Advances in Knowledge Brokering in the Agricultural Sector: Towards Innovation System Facilitation

Laurens Klerkx, Marc Schut, Cees Leeuwis and Catherine Kilelu

Abstract The process of knowledge brokering in the agricultural sector, where it is generally called agricultural extension, has been studied since the 1950s. While agricultural extension initially employed research push models, it gradually moved towards research pull and collaborative research models. The current agricultural innovation systems perspective goes beyond seeing research as the main input to change and innovation, and recognises that innovation emerges from the complex interactions among multiple actors and is about fostering combined technical, social and institutional change. As a result of adopting this innovation systems perspective, extension is refocusing to go beyond enhancing research uptake, and engaging in systemic facilitation or what has been called 'innovation brokering'. Innovation brokering is about performing several linkage building and facilitation activities in innovation systems, creating an enabling context for effective policy formulation and implementation, development and innovation. Conclusions are that an innovation systems perspective also has relevance for sectors other than agriculture, which implies that in these sectors knowledge brokering as enhancing research uptake and use should be complemented with broader innovation brokering activities.

1 Introduction

Recently, interest in enhancing the uptake, use and impact of research in policy and practice has increased considerably. This interest has emerged in various fields such as medical and health science, environmental science, and development (Lavis *et al.* 2006; Michaels 2009; Fisher and Vogel 2008). An increasingly popular approach to enhance research uptake and use, moving beyond mere diffusion of research results through reviews, leaflets, and summaries, is 'knowledge brokering' (Bielak *et al.* 2008). Although several definitions and modalities of knowledge brokering exist (see Michaels 2009; Meyer 2010; Fisher 2011), knowledge brokering is broadly about filtering relevant research, advocating the use of research in policy and practice, translating research into plain language and helping people to make sense of and apply information, and establishing a connection between research producers and research users. Knowledge brokering ideally does not only take place after research has finished, but should also – and perhaps mainly – focus on communication between research producers and users *during* research processes (Lomas 2007; Neef and Neubert 2011). This implies that knowledge brokering is not only about enhancing 'research push', but also about enhancing 'research pull' and facilitating collaboration between researchers and stakeholders to foster a process of joint knowledge construction, which often enhances research impact. While researchers can engage in knowledge brokering activities (Ward *et al.* 2010), these activities are often executed by specialised actors or organisations who are then called 'knowledge brokers' (Bielak *et al.* 2008; Lomas 2007; Meyer 2010).

While the knowledge brokering literature from the medical and health science field as well as the environmental science field has increasingly recognised research pull and participatory or collaborative research models, there remains a strong focus on 'research' and 'knowledge' (often explained as research evidence), which obscures the fact that to effectuate change and innovation there are several other influential factors

IDS Bulletin Volume 43 Number 5 September 2012
Published by Blackwell Publishing Ltd, 9600 Garsington Road, Oxford OX4 2DQ, UK and 350 Main Street, Malden, MA 02148, USA

(Best and Holmes 2010; Hounkonnou *et al.* 2012; Millstone *et al.* 2010). The latter has become increasingly recognised in the agricultural sector. We believe that the work from this sector on agricultural extension (the common term for knowledge brokering) is relevant and interesting to review. While the goal and audience of extension may be different (initially it was stimulating productivity of farmers) than bringing research to policy, it applies similar principles and therefore provides valuable lessons on knowledge brokering for research, policy and practice. The body of literature on extension describes over 50 years of experience (Leeuwis and Aarts 2011; Röling 2009) and other sectors may benefit from such cumulative learning. However, we do not intend to present the case of extension as best practice, but rather to provide reflection.

The article continues with an overview of developments in thinking on innovation and change in the agricultural sector and the role of research and knowledge brokering herein. Subsequently, we focus on the implications of the changing and new roles of knowledge brokers. The article concludes with a reflection upon the implications of the experience from the agricultural sector for thinking on knowledge brokering in other fields.

