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Ewen Le Borgne^a & Sarah Cummings^b

^a IRC Water and Sanitation Centre, The Hague, The Netherlands

^b Context, international cooperation, Utrecht, The Netherlands

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The tip of the iceberg: tentative first steps in cross-organisational comparison of knowledge management in development organisations

Ewen Le Borgne^{a*} and Sarah Cummings^b

^a*IRC Water and Sanitation Centre, The Hague, The Netherlands;* ^b*Context, international cooperation, Utrecht, The Netherlands*

This paper investigates the variety of knowledge management (KM) and learning policies and strategies that have been developed by various development organisations in the past decade. It draws upon over 30 case studies yet offers but a glimpse of the current reality because organisations are usually not documenting or publicising their learning-focused activities. The paper first sets the scene in terms of knowledge and learning strategies and provides a brief overview of various strategies and models being followed. After an analysis of the drivers of a knowledge strategy, the paper explores which elements are likely to be found within strategic approaches, and then concludes with a cross-case comparison, an outlook on trends, and issues for further research.

Introduction

This paper investigates the variety of knowledge management (KM) and learning policies and strategies that have been developed by various development organisations in the past decade. It draws on over 30 case studies and examples of knowledge-focused strategies, policies and practices. The paper is only able to offer a glimpse of the current reality or the tip of the iceberg. This is because what is happening in organisations is not fully documented. Not only are experiences with knowledge management often not published – they remain for internal use only – where they are published, this is often in the form of grey literature¹ which is by its nature less easily accessible and less permanent. Two initiatives which have made efforts to document what is happening in organisations: the organisational case studies collected by the Knowledge Management for Development (KM4Dev) community of practice and which are available on its website² and the related *Knowledge Management for Development Management Journal* in which this paper is being published. The importance of these two sources is reflected in the references to this paper. As background to this paper, the authors have made an inventory of organisational case studies which they will continue to add to and make accessible to colleagues.³

This paper is one of the research outputs of the Information and Knowledge Management Emergent Research Programme (IKM Emergent),⁴ a research programme of the European Association of Development Research and Training Institutes (EADI). A longer version of this paper with more supporting information, including the inventory, will be published as an IKM Emergent Working Paper later this year.

*Corresponding author. Email: leborgne@irc.nl

Overview

The first part of the paper sets the scene for the genesis of knowledge and learning strategies, looking at the events and trends that brought KM into the development sector, before concluding with a brief overview at the variety of strategies and benchmarking models being employed. In the second part of the study, some pointers are proposed in order to understand the drivers of a knowledge strategy and the likely elements of a strategic approach. This set of pointers is then used to analyse the case studies and provide some elements of comparison.

The third part of the paper considers internal and external trends that are affecting KM strategies and policies of development organisations. In the later section of this third part, a series of further issues for research is proposed, followed by some concluding remarks.

Introductory comments on knowledge, knowledge management and learning

This paper refers to a few key terms that require a working definition. ‘Knowledge’ has three definitions⁵ in the *Oxford English Dictionary*. In the field of knowledge management for development, there is no consensus on the term but many authors have referred to the nature of knowledge as being tacit, explicit or implicit. Tacit and implicit knowledge are often used interchangeably in practice but they do have a difference in emphasis. In the tradition of Polanyi (1966) who first used the term of tacit knowing, tacit knowledge is the knowledge we have but use unconsciously, consisting of habits and culture that we do not know that we know. However, Polanyi focused on the process ‘tacit knowing’ as opposed to a form of knowledge: the emphasis on the verb implies an action (knowing) which links with learning. Explicit knowledge is knowledge that has been or can be articulated, codified, stored and readily shared with others. For many, explicit knowledge basically equates to information. Implicit knowledge ‘helps individuals know what is socially and culturally appropriate in a given circumstance; it is knowledge of shared beliefs, values and expectations’ (Ramalingam 2005, p. 4).

Following Ferguson *et al.* (2008), knowledge management will be defined here as ‘encompassing any processes and practices concerned with the creation, acquisition, capture, sharing and use of knowledge, skills and expertise (Quintas *et al.* 1996) whether these are explicitly labelled as KM or not (Swan *et al.* 1999)’.

Learning comprises the ‘acquisition of different types of knowledge supported by perceived information’ (Wikipedia⁶). In this paper, we are interested in how learning has been instrumentalised by organisations to relate to the use of knowledge, either as part of the process of knowing or as a form/commodity.

Part one: the knowledge era – genesis of strategic knowledge management for development

While knowledge management originated from the commercial sector in the 1990s with emphasis on improving operational effectiveness and competitive edge through systematic learning, the development sector was rather late in acknowledging the importance of knowledge as a key factor in meeting their goals. In spite of early development theory recognising the value of technical knowledge transfer (Ramalingam 2005, p. 7) and the development of the Agricultural Knowledge Information System (AKIS) approach by Röling, Engel and colleagues, it was not until the seminal speech of the World Bank’s president James Wolfensohn in 1996 on the need to become a ‘knowledge bank’ that the

importance of knowledge had growing recognition in the mainstream development sector. In our opinion, this marked the beginning of the knowledge era within development. This trend was further emphasised when the World Bank released the World Development Report 'Knowledge for development' in 1998/99, with an explicit poverty-reduction objective:

Because knowledge matters, understanding how people and societies acquire and use knowledge – and why they sometimes fail to do so – is essential to improving people's lives, especially the lives of the poorest among us. (World Bank, 1998)

A pioneer, the World Bank also developed probably the first knowledge management strategy in the sector as early as 1996. In its trail, many development organisations and research institutes in the North and the South started to conceptualise their nature as knowledge-based institutions, considering knowledge an important asset that needed to be factored in openly and consciously. The internet revolution, that contributed to putting knowledge management on the map in the business sector in the first place, coincided with this new attention for knowledge.

The knowledge-based trend contributed to the approach within the mainstream development sector that knowledge was indeed a commodity that could be accumulated, stored and used when required to increase operational effectiveness. This perspective was perhaps reinforced by the corporate firms' view of KM initiatives (Brown and Duguid 1998). As Ferguson *et al.* (2008, p. 9) argue: '[i]n this perspective, an organisation's competitive edge is determined by the continuous generation and synthesis of collective, organisational knowledge' (Brown and Duguid 1998). In this understanding, knowledge management conveniently referred to the need to manage the asset of organisational knowledge to make the right knowledge available for the right people at the right time – a commonly used phrase. This take on KM was emblematic of what is often referred to as 'first generation' KM (see Text Box 1 for source) with its focus on capturing knowledge, codifying and storing it. It led to an explosion of tools and approaches to support these goals.

