RESEARCH UPTAKE: THE VALUE OF EFFECTIVELY COMMUNICATING RESEARCH TO YOUR AUDIENCE

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Abstract

The field of research uptake is an emerging, yet imperative area of 'meta' research – insight into different approaches on disseminating and using research is continually surfacing. These include strategies on how to catch, maintain and sustain the attention of target audiences, ensure that knowledge is appropriately transferred to policymakers, practitioners and other end users, and monitoring its impact. Extensive literature, coupled by a variety of tools, both generic and topic-specific, exists dedicated to helping the researcher research and integrate dissemination plans into their work. These often aim to increase communication and understanding across disciplines and appropriately affect policy, society, culture and environment. This paper attempts to define some key terminology, provide a brief introduction to ongoing efforts and explore some main motivations and justifications for integrating uptake into research.

Keywords: research uptake, dissemination, communication

INTRODUCTION

While the collective history of research uptake, dissemination and communication (subtly differentiated below) is neither a long-winded nor complex one, the concepts have been promoted and practiced in a variety of fields, for quite some time. However, the bulk of published research and guidance documents have mainly been limited to public health and medicine uptake, with a small yet budding body of works on international development. As an overarching topic that applies to all fields, research uptake seeks to challenge researchers and practitioners to critically examine their accumulated knowledge and data, from the outset through to the follow-up, for their relevance and utility to existing applied models. Here, it is also stressed that this process is not a one-way stream; rather there should also be a continuous feedback loop back from practitioners to researchers.

The purpose of this paper is three-fold – to begin or continue the dialogue amongst students, researchers, academics and practitioners about how research uptake can be:

- 1) *Integrated* into your own research, ideally at the point of conception, before beginning the project, and
- 2) *Used* who is the intended audience? How can you make it accessible and communicate it effectively to them? What will they do with this information?

Thirdly, this serves as a brief primer on research uptake as a field currently and its varying methodologies, objectives and potential outcomes. Itself aimed at a diverse audience, the paper speaks through a general lens, rather than to one specific field, and thus, intends to spur academics and researchers to curate their own respective processes to effective research uptake. 383

³⁸³ Due to relatively new developments in research uptake and related fields, and in an attempt to maintain accessibility of information, many of the sources come from emerging publications, citations from relevant experts, and other open access literature – both informal and formal.

WHAT IS RESEARCH UPTAKE? History

The evolution of research dissemination approaches, while sometimes quite inherent in the nature of research, did not become quite as apparent until the last few decades. When the terminology surfaced to describe the practice, was when it became more widely recognized as a credible approach. Initially, researchers presumed that undertaking the research itself, followed by results and analysis in writing, was enough to eventually diffuse it into the wider world, to be used by those who found merit within it. The common measure of impact was the amount of references the paper and author received by other peer-reviewed articles and publications (Carter & Paulus, 2010). This method of 'research dissemination' focused more heavily on what the field calls the 'supply side' – that is, the researchers themselves. However, eventually the proactive idea of purposefully and strategically directing research became known as 'research communication'. According to Knezovich:

This approach assumed a dynamic and negotiated balance between the supply and the demand of research, and promoted an iterative process of dialogue among key stakeholders to inform the selection of appropriate research questions and programme design as well as engagement throughout the research process (Knezovich, 2012)

Particularly in application of research into medical/health policy and international development practice did this tactic begin to emerge as crucial and worthy of funding. What followed was a stronger push to link research to its intended, or target, audiences, engaging all relevant end users with the knowledge to promote its application.

Terminology

There are several terms that have been used in varying fields and at different stages of research uptake. Some of the most commonly used terms and their differentiation follow.

Research dissemination | Processes that ensure the widest reach of the research to potentially relevant audiences. Dissemination usually occurs once research results are obtained, such as through conferences, academic or online publications and other channels (Shaxson, 2010).

Research communication | The process of interpreting or translating complex research findings into a language, format and context that non-experts can understand...beyond the mere dissemination of research results...involves a network of participants and beneficiaries (Carter & Paulus, 2010).

Research uptake | Focused mainly on the demand side of the coin, working to stimulate an enabling environment among end users of research to commission and find appropriate information to support their own policy processes (Knezovich, 2012). The process of becoming aware of and accessing research outputs and the institutions, policies, systems and mechanisms supporting this process (Adolph et al, 2010).

