PEOPLE-CENTRED APPROACHES TO WATER AND ENVIRONMENTAL SANITATION

Knowledge management in development organisations: The learn@WELL experience

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Academics, consultants and publishers are pouring out information, both online and hard-copy on knowledge management (KM). Only an experienced KM practitioner is able to sift fads from the applicable and transform that information into action. KM is essentially about managing people's activity focused on improving organisational or network community of practice (CoP) knowledge sharing mechanisms and practices. This article introduces KM and describes how it is being introduced to WELL partners through the Learn@WELL KM module. The article provides the rationale for the module and describes the main activities within the module. An example of a KM plan is presented and a KM Do It Yourself kit (KM DIY kit) for NGOs is synthesised based upon our experience with the module thus far.

Introduction
Learn@WELL
WELL (Water and Environmental Health in Developing Countries), is a UK Department for International Development, (DFID) funded Resource Centre Network promoting environmental health and well-being in developing countries. It is managed by the Water, Engineering and Development Centre (WEDC) UK, International Water and Sanitation Centre (IRC) The Netherlands, and the London School of Hygiene and Tropical Medicine (LSHTM) UK in collaboration with Southern network partners.

WELL's Southern partners include The six Southern agencies include the African Medical and Research Foundation (AMREF); The Institute of Water and Sanitation Development (IWSD); Centre for Health and Population Research (ICDDR, B) Network for Water and Sanitation (NETWAS); Training Research and Networking for Development (TREND) and Social and Economic Unit Foundation (SEUF).

One of WELL's objectives is to strengthen the WELL network through capacity building so that it may better provide WELL services. The mechanism for doing this is through a series of modules designated Learn@WELL one of which is Knowledge Management (KM). Other Learn@WELL modules include analytical skills, consultancy skills and writing skills. A dissemination module is in the early stages of planning. All these modules have been developed in consultation with network partners so as to deliver capacity building appropriate to their needs.

In this article we will introduce the KM concept and describe how it is being introduced to WELL partners through the Learn@WELL KM module. We provide a rationale for the module and describe the main activities within the module. We will also present an example of a KM plan developed by a WELL partner. We conclude the article with a KM Do It Yourself kit (KM DIY kit) for NGOs based upon our experience with the module thus far.

Knowledge management
Origins of KM
Knowledge Management originated in management science. Perhaps the strongest influence was that of Nonaka's book "The knowledge creating company", with the now famous distinction between tacit and explicit knowledge (Nonaka & Takeuchi, 1995). The KM movement gained momentum with the idea to share best practices through intranet software, and with the attempts of Accenture (ex-Andersen), Ernst & Young, British Petroleum, Amoco, etc at doing this. Knowledge management as a concept has only become a byword in the development sector since 1996, when the World Bank initiated its transformation into a Knowledge Bank (Carayannis and Laporte, 2002), although many development organisations claim to have practised KM before it was labelled as such.

Why knowledge management?
Knowledge Management at its core, aims to facilitate the supply of the right knowledge, to the right person, at the right time. This is something most organisations aspire to and it was not surprising therefore that all six WELL partners requested a module on KM within Learn@WELL. A number of factors have driven this widespread interest in KM in recent years. First, the development of electronic media has seen new working practices introduced including among other things, e-mail, the Internet and Intranets. These have collectively made it easier to find, accumulate and transfer information within an organisation. For an overview, refer to Binney, 2001. Second, in the development sector, many

staff spend a large proportion of their time outside the office on field trips. As a result, the office environment has been extended and no longer exists only at one's desk. Third, the job for life is no longer a given. It is not unusual to work an average of three years for an organisation and move on. So how do these factors make KM necessary?

We have seen that KM refers to the effective use of an organisation's knowledge. This knowledge is largely found in people's heads. Thus, printed documents and databases offer only limited access to the total knowledge resource of any organisation (Knowledge Management, 2003). Given the three factors outlined above, it is increasingly difficult to access knowledge because the people who have it are either unavailable, have left the organization, or do not adequately package and store information in such a way that other people are able to find and digest it thereby creating knowledge appropriate to their context. Knowledge has become a transient asset. Given this context, development organisations are now seeking to employ KM as a prong in their fight to retain their comparative and strategic advantages that are under threat in this new competitive environment. In other words, development organizations are using KM to achieve their goals using a structured and inclusive approach.