A constellation of KM tools and approaches from the techno-centric age to the tacit transition

Most development actors, with the exception of the World Bank and a few other early adopters, did not start their knowledge-based transition with a comprehensive KM strategy. Instead, many institutions made their life easier by experimenting rather randomly with a number of systems, tools and applications to manage the knowledge commodity by capturing it. From data warehousing to knowledge repositories, from document management to customer relationship management systems, all sorts of applications and tools were installed in the headquarters of development organisations, to support their mandate of knowledge brokers (Boom 2005). In the process, many organisations were grappling with the difference between knowledge and information (Powell 2006) and progressively recognised that although information (or *explicit knowledge* as some coined it) was easy to manage with systems, it was, on the other hand, rather difficult to tap into the experience-based knowledge in people's heads. It was, after all, not so easy to capture knowledge without paying attention to its container (the people).

In the early 2000s, a few organisations developed sensitivity for the non-techno-centric side of knowledge management, considering the importance of knowledge *sharing* between actors as a useful way to access untapped knowledge sources. Following some

Text Box 1. Generations of knowledge management

As Ferguson *et al.* (2008, p. 12) consider in their meta-review of KM literature reviews, some authors refer to more or less three different generations of knowledge management. In summary, these KM generations display the following characteristics:

First generation: knowledge should support strategic decision-making (taking lessons from the past) and it is seen as a commodity that can be stored. The approaches following this focus on capturing knowledge, with a heavy focus on IT systems and on information management.

Second generation: knowledge supports value creation throughout the organisation (not just management). Knowledge is not seen as a commodity any more but rather as a value-creating resource that helps improve practice. Heavy emphasis is put on human relations and knowledge sharing turning tacit into explicit knowledge. Intra-organisational communities of practice and best practices are flourishing. Human Resources have a role to play.

Third generation: knowledge as such does not matter as much as its co-creation to jointly adapt it to the context (which is leading). Knowledge-sharing goes outside of the organisation to embrace a wider set of actors, and create meaning together in a more participatory way. Key approaches and tools used in this generation are storytelling (to create meaning) and inter-organisational communities of practice.

standard literature on knowledge management such as *The fifth discipline* (Senge 1990) and *Learning to fly* (Collison and Parcell 2001), organisations explored a whole array of knowledge sharing practices: after action reviews, peer assist, exit interviews, knowledge fairs and more.

The swing of perspective towards the human side of knowledge management marked the transition to the second generation of knowledge management.

Missed opportunities on the knowledge sharing journey

Development institutions, and particularly Northern or international ones, that have embarked on the journey to improve knowledge sharing were further encouraged to do so in the belief that their role was not any longer to provide goods and services to Southern recipients but to strengthen community institutions and other Southern entities (governments, local non-governmental organisations, research institutes etc.). Yet, shifting attention to external parties did not lead to an invitation to these bodies to share knowledge more effectively with one another. The focus was clearly on the organisations themselves, improving the way they could share knowledge with those external parties.

Another noteworthy aspect of the increasing prominence of the human side of knowledge management is that it also triggered a trend among individual employees to develop an understanding of their own personal knowledge and learning, looking at their values, capacity for reflection, exercising judgment and taking action (Tsoukas 2003) and the sources from which they learned. This trend generally went unnoticed or was not taken seriously by organisations in their knowledge management approach (Ramalingam 2005). A lot of personal learning and knowledge sharing was already happening before organisation started paying explicit attention to it, just as Molière's Monsieur Jourdain was making prose without knowing it.

Nevertheless, in these second generation KM initiatives, the higher value bestowed to knowledge and the complex process of harnessing knowledge encouraged many institutions not so much to focus on individual employees' knowledge, only seen as another dimension to manage (Heizmann 2008) but to take a firmer organisational hand on KM, by forcing information technology (IT) departments – traditionally in charge due to their technological focus – to share this remit with other departments. The lure of organisational learning and the 'learning organisation' were creating momentum for strategic knowledge management, and further distanced individuals' personal knowledge and views from the decision-making.

Strategising knowledge management

Unlike the World Bank and a few other front-runners, most development organisations only adopted a more strategic approach to knowledge management from the year 2002 or later, when the knowledge economy (Ramalingam 2005) consecrated knowledge as a key factor for effectiveness. To affirm their standing in the knowledge economy, development organisations engaged in a process of reorientation to explicitly address the value of knowledge, methods to process it, use it and benefit from it.

The development of a knowledge strategy calls for a justifiable approach. In the absence of a worldview peculiar to the organisation at large, theories from various literature sources have provided an ideal starting point to justify and underpin the strategies. Krohwinkel-Karlsson (2007) identifies four main theoretical frameworks that underpin knowledge strategies: organisational learning, the learning organisation, organisational knowledge and knowledge management. With each comes a specific focus, though all are organisational (as opposed to personal):

- Organisational learning: analysing learning processes within organisations.
- The learning organisation: applying a set of valued preconditions to create and improve the desired state of an ever-adapting organisation.
- Organisational knowledge: understanding and explaining the nature of knowledge in organisations. The distinction between tacit and explicit knowledge is a trademark of this theory.
- Knowledge management: management theory aiming at creating ways to disseminate and leverage knowledge to enhance organisational performance.

Assessing the status and value of knowledge management

As development institutions embraced the value of knowledge, they felt a stronger need to also gauge their current knowledge management status (benchmarking) as well as the value and effect (monitoring) of knowledge management in their operations. A range of theoretical KM models, benchmarking and monitoring frameworks became available, each looking at a specific set of pointers to identify useful areas of knowledge management. Each of these approaches generally tends to stem from one or more of the four main streams of theory behind knowledge management in institutions. Table 1 introduces some benchmarking models encountered, introduced in chronological order.

Benchmarking knowledge-focused activities has been very popular as illustrated by the methods presented above or the benchmarking exercise organised in 2005 in the community of practice of KM4Dev. Yet, not one benchmarking method fits all, as there is not one recipe for strategising knowledge management. The comparison of knowledge management

Table 1. Benchmarking models.