Target audience | The person or group of people whose specific needs are being addressed. Targeting is the process of involving specific potential users of research throughout the research process (particularly in its initial scoping and planning) in an effort to promote its relevance, usefulness and therefore uptake and use. Target audience for research communication differs from the dissemination audience, which is the broad group of people to whom this process is directed (ibid).

Knowledge intermediary (KI) | Also known as knowledge broker in international development, a KI can be a person or organization that links research or evidence to policy. Traditionally journalists and librarians have been considered...KI but now this term is understood to have a wider inclusion of activities and occupations (Gwyn, 2010). They may be individuals, groups within organizations, or organizations focused on knowledge sharing, who carry the skills to analyze and critique research findings, and process them for specific or

general end users (Carter & Paulus, 2010)

Within research uptake itself, the International Water Management Institute (IWMI) distinguishes two complementary and essential strategies:

- *Broad-Macro* efforts focus on the ease of access and availability of research information to as wide, and global, of an audience as possible, and
- *Targeted-Micro* efforts involve developing a strategy for the uptake of research results to targeted audiences. This will include having an uptake strategy built in to the project as well as feeding project results and activities into a regional uptake strategy (Kane-Potaka, 2009).

While there are those who practice some level of communications through information briefs, community outreach and other media outlets, IWMI find that the problem lies in the idea that there is often no 'strategy' – one that includes the participation of all intended users at research conception and throughout the duration of the project, which would in turn increase the likelihood of effective uptake.

WHY RESEARCH UPTAKE?

The inherent responsibility of researchers, as gatherers and wielders of information and data, is to ensure its utmost quality, utility, and ultimately increase the capacity of practitioners, a concept Lubchenco (1998) calls the scientific community's 'social contract'. In order to do this, there must be a clear and precise objective to each project that empowers end users with substantiated data and comprehensible methodology to back it up. According to the UK's Department for International Development (DFID), researchers are 'suppliers' of research but they also themselves need to use research and in some cases carry out activities to build the capacity of other user groups (DFID, 2013). This implies an obligation to their target audiences to keep an inclusive and, where possible, participatory, process. Through early and consistent consultations with users such as focus groups, surveys and other involvement activities, researchers can improve their understanding of their 'needs and contexts' (Carter & Paulus, 2010).

Demand side

While researchers, as suppliers of information, often possess the skills and resources to carry out a study, the ultimate users, who set the demand for knowledge, contribute a different set of insight to the process, and their integration into the project at conception and beyond can not only improve the quality and applicability of the end results, but also ensure a seamless and fruitful transition from research to uptake.

If there is no channel that allows targeted information users to relay both feedback and demands on existing and proposed research, the two supply and demand sides will become much more autonomous, further separating information discovery from knowledge application. Thus, "unless users are involved in defining the research agenda, there is a risk that research is not relevant, in which case even the best communication strategy will not be able to trigger wide scale use" (Adolph, 2009). Carter and Paulus (2010) agree, observing that to "ensure that the questions the research seeks to investigate and answer are the questions that users want answered" helps to communicate "findings seen as relevant and timely [which] brings the greatest impact". Furthermore, "developing a dissemination plan ensures that research is distributed to and understood by those who need it most" (University of Regina, 2011), ideally supporting collaboration between research partners to identify valuable information-sharing strategies.

Research Value

Effectively communicating the purpose of research results are equally as important as the initial steps of increasing their accessibility and awareness – that is, the problem or

opportunity that the research confronts, and how addressing it is valuable and crucial to existing conditions. Following, to implement changes, the end users would need to understand how it benefits them, in addition to possessing the skills and resources necessary to employ the research. The latter couple steps tend to fall more on the onus of the changemakers – policy- and other decision-makers. However, to influence and initiate a productive cycle, researchers need to consider the process in its entirety – not stopping at research results – and provide a resource that speaks to this understanding of its eventual application into policy and practice.

Researcher benefits

Beyond the potentially altruistic outcomes of applying quality research and increasing the capacity of policymakers and practitioners, there are several distinct advantages for researchers to engage in integration of uptake. In an effort to implement her findings and raise awareness on the issue, a researcher at the Regional Institute for Population Studies (RIPS), at the University of Ghana, proactively sought out funding from the university's Office of Research, Innovation and Development (ORID) to conduct a meeting of key stakeholders in the field of public health to present and discuss her results. ORID was supportive and the meeting was productive, with recommendations and insight from the audience contributing to a follow-up report on the research, and with ORID maintaining contact with the actors to monitor the progress of research integration into policy and practice.

