TOWARDS A KNOWLEDGE AND INFORMATION DISSEMINATION STRATEGY FOR SANITATION

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TOWARDS A KNOWLEDGE AND INFORMATION DISSEMINATION STRATEGY FOR SANITATION

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EXECUTIVE SUMMARY

A scan of international and national literature on sanitation, health and hygiene education and awareness shows that a lot of research has been done to address all the major issues that are responsible for poor progress in the reduction of the sanitation backlogs in developing countries. Effective communication and dissemination of this information to decision makers and sanitation implementing agents remain a big challenge for the sanitation sector. There is a need to develop a sanitation knowledge and information dissemination and communication strategy. This strategy should identify suitable knowledge dissemination channels that can facilitate access to knowledge for municipalities with or without access to internet. There is also a need to develop advocacy tools for promoting the implementation of best practice and application of research results.

OBJECTIVES

The overall objective of this project was to improve dissemination of sanitation knowledge and information and to develop effective mechanisms for promoting the implementation of best practice by sanitation sector players.

The specific objectives included the following:

- Development of a sanitation knowledge/information management strategy including appropriate distribution channels;
- Preparation of sanitation best practice guidelines;
- Development of a strategy for promoting application of research; this would address the whole process from research topic identification, advocacy and the integration of new knowledge into human resource development initiatives within the sanitation sector.

The last objective on the development of a knowledge strategy for promoting application of research was addressed to a limited extent.

SCOPE

The study has focused on sanitation knowledge and information dissemination with a focus on knowledge dissemination and knowledge sharing. It did not address the uptake of new knowledge into sector practice because this was being addressed under a different WRC research project, project no. K5/1519 entitled: "*Knowledge uptake by technical professionals and decision-makers for developmental water services*."

METHODOLOGY

- An extensive literature review of global trends in knowledge and information management within the water services sector was conducted.
- An in-depth analysis of selected case studies of knowledge and information dissemination was undertaken to identify best practice.
- Stakeholder interviews and surveys of selected sanitation sector institutions were conducted to assess the current knowledge and information dissemination practices in South African institutions.

The following case studies of knowledge and information dissemination were analyzed:

- Sanitation Connection – an international sanitation portal established in 2000
- The Namibian Municipal Learning Network – established in 2000 as an initiative of the Local Governance Network Trust (LOGON) – a Cape Town based NGO;
- The Mvula Trust;
- Tombo Sanitation Resource Centre – established in 2003 in OR Tambo District Municipality (DM) by the Eastern Cape Provincial Sanitation Task Team (PSTT);
- National Community Water and Sanitation Training Institute (NCWSTI);
- The Local Government Resource Centre (LGRC) of the Development Bank of Southern Africa

An electronic survey questionnaire was distributed to sanitation knowledge producing institutions to assess their current knowledge dissemination practices. A second survey questionnaire was distributed to institutions that use the sanitation knowledge and information produced by research institutions to assess their knowledge needs and preferred knowledge dissemination channels. The results of these interviews and surveys informed the development of guidelines for a knowledge and information dissemination strategy for the sanitation sector and dissemination channels for sanitation knowledge and information.

SUMMARY OF CONCLUSIONS

❖ *Global trends in knowledge and information dissemination*

The literature review on knowledge and information dissemination practices within the development sector showed that most development institutions have not mainstreamed knowledge dissemination. The World Bank (WB) and the Development Bank of Southern Africa (DBSA) are the only two organizations within this category that have integrated

knowledge management into the organizational vision and mission. Both institutions have a knowledge management strategy which drives all the business activities.

Most developing countries still needed knowledge sharing platforms that were not dependent on internet because of lack or poor access to electronic communication infrastructure in these countries. From the review of South African literature, it was concluded that internet alone could not solve the problem of knowledge and information dissemination to municipalities that are not connected to the information and communication technology (ICT) infrastructure. Innovative methods are required to enable the remote rural municipalities to access sanitation, health and hygiene education information and knowledge they need in order to accelerate sanitation service delivery to their communities.