Tool	Objective	Approach and scope	Theoretical underpinning
Knowledge value chain and KM scan (Mathieu Weggeman 1997)	Model: understand knowledge processes and arrange/control these processes in a way that optimises output. Questionnaire: assess knowledge-related processes and guide strategy to develop a KM product/service	The framework considers seven variables as influencing factors on KM activities (vision/objective, strategy, culture, management style, personnel, structure, systems) and six knowledge processes (Knowledge: identification, location, development, sharing, applying, evaluation)	Knowledge management
Learning NGO questionnaire (Britton 1998; INTRAC)	Provide a conceptual framework on the topic by describing characteristics of a learning organisation and encouraging NGOs to assess themselves against this model	The questionnaire looks at: importance of knowledge in the organisation, sense of clarity in the future direction, how good the organisation is at KM, how knowledge conscious the organisation is composed. Questionnaire of 40 questions looking at issues of: supportive culture, gathering internal experience, gathering external experience, accessing external learning, communication systems, mechanisms for drawing conclusions, developing organisational memory, integrating learning into strategy and policy, applying the learning.	Learning organisation
Most Admired Knowledge Enterprise Study (MAKE) (KNOW Network and APQC 1998)	Identify those organizations which are out-performing their peers by above average growth in intellectual capital and wealth creation	This business sector award ranks global companies according to eight different performance dimensions: 1) Ability to create and sustain an enterprise knowledge-driven culture; 2) Ability to develop knowledge workers through senior management leadership; 3) Ability to develop and deliver knowledge-based projects/ services; 4) Ability to manage and maximise the value of enterprise intellectual capital; 5) Ability to create and sustain an enterprise-wide collaborative knowledge-sharing environment; 6) Ability to create and sustain a learning organisation; 7) Ability to manage client knowledge to create value and enterprise intellectual capital; 8) Ability to transform knowledge to reduce poverty and improve clients' standard of living The award is granted according to a survey where organisations are nominated and assessed (from 1 to 10) against each performance dimensions.	Organisational knowledge With some elements of learning organisation
Group Process Indicators (Foley 1999)	Assess capacity of small groups and community members.	A group designs itself a specific tool and scores the own group/institution for self-assessment purposes (and eventually the definition of strategies and actions).	Unclear
River diagramme [†] (Collison and Parcell 2001:BP)	Measure degree of knowledge sharing Set own priorities, find right people to share with and learn from, in a kind of informal benchmarking...	The river diagram is a grid listing organisational practices and a degree of mastery of these practices (from 1, basic level, to 5, world class). Based on this assessment it is possible to set target levels, practices they want to focus on, actions to undertake, time frame and indicators. In addition, when comparing units of an organisation that used the river diagram, the model shows areas for improvement and knowledge sharing across units.	Organisation learning

<p>KM maturity model (Langen 2000; Siemens)</p>	<p>Determine the currently practiced KM activities and organisational conditions, establish steps for development on current status, supports ongoing development of the company through KM projects</p>	<p>Methodology comprising a development model, an analysis model and a consultative assessment process. The development model looks at maturity levels of knowledge processes (initial, repeated, defined, managed, optimising). The analysis model considers eight key areas of knowledge management: strategy, environment/partnerships, people/competencies, collaboration/culture, leadership/support, knowledge structures and forms, technology, processes/roles/organisation</p> <p>The assessment process consists of six phases (orientation & planning, motivation & data collection, consolidation & preparation, feedback & consensus, ideas for solutions & action proposals, report & presentation).</p> <p>The model offers to address seven strategic areas of IM/KM and deal with seven organisational tensions:</p> <p>Strategic areas: Managing multiple-stakeholder relationships; Managing performance and accountability; Linking the core and the periphery; Practicing advocacy; Organisational learning and managing knowledge; Marketing the service and acquiring resources; Managing strategy development and change.</p>	<p>European foundation for quality management Knowledge management</p>
<p>Strategic Information and Knowledge Management Inquiry (Schueber 2006)</p>	<p>Operationalise KM and organisational learning in NGOs. Assess how an NGO is doing on the knowledge and information management field</p>	<p>Generic organisational tensions: Abstract vs. Concrete; Planned vs. emergent; HQ vs. field; private vs. public networks; free knowledge exchange vs. knowledge economy; cause and effect relationship or organisational culture and IM; short term results vs. long term sustainability.</p> <p>Questionnaire of 183 questions looking at variables across the people/process/system scope: 1) people: culture and incentives, knowledge identification and creation, knowledge sharing, CoPs and knowledge teams, knowledge & learning; 2) Process: leadership and strategy, knowledge flow, operationalisation of knowledge, alignment, metrics and monitoring; 3) systems: KM technology infrastructure, knowledge access infrastructure, content management, KM environment infrastructure.</p> <p>These two frameworks are very similar and based on the same idea: a grid containing five dimensions: The model invites organisations to assess themselves against each dimension by placing them on the level they are at (from level 1, starting to level 5, best practice).</p> <p>In Ramalingam's five competencies framework, the competencies are: 1) strategy development; 2) management techniques; 3) collaboration mechanisms; 4) knowledge sharing and learning; 5) knowledge capture and storage. In Alford's self assessment tool, the dimensions are: 1) KM strategy; 2) leadership behaviours; 3) networking; 4) individual learning before, during and after; 5) capturing knowledge.</p>	<p>Organisational learning, knowledge management</p>
<p>Organisational Knowledge Assessment (Johnson, 1997)</p>	<p>Identify organisational strengths and weaknesses Benchmark organisations against each other</p>	<p>These two frameworks are very similar and based on the same idea: a grid containing five dimensions: The model invites organisations to assess themselves against each dimension by placing them on the level they are at (from level 1, starting to level 5, best practice).</p> <p>In Ramalingam's five competencies framework, the competencies are: 1) strategy development; 2) management techniques; 3) collaboration mechanisms; 4) knowledge sharing and learning; 5) knowledge capture and storage. In Alford's self assessment tool, the dimensions are: 1) KM strategy; 2) leadership behaviours; 3) networking; 4) individual learning before, during and after; 5) capturing knowledge.</p>	<p>Organisational knowledge</p>
<p>Five competencies framework (B. Ramalingam 2006)</p>	<p>Self assess organisational knowledge processes within the institution and provide a roadmap for improvement.</p>	<p>These two frameworks are very similar and based on the same idea: a grid containing five dimensions: The model invites organisations to assess themselves against each dimension by placing them on the level they are at (from level 1, starting to level 5, best practice).</p> <p>In Ramalingam's five competencies framework, the competencies are: 1) strategy development; 2) management techniques; 3) collaboration mechanisms; 4) knowledge sharing and learning; 5) knowledge capture and storage. In Alford's self assessment tool, the dimensions are: 1) KM strategy; 2) leadership behaviours; 3) networking; 4) individual learning before, during and after; 5) capturing knowledge.</p>	<p>Knowledge management Organisational learning</p>
<p>KM self assessment tool (Alford no date: United Nations Systems Staff College)</p>	<p>Self assess organisational knowledge processes within the institution and provide a roadmap for improvement.</p>	<p>These two frameworks are very similar and based on the same idea: a grid containing five dimensions: The model invites organisations to assess themselves against each dimension by placing them on the level they are at (from level 1, starting to level 5, best practice).</p> <p>In Ramalingam's five competencies framework, the competencies are: 1) strategy development; 2) management techniques; 3) collaboration mechanisms; 4) knowledge sharing and learning; 5) knowledge capture and storage. In Alford's self assessment tool, the dimensions are: 1) KM strategy; 2) leadership behaviours; 3) networking; 4) individual learning before, during and after; 5) capturing knowledge.</p>	<p>Knowledge management Organisational learning</p>

*This model has inspired the 'five competencies framework' presented in Ramalingam (2006) and presented as the KM self assessment tool.

strategies in the inventory produced as background to this paper shows very different approaches to KM. Each organisation considers a number of factors that influence the nature of its approach, and in turn devises a strategy with a particular scope. In order to better understand these approaches and their rationale, a set of guiding pointers is required. The next section proposes such pointers and a starting framework to understand the approaches followed.