Creating a space for research dialogue | A key element to creating a productive cycle of research, policy and practice is to encourage and fuel dialogues around knowledge, whether new or existing. By making research results accessible and comprehensible to the target audience, it can create a space and point of entry for the involved actors to participate and contribute to the body of work. This not only connects researchers to each other, but also to wider networks of professionals working in similar fields, in varying capacities – relationships that could lead to future partnerships.

Improved general knowledge | Whether through their own means or knowledge intermediaries, researchers who more widely and effectively disseminate their findings hold the potential to impact on a larger scale, future research and current conditions. With an expanded reach, there is potential for the general public to gain from the information and boost their understanding of the issues, which supports the researcher's aim of increasing awareness and affecting change.

Transparency and accountability | As research has become at once more diluted and concentrated, with the number of publications and topic-specific journals consistently increasing, it is difficult to track the credibility of methodologies employed. Projects that integrate uptake and communication strategies not only seek to clearly convey their techniques, but they can also earn a level of accountability through the willingness to discuss and share information with involved partners (throughout the research process), which also boosts their transparency.

Promotion of holistic approaches | Research can sometimes be associated with a highly niche and even insulated environment, a necessary component to the level of rigor it demands. Collaboration and productive interchanges with partners can open up the process, all the while maintaining its relevance to uptake and application.

Multi-way discourse | Involving relevant actors in the process of researching would serve to increase awareness for, stimulate interest in and encourage insight into the topic or project. In a multi-stakeholder group formed to assist shea producer cooperatives in Mali get access to credit, as part of the Convergence of Sciences – Strengthening Innovation Systems (CoS-SIS) project, the team formed a sub-group to tackle the issue of soliciting the support of financial organizations:

[The group] formed a team of five people...and asked one of the women

members (the representative of the Ministry for Women) to phone each financial organization to request an interview. This took advantage of a feature of Malian culture: it is not polite to reject a request if it comes from a woman. That opened the doors. The team met with each of the four financial organizations and presented the...business plan and explored the conditions for a loan. Each of the financiers stated they were ready to offer a loan, and listed their conditions...(Nederlof & Pyburn, 2012)

Furthermore, it is beneficial for scientists and researchers to understand how their efforts function to integrate and disseminate appropriately their work to the target audience (and who the target audience may be). That is, a multi-way discourse encourages feedback to the researcher on the communication strategy being used, whether or not they are directly involved, and how it can be adjusted to appropriately address the target audience.

HOW TO DO RESEARCH UPTAKE?

While some may choose not to lead the communication and uptake strategy, researchers maintaining a solid understanding of the main components of an effective uptake plan understand its importance and potential impact, and possess a greater aptitude to integrate them into their personal and professional interactions. Awareness of these key elements to decrease barriers in communicating research helps to shape productive conversations, avoid misunderstandings and increase subsequent knowledge sharing.

'The Power of Plain Language'

Scientific publications and formal, technical papers have a tendency to be written in a vocabulary and prose that is familiar to its respective field, whereas dissemination focuses on its accessibility to both the specific end users (target-micro) and general audience (broad-macro). The Center for Plain Language differentiates audiences in their definition of plain language:

Plain language is information that is focused on readers. When you write in plain language, you create information that works well for the people who use it, whether online or in print...measure of plain language is behavioral: Can the people who are the audience for the material quickly and easily:

- find what they need
- understand what they find
- act appropriately on that understanding

This means that the definition of "plain" depends on the audience (Center for Plain Language).

Plain language for a general audience is different than plain language that is specifically targeted to policymakers, for example, and a careful appraisal of the terminology, tone and context is necessary to grab and maintain their attentions, and accurately communicate information.

Multidisciplinary design of dissemination

Researchers are not expected to be natural communicators, or able to designate the time and energy necessary to properly disseminate their work. Where possible, they can work with their design, communications, public relations, marketing and other related colleagues to help curate an effective dissemination strategy. Involving a multidisciplinary team in curating a plan can also boost its ultimate applicability, creativity and reach. The German Development Corporation (GTZ) has outlined ten steps for Strategic Communication for Sustainable Development, amongst which is the

The participation of strategic groups is such a crucial element in the [environmental communication] strategy because people will not change their

environmentally relevant practices if they do not have a say in planning, implementing and evaluating the action for change...[it is] not a one-shot effort. The keyword here is ownership. Ownership should be taken literally in terms of media products and communication processes not for or about people but with and by the people themselves (Willner, 2006).

