools that enable easier information sharing. In 2014, the Renewable Energy and Energy Efficiency Partnership (REEEP) took on the role of hosting the newly-created CKB Coordination Hub.

Instead of everyone doing their own thing, blind to the duplication of effort involved and the confusion it creates for users, a new vision is emerging. It is of a more connected climate information world that is more responsive to users' needs. A world where users are guided to what is most relevant to them, where content can flow between websites easily, and where information providers and knowledge brokers are working together and learning from each other, rather than operating in isolation in their own information silos.

The challenge ahead

ABOUT THIS DOCUMENT

This Manifesto sets out CKB's role in making that vision a reality. True to our principles, its drafting has been a collaborative effort. Seventeen people connected with the group (a list of these contributors can be found in section 6.2) have conducted interviews with climate knowledge brokers and users of climate knowledge – about 80 in total, from all over the world. We wanted to understand their views on how climate knowledge is used, and how it can most effectively be transferred, given the multiplicity of user needs.

The contributors came together in Vienna in May 2015 for an editorial conference to analyse the responses and discuss what they had learned. Those discussions formed the basis for a draft that we took to the CKB Annual Workshop (June 2015, Copenhagen) for consultation. You are reading the result.

We regard it not as the end of a series of important conversations, but the beginning.

A few words on language

The words information and knowledge are often used in an interchangeable way. In normal conversation the distinction may not always be important, but in understanding the different aspects of the role of the knowledge broker it is. There are lots of definitions and an ongoing debate – Wikipedia is a good place to start if semantics get you excited (try 'data', or 'DIKW pyramid'), since it includes references to various academic works on the subject.

This manifesto is a collaborative work reflecting many people's views, so we cannot be completely precise, but as a rule of thumb we have used the terms in the following way:

Information:

is recorded facts/ observations (data) or descriptions about events and the world, as well as expressed or recorded thoughts and opinions. Information can be shared, transferred and moved around.

Knowledge:

on an individual basis is what people know. It is contextualised information, plus thoughts and justifiable opinions. We must learn something, or accept information, for it to become part of our knowledge. Organisational knowledge is the sum of the knowledge of the individuals connected with an organisation that is relevant to the purpose and activities of the organisation, including what might be termed 'meta-knowledge' of who knows what.

Climate knowledge brokers

are brokering the transfer of knowledge related to the climate from a person or organisation to another via the medium of information.

2. Understanding user needs

Many more people will need to make use of climate knowledge in the future to support them in making their decisions. We understand that these users of climate knowledge require access to high quality information that is tailored to their specific circumstances. This includes a synthesis of relevant climate information, contextualised with an understanding of their sector and locality.

The availability and quality of climate related information is uneven. It depends who and where you are. Some are deluged by datasets, reports, scenarios, toolkits and other publications. For others, especially in developing countries, there is still a lack of relevant information. In both cases the result is similar: people struggle to find what's useful to them in their daily work.

User needs

"Climate policy must be based on good science. The challenge is to put it into useable form for the rest of us who are not scientists."

William Becker
Executive Director, Presidential Climate Action Project (PCAP)

Information

from climate science is the foundation of good quality climate knowledge. But in itself it is hard to interpret for the majority of users. It is overwhelming in sheer quantity and often in a language they don't understand. The message we have heard loud and clear from the interviews is that users need knowledge that is tailored to their specific circumstances and appropriate to the real world decisions they are making. They need climate information in the right format, over right timescale and covering the geographic area relevant to them.

“Decision-makers tend to work holistically and intuitively. On the other hand, scientists generating knowledge use a reductionist approach – they become very good in very small things. So the process generates islands of knowledge in a sea of ignorance. Decision-makers have to navigate the sea.”

Walter Baethgen
Head of Regional & Sectoral Research Program, International Research Institute for Climate and Society (IRI), Earth Institute, Columbia University

The range of starting positions for users of climate information is broad. Professionals working on climate issues and related spheres may be clear what information they require and search proactively. However, often they suffer from access to too much information from an increasingly complex range of providers working independently in information silos. In some of these cases relevant information is out there but it's a daunting task to find the best for the job at hand. In other cases it turns out that the required information is not available at all, incomplete or of low quality.

At the other end of the scale, a business executive taking investment decisions about a factory that relies heavily on a constant water supply may not have considered how climate change will affect that supply in the future. Or a farmer in a developing country, or the extension worker whose job it is to support and inform that farmer, may not even be aware yet of the need to consider climate change when choosing what crops to plant, or when and how much fertilizer to apply. If they are, then availability of relevant information will be a problem for many. A climate model at regional or national scale is of little help when a micro-climate can exist in a single valley, and clear information on what crops would be more climate-resilient in their situation may well not exist.

In between these extremes, a civil servant tasked with infrastructure planning may be well aware that they need to factor in a changing climate, since the decisions will have a lock-in effect for the remainder of the century. But they may have little or no prior experience of climate science, so be unable to interpret climate models themselves, and have no idea how to frame a question to gain the knowledge they need.

To serve effective decision making, all three require tailored information that situates a synthesis of relevant climate information within their immediate context – the sector (agriculture, building, transport, etc.) and the locality in which they work. This implies that the information is going to come from a variety of sources. For people to accept it, those must be sources that they trust.

So as a first step, the relevant information must be available. Information providers and brokers need to produce information that is useful to users. This requires a deep understanding of user needs and related data and information gaps. Secondly, it must be accessible, which means people need to be able to find it, and to understand it when they do.

To meet these needs, information must be organised; filtered; translated; packaged. We cover more of the role of knowledge brokers and intermediaries in section 3, but the key point here is that in performing these tasks they must not create barriers to further understanding. The information must not be a black box or a dead end. If they know where to start, users can spend whatever time they do have to look into the information more effectively. They therefore require the ability to delve deeper, to find related information, to perform their own analyses. They need to be able to verify the relevance and accuracy of the information on which they base their knowledge.

MEETING USER NEEDS WITH TAILORED INFORMATION

Information untailored to specific needs

Synthesizing climate information

Contextualising with sectoral information

Enriching with local information

Our collaborative interview and analysis process defined six over-lapping aspects of the needs of climate-knowledge users. These six main aspects of user needs are described in more detail in the following sub-sections.

2.1 Increased availability of and access to knowledge from trusted sources

Climate knowledge needs to be available, accessible, reliable and relevant – this is what most users told us when we asked about their main need when taking climate related decisions. Although it sounds obvious, this statement includes several layers of complexity to address.

AVAILABILITY

Information availability is improving, but there are still significant gaps in data collection and the availability of information that need to be addressed. We heard that this is particularly the case in some developing countries. One interviewee said “It’s not that bad for the day to day. But there are specific projects where that is not true. For instance, a project I have for the renewable energy markets: my sources do not have the characteristics that I need. It will take me months to get the information. For OECD countries, the level is quite good; for developing countries, more difficult”. Another interviewee described working on power sector reform, but said in certain countries there are not comprehensive studies to apply to that particular regulatory structure.

In some cases the information exists, but is not accessible because it is not available to a broader set of users outside of a particular ministry, organisation or project. This can be deliberate or simply down to practical constraints; often information is not published on the internet and there is limited printing or publishing capability, so the few hard copies that do exist are stuck in a few people’s offices.