Part two: a knowledge compass and a map

The development sector showcases a wide variety of stakeholders, each with a particular role and characteristics. When dealing with a knowledge management strategy, what are the key characteristics that have a bearing on the strategy adopted? We propose four influential pointers that affect four elements of a KM strategy. We conclude with trends and upcoming issues which may indicate areas of possible future improvements for organisations keen on learning.

It is worth noting that none of these approaches has got a 'best value'. It is all a question of choices which matter for a particular organisation in a particular context. Every choice has its own implications.

Four influential pointers

In studying the examples of organisational case studies and strategies from the inventory, we identified four pointers that have an influence on the strategy followed. They comprise:

- organisational complexity;
- strategic orientation;
- learning phase; and
- reference framework.

The first two are inherent to an organisation. The last two are related to the specific field of knowledge management.

Organisational complexity

By organisational complexity, we mean here particularly the structural and geographical make up of the organisations. There are specific challenges in strategising knowledge when the organisation has various independent departments or field offices in other countries and time zones. Loss of information and information overload coming from interactions with field offices (Heizmann 2008) are but a few examples.

In a rough typology, we identify four types of organisational complexity (see Figure 1):

- (1) Single (and simple) organisation: including very small non-governmental organisations (NGOs) and starting organisations;
- (2) Multi-departmental organisations: the case of many single location organisations;
- (3) Multi-office organisation: the case of the larger organisations, such as bilateral and multilateral donors; and
- (4) Networks and alliances

These four types tend influence the knowledge strategy towards a rather internal and consistent focus (single organisation) or to a more external and open or dynamic focus (network) that relates to potentially conflicting perspectives and negotiations in steering

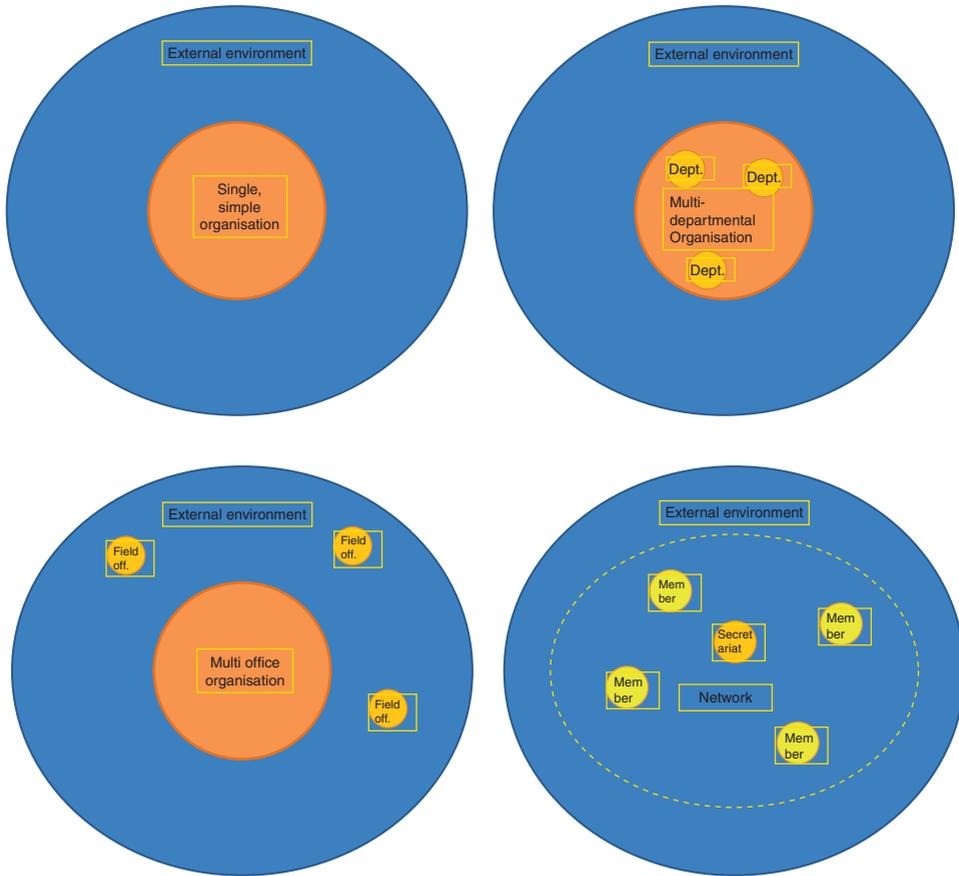


Figure 1. Typology of development organisations.

the organisation. In other words, organisational complexity may force the knowledge strategy to take into account various perspectives inside the organisation.

Strategic orientation

An organisation may have different strategic objectives and primary work processes that dictate an explicit external focus due to close work with external parties (capacity development, advocacy) or implicitly and unconsciously leading to an internal focus: research, information dissemination, funding, service delivery. This second batch of activities may be directed at external parties (funding, dissemination) but usually are not part of a joint and close working process with those external parties, resulting in an internal focus. The strategic orientation may bear on the inclination of knowledge strategies to include the perspective of external parties, much as the organisational complexity may include different internal perspectives.

Learning phase

This pointer refers to the experience and shared understanding that a given organisation has about knowledge processes. In other words, the knowledge roadmap phases identified

by Ramalingam (2005) which is based on the five competencies framework developed after Collinson and Parcell (2001):

- (1) *Pre-design phase*, where experimental efforts are undertaken, often uncoordinated and ad hoc. This is also a phase where awareness about knowledge management is raised, where trend-setters are paving the way, most often informally.
- (2) *Strategic development phase*, where a strategic set of KM priorities are established and the organisational approach of KM is formalised. This is a phase where KM champions are crucial to get management support.
- (3) *Implementation phase*, where the KM activities are deployed and support the strategic vision developed in the second phase. This is also where process managers and coaches are required to ensure everyone concerned by the strategy is on board.
- (4) *Alignment phase*, where the knowledge strategy is reviewed and adjusted, and KM processes are aligned with other organisational priorities and activities. This is a phase where all units of an institution and all staff are supposed to inform the strategy with the positive aspects but also the gaps they have observed. The monitoring and evaluation function is particularly important here.