Through involvement of a wider range of actors, the plan will take into account varying perspectives, involve more segments of the population, and ensure that the message speaks to them.

Basics of visual communications

Graphic design and layout can have an astounding impact on how affectively information is understood, improving its accessibility and communicability. While the field in itself is wide-ranging and has specialties for specific types of information design, it is helpful to understand the basics of translating data and knowledge into an aesthetically appealing *infographic*. According to the Canadian Open Government initiative:

An infographic diagram is a visual explanation of a concept or data. Infographics generally take two forms - a visual story, or a visualization of data. Some infographics use both elements. (British Columbia)

Infographics and other related visual communications tools can secure an understanding of ideas explained in text, complementarily speaking to visual learners. Robert Lane and Dr. Stephen Kosslyn reason that visuals are more effective due to the way in which the brain processes an image as one symbol, whereas text is received sequentially, requiring more effort to understand completely (Smiciklas, 2012). Further, infographics can also help expand upon and justify written concepts. According to Jen Christiansen, art director of information graphics at *Scientific American*,

Graphics can often communicate scientific concepts more efficiently than words, for any audience. Visuals that are developed for a science savvy but non-specialist audience...can help make scientific findings accessible to broader audiences. By removing barriers (such as technical jargon), and providing context...the information is presented in an immediately intuitive and engaging manner (Jackson, 2014).

Useful as a tool to apply to a range of audiences, infographics can reach places that the text and findings may not.

When disseminating to specific audiences, the type of visual tool employed and an assessment of how it speaks or relates to the ultimate end users is necessary. A targeted-micro effort should look at how their specific segment(s) of the population may perceive certain elements of graphics, particularly if they are associated with a local community, with a distinct culture and sets of societal norms and perceptions.

For researchers intent on getting hands-on with and seeking more ownership of communicating their information, there is a wealth of open-source and free software out there that combine many of the essential elements of information communication, some accompanied by technical support and help forums ³⁸⁴.

Science and media

If there is an existing relationship, whether positive or negative, with local, regional or international journalists, it is important to ensure they receive and interpret the information accurately. Furthermore, following an extensive consultation of scientists and media specialists for the formation and mission of the Science Media Centre in the UK, a report produced the findings, amongst which were the persisting ideas that a "key cause of the

³⁸⁴ For starters, a helpful list of some open-access and free resources and tools can be found at: www.visualisingadvocacy.org/resources/visualisationtools and https://selection.datavisualization.ch/

crisis facing science is the lack of understanding among journalists and the public about the way science works," as well as the perception that the "rising criticism of science [is] the direct result of a fundamental misconception about what science can offer" (Science Media Centre, 2002). It is important to not only have basic knowledge of the media and communications world, but also to build lasting and solid relationships with journalists in order to work against misinformed coverage and misinterpreted research results.

Building capacity for increased uptake

Laying the foundation for awareness and realization of the importance of research communication involves enabling its different actors to put it on the agenda, and closer to the top. There are many entry points at which uptake can be supported, however there is some consensus that there are three main levels (further elaborated in Figure 1 below):

Systems | According to the Overseas Development Institute (ODI)'s RAPID programme (ODI, 2009), there are incompatible timelines and views on evidence-based results between research and policy, with diverging priorities in terms of deliverables and methods of justification of recommendations.

Institutional | Establishing an environment that is conducive to integration of research communication as a core function, awareness-building and identification of communications, funding and collaboration streams, and planning budgets accordingly are all areas where institutional shortcomings often arise.

Individual | With the focus often on the supply-leaning side of the equation researchers face pressures to continually produce high-quality work, without the time, energy or motivation to syphon off to liaising with policy and practice, amongst many other barriers.

The CRU Scoping Report recommends these three distinct levels of interventions and suggests some entry points.