2 Changing paradigms on change and innovation in the agricultural sector: implications for knowledge brokering[1]

2.1 The evolution from linear to systemic models thinking

Agricultural extension was founded with the objective of enlightening farmers with insights from science to enhance agricultural productivity (Leeuwis 2004). In many countries, public sector extension services were and still are explicitly connected to the national agricultural science system. However, the interpretation of the concept of extension, and the mandate it has or should have, evolved with changing views on agricultural development and innovation, and the role of science in this process (see Table 1). The main reason for these changing views was that the first, 'diffusions of innovation' or 'transfer of technology' approach to extension could not explain the complex social processes surrounding innovation. Moreover, the research push approach did not address well issues like heterogeneity in production context and farming styles, and complex natural resource management conflicts. Given these shortcomings, participatory research approaches emerged (based on research pull and collaboration), such as Farmer First (see Scoones and Thompson 2009 for an overview) and participatory technology development (see Neef and Neubert 2011 for an overview). The key objective of these participatory approaches was to enhance research uptake and impact, by adapting research to specific contexts and creating ownership of the research. This participatory research perspective considered the broader knowledge systems in which farmers were embedded, and evolved into the so-called Agricultural Knowledge and Information Systems (AKIS) perspective. However, AKIS mainly considered farmers, researchers and extensionists, but did not explicitly focus on the broader network of actors and institutional factors that impact agricultural innovation.

The importance of addressing the multiplicity of actors and institutional factors has become recognised in the Agricultural Innovation Systems (AIS) perspective. The AIS perspective moves beyond research and technology development as main ingredients for innovation and recognises that agricultural innovation is not just about adopting new technologies invented by research and transferred to farmers; it also requires a balance amongst new technical practices and alternative ways of organising, for example markets, labour, land tenure and distribution of benefits (Brooks and Loevinsohn 2011; Dormon *et al.* 2004). Innovation does not only involve adaptation to prevailing contextual conditions, but also the active influencing, redesign, or destruction of pre-existing conditions and institutional frameworks (Hounkonnou *et al.* 2012; Klerkx *et al.* 2010; Woodhill 2010). Such change is affected by complex interdependencies between actors, organisations and artefacts, unintended and unforeseen developments, and coincidence and dynamics of conflicts that challenge linear approaches and reductionist understanding (Woodhill 2010). This perspective implies that innovation depends on coordinated action in a network of actors, and that it is not very useful to merely look at the degree to which research outcomes are adopted or used as an indicator of successful innovation processes. Research is no longer considered as external and static, but rather as an integral and dynamic part of innovation.

Table 1 **Shifts in theoretical perspectives on (support of) agricultural development and innovation**

Characteristics	Diffusion of innovations/transfer of technology	Agricultural Knowledge and Information Systems (AKIS)	Agricultural Innovation Systems (AIS)
Era	Central since 1960s	From 1990s	From 2000s
Mental model and activities	Supply technologies through pipeline	Collaborate in research (participatory research) and extension	Co-develop innovation involving multi-actor processes and partnerships
Knowledge and disciplines	Single disciple driven (e.g. breeding)	Interdisciplinary (e.g. plus sociology and farmer experts)	Transdisciplinary, holistic systems perspective
Scope	Productivity increase	Farm-based livelihoods	Value chains, institutional change
Core elements	Technology packages	Joint production of knowledge and technologies	Shared learning and change, politics of demand, social networks of innovators
Drivers	Supply-push from research	Demand-pull from farmers	Responsiveness to changing contexts, complex patterns of interaction
Relation with policy and institutional environment	Science and technology are relatively independent of political and other social partners – institutional factors as external conditioners of the adoption process	Science and technology develop and are embedded within in a historically defined social, political, economic and agro-ecological context	Besides contextually embedded science and technology, institutional change is considered a *sine-qua-non* for innovation
Innovators	Scientists	Farmers, scientists and extensionists together	Multiple actors, innovation platforms and networks
Role of farmers	Adopters or laggards	Experimenters	Partners, entrepreneurs, innovators exerting demands
Role of scientists	Innovators	Collaborators	Partners, one of many responding to demands
Key changes sought	Farmer's behaviour change	Empowering farmers	Institutional change, innovation capacity
Intended outcomes	Technology adoption and uptake	Co-evolved technologies with better fit to livelihood systems	Capacities to innovate, learn and change

Source Adapted and integrated from Hall *et al.* (2006); Pant and Hambly-Odame (2009); Sanginga *et al.* 2009).[2]

2.2 From knowledge brokering towards systemic facilitation

The above signalled changes in thinking about the role of extension and research in agricultural innovation have certain implications for how the contribution of knowledge brokering is seen. The innovation systems perspective acknowledges that research does not equal innovation, but that innovation happens in society, and involves the re-ordering of relations and institutions in multiple social networks. Communication obviously plays a role in such re-ordering, but can no longer be thought of only in terms of merely brokering research knowledge to policy and practice in a research push or research pull mode. Also, it is not just about enhancing dialogue and direct collaboration between research producers and research users, considering the many factors that influence change and innovation. Rather, innovation needs