This represents a simple typology and each organisation will assess for itself where it stands on this roadmap, but clearly the priorities established in the strategy depend very much on the maturity of learning activities in the organisation.

Reference framework

This final pointer relates to two different aspects: the theoretical framework or worldview that commands the strategy; and individual drivers of the strategy. The theoretical framework could relate to one or more of the four main theories presented by Krohwinkel-Karlsson (organisational learning, the learning organisation, organisational knowledge and knowledge management). Obviously these approaches are themselves in constant evolution and have borrowed different elements of the three different KM generations, but they represent some of the main frameworks used to justify a knowledge strategy.

There may be other worldviews influencing the overall agenda of certain development actors and their knowledge strategies. Eyben *et al.* (2008) present a variety of theories of change that could affect development activities of an organisation. Adoption of one of these theories of change could have profound implications on the strategy.

On the other hand, the drivers of the strategy – who are usually also driving the worldview above – also have an influential role. They can include the management of an organisation; the IT department; the human resources department; the main donor; the KM department; the monitoring and evaluation (M&E) department, or all staff. Each of these drivers may come with a certain preference in terms of set of beliefs which may put emphasis on specific elements of the strategy.

Four elements of a KM strategy

Based on the influential pointers mentioned above, an organisation usually decides about the mix of elements that corresponds to its worldview and peculiar characteristics:

- Scope of the policy/ strategy;
- Approach followed;

- Tools and practices used; and
- M&E framework and activities chosen.

Scope of the knowledge policy

This element relates to the areas that the strategy will address: work processes, objectives and people concerned by these. The scope of a knowledge strategy could be:

- Internal: applied to the organisation, either entirely or partly
- External: applied to external parties (partners, beneficiaries, clients, patrons etc.)
- General: addressing a wide range of actors that have an impact on, for example, a given development sub-sector, a certain topic

Approach followed

By approach, we mean two different aspects: the formality of the strategy and the people in charge of implementing the strategy. Combined, this element expresses the degree to which the KM strategy is branded as such, and either centralised or distributed.

The formality of the strategy refers to two commonly found extremes of the spectrum: 'big bang KM' and 'stealth KM'. The entertaining dichotomy of approach can be found in the case of the United Nations Development Programme which started its KM as a bottom up, stealth approach, based on communities of practice, and when this was perceived to be successful, moved to a formal approach identified as the 'big bang' (Henderson 2005, p. 28). In the big bang approach, a formal KM strategy is made explicit to all, and it is usually driven by a KM unit that requires cooperation by many or all. The stealth approach, on the other hand, tries to strategise a few KM activities, progressively expanding from a narrow set of initiatives carried out by a limited number of 'champions' and not necessarily identifying itself as KM.

The degree of centralisation implies that a strategy is applied by a central team (be it a management, IT, KM, M&E team for instance) or by staff at large, giving it responsibilities and recognising its inputs. There are a wide range of approaches, from highly centralised and formal to stealth approaches, introduced by individuals or groups of staff.

Tools and practices used

Based on the previous factors, an organisation will decide to use a mix of tools and practices to implement its KM strategy. By tools, we mean systems, e.g. websites and intranets, web logs (blogs) and collaborative workspaces (wikis), podcasts and slidecasts etc. By practices, we mean knowledge sharing approaches and group facilitation methods such as Open Space, world café, after action review etc. The range of tools and practices used is also determined by the resources available to deploy them and the capacity available to use these tools and approaches, linked with resources to train staff to use them.

Monitoring and evaluation framework and activities

It is particularly useful to look at the monitoring and evaluation (M&E) of KM activities as it is a largely unexplored territory (see part three) and because of a current trend of aligning M&E systems and activities with learning objectives that complement a knowledge strategy.

Assessing the success of knowledge strategies is difficult because of the processes involved and the intangible nature of knowledge. Institutions have been left with a limited range of useful monitoring techniques that have been criticised as in the case of the narratives with the bias of showing mainly positive results (Ramalingam 2005). In addition, monitoring knowledge processes is faced with competing demands. In many cases, reporting duties to donors have taken precedence over learning opportunities (Braga de Vasconcelos *et al.* 2005). Hulsebosch *et al.* (in press) have identified nine key challenges that hamper effective monitoring of KM and learning activities for development institutions. These challenges have led to a wide variety of M&E approaches built upon different design principles, a different learning language, looking at various M&E areas, and using a diverse range of monitoring tools and methods.

Trends and upcoming issues

Finally, we added trends because a knowledge strategy is – and should be – dynamic, taking into account what works and what does not, internal limitations and external opportunities and constraints. Under this section, one could describe the current ‘gaps’ that an existing knowledge strategy is not addressing sufficiently but also opportunities that arise from the environment (development of new tools and knowledge sharing methods, new staff joining, importance of better addressing partners’ learning priorities etc.).

Developing a framework

Thus, now that the pointers are clarified, we have employed them to develop a matrix or framework that could be used to describe the KM policies and strategies of development organisations (see Table 2).

These are employed to analyse the case studies included in the inventory (see Table 3). Due to space constraints, only the most recent examples are included here.

Part three: changing winds and uncharted territories

This section aims to identify key tendencies that may affect or have started affecting strategic knowledge management, either as an internal reorientation or as a result of a changing environment. In particular, the concept of multiple knowledges will be addressed more explicitly as one emergent issue.

Emergent areas in strategic approaches to knowledge for development

The pointers and elements mentioned above are affected interdependently by the trends presented here. This is testimony to the complexity of knowledge processes in the development sector.

Organisational complexity

An interesting trend here is the multiplication of networks (Heizmann 2008) and networked ways of working. The direct consequence of this trend is that organisations are increasingly engaging with networks in their approach to development, and their knowledge-focused activities reflect this tendency: multiplication of communities of practice and increasing reliance on digital tools to connect with networks (in face of the reduced options to establish face-to-face contact).

Table 3. Analysis of organisation knowledge strategies in recent publications.