FIGURE 1 | RECOMMENDATIONS ON A FIVE-YEAR INTERVENTION TO DEVELOP THE CAPACITY OF SUB-SAHARAN AFRICAN UNIVERSITIES IN RESEARCH COMMUNICATION

To achieve measurable and effective outcomes the intervention should build from current

capacity, promote alignment and improvement of resource and investment plans and develop a professional culture at three levels:		
Systems	Institutional	Individual
1) Ensure universities' and	Enroll research	Design, accreditation and
institutes' improved research	institutions in planned	delivery of professional
communication capacity widely	change strategy to	development training that
used by donors, governments, etc.	embed research	within a specified time frame,
2) Liaise and work with regional	communication	e.g. five years, becomes a
associations and networks to	technical expertise and	self-sustaining programme
promote research communication,	adoption of measures to	and a qualification that is
'piggy-back' on their regular	monitor, evaluate,	internationally recognised.
events and activities	benchmark and share	
	good management	

Adapted from Kirkland et al. 2010.

The path of research dissemination and use is, in theory, a clear one, whereas in practice, leaves much to be desired. Enrique Mendizabel suggests that not all research uptake is 'up' – flowing directly to the policymakers – rather it can be 'sidetake' to fellow researchers, or 'downtake' to the public and practitioners (Mendizabel, 2013). Being cognizant of these various directions and end users of information would help to further gear

practice

them to their correct and more responsive audiences. However, implicit in this idea is the notion of a hierarchy when it comes to information production and usage. In order to effectively address the demand side to appropriately shape the supply side, all actors and insight should be valued (whether or not they are 'out of order') – where information and input from all parties are continuously fed into the process, at all stages.

Understanding policy development

Further to the discussion of translating research into a digestible format, a glimpse into the process of policy-making would assist in tailoring the appropriateness of content, structure and timing in research communication.

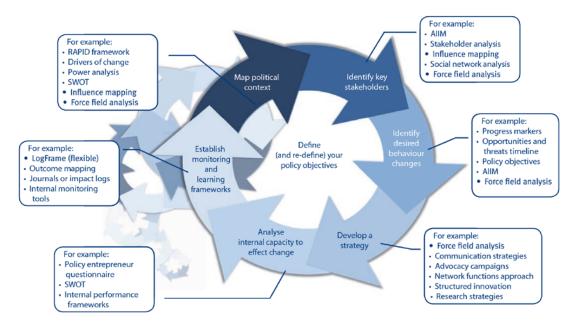
Vincent Cable, a Member of Parliament, in a 2003 presentation at ODI, articulated what he perceived to be the main differences, and obstacles, between policy and research. He summarized the political world into Five S's:

- 1) *Speed* | The timeliness of decisions is extremely important, and can sometimes compromise the quality of the choice made when, for the sake meeting a deadline, research-based evidence is overlooked or 'forgotten'.
- 2) Superficiality | With a wide array of topics under their umbrellas, many will not be able to consider all factors and sides, and rather need to rely on a few advisory specialists, whose competence and integrity are crucial to the eventual policy outcome.
- 3) *Spin* | The heavy reliance on how information is presented frequently emerges in the political world, where 'perception is often more important than the substance', and thus how data, or lack thereof, is presented deeply sways the audience.
- 4) Secrecy | While there can be evidence-based policy, that data and other justifications for policy decisions may not be accessible to the public, and thus cannot be tested for quality and accountability.
- 5) Scientific ignorance | Political decisions are swayed by public opinion and pressures, and if there are perceptions circulating about an issue that is opposed by scientific evidence, the politician will tend to side with the public (ODI, 2004).

Evidently, the policy process is intricate, even thorny, and impacted by many internal and external factors. As such, for researchers working to impact policy, whether actively or indirectly, an equally multidimensional approach is required.

In a briefing paper published in 2009, the ODI recounted six lessons from five-years of cumulative studies on making research policy-relevant. Amongst the most important lessons are that policy processes are complex, and thus rarely linear or logical, and that policy 'entrepreneurs', or researchers working in policy, need to have a holistic, contextual understanding, acquire additional skills, and be committed to the work (ODI, 2009). Complementary to these lessons is an eight-step strategy they devised to assist policy entrepreneurs, or researchers working to expand the impact of their knowledge on policy, in a method they have termed the RAPID Outcome Mapping Approach (ROMA) (Figure 2).

FIGURE 2 | THE RAPID OUTCOME MAPPING APPROACH (ROMA)



Adapted from ODI, 2009.

The ROMA was conceived and aimed as a tool for researchers to systematically take stock of the context and enable more informed decision-making, increasing their sensitivity to and awareness of 'unexpected policy windows and opportunities for change' (ibid).

WHAT ARE POTENTIAL NEXT STEPS?