ACCESSIBILITY

It is increasingly the case that what we need is already out there in the "sea of information" but cannot be found. We heard in our interviews that sometimes even within organisations it is hard to find the information that is needed and it was further explained that "the big challenge we have nowadays with the internet being more sophisticated is the amount of information available. So much information – how do you find what is the most useful and relevant for decision making needs?" Intermediaries are needed to make sense of the overwhelming quantity of information and find new ways to make it accessible. Users told us they need guidance to identify the best sources of information for their specific need – irrespective of their "point of entry" – and need to be able to access related content from different sources as easily as possible.

RELIABILITY & TRUST

Two levels of trust are important – the credibility of the original source and the trust in the knowledge broker. We heard that most users trust information from governments, International Organisations as well as big commercial sources (such as Bloomberg). However, there is often high quality and timely information available from regional and local information providers that is not considered or found by the users, although it would address their needs. Transparent and trusted brokers of climate knowledge are required to ensure users get access to the information most relevant for their need, while having the possibility to assess the credibility of all data sources that are used.

"There's too much information, every second and every day there are new stories and reports for people to stay on top of; the big gap is for people to take everything in and relate it to their own needs."

Claudio Castro
Inter-American Institute for Cooperation on Agriculture (IICA)

"So it's that trust relationship that is essential to be a knowledge broker. Otherwise you're just a lobbyist."

Langston James "Kimo" Goree VI
Vice-President, Reporting Services and United Nations Liaison, International Institute for Sustainable Development (IISD)

2.2 Information tailored to specific needs

New York University new-media professor, Clay Shirky, accurately describes the problem of too much information in the internet society as “It's not information overload. It's filter failure". Users need to be able to sift out what is most relevant to them. This requires information tailored to their specific needs. Interviewees stressed that one of the main obstacles to uptake of existing climate knowledge is often lack of time. They simply do not have enough hours in the day to digest all the data and information that is available and relevant to them. An experienced climate knowledge broker we spoke with highlighted that “it is essential to curate from all the information out there and distil down to what is the best knowledge to inform your decision”.

Users therefore need information which is tailored according to:

- Relevance to purpose
- Type of information (news, opinions, research, facts, etc.)
- Format of presentation (text, charts, maps, videos, etc.)
- Regional and/or thematic context
- Language
- Terminology (lack of jargon, etc.)

The same set of raw data and information may need to be presented in entirely different ways to address the specific user needs. This tailoring process is often not considered to be a task for the original information provider (e.g. scientist), but it is an essential step to ensure that climate knowledge is understood and used. This task can most effectively be taken on by intermediaries who understand the users' needs and have access to relevant information.

“Each stakeholder has different needs and we need to understand this and tailor to their needs.”

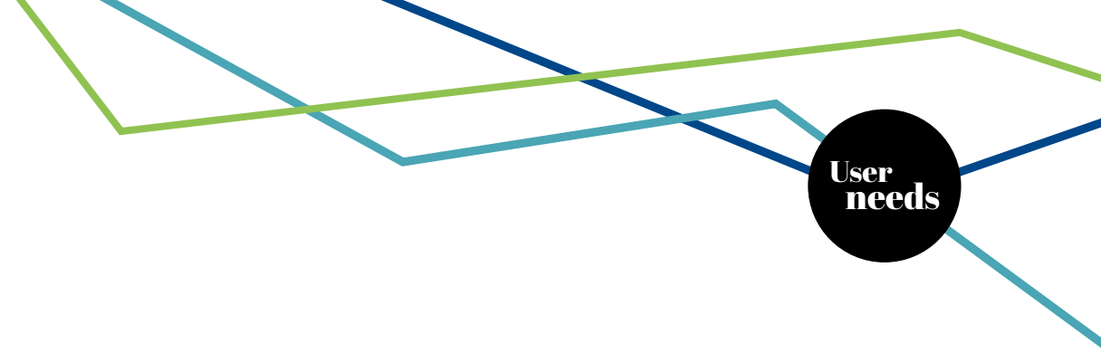
Ann Gordon
National Coordinator in the National Climate Change Office in the Ministry of Forestry, Fisheries and Sustainable Development (Belize)

“One of the key things is to ensure knowledge is presented in ways that align with the ways of thinking that the community itself has: the language you use, the framing you use, has to be appropriate to addressing their own needs and approach to decision making.”

Ragne Low
Project Manager, ClimateXChange Scotland

2.3 Synthesized climate information

Synthesized information is often referred to as 'second-generation knowledge': it represents the aggregation of existing knowledge, a summary of data and information from various sources. The process of aggregation involves the identification, appraisal, and then integration of data and information into digestible pieces, relevant to a specific question or user need.



Users clearly addressed the need for synthesized climate information in the interviews we conducted – this ranged from creating systematic reviews and collections of best practices/case studies to packaging information from various sectors and explain linkages between them. One of the main reasons for this is the limited capacity of users to aggregate, contextualize and interpret climate data and information. In cases where lots of relevant and high quality information is available from different sources it is often too time consuming for users with an immediate need to take decisions to process all this information and put it into context.

One interviewee told us that he thinks the main obstacle here is that too often data providers each try to develop their own analysis. There is not enough coordination in information collection, or sufficient use of information from other sources in those analyses. The job of synthesis remains undone, and is left to the over-pressed users unless knowledge brokers take on the task.

“The full IPCC report I am not reading but the CDKN synthesis for SIDS, that was excellent. Something like that for the Caribbean that is very useful.”

Nicole Leotaud
Executive Director and Managing Partner, Caribbean Natural Resources Institute (CANARI)

“Trusted intermediaries synthesising large amounts of information that can easily be absorbed by the harried and overworked concerned.”

Langston James "Kimo" Goree VI
Vice-President, Reporting Services and United Nations Liaison, International Institute for Sustainable Development (IISD)

2.4 Contextualised with sectoral information

Interviewees told us that climate information in isolation is not useful for the vast majority of people. ‘Global mean surface temperatures are likely to rise by between 0.3 and 4.8 degrees Celsius by 2100’ doesn’t leave them with a decision to make between A, B or C. It is not actionable.

More people, in more situations (though clearly not everyone), are recognising that climate change is real, and might affect them, but don’t know how it will affect them, or what they should do about it. Climate information becomes meaningful and useful when it is contextualised with information about the sector in which they work, when it ‘hits home’.

At national government level we heard that a change is happening: climate change is no longer only dealt with by ministries of environment. Increasingly ministries of economics, finance or planning are involved. This was seen as positive because "the Finance Ministry is powerful. They have the tools to make a difference."
(N. Canales Trujillo, ODI)

This was explained further by an ex-civil servant, who explained that climate information is used as a background to decisions taken on economic issues. Economic information plays the main role; climate information is used as justification.

In an example from another sector, one interviewee talked about advice typically being given to farmers on how much fertiliser to use based on an average year, weather-wise. But an average year happens *never.* The challenge is to improve that advice, so attempts are being made to integrate meteorological data with agricultural research to try to produce more useful information.

"When you look at the sectorial level, tourism, agriculture, health, there are a whole set of mid-level sort of administrators who have also responsibility of making decisions of how they go about their everyday duties. The challenge here first of all is a public education and outreach that gets them to understand that they need to use climate information in any of their planning activities."

Dr. Ulric Trotz
Deputy Director,
Caribbean Community
Climate Change Centre (CCCCC)

"When you get down to what this client should do given such and such information, the answers are not dictated by the climate science. The answer are formed by planning and processes, economics and all sorts of other information."

Thomas E. Downing
CEO, Global Climate Adaptation
Partnership (GCAP)

"You have to package your message for the individual target: climate information is uninteresting unless seen in the context of the work. It's about making choices."