Organisation	Influential pointers					Elements of knowledge strategy				
	Source	Organisational complexity	Strategic orientation	Learning phase	Reference framework	Scope	Approach followed	Tools and practices	Monitoring and evaluation (M&E) framework and activities	Trends
European Centre for Development Policy Management (ECDPM)	ECDPM (2008)	Single organisation	External	Alignment phase, knowledge management (KM) generation 3	Unclear	External: Communication KM Capacity development	Cross-cutting and integrated with communication and advocacy Driven by KM teams, associates and consultants	Unclear	Electronic measuring of audience interest, reader surveys, targeted phone interviews, unsolicited Reader feedback and the regular collection of impact evidence on policy making	Integrate more and more web 2.0 tools
Helvetas 2008	Heizmann (2008) and personal communication with Jane Carter	Multi-office organisation	External (capacity development, advocacy)	Alignment, KM generation 3		External: Capacity development, advocacy	Unclear	Intranet	Unclear	Open to the social nature of knowledge

Hivos	Stremmelaar (2009, this issue, p. 72)	Multi-office organisation	External (capacity development, advocacy)	Alignment, KM generation 3	Knowledge integration: multi-stakeholder knowledge development	External: Capacity development	Explicit knowledge policy Integrating staff and partners	Knowledge networks Publications, conferences, training, website	Monitoring protocol looking at output, outcome and sustainability. Aligned with planning and reporting cycle. Responsibility assumed by Hivos and partners.	Integrating multiple knowledges and dealing with conflicting perspectives
International Labour Organisation	International Labour Organisation (2008)	Multi-office organisation	Mixed: Internal (research, policy) External (training and advisory, advocacy)	Alignment phase, KM generation 2/3	Organisational knowledge	Internal, integrated to all activities, particularly HR, IT, research, M&E	Explicit and integrated with HR, IT, OL, M&E, research	Many, a.o. Wiki, forums, blogs, content management system, etc.	Results-based management framework with six key outcomes	Unclear

Strategic orientation

Much as the nature of an organisation does not change overnight, many development actors have not dramatically shifted their strategic focus. However, more organisations are paying increasing attention to external parties. International NGOs, in particular, are expected to operate on multiple levels and interact with a variety of actors: multi-stakeholder processes are required to address complex development issues (Moriarty *et al.* 2005, Stremmelaar 2009 (this issue)). For this reason, social network analysis is often employed to understand these interactions. Simultaneously, at a personal level, many development organisation employees are engaging more with external (inter-organisational) communities of practice (such as KM4DEV and the Pelican Initiative⁸) to find suggestions and solutions to improve their work (Heizmann 2008). This trend is also responsible for the growing popularity of Dgroups within the development sector which currently comprises some 2731 online networks with some 116,066 members (accessed 15 January 2009).

Learning phase

Given the presence of the knowledge era in the development sector, many organisations have been able to experiment with knowledge management and learning approaches. More of them are moving towards aligning their knowledge strategies with learning. The cases of European Centre for Development Policy Management (ECDPM), Helvetas, Humanist Institute for Development Cooperation (Hivos), the International Labour Office (ILO), and the Consultative Group on International Agricultural Research (CGIAR) and others support this observation. This explains a number of trends observed here: increased interaction with external parties, more participatory decision-making, and increased attention to contextual knowledge-sharing.

Reference framework

Despite this increasing attention to knowledge, many development organisations are not systematically linking their knowledge strategy and practices with a thorough theoretical framework (Krohwinkel-Karlsson 2007). Since clear reference frameworks may not underpin knowledge strategies, one may wonder if the former are evolving at all. Yet a major trend is shaping up here too: as the third generation of knowledge management is gaining ground in a number of organisations, there is a 'growing recognition of the complex social nature of organisational knowledge cultures' (Olsson and Halbwirth 2007, p.) and the contribution of personal values and capacities to more effective development activities. Communities of practice are making a crucial contribution here: Braga de Vasconcelos *et al.* (2005) values the importance of local knowledge in decision-making and refers to the use of communities of practice as perhaps 'the most important device because of the multiple contexts (personal, social and cultural) that its interactivity includes' (Braga de Vasconcelos *et al.* 2005, pp. 5–6) while Heizmann (2008) emphasises the value of different perspectives as opportunities.

Scope of the knowledge policy

One would expect that the trends above translate into adapted scopes for knowledge policies. Looking at the examples of the ECDPM, Intercooperation, the ILO and others,

indeed they do. On the one hand, internally, organisations tend to take a more comprehensive approach to knowledge management by addressing many or all units of the organisation. For example, ILO's KM framework relates to research, human resources, IT and evaluation. On the other hand, knowledge policies within organisations overtly address processes that relate to their partners and other external parties that matter to them. This is illustrated by the capacity development and/or advocacy efforts of ECDPM, Helvetas, Intercooperation, Hivos, and the Swedish International Development Agency.

Approach followed

In contrast to some years ago, development institutions seem to take an increasingly integrated approach to their knowledge strategy. This translates into increasing participation of departments (and/or field offices) in the implementation of the strategy, as is the case for the ILO and Helvetas. Where organisations are further advanced in their knowledge work, they also tend to revert to a more 'stealth' or 'mainstreaming' approach in the sense that learning activities are not branded under a KM banner. The recent decision of Inter-Cooperation to end the knowledge coordinator position and instead to include KM responsibilities in all thematic groups illustrates this trend very well.⁹ In a recent webcast on Green Chameleon,¹⁰ Dave Snowden boldly stated that 'KM is dead', arguing that its identification of a specific department will progressively make way for the integration of KM processes in the overall organisational set up of institutions.

Tools and practices used

The main trend one can observe here is the uptake of interactive digital tools (often branded as Web 2.0) that allow for deeper personalisation, increased interaction, shorter feedback mechanisms and joint sense-making. Examples include blogs, wikis, slidecasting, online bookmarking, microblogging with tools such as Twitter, syndication of resources (RSS feeds), and other online cooperative tools. The emergence of the social network analysis tools is another remarkable trend (Heizmann 2008). Although there is no comparable breakthrough with face-to-face knowledge sharing practices, world cafés, after action review, open space sessions and a number of narrative-based approaches (appreciative inquiry and others) are spreading as common features of knowledge strategies. Perhaps the most crucial trend is the proliferation of communities of practice where interactive sense-making is taking place (Braga de Vasconcelos *et al.* 2005).

Monitoring and evaluation framework and activities

Finally, on the monitoring and evaluation side, various trends are affecting the frameworks used. These trends¹¹ concern a higher attention to impact of learning and KM; finding a mix of quantitative and qualitative assessment methods; a renewed attention for network monitoring (e.g. more systematic focus on social network analysis); and particularly the integration of monitoring with the reference framework that underpins development approaches.