Table 2 **Roles of systemic facilitators/innovation brokers***

Articulation of problems and possibilities	**Network building**	**Supporting negotiation and learning in networks – dealing with dynamics of power and conflict**
Demonstrate and visualise interdependencies among stakeholder practices	Make an inventory of existing initiatives, complemented with stakeholder analysis	Identify and propose process facilitators who are credible and trusted by the stakeholders involved
Explore and exchange stakeholder perspectives (values, problems, aspirations, context, etc.) through discussion, role playing, dramatisation, visits, filmed interviews, informality, humour, fun, etc.	Build on existing initiatives for change and the networks around these	Work towards process agreements, including dealing with media, mandates, etc.
Visualise invisible biophysical processes with the help of discovery learning tools or simulation	Arrange contact between disconnected networks who may have compatible interests (e.g. Chinese consumers and African farmers)	Probe to explicate the interests and fears that underlie mobilised arguments and counter-arguments
Explore past and current trends and likely futures if nothing changes	Work towards 'coalitions of the willing' and exclude actors who do not feel interdependent	Steer collaborative research activities to questions relevant to less resourceful stakeholders
Use visioning tools and scenario analysis to imagine (and find common ground on) possible futures	Mobilise pressures from outside (carrots and sticks) to enhance feelings of interdependence	Make stakeholders talk in terms of proposals and counter-proposals
Discuss institutional and other influences that reinforce existing patterns/problems	Forge/broker contact between existing networks and outsiders and/or outside expertise	Ensure regular communication with constituents to take them along in the process
Organise contact with others who have encountered and managed similar problems		Translate agreed-upon problems and solutions into storylines and symbols that are likely to resonate in society
Elicit uncertainties that hinder change, and design collaborative investigation and experimentation to develop common starting points		Use media and lobby tactics to influence societal agendas and advocate solutions (with the help of storylines/symbols)
Articulate knowledge and resource needs (e.g. funding, lobbying support) as well as where to get knowledge and resources		Use practical actions and experiments as source of reflection and learning, rather than organising discussion and reflection only
		Organise regular reflection on process dynamics and satisfaction with outcomes

* The table shows a repertoire of innovation brokering roles which can be applied depending on the situation at hand, but not necessarily in a chronological order.
Source Adapted from Leeuwis and Aarts (2011).

Box 1 The changing role of intermediaries in supporting innovation in the agricultural sector in Kenya

The agricultural sector in Kenya is evolving, driven largely by the imperative for the smallholder-dominated sector to be innovative in order to enhance competitiveness and contribute to sustainable socioeconomic development. This focus on enhancing innovation is reflected in a changing intermediary domain beyond the traditional agricultural extension focused on technology transfer (or research push-style knowledge brokering). These intermediaries fulfil a range of functions including demand articulation, network brokering, demand pull knowledge brokering, innovation process management, capacity-building, and institutional change support.

An example from the study is the East Africa Dairy Development programme (EADD) which is being implemented in three countries including Kenya by a consortium of five organisations that act as intermediary actors. The intermediary roles entail: demand articulation and stimulation for technologies, knowledge, and accompanying services, brokering networks and supporting learning for innovation. EADD is working with a network of heterogeneous actors including farmers, government agencies, researchers and various private sector business to enhance innovation in the sector. EADD facilitated an institutional innovation – through building capacity of new dairy companies and supporting the 'business hub' model, i.e. using a milk chilling plant as a platform where actors converge to provide different services (e.g. artificial insemination, and animal health, finance, extension) through a credit (check-off) system, with the aim of improving access and quality of services and building trust between these actors.

The highlights above confirm what is argued, that focusing on knowledge access and use narrows the understanding of agricultural innovation processes and conversely options for supporting such processes. Innovation brokering entails a broad range of tasks, and goes beyond knowledge brokering.

Source Kilelu *et al.* (2011).

to be thought of in terms of a process that takes place in the context of the building, designing, and/or evolution of relations among multiple actors and institutions.

With regard to the role of extensionists, there is a shift towards – or rather the emergence of – an additional and complementary role as systemic facilitator (Clark 2002; Millstone *et al.* 2010; Rivera and Sulaiman 2009). Terms such as 'innovation intermediary' or 'innovation broker' have been coined to indicate this role (Klerkx and Leeuwis 2009; Kilelu *et al.* 2011). While these innovation brokers also aim to resolve communication problems between groups, instead of merely aiming at bridging a knowledge gap between science and practice/policy, they aim to bridge several other divides among groups involved in innovation and development. Such divides may be caused, for example, by different incentive and value systems for public and private actors hindering smooth collaboration, differences between local indigenous knowledge systems and formal scientific knowledge systems and ideological differences amongst different non-governmental organisations (NGOs) (Pant and Hambly-Odame 2006). Furthermore, innovation brokers help to get access to several other resources essential for innovation, such as capital, political support, business development services and material resources.