Ari Huhtala
Deputy CEO – Policy and
Programmes, Climate and
Development Knowledge
Network (CDKN)

2.5 Enriched with local information

It is a good start when climate information is contextualised with sectoral information, but it will still not be sufficiently tailored for many users. To meet their needs the information must also be provided at a local scale and integrated with local information. For instance, interviewees from Armenia, Georgia and Bhutan said that it is difficult for them to identify which technologies and which general information is useful in their specific country context.

Some examples

exist where information has been successfully downscaled to a regional level to good effect – the Amazon rainforest region was mentioned as an example – but in general local scale information is a problem:

"In recent years the biggest gap has been the need for localized information on the impacts of climate change."

William Becker
Executive Director, Presidential Climate Action Project (PCAP)

This varies from country to country of course. One interviewee complained of the creation of yet another, higher resolution climate model for New York City, when full use is not made of the models that already exist. Worse still, no sub-national model exists for many parts of the world, especially in developing countries. Two particular examples were given where this is a challenge (by another interviewee): mountain regions, and areas where monsoons occur.

The second aspect is the integration of whatever climate information does exist with local information, be that traditional knowledge on how people have responded to droughts or floods in the past (which is often handed down orally, and not documented), or information on how well adaptation methodologies or technologies have worked in different local contexts.

“How do you go from a seventeen terabyte data set into a visualization that is useful for people? And that visualization needs to be at a local scale.”

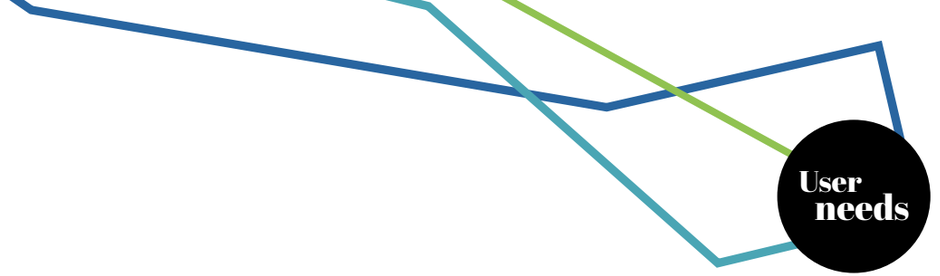
Jamie Herring
President, Habitat Seven

“We need to treat the information, like the IPCC reports, in a more localized way, there are few people that can really cope with the complexity of global scale. The majority of people relate with their own realities.”

Karen Regina Suassuna
Programme officer for Climate initiatives in India and Latin America, OAK Foundation

2.6 Access to raw data, further information and sources

For some users, a synthesis of information will be sufficient to make a decision. Others will wish to deepen their understanding in issues that are particularly important. They may feel the information offered only partially covers their circumstances and wish to investigate further or perform different analyses themselves.



A synthesis will help them take broad decisions and they will then wish to follow up on detailed information. In addition, a wise user will not take everything they hear or read at face value. If offered information based on someone else's interpretation or analysis, they will want to check accuracy and relevance to their own situation.

In order to follow up they need access to the data and information behind that which is presented. In order to judge whether they trust the information they need to know where it came from.

Not all climate-related information is currently made openly available. In some cases this is for commercial reasons; the business model of the information provider – their means of keeping going – depends on selling information. The 'black box' here is easy to understand. It is still a real problem for users who need the information but can't afford it – but also a tough nut to crack, because if the company does not get paid the information will not be collected and produced. In other cases, where information is produced using public funds, it is less easy to defend the reasoning for denial of access.

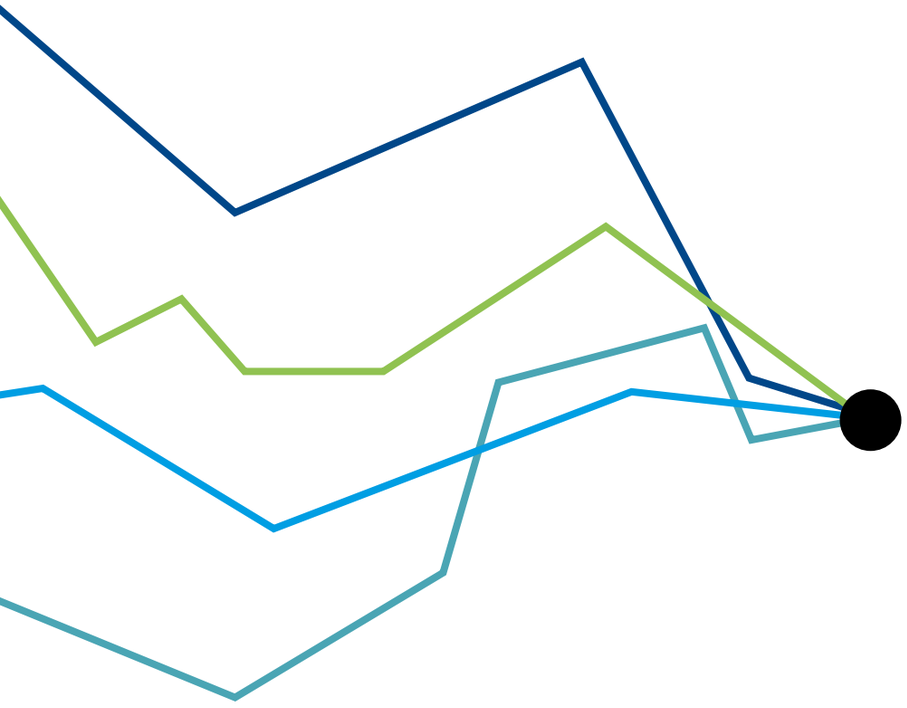
Even when information is made available, adequate references are not always supplied, sources are not always quoted and access to raw data is not consistently provided (e.g. we were told that national meteorological institutes don't – or can't – always share their data). When raw data is available, it is often not in an open data format that would make it easy for users to perform re-analyses themselves.

“The most common difficulty is to open data silos of those who provide data for profit. It is an issue that is connected to personalities and organizations and legal issues. It is a challenge, slowly advancing. A lot of work must be done.”

Martin Hullin
Project Manager
REN21

3. Characteristics of the Climate Knowledge Broker Role

Chains of 'knowledge brokers' act as filters, interfaces and translators, between knowledge producers and users, across different disciplines, fields and sectors. They employ a range of methods and communication approaches to meet users' needs. Effective brokers recognise that knowledge is often more readily accepted if the knowledge production process is transparent and participatory.



The Role of the climate knowledge broker is not yet commonly understood, and in fact we encountered some resistance in the interviews to our use of the word 'broker.' It does not translate well to all languages; interviews in Latin America suggested there is not a suitable Spanish equivalent. Some interviewees felt it sounded too commercial; that we were expecting a commission or fee for passing on information (we are keen to emphasise that CKB supports open data, open information and open knowledge!).

You are unlikely to be handed many business cards that read 'climate knowledge broker' and there is no standard job description. Some take on the role explicitly in their jobs, though, and it is these professionals with whom CKB is chiefly concerned. We think that 'climate knowledge broker' accurately describes their role, which we attempt to explain in this section.

We understand climate knowledge brokers to be those people, organisations or initiatives that use climate related information to facilitate the transfer of climate knowledge from one person or organisation to another.

As human beings we are all knowledge brokers to a greater or lesser extent. We are social creatures who naturally interact and pass information both in our jobs and our personal lives. This enables others to form, update and modify their knowledge. More of that everyday knowledge brokering becomes climate knowledge brokering, when climate considerations are taken into account in more professions, more situations, more of our lives.