Information management versus KM

We have discussed the origins of KM and explained why KM has become important. We have not however offered a definition of what KM is. This is because there are numerous definitions of KM as well as differing understandings of its scope. Of these, KM is perhaps most frequently misunderstood to equate to information management (IM). Definitions such as "the methods and tools for capturing, storing, organizing, and making accessible knowledge and expertise within and across communities" only serve to reinforce this view (Walker & Millington, 2003). However, a distinction can be made between the two. In information management, one is concerned with documents and in particular, matters to do with access to information, its (technical) handling, security, storage and delivery. In other words, information management is about issues to do with the handling of data. KM on the other hand is concerned with the human aspect of information utilisation. As such, KM is involved with developing systems and processes that leverage information and knowledge in an organisation to promote originality, creativity, intelligence and learning. According to Ackoff, the content of the human mind can be classified into five categories (1989):

- data: symbols
- information: data that are processed to be useful; providesanswers to "who", "what", "where", and "when" questions
- knowledge: application of data and information; answers "how" questions
- understanding: appreciation of "why"
- wisdom: evaluated understanding.

The above is an elaboration of the frequently encountered data-information-knowledge continuum. In an effort to avoid academic discussion about what 'knowledge' is, we have defined 'knowledge' as 'information in use' for purposes of the module. In this way we bring together the two main interpretations of KM. One emphasises 'Information' and the other human resource management (HRM) or 'use'. Combining these two leads to the understanding that KM is about 'knowledge friendly organisations' (KFO); that is, improving organisational or network knowledge sharing mechanisms and practices (Weggeman, 2000).

Communities of practice (CoP)

Most people in an organisation obtain their information from face-to-face meetings or in conversation. What is often lacking in an organisation though is a supportive culture that encourages openness and knowledge sharing. It is a challenge to get professionals who share an interest to interact, share, create and update information where this is not the norm. It is perhaps for this reason, coupled with the fact that it is easy, that so many organisations predicate their KM strategy on building information repositories. In fact, a clear indicator of a non-supportive knowledge sharing culture is when the IT department is put in charge of KM. Whereas repositories have their place, they can never be a substitute for what is contained in peoples' heads. Communities of practice are therefore an essential strategy for any KM programme. CoP's are typified by people, domain and purpose; a group of people who share an interest interact to learn from each other. It is this goal of learning from each other that marks the difference between CoP's and pure socialising. The more colleagues interact, the less time they will spend reinventing the wheel. There are several studies which show that 20 – 30 per cent of an organisation's resources are wasted reinventing the wheel (Boshyk, 2000). KM should therefore be people-oriented as already stated and technology-enabled not technology-driven.

Scales of KM

Given that KM is about people, there are three distinct levels at which KM can be practised. The first is at the personal level. When you practise KM at this level, you acquire and create knowledge, manage documents, share learning, and collaborate with colleagues (Richardson, 2001). A spin-off of personal knowledge management is that if each and every person in an organisation takes responsibility for what he or she knows, does not know or wants to know more about (learn), then a corporate level KM initiative is likely to be easier to implement because an enabling environment will already exist at the personal level. At a wider interpersonal level, we have organisational KM. Here, KM is about creating, capturing and re-using knowledge in the attainment of the organisation's objectives (Weggeman, 2000). We stress once again that efforts at this level should be directed at establishing a culture of openness and knowledge sharing as well as encouraging face-to-face and interpersonal com-

munications. Finally, KM can take the form of networking, like WELL. At this level, organisations come together to leverage information, skills and experience, sharing between themselves in order to deliver common objectives. For this to succeed, solid communications and regular (exposure) visits between partners are crucial. The foregoing discussion has been about KM. In the following section, we turn our attention to the Learn@WELL KM module.

The learn@WELL KM distance learning module

The module concept

In July 2002, WELL partners expressed their interest in a KM Module under Learn@WELL. Consequently, the authors were designated to develop the module with IRC taking the lead. Following e-mail communication and a face to face meeting, we adopted Weggeman's 'Knowledge Value Chain' as the main conceptual tool for the module (Weggeman, 2002). Our aim in doing so was that the module should have a practical rather than theoretical orientation.

The model consists of a matrix (See Figure1) and provides a structured framework for analysing activities for a given KM goal. The matrix consists of the knowledge processes: creation, sharing, application and evaluation. Each of these processes is analysed using McKinsey's 7S framework (Peters & Waterman, 1995), which includes the following variables: Strategic considerations, management Style, organisational culture (Shared values), organisational Structure, personnel (HRM, Staff) and ICT related issues (Systems). It is a powerful model that provides an easy to use framework for analysing KM goals or objectives. Experience shows that translating an organisation's vision and mission into practical organisational goals can be a challenge. The utility of this model is that when applied, all crucial questions for formulating a practical goal are brought to the table including those without answers or with political overtones which might otherwise be left out of the equation.