In a study of the UK's Department for International Development (DFID) research communication programs and their methods and priorities, Triple Line Consulting Ltd observed the following relevant strategies:

- 73% of organisations used workshops and conferences;
- 73% supported networks and coalitions that bring together research users and research generators;
- 73% used training courses and training events;
- 54% noted the use of mentoring of key individuals; and
- 43% provided specific advice to policy makers and funders to target their end users (Proctor et al, 2009).

Most of these methods involve in-person meetings and events, underscoring the need to gather relevant actors to ensure they comprehend the research, its results and potential effects on current policy and practice. However, not all events are equal. The promotion of productive, innovative and 'leading' – that is, it leads into other productive activities, is a purposeful step in the process, and efforts do not end at the adjournment – events is crucial to not unnecessarily spend resources on ineffective meetings that fall short of accomplishing tangible and inclusive goals.

There are many sources that outline different types of research communication events, from training to implementation, some with guidelines and advice on organization. Effectively using these documents and literature depend on the number and types of participants involved, the capacity of the organizers, and objectives, duration and projected outcomes of the event.

Development Research Uptake in Sub-Saharan Africa (DRUSSA), a five-year DFID-funded project to increase institutional capacity of universities to implement research

uptake, recently published a document, Platform2013, in print and digital form, which compiled twenty evidence-based development research articles. They also challenged researchers to condense their papers into two-page information briefs that clearly state the objective, methodology, results and relevance to policy or practice. In order to encourage and guide a similar institutional process, they have also published many resources, particularly a toolkit on how to carry out a 'research uptake campaign'.

The CoS-SIS project carried out a series of forums, called Concertation and Innovation Groups (CIGs) facilitated by local research associates, in three different countries, Mali, Benin and Ghana. Through these forums, they addressed key issues within each country, forming the working groups with multi-level and multidisciplinary stakeholders, all invested in development progress, 'The idea is that these forums create space for interaction, hopefully leading to institutional change, and so creating realistic opportunities for smallholders and increasing food security' (CoS-SIS, 2012). The project uses the emerging multi-stakeholder approach to further explore capacity and development of research dissemination and uptake to policy and practice.

Even researchers interested in directly engaging in the communication and uptake process can face issues of limited time and resources. Rather than continuing to reinvent the wheel and put more hands into the cookie jar, undertaking efforts such as teaming up with other researchers doing similar, perhaps complementary work (in the same or a complementary field) to execute a joint uptake strategy may enhance coverage, leverage as well as credibility.

CONCLUSION

The awareness of research uptake is slowly on the rise, particularly in academia. However, its validity does not hinge on its strength as a field on its own, rather the propensity of the research communities to integrate uptake into their research design, implementation and evaluation, including participatory dissemination of results. There are many entry points, as outlined here, to begin affecting change, and the appropriate strategy should be designed at a multidisciplinary, multi-level, institution-wide, context-appropriate and accessible table.

As a final note, Enrique Mendizabal offers an alternative view of uptake – that replication and inspiration are uptake as well:

There is also an element of inter-generational transfer of skills that must be taken into account when we consider research uptake. Much of the research that goes on in universities and think tanks has the purpose of helping to train new generations of researchers. If all research and all communication efforts are targeted policymakers' immediate needs what will be taught to students? Writing a macroeconomics textbook, a new introduction to sociology book, or similar efforts should be seen as important as putting together a policy brief. More important, in fact (Mendizabal, 2013).

While there should be substantial efforts to support existing researchers and scientists to promote research utilization, there is substantially more positive outcome if students and young researchers are trained to alter their thinking and approach in a way that measures their accomplishment by its impact on policy and practice, rather than the quantity of publications with their bylines.

RESOURCES

Adolph, B. Proctor, F.J., van der Gaag N., Davies, J. and E. Carlile (2009). *Learning lessons on research uptake and use: Donor review on research communication*. Triple Line Consulting Ltd, UK: 2009, 65. Report prepared for UK DFID.

Adolph, B., Herbert-Jones, S., Proctor F.J., Raven, E. and M. Myers (2010). *Learning lessons on research communication and uptake*. *A review of DFID's Research and Evidence Division's human development (health and education) and agriculture portfolios and their contribution to the 30% policy*. Part 1 Final report. Triple Line Consulting Ltd, UK: 2010, 142. Report prepared for UK DFID

British Columbia. *Deliverables and Communicating your research: Infographics*. UX Toolbox: Better Web for Citizens, Open Government, British Columbia, Canada: 2014. Available here.