A COMPLEX ENVIRONMENT

It is also important to recognise that all climate knowledge brokers are climate information users as well – they take in information from a variety of sources and filter, analyse or adapt it in some way to make it relevant to themselves or their users (who may in turn be acting as a climate knowledge broker for someone else).

In reality we work in a complex environment, with chains of knowledge brokers bringing together various elements of the information that eventually (hopefully!) get taken up by the users as climate knowledge to help them in their tasks. Done well, these chains reach across different disciplines, fields and sectors, with knowledge brokers acting consciously and deliberately as filters, interfaces and translators to ensure the right climate information is contextualised with the right sectoral and local information to meet those users' needs.

There is no one 'right' way of performing the climate knowledge broker role. Climate knowledge brokers use a range of different channels, tools, products and services to meet the range of users' needs. Many of these methods are not new and are well understood by experienced brokers. Others, particularly digital tools, are recent developments and we are still learning how to use them most effectively.

One final point for this section: in order to gain new climate knowledge users need to learn. Many of us do not like to be told; the didactic model of education now seems old-fashioned. Information is more easily taken up and assimilated into knowledge if the user feels like a participant in the process, rather than a passive recipient. Smart climate knowledge brokers know this.

“I define [a climate knowledge broker] as someone who conveys objective information and conveys it effectively to other stakeholders in the climate and energy fields. In my view, good knowledge brokers do not simply serve as a pipeline through which information flows from one place to another. The ‘broker’ role involves assimilating, interpreting, sorting, translating and integrating information to create new or derivative knowledge.”

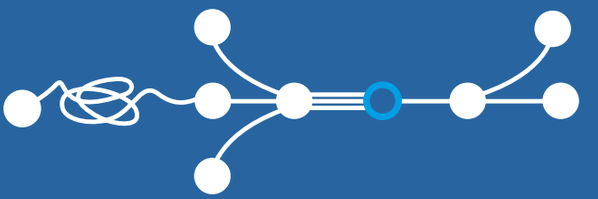
William Becker
Executive Director,
Presidential Climate Action
Project (PCAP)

“Think demand side and supply side. There is an increasingly complex landscape of knowledge producers. Brokers have an important role in matching needs with supplies.”

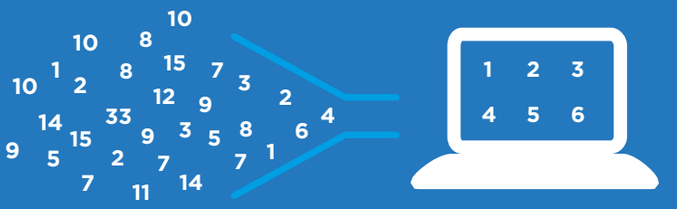
Xianfu Lu
Team Lead,
Adaptation – Impacts,
Vulnerability and Risks,
UNFCCC

THE CLIMATE KNOWLEDGE BROKER ROLE

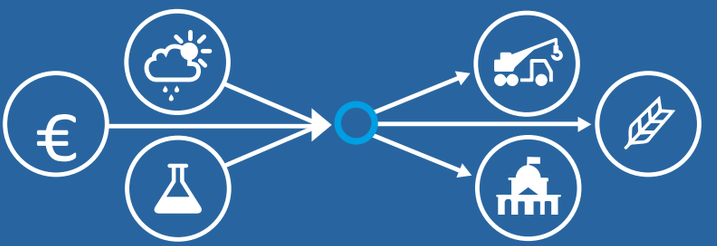
Knowledge brokers are part of a chain and act as producers and users of information at the same time.



Knowledge brokers act as filters and interfaces for climate knowledge.



Knowledge brokers work across different disciplines, fields and sectors.



From our interviews we identified five main characteristics of the climate knowledge broker role. These five characteristics are described in more detail in the following sub-sections.

3.1 Chains of knowledge brokering

Some of the climate knowledge brokers we spoke to have a direct relationship with end users; the majority do not. If it is rare for a climate knowledge broker to work directly between an information provider and an end user, then how does climate knowledge actually get transferred?

Our interviews

suggest that there is a complex environment (a 'big universe' as one respondent put it) with many information actors across all types of organisations. Information can pass through many heads and hands before getting to an end user, some operating formally and deliberately in a knowledge brokering role, others less so. At many of those stages it is combined with information from other sources, filtered, translated or adapted for slightly different purposes (more of that in 3.b) and it will often come from different disciplines, and pass through and across different sectors (more in 3.c).

Climate knowledge brokers need to understand these chains of knowledge brokering, since they will often work with those who perform this role informally or in non-climate fields. Nearly all interviewees mentioned that they use climate information both for themselves, and to inform others. One respondent said fifty per cent of the time he uses the information himself, and the other fifty per cent he uses it to inform someone else who will make a decision. Another, who does not describe himself as a knowledge broker, said he is a user/consumer and disseminator of information, which is a key function of his role. In cases where a climate knowledge broker is working with another intermediary rather than the end user of the information, they must understand the needs of both the intermediary (their direct user) and the intended end user.

“It is a big universe, with knowledge transfer going on within academic and scientific circles, within government circles, within the NGO and foundation communities, in the media, in the public and in the crossovers between all of those communities.”

William Becker
Executive Director,
Presidential Climate Action

“I am not the direct user. What we do with the climate information is that the results of the assessments as well as the adaptation interventions received are used to inform the policy, the strategy and action plan, which we then submit to cabinet for endorsement. Then that is distributed among the chief executive officers in the relevant ministries and those in the cabinet.”

Ann Gordon
National Coordinator in the National Climate Change Office in the Ministry of Forestry, Fisheries and Sustainable Development
(Belize)

Xianfu Lu
Team Lead, Adaptation – Impacts, Vulnerability and Risks, UNFCCC

We need to challenge ourselves to define who exactly we are trying to service, why we are particularly well placed to deliver the specific services, what value addition we can provide. Find your niche! It's not always easy but we need to challenge ourselves.

3.2 Filters and Interfaces

We heard knowledge brokers variously described as filters, curators, interfaces, intermediaries, bridges, communicators, translators, catalysts.

Interviewees variously said the role of the climate knowledge broker is:

- trying to make sense of the overwhelming quantity of information and finding new ways of making it accessible
- integrating and incorporating climate knowledge into a bigger system
- collecting and providing access to climate information in a way that is understandable
- connecting the supplier of the information to the user in a “two-way street for sharing information”
- taking existing knowledge and aggregating and repackaging it for different audiences
- taking material from other sources, curating it and making it available in a useful way
- providing facilitation and the environment so that the information can be used and acted upon.

We feel that to understand the common thread that makes sense of these various descriptions we must consider the purpose of our work. We talk about ‘climate knowledge brokering’ because that purpose is to broker the transfer of climate-related knowledge from one person or organisation who has it, to another who needs it in order to make decisions. Climate knowledge brokering is decision making support for people with climate-sensitive decisions to make.

Climate Knowledge Broker Role

"There is a lot of information 'out there', but it is difficult to find the information that is friendly to your needs. We need the capacity to select from this 'big junk' of information that is available."

Dr. Diana Harutyunyan
Climate Change Programme Coordinator, UNDP – Ministry of Nature Protection, Government of Armenia

Information is the product that we use to facilitate the transfer, which is why a lot of us run information portals or data repositories; why we communicate and disseminate project reports or policy papers or learning synthesis documents. But we are 'brokers' rather than 'information managers' because the service we provide doesn't end with simply making information available – we are concerned with uptake amongst the users; with learning. We want them to gain new climate-related knowledge to perform their tasks more effectively and to make better decisions on climate-sensitive matters.