Leeuwis and Aarts have summarised the implications for extensionists or researchers of moving beyond a linear transfer of technology role and a mere focus on research, to becoming an innovation broker or systemic facilitator (see Table 2).

The role of innovation brokers may take shape in different ways, and may be executed by individual researchers (Schut *et al.* 2011), by research or extension organisations, NGOs, government agencies (Kilelu *et al.* 2011;

Klerkx *et al.* 2009), but also by individuals or organisations that have specialised themselves in executing innovation brokering roles (Klerkx and Leeuwis 2009). For example, Box 1 shows how the intermediary landscape in Kenya has developed in recent years to embed this role.

Performing innovation brokering roles in addition to 'classical' research and extension roles is challenging. It has been found hard to sustainably embed the innovation brokering role in a person or an organisation for which it is not (yet) the core-business. For example, as Rivera and Sulaiman (2009) argue, although extension organisations are pressed to develop into facilitating organisations that connect farmers with different sets of service providers, many still adhere to a linear transfer-of-technology paradigm. Hocdé *et al.* (2008) found that action researchers in the role of innovation broker constantly had to defend this role and negotiate their status in their organisations as their colleagues saw this work as lacking scientific legitimacy (see also Schut *et al.* 2011). This calls for alternative reward and incentive structures that pay more attention and attribute more value to fulfilling an innovation broker role within the research process and building bridges between research, policy and practice (*cf* Schut 2012).

However, also when being an independent intermediary (i.e. not linked to a 'classical' organisation), fulfilling the innovation broker role is challenging. Even more than knowledge brokers who actively 'pass on' research knowledge (see e.g. Fisher and Vogel 2008; Shaxson and Gwyn 2010), the intangibility of the activities of innovation brokers make it hard to show to stakeholders what is the value of innovation brokering. Furthermore, the need to maintain a neutral position as an 'honest broker' (Pielke 2007) who connects different actors but does not have a strong normative orientation, requires careful manoeuvring in terms of positioning between multiple actors. It requires balancing between taking too much credit, and not having one's contribution recognised; between steering processes too much and being too *laissez-faire*; between having sufficient expert knowledge to obtain a legitimate position in a network and acting too much as an expert and overruling contributions of the network partners; between empowering non-powerful actors in the network and starting to act as a spokesperson for these.

3 Conclusion: implications for thinking on knowledge brokering

As stated in the introduction, the goal of this article was not to present developments in the field of agricultural extension as an universal best-practice. However, it does offer a starting point for reflection on knowledge brokering. What the experience from agriculture shows, is that there is a need to move beyond narrow and simplistic ideas and strategies for enhancing the contribution of research to policy processes and development practice, and linking research producers to research users. Although a legitimate goal, and not denying that research makes important contributions to innovation and change processes, experience from the agricultural sector show that research is just one of many elements that influence the course and outcome of innovation and change processes. Following the innovation systems perspective, innovation requires work on changing relationships and institutions at different levels and the goes far beyond the focus on interfaces between research producers and research users.

The literature on knowledge brokering in a wide range of fields acknowledges that 'producer' and 'user' of knowledge are not rigid categories and that interactivity is required; moving from transfer, dissemination and consulting to engagement and collaboration (Bielak *et al.* 2008; Lavis *et al.* 2006; Lomas 2007; Meyer 2010; Michaels 2009). Nonetheless, the main focus appears to remain at the level of better inserting research into policy and practice. In that sense – and to use the examples presented in Table 1 – it seems to have arrived at knowledge systems thinking as embodied in the AKIS perspective. However, given the similar complexity in which change and innovation in other sectors (e.g. health, development assistance, etc.) takes place, an innovation systems perspective could be useful as framework for analysis and action. From an innovation systems perspective, a broader range of brokering tasks to support coordinated action in networks that are connected to innovation, policy and development processes are needed. Research uptake is important, and knowledge brokering is an essential function, but should be accompanied by or integrated within the function of innovation brokering (see also Fisher 2011: 6), which more broadly focuses on rearranging all technical, social and institutional relationships needed for

innovation and change. Such a broad focus can contribute to creating an enabling environment for effective policy formulation and implementation, development and innovation. This appears not yet to be explicitly recognised and considered in many studies on knowledge brokering. Moving towards such an innovation broker role would require that ideas from innovation systems thinking are considered in and adapted to different fields. Additionally, awareness should be created as to what such an innovation broker role implies in terms of identity, capacities and mandate of those who intend to fulfil this role, and how it differs from a knowledge broker role. Also in the field of agriculture, this remains a great challenge.