The literature review also showed that there were effective knowledge and information dissemination methods that could be used to disseminate sanitation knowledge and information to communities with low literacy levels.

❖ ***Case studies of knowledge dissemination in the water services sector***

An analysis of selected case studies of knowledge and information dissemination identified the following best practice guidelines:

Demand driven

Implementation of knowledge and information dissemination initiatives must be driven by the needs of the end-users. Clear objectives and benefits for the target groups must be spelt out during the planning phase. The demand must be linked to the commitment of human and financial resources to sustain the knowledge and information dissemination initiatives.

Institutionalization of the knowledge and information dissemination

The success of the knowledge and information dissemination initiatives requires institutional support; this is only possible if knowledge dissemination is integrated into the organizational vision and mission. For example, DBSA has a knowledge management strategy which guides the Bank in all its business activities. In addition, participation in knowledge management initiatives is one of the key performance areas for managers at the Bank.

Coordination and synergy

The analysis of the South African case studies of knowledge dissemination showed that there was a need for better coordination of the knowledge dissemination initiatives in order to ensure that they deliver maximum benefits for municipalities and other sanitation sector stakeholders. Coordination is also important to prevent duplication and to optimize use of available resources.

Role of champions

Mayors and Councillors have an important role to play as champions of municipal learning networks because they have the power, influence and access to resources necessary to sustain the learning networks. The success of the Namibian Municipal Learning Network demonstrated the importance of champions.

Quality control

The value added by the subject portals is the peer review and quality control for all documents posted on the internet portal. Sanitation Connection uses subject experts to manage quality control and the peer review processes. It is also critical to select high quality publications and reports on sanitation to avoid information overload for the target end-user groups.

Stakeholder involvement and ownership

Stakeholders must play a central role in defining objectives of sanitation knowledge networks in order to ensure that the knowledge and information dissemination activities meet the needs of the end-users

Resource allocation

Human and financial resources are necessary to establish and operate the sanitation knowledge and information dissemination channels such as a sanitation portal and/or walk-in sanitation resource centre.

Monitoring and evaluation

Periodic evaluation of the impacts of knowledge and information initiatives (internet portal or sanitation resource centres) must be conducted to assess the level of usage and the impact of knowledge dissemination activities on the sanitation sector practice.

❖ **Assessment of current knowledge and information dissemination practice in sanitation sector institutions**

Knowledge and information dissemination in surveyed knowledge-producing institutions was treated as an ad-hoc activity and there were no knowledge and information dissemination strategies in place. Lack of adequate resources to support effective knowledge and information dissemination was highlighted as a constraint. The sanitation knowledge and information end-user institutions indicated a preference for e-mail distribution of sanitation reports instead of the surface mail which was the method used by all surveyed knowledge producing institutions. Most of the respondents were in favour of the establishment of a sanitation portal and they expressed a willingness to share their sanitation knowledge via the sanitation portal. The respondents from rural municipalities indicated a preference for walk-in sanitation resource centres.

❖ ***Guidelines for the development of a knowledge and information dissemination strategy for the sanitation***

The following key elements which were identified from the literature review and findings from stakeholder interviews and surveys should guide the development of a knowledge and information dissemination strategy for sanitation:

Alignment with the mission and vision of the organization

The knowledge dissemination strategy must be aligned with the mission and vision of the organization and should be an integral component of the business strategy to ensure that it receives the same priority as other strategic objectives of the organization; this would ensure that knowledge and information dissemination is mainstreamed instead of being treated as an ad-hoc activity.

Focus on needs and priorities of the different target groups

The knowledge and information to be disseminated should have explicit benefits for the different target groups; the focus should be on the needs of the target end-user groups. The message should be designed to influence the different target audiences to take action.

Selection of appropriate knowledge and information dissemination channels

The selection of appropriate dissemination channels should be guided by the needs and interests of all target groups and accessibility of the dissemination channels to the target

groups. A wide variety of communication channels could be used to reach the different target groups (print media, interpersonal communication and electronic media etc.).