In order to do so we must understand their specific needs, as described in detail in section 2 above. We are not just a pipeline, as one interviewee put it – we must provide a filter function because the users don't have the time to trawl through all the available information to find what they need. We must make sure the information is in a language and a format they can understand.

Our biggest concern is that the way climate information is presented assumes way too much knowledge about climate change itself and it assumes that people even believe in it, which is a big leap. And so a lot of the science communicators and the NGOs and the governments feel that just producing the data and producing more information is somehow going to be more useful and it's not.

Jamie Herring, President, Habitat Seven

“It’s about more than conveying what the climate projections tell us: Climate knowledge is much more applied, and requires an understanding of wider challenges for society, the environment, the economy and how climate plays into those. It’s about much more even than understanding climate change impacts, but more about how these impacts align with existing pressures, and about why adaptation is or isn’t happening.”

Ragne Low
Project Manager, ClimateXChange Scotland

3.3 Working across different disciplines, fields and sectors

To be effective, climate knowledge brokers need to understand the realities of users' situations and the constraints within which they make their choices. In most cases, contextualising climate information results in working across disciplines, fields and sectors. One climate knowledge broker described how her organisation uses non-climate data produced by other people – economic, social and governance – and integrates that with climate information to create 'climate-related information'.

Here the chain of knowledge brokering comes to our aid: climate knowledge brokers do not need to be experts in everything; they can work with knowledge brokers from other sectors. An interviewee described how he acts as an interface between climate scientists and networks of agricultural extension workers. In this way he will facilitate a transfer of climate knowledge via the network to the extension workers, who can then inform farmers, with whom they have an established relationship. As a climate knowledge broker in this situation he needs to understand both the end users' (the farmers') needs, and his direct users' (the networks of extension workers) needs.

It is important to recognise the two-way nature of the interface – he explained that there are often gaps in the climate science from the point of view of providing useful information to the farmers, so part of his role is to align the work of the scientists to fill those gaps.

"A part of my job is to establish the research needed so that people get the information they require"

Walter Baethgen
International Research Institute for Climate and Society (IRI), Earth Institute, Columbia University

3.4 A range of channels, tools, products and services

Climate knowledge brokers use a wide range of tools, products and services and various different channels to reach their users. There is no “right” or “wrong” here – as long as the choice of approach is based on a solid understanding of the users’ needs. This seems obvious but is often the most difficult part to do well when designing a new knowledge brokering service, as it requires time and investment in a “pre-project” phase.

“All of our efforts are more or less required to be user friendly. And this basically is the driving force in terms of the way how we present information to stake-holders. And this is only possible through consultations with the different stakeholders to find out what information is required and also to find out what form is required to be of use to the stakeholder. This procedure of constant stakeholder consultation sort of helps you to avoid the trap of producing excellent scientific information but information that can't be used.”

Dr. Ulric Trotz, Deputy Director, Caribbean Community Climate Change Centre (CCCCC)

APPROPRIATE CHANNELS AND TOOLS

While we were told in an interview that there are various levels of information services that can be imagined and are still not available, we know that the range of tools, products and services already in existence is huge. In our interviews we heard about climate information presented via websites, presentations, briefings, reports, fact sheets, meetings, informal discussions, infographics, videos and also via tools designed to inform a specific target group. Channels range from direct (proactive) channels – such as face to face interaction or online forums – to indirect (passive) channels like websites and databases. Brokers can help create connections between a user and an appropriate knowledge provider, or indeed another knowledge broker, who might be better place to provide the required information.

And while most interviewees talked about information being represented in writing (online or on paper) some urged us that we must not forget that at a rural community level in a developing country an audio channel (e.g. radio in the local language) might be more appropriate.

The main task for the knowledge broker therefore is to understand their target users and choose the appropriate channel and tools to provide information in the most effective way.

OK, once it's identified then how do we get that information to people? And that's a technology issue. It's how do we create the database systems, how do we create the internet pipelines, how do we create the browser based functions to access that data? Those are all things that don't exist so those are big missing pieces.

Jamie Herring, President, Habitat Seven

“A climate knowledge broker is somebody who is translating information and knowledge to different audiences, sometimes repackaging it, putting it in different formats, different pathways to cater information and knowledge to different audiences. Someone who brings different experts together. So to source local knowledge and expertise, or from different sectors.”

Nicole Leotaud
Executive Director and Managing Partner, Caribbean Natural Resources Institute (CANARI)

3.5 Participation in the information gathering and knowledge production process

The provision of tailored and synthesized climate information, contextualised with relevant sectoral and local information is essential to address user needs. But it does not guarantee that this information will be accepted and used to guide actions. In order to gain new climate knowledge users need to learn.

Climate Knowledge Broker Role

Experience shows that knowledge is more readily absorbed if the information gathering and knowledge production process is participatory – many people do not like to be told what someone else thinks they should know. This is true for both bottom up and top down strategies of information processing and knowledge generation. For example, Ari Huhtala from the Climate and Development Knowledge Network (CDKN) said that "it's really important that decision-makers are not only engaged at the end – they need to be involved at the start, so they see themselves as co-creators."

We heard that end users are also valuable sources of information, providing the benefit of their experience with local or traditional solutions. Yet there are communication gaps between vulnerable communities, climate scientists, policy-makers and development practitioners. Knowledge brokers can use participatory methods to close these gaps. They are in a unique position to understand the needs of end users, as well as having channels to the original producers of data and information. This allows them to play a two-way intermediary role between information producers and consumers, ensuring that the data and information production processes are both aligned with users' needs, and informed by their knowledge.

CANARI wants to do a lot of work on local and traditional knowledge because even when people see what is happening this is not documented and this needs to be balanced as well. Scientific information misses out on the local information: what, for example, the farmers are doing to change the crops used. They are actually making changes but this is not being captured. The local knowledge is not there to match the scientific knowledge that we have, and vice versa.

Nicole Leotaud
Executive Director and
Managing Partner,
Caribbean Natural Resources
Institute (CANARI)

One of the most powerful ways to build trust between knowledge users and knowledge brokers is to ask the former what kind of knowledge they need. It's not only about disseminating information and knowledge. It's also about questioning what users need. Most of knowledge initiatives are active only online. One of the best ways to build trust and understand user's needs, is to go offline as well and create spaces for face-to-face interactions between researchers, practitioners and the vulnerables.

Moussa Na Abou Mamouda
ENDA Energy-
Environment-Development

4.
Aims of CKB

CKB aims to help climate knowledge brokers become more effective and efficient in their efforts to meet the information needs of current and future users. We believe this will only be achieved through collaboration, sharing and a commitment to open knowledge. We promote this through a community of practice to enhance trust, build and strengthen relationships and promote peer learning.

We coordinate efforts to realise the potential of digital technology for efficient transfer of knowledge at scale.

The origins of CKB lie with pioneers in the use of online portals, linked open data and semantic tools. It has since broadened to be inclusive to any organisations and professionals who attempt to deliver tailored climate information to those who need it.

Many people

use climate-related information for a wide range of purposes. Governments, businesses, international organisations, academia and environmental NGOs therefore spend millions on providing information, writing reports, setting up websites and updating content. Unfortunately much of the millions is spent unwisely: the users' needs are still not being met effectively. Existing datasets or information products are often underutilized, new products duplicate existing material or are simply misaligned with users' needs. There is a plethora of unconnected options on some matters, leaving users with an array of alternatives, each providing incomplete or conflicting information. Many users therefore find it difficult to make informed decisions.