In terms of its delivery, the KM module is different to its sister modules. Learn@WELL modules usually consist of 'books' which are worked through to complete a module. A typical module book will introduce concepts, will make use of exemplars and will have a number of exercises to be completed. The KM module however, does not follow this pattern. Instead, the module is built around a series of practical activities with the authors providing support as mentors. As an example, the first activity within the module is to develop a basic plan which states the KM goals the organisation hopes to pursue. Our reasoning in adopting this approach recognises that KM is essentially a personal activity focused on improving organisational or network (CoP) knowledge sharing mechanisms and practices. It would therefore be inappropriate to design a one-size-fits-all module. We believe that a bespoke module aimed at structured self-development through the implementation of a KM plan, better serves each organisation's unique needs.

A second feature of the module delivery is that it is based upon a mentoring approach founded on the understanding that partners signing up for the module take full ownership of its implementation. So for example, the choice of goal for each partner's KM plan is for the organisation to decide

Weggeman's Knowledge Value Chain

		Create		Share	Apply	Evaluate
Mission						
Vision	**Needed**	**Available**	**Develop**			
Goal(s)	knowledge	knowledge	knowledge	knowledge	knowledge	knowledge
Strategy						
Culture						
Management style						
Personnel						
Structure						
Systems						

Source: Weggeman, 2000

The model used in the Learn@WELL KM distant learning module is the Knowledge Value Chain taken from Weggeman (2000). It consists of four main knowledge processes as shown in the top shaded rows of the table. From left to right: Creation (what is needed, what is available and what knowledge needs to be developed), Sharing, Application and Evaluation. This is also referred to as the Knowledge Lifecycle.
Knowledge management is about organising these knowledge processes in such a way that they directly contribute to the competitive edge of an organisation. The lifecycle is fed by operational goal(s) flowing from the organisation's mission and vision (non-shaded portion of the first column).

The knowledge processes are planned holistically using McKinsey's 7S Framework. These are referred to as organisational design profiles and are listed in the shaded portion of the first column. From top to bottom: Strategy, Shared Values (Culture), Style (Management style), Staff (Personnel), Skills (Structure) and Systems. From the model, it is clear that information technology is not the only means to improve Knowledge Management.

rather than the mentors. Equally, all resources for implementing the plan are underwritten by the partner. The authors as mentors simply initiate, advise and instigate and our role is limited to the following:

- Introducing KM as a concept and its underlying principles; (initiating)
- Providing assistance in developing KM plans; (advisory)
- Sharing lessons learned from WEDC's and IRC's own experiences in this area; (advisory)
- Facilitating local workshops hosted by the partners; (instigating)
- Providing guidance on appropriate literature (instigating)

Module activities

The foregoing gives a brief background to the development of the module. In this next section, we have a look at some of the activities under the module.

KM initiative

The first step is to decide what the focus of the KM initiative should be. Under the module, it is envisaged the KM initiative will be implemented over a period of time in blocks. Therefore, in module terms, the mentors provide support for the implementation of the initial stage of the KM initiative based upon a KM plan. It is hoped that by going through the process of developing and implementing a plan, the partner's KM team will learn how it is done and go ahead to implement the balance of the initiative.

Personal KM map

A personal KM map is a map of one's information behaviour (skills, experience and attitude) (See figure 2). Data to construct the map is collected through a questionnaire which can be modified to suit each organisation where necessary. The basic questions are:

1. Who are you working with?
2. How do you obtain the information you need?
3. How do you share information /knowledge/
4. How do you document what knowledge you have?
5. What do you need to learn?

The aim of personal mapping is to get people to think and talk about their information behaviour in a systematic way and to then take steps to modify it where necessary. Further, group discussions of individual KM maps provide an opportunity for suggestions to be made about how individuals may modify their information behaviour to contribute to effective knowledge sharing within the organisation. Personal knowledge mapping need not be tied to a KM initiative. It could be adopted as a function of the organisation's human resource department for example.