Financing of knowledge dissemination activities

Lack of financial resources has been cited as one of the reasons for poor dissemination of research products. For research to influence policy and practice, there is a need to give the knowledge dissemination component the same priority as the research process. Adequate budgets should be allocated to this component during the research project planning stage in order to ensure that it is not neglected or perceived to be an add-on activity.

Quality assurance

Quality assurance should form an important component of the knowledge and information dissemination strategy to ensure that the different target groups are provided with good quality and reliable information.

Monitoring and evaluation of the impact of knowledge dissemination activities

Monitoring and evaluation of the impact of knowledge dissemination should be conducted at two levels, namely, assessment of the effectiveness of the dissemination process and the second level should focus on assessing the impact of the new knowledge on sector practice such as contribution to policy and decision making processes, adoption of good practices by sanitation implementing agencies, change in behaviour (H&HE) and decrease in the incidence of sanitation related diseases.

❖ ***Sanitation knowledge and information dissemination channels***

Models of sanitation resource centres

Two options for models of walk-in sanitation resource centres have been proposed as a suitable knowledge and information dissemination channels for end-users without access to the internet and ICT infrastructure. The principle of using existing institutions has guided the development of models for walk-in sanitation resource centres.

A framework for a sanitation portal for South Africa

A framework for a sanitation portal has been proposed as a knowledge and information dissemination channel for institutions that have reliable access to internet. The sanitation portal must provide relevant, reliable and high quality sanitation information. The sanitation

experts must be appointed to manage the content of the information available on the sanitation portal and the sanitation information must be updated on a regular basis.

A preliminary assessment of sanitation information available on websites of the major sanitation sector organizations showed that there was limited sanitation information that could be downloaded from these websites.

RECOMMENDATIONS

- The guidelines for knowledge and information dissemination strategy and the proposed dissemination channels for sanitation must be presented to key sanitation sector stakeholders so that they can make a decision on the appropriate actions to be taken to improve knowledge and information dissemination for the sanitation sector.
- All the sanitation sector institutions that produce sanitation knowledge and information should be encouraged to post their research reports, guidelines and other key documents on their websites. Financial resources must be mobilized to support those knowledge producing institutions that lack funding to post their information on their websites.
- The major institutions involved in the production of sanitation knowledge should cooperate in finding innovative ways for improving access to sanitation knowledge and information to municipalities and other sanitation sector institutions.

CONCLUDING REMARKS

This research report has made an attempt to capture global trends in knowledge and information dissemination within the development sector and identified best practice from the analysis of selected case studies of knowledge and information dissemination within the water and sanitation sector. The guidelines for a knowledge and information strategy and proposed dissemination channels for improving access to sanitation knowledge and information for end-users with or without access to internet have identified important elements and principles to be taken into consideration in the development of knowledge and information dissemination strategy for the sanitation sector.

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LIST OF ACRONYMS

CBOs	Community based organizations
CEOs	Chief Executive Officers
CoPs	Communities of Practice
CSIR	Council for Scientific and Industrial Research
DBSA	Development Bank of Southern Africa
DF	Development Forum
DFID	Department for International Development –UK
DM	District Municipality
DPLG	Department of Provincial and Local Government
DWAF	Department of Water Affairs & Forestry
EHP	Environment Health Project
GCIS	Government Communication and Information Services
GDNet	Global Development Network
GEMSA	Gender Mainstreaming Programme-South Africa
GKP	Global Knowledge Partnership
GPA	Global Programme of Action
HIV/AIDS	Human Immuno Virus/Acquired immunodeficiency syndrome
HSRC	Human Science Research Council
ICT	Information and Communication Technology
IRC	International Water and Sanitation Centre
ITN	International Training Network
IWA	International Water Association
IWSD	Institute for Water and Sanitation Development
KM	Knowledge Management
KSA	Key Strategic Area
LGNet	Local Government Network
LGRC	Local Government Resource Centre
LOGON	Local Governance Network
MDGs	Millennium Development Goals
M&E	Monitoring and Evaluation
MPCC	Multipurpose Community Centre
MRC	Medical Research Council
MOU	Memorandum of Understanding