Notes

1 Section 2 of this article draws heavily on a number of earlier publications by the authors (Leeuwis and Aarts 2011; Klerkx *et al.* 2012; Kilelu *et al.* 2011; Schut *et al.* 2011).

2 It is important to consider that these models are stylised, and not mutually exclusive: also under the current innovation systems paradigm research push and pull mechanisms have their place.

References

Best, A. and Holmes, B. (2010) 'Systems Thinking, Knowledge and Action: Towards better Models and Methods', *Evidence and Policy* 6.2: 14559

Bielak, A.T.; Campbell, A.; Pope, S.; Schaefer, K. and Shaxson, L. (2008) 'From Science Communication to Knowledge Brokering: The Shift from "Science Push" to "Policy Pull"' in D. Cheng (ed.), *Communicating Science in Social Contexts*, Dordrecht: Springer Science and Business Media: 201–26

Brooks, S. and Loevinsohn, M. (2011) 'Shaping Agricultural Innovation Systems Responsive to Food Insecurity and Climate Change', *Natural Resources Forum* 35.3: 185–200

Clark, N. (2002) 'Innovation Systems, Institutional Change and the New Knowledge Market: Implications for Third World Agricultural Development', *Economics of Innovation and New Technology* 11.4–5: 353–68

Dormon, E.N.A.; Van Huis, A.; Leeuwis, C.; Obeng-Ofori, D. and Sakyi-Dawson, O. (2004) 'Causes of Low Productivity of Cocoa in Ghana: Farmers' Perspectives and Insights from Research and the Socio-political Establishment', *NJAS – Wageningen Journal of Life Sciences* 52.3–4: 237–59

Fisher, C. (2011) *Knowledge Brokering and Intermediary Concepts. Analysis of an E-discussion on the Knowledge Brokers' Forum*, Brighton: Impact and Learning Team, IDS

Fisher, C. and Vogel, E. (2008) *Locating the Power of In-between: How Research Brokers and Intermediaries Support Evidence-based Pro-poor Policy and Practice*, Brighton: IDS

Hall, A.; Janssen, W.; Pehu, E. and Rajalahti, R. (2006) *Enhancing Agricultural Innovation: How to Go Beyond the Strengthening of Research Systems*, Washington DC: World Bank

Hocdé, H.; Triomphe, B.; Faure, M. and Dulcire, M. (2008) 'From Participation to Partnership: A Different Way for Researchers to Accompany Innovation Processes – Challenges and Difficulties', in P. Sanginga, A. Waters-Bayer, S. Kaaria, J. Njuki and C. Wettasinha (eds), *Innovation Africa: Enriching Farmers Livelihoods*, London: Earthscan: 135–52

Hounkonnou, D.; Kossou, D.; Kuyper, T.W.; Leeuwis, C.; Nederlof, E.S.; Röling, N.; Sakyi-Dawson, O.; Traoré, M. and Van Huis, A. (2012) 'An Innovation Systems Approach to Institutional Change: Smallholder Development in West Africa', *Agricultural Systems* 108.5: 74–83

Kilelu, C.W.; Klerkx, L.; Leeuwis, C. and Hall, A. (2011) 'Beyond Knowledge Brokering: An Exploratory Sudy on Innovation Intermediaries in an Evolving Smallholder Agricultural System in Kenya', *Knowledge Management for Development Journal* 7.1: 84–108

Klerkx, L. and Leeuwis, C. (2009) 'The Emergence and Embedding of Innovation Brokers at Different Innovation System Levels: Insights from the Dutch Agricultural Sector', *Technological Forecasting and Social Change* 76.6: 849–60

Klerkx, L.; Aarts, N. and Leeuwis, C. (2010) 'Adaptive Management in Agricultural Innovation Systems: The Interactions between Innovation Networks and their Environment', *Agricultural Systems* 103.6: 390–400

Klerkx, L.; Hall, A. and Leeuwis, C. (2009) 'Strengthening Agricultural Innovation Capacity: Are Innovation Brokers the Answer?', *International Journal of Agricultural Resources, Governance and Ecology* 8.5/6: 409–38