"There's a rain of new website, projects, initiatives, institutes. Most people don't dare to talk about it or criticise funders."

Claudio Castro
Inter-American Institute for Cooperation on Agriculture (IICA)

CLIMATE KNOWLEDGE BROKERS NEED TO UP THEIR GAME.

They need to do so to achieve the mission they set themselves. They also need to justify the public funding already spent, and to create a convincing argument for greater funding so they can upscale to meet rising user needs in future.

They will do so through greater collaboration.

In part the problem stems from information producers and knowledge brokers themselves, who often have to act in a competitive market-place which hinders cooperation, data and information-sharing. The default position of most new initiatives is to create a new website, a new portal, a new report. This drive often comes from a programme's leaders (or funders) who wish to promote their brand, rather than the person in charge of knowledge management. In our experience the latter would generally be happy to connect with and leverage existing initiatives, if this were made easy.

CKB aims to help climate knowledge brokers become more efficient and effective through collaboration. Collaboration and information-sharing will strengthen the 'chains of knowledge brokering'. It will enable climate knowledge brokers to define their niche and play to their strengths.

We are not naive about the reality. We know there is often little incentive to work together except through mutually beneficial partnerships, usually with a financial element. Collaboration can drain precious time, rather than saving it. We must help create incentives for cooperation.

The first step is trust. Since coming together in 2011 CKB has operated as a community of practice providing the occasion for climate knowledge brokers to meet one another, build and strengthen relationships and share their experience on tools, methods and practices. It promotes and facilitates peer learning.

CKB also goes further, establishing and finding funding for joint projects, collaboratively delivered by groups of knowledge brokers. Some of these projects are to develop new tools to help make sense of, and connect the wealth of information, or to incorporate existing tools in new projects. This also involves the use of open standards to ensure interoperability amongst different platforms and applying the "open knowledge" principle to all initiatives.

HOW CKB FACILITATES EFFECTIVE CLIMATE KNOWLEDGE BROKERING

Sharing & collaborating

- A community of practice

- State of the art digital tools, services and products

We describe the ways that CKB will improve climate knowledge brokering under three headings:

4.1 Sharing and collaborating

Sharing and collaboration is a core principle of CKB. CKB aims to improve the effectiveness of existing and new climate knowledge brokers by supporting an active community of practice of climate knowledge brokers, and by facilitating the development of tools to make data and information sharing affordable and easy to implement.

Trust is an essential ingredient of a network that is committed to share and collaborate – building trust between knowledge brokers is CKB's pledge. It provides a neutral place to meet and explore possibilities to work together, to build and strengthen relationships and promote peer learning. Trust is also vital so that we can perform another essential component of collaboration: challenging one another. One climate knowledge broker said "We need to challenge people to define their primary clients, who they are working with, what their strengths are. Find your niche! It's not always easy but we need to challenge ourselves." When we each find our niche and play to our strengths, the 'chains of knowledge brokering' can work more effectively, since it is easier to share if you don't feel you are competing over territory. We accept the fact that collaboration needs incentives – therefore CKB goes further than being a place to learn and share. It aims to establish and find funding for joint projects, collaboratively delivered by groups of knowledge brokers.

This is an essential part of avoiding replication and breaking down information silos in the future. CKB also offers the incentive that together we are stronger: we can increase the visibility of climate knowledge brokers and champion the role; we can support one another's funding proposals through letters of support; and we can get climate knowledge brokering onto decision-makers' agendas .

Another essential part of effective sharing is openness. CKB is strongly committed to the principle of 'open knowledge'. We have an open mindset, in that we are actively seeking to share our knowledge and we want to work with others who have the same attitude. We also see the benefit of using open data and information whenever possible, provided in an accessible way, making it easy for others to reuse.

4.2 A community of practice

CKB facilitates collaboration of climate knowledge brokers by hosting an active community of practice aiming at enhancing trust, building and strengthening relationships and promoting peer learning between professionals.

This community of practice operates based on the core principles of CKB and is facilitated by the CKB Coordination Hub.

CKB offers the following benefits to participants:

- Regular face to face workshops support peer-to-peer learning on effective knowledge brokering and information provision.
- Regional workshops (since 2014 for example in Latin America) aim at creating regional networks of like-minded knowledge brokers and are held in regional language.
- Specific peer learning formats such as “Knowledge Sharing Clinics” allow participants to take turns to be ‘patients’, sharing the challenges they have encountered in getting their climate information service off the ground, and getting practical advice from peers on how to tackle them.
- An actively maintained database of knowledge brokering initiatives of involved organisations acts as a basis for “matchmaking” and facilitating the establishment of contacts.
- Project opportunities (such as relevant calls for proposals) are shared within the community and development of joint proposals and projects is facilitated.
- Knowledge about new tools and initiatives is shared within the community.
- A dedicated online group acts as an open communications channel.

The CKB community of practice is targeted at existing climate knowledge brokers, as well as professionals and organisations developing new climate information projects. The ultimate aim is to support professionals to better understand the multiplicity of user needs, to learn about effective methods of knowledge brokering and to enable them to collaborate.

We plan to extend our work to support climate knowledge brokers by further developing our community of practice, creating regional sub-networks (in cooperation with existing knowledge networks) and establishing working groups to cover specific topics & sectors.

4.3 State of the art digital tools, services and products

CKB aims to extract the maximum benefit from digital technologies to share knowledge. Instead of an information ‘free for all’ where everyone is doing their own thing, blind to the duplication of effort involved and the confusion it creates for users, CKB promotes a more connected online climate information world. We want users to be guided quickly to what is most relevant to them. We want content to flow easily between websites, and information providers to work together to share data and information, rather than operating in isolation.

Aims of CKB

Besides the key element of trust this requires interoperability. Interoperability depends on commonly agreed standards, covering three main elements: language, rights and technical issues.

LANGUAGE

It is hard to collaborate if you do not understand the information you are sharing with each other. Standards in language facilitate communication – “The English language” is a collection of standards that allow a listener or reader to understand what the speaker or writer is trying to communicate. Different subject fields develop their own subset of definitions and particular use of certain words and technical jargon. This is certainly true in relation to climate change.

Interoperability between sources of information at its most basic therefore means use of a common language which defines what “things” are called, how they are described and how they relate to each other. Some of these standardised vocabularies already exist and, if applied more broadly, will ensure that it is possible to connect, compare and re-use data and information more easily – even across different subject domains. CKB promotes their use, and works collaboratively to develop new ones to fill in the gaps.

RIGHTS

Much information published on the internet is unclear as to rights to re-use or is subject to copyright, even where it has been produced using public funding. This clearly works against interoperability and sharing of content. Open standards on rights issues (open licences) have been developed but the movement to see them applied consistently is still nascent. CKB supports climate knowledge brokers to better understand and align themselves with this movement.

Aims of CKB

TECHNICAL BARRIERS

There are a number of technical barriers to interoperability, including the formats in which content is published, mis-matched information architectures and the lack of availability of suitable tools.

Some standards to overcome these barriers have been developed and are already in use, though not by everyone working with climate information. These include formats such as RDF[2], ensuring easy data exchange. Other standards – on data and information level – are still to be developed and agreed within the broader community of climate knowledge brokers. Only this can ensure that users have access to information that is comparable and understandable.