NCWSTI	National Community Water and Sanitation Training Institute
NETWAS	Network for Water and Sanitation
NGOs	Non-Governmental Organizations
PSTT	Provincial Sanitation Task Team
SAAWU	South African Associations of Water Utilities
SABC	South African Broadcasting Corporation
SALGA	South African Local Government Association
SANICON	Sanitation Connection
SHHE	Sanitation, Health and Hygiene Education
SIDA	Swedish International Development Agency
STREAM	Study on Resources and Management project
UNEP	United Nations Environment Programme
UNICEF	United Nations Children Fund
WB	World Bank
WHO	*World Health Organization*
WIN	Water Information Network
WRC	Water Research Commission
WSP	Water and Sanitation Program
WSSLG	Water Services Sector Leadership Group
WSSCC	Water Supply and Sanitation Collaborative Council

CHAPTER 1: INTRODUCTION

1.1 BACKGROUND

The main challenge facing businesses is to ensure that the knowledge produced adds value for their clients and stakeholders. This is necessary in order to justify the large financial investments in research and development. The problem of knowledge and information dissemination is exacerbated by the different levels of knowledge and expertise of the users of the information with special reference to the development sector where knowledge and information products have to be accessible to technical and non-technical users at the local government and community levels.

A literature review conducted by Saywell and Cotton (1999) showed that most of the knowledge and information generated by development research institutions tended to stay where it was produced or its dissemination was limited to the research community and academic institutions. It did not reach people who needed the information to make decisions on appropriate approaches to sustainable sanitation service delivery. Consequently, opportunities were missed to use the new knowledge to influence sanitation policies and practice.

Suitable platforms and channels for knowledge and information sharing and dissemination are required. These should include mechanisms for improving access to sanitation knowledge and information for municipalities and local sanitation implementing organizations that lack access to the internet and other communication media. Central to this is the need for a proper strategy that coordinates, facilitates and gives effect to effective knowledge and information for the sanitation sector.

Definition of terms[1]

Information is the organization of data into useful form; it relates to description, definition, or perspective (what, who, when, where).

Knowledge is information to which intent has been attached. Information becomes knowledge when one is able to realize and understand the patterns and their implications. Knowledge comprises strategy, practice, method, or approach (how). It can be explicit and/or tacit, individual and/or collective.

Knowledge Management (KM) entails the knowledge generation, knowledge sharing, dissemination, accumulation and processing of knowledge using various tools such as ICT tools and socio-cultural

[1] G Bellinger (2004) http://www.systems-thinking.org/kmgmt

tools, e.g. workshops, seminars, mentoring, coaching and training (Seppala, 2003). At an individual level, KM means knowing what you need to know, how to make good use of the information and how to share what you know with others. At an organizational level, it is mainly about changing the culture of an organization so that people focus on wider goals and share their skills and knowledge, rather than focusing on their narrow goals and hoarding knowledge.

Knowledge management in the sanitation sector

According to the 2004 Business Plan for the Water Information Network (WIN)[2], South Africa has a wealth of water and sanitation knowledge and information which was not being disseminated and utilized efficiently. The 2003[3] position paper for (WIN) emphasized the importance of knowledge and information sharing to the successful achievement of water services delivery targets. This position paper also noted that the fragmentation of the knowledge base was limiting dissemination of innovative and successful practices to all sector institutions that are involved in the delivery of water and sanitation services. Improved coordination of knowledge and information dissemination was needed in order to ensure that the available sector knowledge and information could contribute to capacity building for the sector stakeholders.