Two critical aspects come into sight:

- (1) There is a growing recognition of the importance of sense-making in evaluations, as demonstrated by Chris Mowles, quoted by Hulsebosch *et al.* (in press): 'in development, there is far too much assessment and far too little sense-making of

the assessments'. This trend suggests identifying more clearly the boundary of monitoring and evaluation efforts to be able to 'evaluate the deeper and more subtle changes that result from our interventions' (Dlamini (2006) quoted in Hulsebosch *et al.* in press).

- (2) M&E frameworks are increasingly built around relationships (between funders and grantees, between organisations and their intended beneficiaries) and on jointly designing monitoring frameworks and identifying the most critical areas.

In the light of these emerging issues, the concept of multiple knowledges offers useful perspectives to improve development policies and practices.

Multiple knowledges

An overarching trend that is making rapid headway is the increasing recognition of the value of external perspectives, at an individual level and increasingly at organisational level. We have seen that the theoretical frameworks, strategic orientation, scope of knowledge policies, practices used and even monitoring frameworks are reflecting this trend from within development organisations.

The implications are twofold:

- Knowledge and learning activities are pushed towards a networked model that relates to the complex nature of the development world – reflecting the complex side of the Cynefin framework (Snowden and Boone 2007).
- The development discourse and models to justify activities tend to recognise the importance of other knowledge perspectives, in designing interventions, and hopefully soon in shaping the development discourse.

Development aims to address poverty and to provide all human beings with a healthy and productive life in harmony with nature.¹² As much as Agenda 21 is placing human beings at the centre, development actors are progressively recognising the implications and importance of letting them decide how to model their own development.

Gaps and issues for further research

The study has identified a number of issues in knowledge management strategies, related to the influential pointers presented above, that can be identified as gaps in current thinking or understanding. For each of these gaps, additional research could highlight possible avenues and opportunities for a knowledge strategy that addresses the needs of development actors and, more importantly, of aid beneficiaries.

- (1) *Incoherent reference frameworks*: the weak theoretical underpinning of knowledge management for development has led to choices of knowledge strategies that do not place human beings at the centre. Additional research could provide some theoretical avenues on which development policies and practices could develop more coherently and for a greater benefit.
- (2) *The socio-cultural context of knowledge and learning* with its emphasis on cultural links and connotations (Heizmann 2008) suggests new challenges for knowledge strategies, ranging from conflicting perspectives to practical challenges (literacy, languages etc.). Research would be well advised to investigate

possible ways to overcome challenges and link multiple knowledges with development organisations' knowledge strategies.

- (3) *The over emphasis on organisational KM processes* and the top-down KM approach, too often chosen by organisations, has left a vacuum at the two ends of the spectrum: the individual and the wider institutional framework, namely other organisations in the wider environment or in a given sub-sector. Further research could consider the links between current knowledge strategies and other initiatives that focus on either end of that spectrum (e.g. personal learning-based initiatives on the one hand, coordination, harmonisation and sector learning approaches on the other hand).
- (4) *The edge of inter-organisational communities of practice*: A growing practice in the sector, inter-organisational communities of practice offer practical ways of finding solutions. Additional research could identify benefits and limitations of such communities in addressing the multiple knowledge perspective.

The work undertaken by the IKM Emergent programme on multiple knowledges – and power relations in the development discourse – offers another attractive strand of research to help adapt knowledge strategies and understand the benefits associated with a multiple knowledge perspective.

Conclusions

This study provides a glimpse of the drivers and elements of knowledge strategies as devised by various development actors, and it shows the richness of the approaches followed. Yet, strategy often runs before or behind practices, like the law runs before or behind customs. Although the knowledge era is accepted, and development actors cannot afford to ignore knowledge as a crucial resource and learning as a vital pursuit, examples abound of failed strategies and of deceptively small ripples of success. Most importantly, a successful knowledge strategy in the organisation does not always translate into (more) effective development interventions. The onus is on development organisations to prove the value of learning by showing evidence of increased effectiveness through their knowledge strategy and activities. More importantly, they need to keep learning to continually adapt to a fast-changing environment and allow for a greater flow of ideas and useful practices.

The trends observed in the third part represent challenges or opportunities, depending on the perspective taken. In an increasingly integrated and networked development sector, there is a call to look beyond traditional (organisational) boundaries, to reassess theories of change, to finally pay attention to the people below – the staff – and the people outside. For traditional management approaches, this may appear as a threat. For believers of distributed decision-making, this is a chance to find strength in differences, to shape up smarter development policies and practices through a more complete picture of the development sector, provided by multiple worldviews, multiple knowledges.

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Notes

1. The Fourth International Conference on Grey Literature (GL '99) in Washington DC, in October 1999 defined grey literature: '[t]hat which is produced on all levels of government,

- academics, business and industry in print and electronic formats, but which is not controlled by commercial publishers' (GL'99 Conference Programme. Fourth International Conference on Grey Literature: New Frontiers in Grey Literature. GreyNet, Grey Literature Network Service. Washington DC, USA, 4–5 October 1999.)
2. www.km4dev.org.
 3. The overview is available at: <http://spreadsheets.google.com/ccc?key=phFVXYvI3SDYqq4Xf81FBTA&hl=en>
 4. www.ikmemergent.net
 5. (1) Expertise, and skills acquired by a person through experience or education; the theoretical or practical understanding of a subject, (2) what is known in a particular field or in total; facts and information or (3) awareness or familiarity gained by experience of a fact or situation.
 6. <http://en.wikipedia.org/wiki/Learning> (accessed 15 January 2009).
 7. <http://www.km4dev.org/index.php/articles/c204>.
 8. www.dgroups.org/groups/pelican and [Dgroups www.dgroups.org](http://Dgroups).
 9. Personal communication with Jane Carter, 5 January 2009.
 10. See http://www.greenchameleon.com/gc/blog_detail/dead_km_walking/.
 11. Various trends and issues around monitoring and evaluation of learning and KM approaches are presented in two IKM Emergent working papers by Hulsebosch *et al.* (in press) and Talisayon (2009).
 12. Rio declaration on environment and development, 1992, available at <http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm>.

Notes on contributors

Ewen Le Borgne is project officer at the International Water and Sanitation Centre (IRC) where he is working on communication, learning and monitoring activities internally at IRC and particularly with partners in West Africa and Ethiopia. Specific activities and areas of interest include development of pro-poor resource centre networks in the water and sanitation sector, support to learning alliances and adapting monitoring practices (process documentation, outcome-focused monitoring etc.). Ewen is member of IKM Emergent Working Group 3: Management of Knowledge.

Sarah Cummings works on knowledge management at Context, international cooperation. She is very much involved in the IKM Emergent Research Programme working on the management team, communications and Working Group 3: Management of Knowledge. In 2005, she co-founded the *Knowledge Management for Development Journal* with a number of colleagues. She is a member of the Advisory Board of Hivos and teaches knowledge management for development to a Masters' course for development professionals at the Radboud University Nijmegen. She is a member of the Editorial Board of the journal *Development in Practice*.