"Synchronisation of data definitions, through adherence to a common model can optimise technology services by simplifying the systems' interfaces required to aggregate data from different sources, formats and geographic location. Interoperability of data can be facilitated by providing web interfaces for mapping public and private climate relevant data, statistics, and anecdotal information by relevant organisations. And by facilitating conversation and information exchange based on a common information model, peer group circles of climate project stakeholders, scientists, economists and other users of climate knowledge are enabled to efficiently and effectively respond to climate change." [3]

[2] Resource Description Framework; see: http://en.wikipedia.org/wiki Resource_Description_Framework)

[3] see: Nya Alison Murray, Responding to Climate Change – Knowledge Management, 2014

Use of linked open data standards allows the technically-skilled knowledge broker to link to and use information freely. Other brokers do not have a technical background and require tools to access information in other databases. CKB aims to coordinate the creation and adoption of an easy to use suite of tools and standards that are based on the principles of openness and sharing; specifically designed to work together to allow climate related content to be easily connected across different platforms; whilst, crucially, allowing use-specific tailoring for branding and other purposes.

An "out of the box" solution that is flexible and modular enough to serve the needs of all climate knowledge brokers and users is still in the future. Together as CKB, we have already made progress, though. Some tools allowing sharing and connection of climate information have already been jointly developed by organisations involved in CKB and are used widely within the community. We will continue to support climate knowledge brokers in using these existing tools effectively, and will facilitate the collaborative creation of new tools and services, building step by step towards our objective.

5. An invitation

Our vision is of a world in which people make climate sensitive decisions fully informed by the best available climate knowledge. We believe effective climate knowledge brokers are essential to achieving this vision, so have established CKB as an ongoing peer support group. We are collaboration-minded and seek to engage with users of climate knowledge, with funders or potential funders of climate knowledge activities and services, and of course with those who identify themselves as climate knowledge brokers.

We support the intelligent use of climate knowledge, we urge the coherent, strategic funding of climate knowledge brokering activities, and we invite the participation of climate knowledge brokers.

With **users** or potential users of climate knowledge, we seek to understand your needs and how climate knowledge brokers can help to address them. We welcome your feedback.

With **funders,** we want to explain why more coherent and strategic funding for climate knowledge brokers is necessary. We welcome a dialogue.

With **climate knowledge brokers,** we want to work together to improve our effectiveness in meeting user needs. We welcome your participation.

Get in touch with CKB:

www.climateknowledgebrokers.net
info@climateknowledgebrokers.net
Twitter: @ckbrokers

6. Additional Information

We have created a website for this manifesto which, as well as hosting the pdf version, also provides access to transcripts of some of the interviews we conducted and to examples of successful climate knowledge brokering initiatives.
It provides links to tools that climate knowledge brokers currently use to provide connections amongst their services. We will continually add content to this website and invite you to use it and share it with others.

http://manifesto.climateknowledgebrokers.net

6.1 Contributors

Many people were involved in creating this Manifesto. The following seventeen were most actively engaged, conducting interviews and putting together the key outcomes of what we learned. Most of them were able to participate in the Editorial Workshop in May 2015 in Vienna and we greatly appreciate the time and investment they made to make this publication possible.

Aida Figari
Project Lead – LEDS LAC Secretariat,
Libelula – Climate Change
Management and Communication

"It has been challenging to synthesize the complexity and importance of climate knowledge brokering. The collective effort to do so, reflected in the manifesto, helps understand the key issues for effectively channelling climate knowledge in decision making."

Erwin Hofman
Researcher/ policy advisor,
JIN Climate and Sustainability

"As climate change has a cross-cutting impact on all aspects of global sustainable development, climate knowledge broking is vital across all sectors throughout the world."

Ewa Karólewska
Renewable Energy and Energy
Efficiency Partnership (REEEP)

"It was great to take part in this open and collaborative process and learn opinions and experiences of knowledge providers and users from all around the world."

Florian Bauer
COO & Director "Open Knowledge", Renewable Energy and Energy Efficiency Partnership (REEEP)

"Working on this Manifesto together with all these professionals who dedicated their time and shared their knowledge with us was an incredibly valuable experience. I am honored to be part of a network of climate knowledge brokers who recognize the importance and benefits of open knowledge, sharing and collaboration."

Geoff Barnard
Knowledge Management Strategy Advisor, Climate and Development Knowledge Network (CDKN)

"Working on this Manifesto together has been fascinating and has helped crystallise what it is we're all about, why we're passionate about the work we do, and the vital role knowledge brokers have to play in tackling climate change."

Gustavo Faleiros
Founder of InfoAmazonia and Manager of the Earth Journalism Network (EJN)

"The CKB manifesto was a enlightening process of discovering the importance and the challenges involving climate change knowledge sharing."

James Smith
Renewable Energy and Energy Efficiency Partnership (REEEP)

"Knowledge is power – power for us all to make the changes necessary for a climate resilient future. I'm proud to be part of this collaborative effort to put that knowledge in more heads and that power in more hands."

Jimmy Carrillo Saavedra
Director Communications Unit, Peruvian Society for Environmental Law (Sociedad Peruana de Derecho Ambiental) (SPDA)

"The CKB Group promotes the creation of a collaborative environment and the development of solutions, using data and communications tools, to bring solutions according to the challenges in climate change times. This may not sound new to some people, but it's one of the points that can distinguish CKB from other groups.

Joyce Coffee
Managing Director, Notre Dame Global Adaptation Index (ND-GAIN)

"Turning data into actionable information can be complex, and the Climate Knowledge Brokers each had their own tricks, many of which involved telling a compelling story, in one way or another."

Kiran Pandey
Programme Director – India Environment Portal and Information Management, Centre for Science and Environment (CSE)

"I enjoyed being part of this and it provided me with very useful learnings too, that can be incorporated in my work plan. The project undoubtedly provided me an insight into climate-specific information requirements of a diverse group specially – media, researchers, NGOs and the agriculture community (farmers) too. It made me realize that knowledge brokers undoubtedly have an important responsibility even in the google age, bringing right information, to the right community and at the right time."

Quinn Reifmesser
Renewable Energy and Energy Efficiency Partnership (REEEP)

"The process of contributing to this manifesto and developing a complementary M&E agenda for CKB in parallel has been eye opening. Above all, it has become clear how important it is we monitor, evaluate and actively reflect on our efficiency and effectiveness in meeting user needs. And we have a lot of mutual benefit and opportunity to learn from each other when it comes to M&E methods and strategies to understand the impact of our work. I am proud to be on this journey together with colleagues around the world who share this vision."

René Freytag
Programme Advisor, Climate Technology Centre and Network/ United Nations Environment Programme (CTCN/UNEP)

"The work on the manifesto introduced me to the wealth of unconscious climate knowledge and rendered more precise the great need to foster active brokering in this field."

Sarah Wade-Apicella
PreventionWeb Managing Editor and IKM4DRR Coordinator, United Nations Office for Disaster Reduction (UNISDR)

"Getting closer to understanding these actors' climate knowledge needs has again pointed to how key linkages to disaster risk reduction and development are, and how I may better target packages to support these needs."

Sigmund Kluckner
Project Lead CKB Coordination Hub, Renewable Energy and Energy Efficiency Partnership (REEEP)

"We all know how important knowledge is – societies thrive with it. Climate knowledge will have a great impact on so many aspects of our lives. Climate knowledge brokers will support this transition, and we will keep working together on making it successful."

Timo Baur
Clearinghouse Manager/
Information System Advisor,
Caribbean Community Climate
Change Centre (CCCCC)

"Climate Knowledge Brokers locate, collect, digitize, organize and preserve information about climate change and make it available and accessible in relevant forms to enable adaptation and mitigation action."