Carter, I. and K. Paulus (eds) (2010). Research Communication: Insights from practice. A report produced for DFID's Research Communication Strategy Group, UK: 2010.

Center for Plain Language. What is Plain Language? Center for Plain Language, Virginia, USA. Available here.

Gwyn, Elin (2010). *Guest Blog: Improving the impact of development research through better communication and uptake*. Foreign & Commonwealth Office (FCO), Science & Innovation Network, Canada: 22 December 2010. Web blog entry. Available here.

Jackson, Alex (2014). *The Power of using Infographics to Communicate Science*. Nature.com: Of schemes and memes. Nature Publishing Group/Macmillan Publishers Limited, 20 January 2014. Available here.

Kirkland, J., Mouton, J. and D. Coates (2010). *Final Report of the CRU Scoping Study 2010: Specialist professional and institutional capacity building in sub-Saharan Africa*. Communicating Research for Utilisation (CRU), South Africa: 2010, 24. Report prepared for UK DFID

Knezovich, Jeff (2012). The challenges of Research Uptake Part I: Systemic, institutional and individual barriers. Development Research Uptake in Sub-Saharan Africa (DRUSSA), South Africa: 2012. Available here.

Mendizabal, Enrique (2013). *Research uptake: what is it and can it be measured?* On think tanks: Independent research, ideas and advice, UK: 21 January 2013. Available here.

Lubchenco, Jane (1998). Entering the century of the environment: A new social contract for science. Science 279 (5350): 491-7.

Nederlof, E.S. and R. Pyburn (eds) (2012). *One finger cannot lift a rock: Facilitating innovation platforms to trigger institutional change in West Africa*. KIT Publishers, Amsterdam: 2012, 132.

Overseas Development Institute (ODI) (2004). Research and Policy in Development: Does Evidence Matter? Meeting Series. ODI Meeting Series, UK: 2004, 168.

Overseas Development Institute (ODI) (2009). Helping Researchers become policy entrepreneurs: How to develop engagement strategies for evidence-based policy-making. Briefing Paper: 53, London: 2009, 4.

Proctor, F. J., Adolph B., Atampugre, N., Carlile, L., Davies, J., van der Gaag, N., and M. Myers (2009). *Learning lessons on research uptake and use: A review of DFID's research communication programmes*. Part 2 – Resources. Triple Line Consulting Ltd, UK: 2009, 238. A study undertaken for DFID

Science Media Centre (2002). Consultation Report: March 2002. Science Media Centre, UK: March 2002, 36.

Shaxson, Louise (2010). *Improving the impact of development research through better research communications and uptake*. Background paper for the AusAID, DFID and UKCDS funded workshop: London, November 29th and 30th, 2010. Delta Partnership, UK: 2010. Report prepared for workshop

Smiciklas, Mark (2012). The Power of Infographics: Using pictures to communicate and connect with your audiences. Pearson Education: 15 June 2012, 224.

University of Regina (2011). *Exchanging Knowledge: A research dissemination toolkit*. Community Research Unit, Faculty of Arts, University of Regina, Canada: August 2011, 12.

Willner, Susanne (Ed) (2006). *Strategic Communication for Sustainable Development: A conceptual overview*. GTZ Rioplus: Environmental Policy & Promotion of Strategies for Sustainable Development. Schneller, Druck, Reutlingen, Eshborn: 2006, 61.

Online tools and resources on research uptake

Overseas Development Institute (ODI). Planning tools: how to write a communications strategy. http://www.odi.org.uk/resources/details.asp?id=5186&title=communications-strategy-planning

Local Government Improvement & Development. http://www.idea.gov.uk/idk/core/page.do?pageId=8179255

KnowHowNonProfit. http://knowhownonprofit.org/campaigns/communications/effective-communications-1/communications-strategy

The Development Communication Sourcebook. http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2008/07/09/000020953_2 0080709145627/Rendered/PDF/446360Dev0Comm1ns0handbook01PUBLIC1.pdf

German Development Corporation (GIZ). Strategic communication for sustainable development. http://www.cbd.int/cepa/toolkit/2008/doc/strategic communication for sustainable development.pdf

UNICEF. Writing a Communication Strategy for Development Programmes. http://www.unicef.org/cbsc/files/Writing_a_Comm_Strategy_for_Dev_Progs.pdf
Development Research Uptake in Sub-Saharan Africa (DRUSSA).