References

- Alford, M. (undated) KM self-assessment tool. Unpublished paper
- Boom, D., 2005. The Asian Development Bank's knowledge management framework. *Knowledge management for development journal*, 1 (2), 69–75.
- Braga de Vasconcelos, J., *et al.*, 2005. Knowledge management in non-governmental organisations: a partnership for the future. *Proceedings of the 7th international conference on enterprise information systems (ICEIS 2005)*, 24–28 May, Miami, FL, ISBN: 972-8865-19-8.
- Britton, B., 1998. The learning NGO. *INTRAC occasional papers series* No. 17. Oxford: International NGO Training and Research Centre, available at <http://www.intrac.org/publications.php?id=73>.
- Brown, J.S. and Duguid, P., 1998. Organizing knowledge. *California management review*, 40 (3), 90–112.
- Collison, C. and Parcell, G. 2001. *Learning to fly: practical lessons from one of the world's leading knowledge companies*. Oxford: Capstone.
- ECDPM, 2008. *Linking knowledge and communication: ECDPM strategy on knowledge management and communication*. Maastricht: ECDPM, 20pp, available at [http://www.ecdpm.org/Web_ECDPM/Web/Content/Download.nsf/0/623DEC382EB4FF3DC125751200389485/\\$FILE/KM%20&%20C%20Strategy_Final.pdf](http://www.ecdpm.org/Web_ECDPM/Web/Content/Download.nsf/0/623DEC382EB4FF3DC125751200389485/$FILE/KM%20&%20C%20Strategy_Final.pdf).

- Eyben R., *et al.*, 2008. Thinking about change for development practice: a case study from Oxfam GB. *Development in practice*, 18 (2), 201–212.
- Ferguson, J.E., Mchombu, K., and Cummings, S., 2008. Management of knowledge for development: meta-review and scoping study. *IKM Working Paper* No. 1. Bonn: Information and Knowledge Management Emergent Research Programme, European Association of Development Research and Training Institutes.
- Foley, C. 1999. Group process indicators.
- Henderson, K., 2005. The knowledge sharing approach of the United Nations Development Programme. *Knowledge management for development journal*, 1 (2), 19–30.
- Heizmann, H., 2008. Knowledge sharing in international NGOs. *International journal of knowledge, culture and change management*, 7 (11), 65–72.
- Hulsebosch, J., Turpin, M., and Wagenaar, S., in press. Monitoring and evaluation of knowledge management strategies. *IKM Working Paper*. Bonn: Information and Knowledge Management Emergent Research Programme, European Association of Development Research and Training Institutes.
- Johnson, E. 1997. Organisational knowledge assessment. Unpublished presentation, available at <http://www.adb.org/Documents/Events/2007/Knowledge-Management/KM4Dev-KM-WS1-presentation-OKA.pdf>
- KNOW Network and APQC, 1998. The MAKE award, available at <http://www.knowledgebusiness.com/knowledgebusiness/Screens/MakeSurvey.aspx?siteId=1&menuItem=43>.
- Krohwinkel-Karlsson, A., 2007. Knowledge and learning in aid organisations – a literature review with suggestions for further studies, available at <http://www.sadev.se/Uploads/Files/116.pdf>.
- Langen, M. 2000. Knowledge Management Maturity Model. Unpublished presentation, available at http://www.providersedge.com/docs/presentations/Holistic_Development_of_KM_with_KM_Maturity_Model.pdf
- Moriarty, P., *et al.*, 2005. Background paper: learning alliances for scaling up innovation and realising integrated urban water management. Den Haag: IRC International Water and Sanitation Centre. Unpublished paper, 52pp, available at <http://www.irc.nl/page/17422>.
- Halbwirth, S. and Olsson, M. 2007. *Working in parallel: themes in knowledge management and information behaviour*. In: S. Hawamdeh, ed., *Knowledge and Innovation*, World Scientific Publishing Co. Pte Ltd, Singapore, pp. 69–89.
- Polanyi, M., 1966. *The tacit dimension*. Garden City, New York: Doubleday.
- Powell, M., 2006. Which knowledge? Whose reality? An overview of knowledge used in the development sector. *Development in Practice*, 16 (6), 518–532.
- Ramalingam, B., 2005. Implementing knowledge strategies: lessons from international development agencies. *ODI Working Paper* 244. London: Overseas Development Institute (ODI), 73pp, available at <http://www.odi.org.uk/rapid/publications/Documents/WP244.pdf>.
- Ramalingam, B., 2006. Tools for knowledge and learning: a guide for humanitarian and development organisations. London: Research and Policy in Development (RAPID) Programme at the ODI, 94pp, available at http://www.odi.org.uk/RAPID/publications/Documents/KM_toolkit_web.pdf.
- Schueber, M., 2006. Strategic information and knowledge management inquiry (SIKMI) for operationalising KM and organisational learning in NGOs. Unpublished paper, 20pp, available at http://www.km4dev.org/wiki/images/4/4d/SIKMI_concept.pdf.
- Senge, P.M., 1990. *The Fifth Discipline: The Art and Practice of the Learning Organization*. New York: Doubleday.
- Snowden, D.J. and Boone, M., 2007. A leader's framework for decision making. *Harvard business review*, November, 69–76.
- Stremmelaar, J., 2009. Knowledge integration for development: the HIVOS' approach. *Knowledge management for development journal*, 5 (1).
- Swan, J., Newell, S., Scarborough H. and Hislop, D., 1999. Knowledge management and innovation: networks and networking. *Journal of Knowledge Management*, 3 (4), 262–275.
- Talisayon, S.D., 2009. Impact assessment of knowledge management for development. *IKM Working Paper*. Bonn: Information and Knowledge Management Emergent Research Programme, European Association of Development Research and Training Institutes.
- Tsoukas H., 2003. Do we really understand tacit knowledge? In: M. Easterby-Smith and M. Lyles, eds. *Blackwell handbook of organizational learning and knowledge management*. Oxford: Blackwell Publishing, pp. 410–427.

- Weggeman, M., 1997. Kennismanagement: Inrichting en besturing van kennisintensieve organisaties. Schiedam: Scriptum.
- World Bank, 1998/1999. Knowledge for Development/About the report, *The World Development Report 1999/1998*, Washington DC: World Bank, available at <http://web.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/EXTWDRS/EXTWDR19981999/0,,contentMDK:20564360~menuPK:766760~pagePK:64167689~piPK:64167673~theSitePK:766720,00.html>)