Organisational profile

A second activity is constructing an organisational profile (See figure 3). Individual members of staff fill in a standard questionnaire designed to build a KM profile of the organisation. The answers to the questionnaire are discussed and combined to provide an overall profile. This final profile should demonstrate the degree to which the organisation's

Who are you working with?

Aids control society	Government departments
Community groups	Local self government bodies
Different government departments	Other NGOs
Donor agencies	Professional and religious institutions
Educational institutions	School children
Eternal agencies	Women groups

How do you share information / knowledge?

Face-to-face discussion	Staff meetings
Newsletters	Telephone conversations
Project reports	Trainings
Reviews	Website

What do I need to learn?

Source	Staff 1	Staff 2	Staff 3	Staff 4
Computer use	10	9	-	9
Writing skills	10	8	3	9
Training skills	8	5	5	7
Communication skills	8	8	5	8
Language skills	10	10	5	10
Attitude to learn, write and share	10	7	2	8

Self assessment by staff: 1 = no 10 = yes.

Figure 2. Sample personal knowledge mapping data

KM initiative (if one exists), is understood.

The KM scan

The purpose for carrying out a KM scan is to provide a baseline assessment of staff perceptions with regard to the position of KM in the organisation. The scan we use for the module consists in a series of four questionnaires. One questionnaire (How good are we at Knowledge Management?) examines perceptions around the processes of the knowledge value chain referred to above: creation, sharing, application and evaluation. A second (How knowledge-oriented is our organisation?) deals with issues around the 7S framework, which includes the following: KM-strategy, management style, culture, systems, structure and personnel. The remaining two questionnaires address issues to do with the importance of knowledge in the organisation and the organisation's vision and mission. It is a good idea for as many staff in as possible to take the KM scan as this leads to results that are more representative.

KM plans

As noted above, the introduction of KM into an organisation should be incremental and done in short bursts. There are three advantages to this. First, the benefits of a KM initia-

tive are more quickly seen if the initiative is implemented block by block with each block designed to show benefits. This should make it easier to gain commitment for further action. Second, KM is about people. It is simpler to introduce change in small steps rather than cause a major upheaval within the organisation. Third, implementing the initiative in blocks avoids the danger of one ambitious plan getting lost in generalities, with the result that nothing happens and the plan ends up in a drawer.

Thus, the KM initiative should be based on modest and achievable KM plans. The knowledge value chain described earlier provides a framework for developing the plans. Following are two examples of KM plans to illustrate what a KM plan might look like.

KM Plan - SEUF

The Socio-Economic Unit Foundation (SEUF) India, has the ambition to become a leading resource centre in the region. They identified a lack of information sharing in SEUF as a major drawback in achieving their ambition and have developed two plans to address this.

KM Plan 1: Information sharing though SEUF website
• use skills gained through the Learn@WELL writing skills

Mission of the organisation or Mission statement
Vision of the organisation Or Vision statement
Strategy of the organization
Organizational goals
Who is the KM champion in the organisation?
Who is the primary contact for KM? Other key contacts?
What is the initiative called? e.g. Knowledge Sharing?
Where is the KM initiative located in the organisation? i.e. which department(s)
What year did the organisation's KM initiative begin in?
Is there a website for the KM initiative?
How many staff works directly on KM?
How are resources allocated to or through the KM initiative?
What are the primary tools or KM approaches in use? Personalization? Codification?
What tools or approaches are planned?
Does the initiative have an external focus? i.e. is there an attempt to apply KM to the organisations development projects?
What are the key sources of inspiration that guided your KM strategy? Who are your influences?
Does the KM strategy have links to other strategic initiatives within the organisation? Describe.
Is there a process in place to measure the impacts on the organization? What are your indicators of success?
What are the biggest obstacles you have encountered?
General narrative description of the KM initiative at the organisation. An anecdote.

Figure 3. Questions on organisational profile

module to provide quality material for the website;
- repackage existing outputs to serve different online target groups; and
- develop an inventory of staff skills, attitudes and experiences and use to allocate responsibilities for website management and to inform organisational HR needs.

KM Plan 2: Internal information sharing through improved project documentation
- make results and experiences from projects more explicit, thereby creating leverage for information sharing;
- document proposal development;
- create central project files; and
- document project activities and outcomes.

These two plans were developed during a workshop attended by staff from two SEUF regional offices. A section of the workshop attendees will in turn facilitate workshops with colleagues in the four remaining regional offices to introduce them to KM concepts and acquaint them with the KM plans developed The implementation of these plans will cut across all six regional office. Meanwhile, SEUF has plans to change its web architecture as well as developing an Intranet under an RCD initiative. These two initiatives dovetail well with the KM plans developed and when implemented, will be a major step towards SEUF becoming a resource centre. It is possible that new KM plans will be drawn up in these workshop to complement the two shown above.