Klerkx, L.; Van Mierlo, B. and Leeuwis, C. (2012) 'Evolution of Systems Approaches to

Agricultural Innovation: Concepts, Analysis and Interventions', in I. Darnhofer, D. Gibbon and B. Dedieu (eds), *Farming Systems Research into the 21st Century: The New Dynamic*, Dordrecht: Springer: 457–83

Lavis, J.N.; Lomas, J.; Hamid, M. and Sewankambo, N.K. (2006) 'Assessing Country-level Efforts to Link Research to Action', *Bulletin of the World Health Organization* 84.8: 620–8

Leeuwis, C. (2004) *Communication for Rural Innovation: Rethinking Agricultural Extension*, Oxford: Blackwell Science

Leeuwis, C. and Aarts, N. (2011) 'Rethinking Communication in Innovation Processes: Creating Space for Change in Complex Systems', *The Journal of Agricultural Education and Extension* 17.1: 21–36

Lomas, J. (2007) 'The In-between World of Knowledge Brokering', *British Medical Journal* 334.7585: 129–32

Meyer, M. (2010) 'The Rise of the Knowledge Broker', *Science Communication* 32.1: 118–27

Michaels, S. (2009) 'Matching Knowledge Brokering Strategies to Environmental Policy Problems and Settings', *Environmental Science and Policy* 12.7: 994–1011

Millstone, E.; Van Zwanenberg, P. and Marshall, F. (2010) 'Monitoring and Evaluating Agricultural Science and Technology Projects: Theories, Practices and Problems', *IDS Bulletin* 41.6: 75–87

Neef, A. and Neubert, D. (2011) 'Stakeholder Participation in Agricultural Research Projects: A Conceptual Framework for Reflection and Decision-making', *Agriculture and Human Values* 28:179–94

Pant, L.P. and Hambly-Odame, H. (2009) 'Innovation Systems in Renewable Natural Resource Management and Sustainable Agriculture: a literature review', *African Journal of Science, Technology, Innovation and Development* 1.1: 103–35

Pant, L.P. and Hambly-Odame, H. (2006) 'Multi-stakeholder Deliberation on Dialectical Divides: An Operational Principle of the Systems of Innovation', *Knowledge Management for Development Journal* 2.3: 60–74

Pielke Jr., R.A. (2007) *The Honest Broker: Making Sense of Science in Policy and Politics*, Cambridge: Cambridge University Press

Rivera, W. and Sulaiman, R.V. (2009) 'Extension: Object of Reform, Engine for Innovation' *Outlook on Agriculture* 38.3: 267–73

Röling, N. (2009) 'Pathways for Impact: Scientists' Different Perspectives on Agricultural Innovation', *International Journal of Agricultural Sustainability* 7.2: 83–94

Sanginga, P.; Waters-Bayer, A.; Kaaria, S.; Njuki, J. and Wettasinha, C. (2009) 'Innovation Africa: Beyond Rhetoric to Praxis', in P. Sanginga, A. Waters-Bayer, S. Kaaria, J. Njuki and C. Wettasinha (eds), *Innovation Africa: Enriching Farmers Livelihoods*, London: Earthscan: 374–86

Schut, M. (2012) *Who Cares about Research?! A Study on the Role of Research in Policy Processes in Competing Claims Contexts*, Wageningen: Communication and Innovation Studies, Wageningen University and Research Centre

Schut, M.; Leeuwis, C.; van Paassen, A. and Lerner, A. (2011) 'Knowledge and Innovation Management in the Policy Debate on Biofuel Sustainability in Mozambique: What Roles for Researchers?', *Knowledge Management for Development Journal* 7.1: 45–64

Scoones, I. and Thompson, J. (2009) *Farmer First Revisited: Innovation for Agricultural Research and Development*, Bourton on Dunsmore: Practical Action Publishing

Shaxson, L. and Gwyn, E. (2010) *Developing a Strategy for Knowledge Translation and Brokering in Public Policymaking*, special workshop on Knowledge Translation and Brokering, Montreal, 20 October 2010

Ward, V.; Smith, S.; Foy, R.; House, A. and Hamer, S. (2010) 'Planning for Knowledge Translation: A Researcher's Guide', *Evidence and Policy: A Journal of Research, Debate and Practice* 6.4: 527–41

Woodhill, J. (2010) 'Capacities for Institutional Innovation: A Complexity Perspective', *IDS Bulletin* 41.3: 47–59