Victoria Healey
Project Manager,
Clean Energy Solutions Center

"The interview process identified how different people interpret the meaning and role of the climate knowledge broker, and the need and value of this Manifesto."

Wytze van der Gaast
Researcher/policy advisor,
JIN Climate and Sustainability

"Climate change knowledge is not only important for the 'climate community' but also for other relevant areas such as development, energy and finance. Climate knowledge brokers can help exchange knowledge between these areas."

6.2 List of interviewees

CKB would like to express thanks to the following people who generously gave their time and the benefit of their experience as interviewees during the information gathering phase of the Manifesto development or as part of a series of interviews we conducted with people involved in CKB. We have incorporated a great many of their thoughts into the Manifesto, but the overall document does not necessarily reflect their views. Affiliations are listed for identification purposes only.

Agus Supangat, Regional Climate Projections and Data Consortium Facility in Asia and the Pacific

Ala Druta, Climate Change Office, Ministry of Environment, Government of Moldova

Alex Heikens, UNICEF

Ali Nimer, Regional Government Solutions Director, Microsoft

Alice Caravani, Overseas Development Institute (ODI)

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Andrea Rodriguez, Interamerican Association for Environmental Defense (AIDA)

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Ann Gordon, National Climate Change Office in the Ministry of Forestry, Fisheries and Sustainable Development of Belize

Anneli Sundin, Stockholm Environment Institute (SEI) Oxford Centre; weADAPT

Antonio Hill, Executive Director, Global Call for Climate Action (GCCA)

Ari Huhtala, Deputy CEO – Policy and Programmes, Climate and Development Knowledge Network (CDKN)

Christophe D. Assogba, President of Benin Journalists and Communicators Science Association (AJCSB) and WEST Africa Forum of Science Journalists and Communicators (WAFSJC)

Claudio Castro, Inter-American Institute for Cooperation on Agriculture (IICA)

Daniel Ryan (Director – Research) and Federico Sangalli (Director of Press and Communication) – Environment and Natural Resources Foundation (FARN)

Deissy Martínez Baron, CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), International Center for Tropical Agriculture (CIAT)

Denise Gorfinkiel, UNESCO

Diana Harutyunyan, UNDP – Ministry of Nature Protection of Armenia

Edwin Aalders, DNV GL

Ellis Juan, Inter-American Development Bank (IDB)

Geoff Barnard, Climate and Development Knowledge Network (CDKN)

Graham Pugh, former Director, Office of International Climate Change Policy and Technology, U.S. Department of Energy

Hakim Zahar, Vice-president, Enerplus Canada

Hilary McMahon, Director of Research, Carbon War Room

Hugo Lucas Porta, Factor CO2; York University; University of Lleida

Indrajit Bose, Third World Network (TWN)

Isabella Alloisio and **Alessandra Mazzai,** International Center for Climate Governance (ICCG)

Jamie Herring, President, Habitat Seven

Jane Ebinger, World Bank

Janet Channing, Managing Director, MetGovis

Jason Spensley, Climate Technology Centre and Network (CTCN)

John Nyangena, Kenya Institute for Public Policy Research and Analysis (KIPPRA)

John Young, Overseas Development Institute (ODI)

Jon Weers, National Renewable Energy Laboratory (NREL)

Joyce Coffee, Managing Director, Notre Dame Global Adaptation Index (ND-GAIN)

Juan-Cruz Monticelli, Organization of American States (OAS)

Jukka Uosukainen, Director, Climate Technology Centre and Network (CTCN)

Karen Suassuna, OAK Foundation

Karma Tshering, National Environment Commission, Bhutan

Kirtiman Awasthi, Swiss Agency of Development & Cooperation (SDC)

Kishan Khoday, UNDP

Kristy Faccer, formerly South African Risk and Vulnerability Atlas

Langston James "Kimo" Goree VI, Vice-President, International Institute for Sustainable Development (IISD)

Laura Jakobeit, German Agency for International Cooperation (GIZ)

Lucy Ng´ombe, Deputy Director, Department of Climate Change and Meteorological Services, Malawi

Mamouda Moussa Na Abou, ENDA Energy-Environment-Development

Marina Shvangiradze, UNDP-Ministry of Environment and Natural Resources Protection, Georgia

Martin Hullin, REN21

Maurine Ambani, CARE International

Max Thabiso Edkins, World Bank Group; Connect4Climate

Meena Menon, former Deputy Editor, The Hindu Newspaper

Mike Harley, Consultant; Director, Climate Resilience Ltd

Mozaharul Alam (Babu), UNEP

Murari Lal, Professor, formerly at the Indian Institute of Technology, Delhi

Nella Canales Trujillo, Overseas Development Institute (ODI)

Nicole Leotaud, Executive Director and Managing Partner, Caribbean Natural Resources Institute (CANARI)

Paula Ellinger, Avina Foundation

Pedro Gamio, Consultant in energy issues, Freelance

Peter Läderach, International Center for Tropical Agriculture (CIAT)

Peter Taylor, Program Manager, IDRC

Pradeep Pursnani, Deputy Director, Shell Foundation

Quách Tát Quang, Acting Director of the Ozone Layer Protection Centre, Ministry of Natural Resources and the Environment, Viet Nam

Ragne Low, ClimateXchange Scotland

Rehab Ahmed Hassan, Higher Council for Environment and Natural Resources (HCENR), Sudan

Roger Street, Director – adaptation science, UKCIP

Ron Benioff, National Renewable Energy Laboratory (NREL)

Samuel Tumiwa, Deputy Representative, North American Representative Office (NARO), Asian Development Bank (ADB)

Samir Ibrahim, CEO & Co-Founder, Sunculture

Satya Tripathi, Director and Executive Head, UNORCID

Shaun Martin, Senior Director, Climate Change Adaptation, WWF-US

Shonali Pachauri, International Institute for Applied Systems Analysis (IIASA)

Sonja Larsson-McCann, Senior Advisor Capacity Building, Swedish Meteorological and Hydrological Institute

St. John Hoskyns, BDO LLP

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Tom Baumann, International Organization for Standardization (ISO); Co-Founder and CEO, ClimateCHECK; Co-Founder and Director of Knowledge management, Greenhouse Gas Management Institute

Thomas E. Downing, CEO, Global Climate Adaptation Partnership (GCAP)

Ulric Trotz, Deputy Director, Caribbean Community Climate Change Centre (CCCCC)

Walter E. Baethgen, International Research Institute for Climate and Society (IRI), Earth Institute, Columbia University

William Becker, Executive Director, Presidential Climate Action Project (PCAP)

Xianfu Lu, UNFCCC

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Society is only now grasping the full extent to which our lives, jobs and environment are sensitive to a changing climate. Effective decision making will be needed in many areas if we are to build a climate resilient future. Many more people will need to make use of climate knowledge in the future to support them in making their decisions.

This manifesto was developed through a collaborative process involving people connected to the CKB Group. It explains that users of climate-related knowledge require access to information that is tailored to a myriad of specific circumstances, and the essential role climate knowledge brokers play in delivering this.

It is only through collaboration that climate knowledge brokers will meet this complexity of user needs effectively. In The Climate Knowledge Brokers Manifesto we describe our vision of a world in which people make climate sensitive decisions fully informed by the best available climate knowledge, and how that can happen.

manifesto.climateknowledgebrokers.net

The CKB Group is a network of organisations and professionals focused on improving the quality and use of climate-related knowledge in decision making.

CKB CLIMATE KNOWLEDGE BROKERS

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