Our Observations of the module
Incentives for adopting KM
KM as has been stated, involves organisational change. It is well known that organisational change often meets with resistance. Fortunately, this has not been the case with the organisations we have worked with. This is attributable to the fact that the idea for the KM module came from the partners themselves. They also took responsibility for organising the workshop and creating its terms of reference. Consequently, even though it was not fully understood exactly what it would entail, the commitment to see the module through has been present. In this regard, the incentive to adopt the KM approach was pre-established and we did not therefore require to put in place an incentive structure. Further, we have articulated in the workshops, some of the benefits that would accrue from implementing a KM plan, together with commitment from management, have served as additional incentives.

Module delivery
The delivery of the module has had both problems and successes. These are discussed further:

First, a lack of resources meant that there was no opportunity for face-to-face meetings. A direct consequence of this was that it was inordinately difficult to effectively communicate KM concepts by e-mail. This led to a situation where for several months, very little progress was achieved. In the event,

a financial allocation for workshops was made available in the 2003 / 2004 financial year. These workshops provided a forum for explaining communicating KM concepts.

Second, though the workshops have largely been successful, it was inevitable that the momentum achieved during workshops would tail off. Our approach to countering this has been to make a case for continued provision of financial resources in terms of staff time to cushion the organisations post–workshops while implementing their KM plans. Preliminary indications are that this strategy has been successful.

On the positive side, introducing the module and KM concepts through workshops has been very successful. This is attributable to facilitators being on hand to explain the KM value chain and answer questions relating to the matrix. The workshops have also been an ideal forum to explain the logic underlying our approach as well as an opportunity for us to gain an understanding of both individuals' and organisational expectations of the KM module.

A second thing which worked well was allowing each organisation to determine its KM priorities. This has been possible because the KM value chain, our main planning tool, is very flexible and applicable to any situation. As a result, our role as facilitators in the workshops has been simply to explain what a KM approach is about and give a few examples of situations that are amenable to KM solutions. Participants have then been in a position to identify situations and problems from their own working environment which they then analyse using the value chain and plan an appropriate intervention to improve that situation.

Assessing progress
As far as we know, such an approach has not been trialled before. We were keen therefore that we should have a number of indicators in place to monitor progress on the implementation of the KM plans. We decided to use milestones as a major indicator in the initial round of the module working with AMREF and SEUF. However, our monitoring revealed that this in itself was not enough as the agreed milestones were not tied to a timeline. As a result, in the third round of the module, working with IWSD, we changed the planning process to include the tying of milestones to a timeline. We hope that this will facilitate an objective assessment of progress on implementing IWSD's KM plans. At present, IWSD have not reached any of their milestones and we cannot therefore report how well this is working.

A second indicator we hope to use albeit in the medium term, is the KM scan previously referred to. Each organisation undertook a baseline scan at the start of the module. We intend that each of the organisations we have worked with should retake the scan a year after they start implementing their plans. The results of this second scan show an improvement in staff perceptions around where the organisation is positioned in KM terms. This will act as a triangulating tool for assessing progress.

The module delivers concepts (what is KM), tools (Personal

Knowledge Map, Organisational Profile and KM scan), examples and a structured approach (The Weggeman Knowledge Value Chain) to figure out which operational processes have to be organised / sustained to achieve organisational goals based on the organisation's vision and mission. In that sense awareness that KM is more than knowledge sharing, that KM differs from IM, that KM may entail IT and most important that KM starts in the personal realm is progress.

Lessons learned

In conclusion, our experience of the module so far has been on the whole positive. There are a few lessons to be learned.

First, KM is about people working together and not necessarily about IT. Only one of the three plans developed in the organizations we have worked with so far have had a major IT component.

Second, implementing a KM approach requires staff time. There is therefore a financial cost attached to it which has to be factored into one's planning. Apart from the staff cost, implementing a KM approach does not necessarily have to lead to the expenditure of financial resources on IT-related equipment.

Third, implementing KM in an organisation is a long term objective. You cannot do it in the short term. As such, you need to define ways of keeping momentum alive before results become apparent.

Fourth, you will need to define 'Smart' milestones to objectively assess your progress in meeting your KM objectives.

Acknowledgements

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