The key challenges facing South Africa with regards to knowledge and information dissemination for the sanitation, health and hygiene education (SHHE) sector include the following:

- Development of capacity in municipalities and other sanitation sector institutions so that they can manage the available sanitation knowledge and information and use it to improve sanitation service delivery;
- Lack of a knowledge and information dissemination strategy for the sanitation sector;
- Fragmentation of sanitation knowledge base and poor coordination of the dissemination of available sanitation knowledge and information;
- A need to adapt international and national experience in SHHE into the different local settings so that it could be applicable to the local context.

[2] Water Information Network Business Plan 2004-2007
[3] DWAF-Masibambane 2003 Position paper for WIN initiative for the South African Water Services Sector

Policy context

The 1998 White Paper on Local Government identified learning and leading as important characteristics of developmental local government. According to this policy document, municipalities have a responsibility for ensuring that knowledge and information is made accessible to all and used to promote continuous learning. The Strategic Framework for Water Services (2003) identified knowledge networking as one of the six mechanisms for supporting the establishment of capable, effective and efficient water services institutions. Knowledge networks have an important role to play in facilitating peer learning and sharing of good practice across the water services sector.

1.2 OBJECTIVES

The overall objective of the study was to contribute to the improvement of knowledge and information dissemination for sanitation, health and hygiene education and to develop effective mechanisms for promoting implementation of best practice by sector players. The specific objectives of the study were the following:

- Development of sanitation knowledge/information management strategy including the identification of appropriate knowledge dissemination channels; this should address the whole process from research gap analysis, advocacy and integration of new knowledge into human resource development initiatives and practice within the sanitation sector;
- In-depth analysis of selected case-studies of knowledge management in the Water Services Sector.

1.3 SCOPE

The study has focused on sanitation knowledge and information dissemination with special reference to the water services sector. It has developed guidelines for a knowledge and information dissemination strategy for sanitation and proposed models for knowledge and information dissemination channels. The study did not address the uptake of new knowledge into sector practice because this is being addressed under a different WRC research project no. 1519 entitled: "Knowledge uptake by technical professionals and decision-makers for developmental water services."

1.4 METHODOLOGY

The approach and methodology used was as follows:

- A desktop review of reports, policy documents, annual reports, and publications on knowledge management within the development sector with special reference to the water and sanitation sector to assess international and national experience and trends in

knowledge management. The purpose of this review was to document international and national experience in knowledge management within the development sector.

- An in-depth analysis of selected case studies of knowledge and information dissemination was undertaken to identify best practice. Information on international case studies was obtained from the internet searches and information on South African case studies was obtained from the selected institutions.
- Interviews were conducted with selected sector stakeholders to assess their current approaches to knowledge and information dissemination for water and sanitation.
- An electronic survey questionnaire was used to assess the current knowledge and information dissemination practice of water and sanitation knowledge producing institutions. A second survey questionnaire was distributed to the end-users of sanitation knowledge and information to assess their sanitation knowledge needs and their preferred knowledge dissemination channels. (Please refer to Appendices A1 and A2 for details of the electronic surveys).

The international and national trends in knowledge and information dissemination, inputs from stakeholder interviews and findings from electronic surveys of sanitation sector institutions were used to develop guidelines for a knowledge and information dissemination strategy for the sanitation sector and models for sanitation knowledge and information dissemination channels.

CHAPTER 2: LITERATURE REVIEW OF KNOWLEDGE MANAGEMENT WITHIN THE WATER SERVICES SECTOR

This chapter presents a summary of the review of global experience and trends in knowledge management in the development sector with special focus on the knowledge and information dissemination for water and sanitation services sector; it also includes a review of literature on the methods used to disseminate knowledge and information to communities with low literacy levels. A detailed literature review report is attached as Appendix 4.

2.1 INTERNATIONAL EXPERIENCE

2.1.1 Knowledge management in the World Bank[4]

The vision of the World Bank (WB) is to fight poverty by helping people to share knowledge, build capacity and forge partnerships in the public and private sector. The knowledge management strategy of the World Bank is based on the following three pillars:

- Making effective use of knowledge to support the quality of WB operations;
- Sharing knowledge with its clients and partners;
- Helping clients enhance their capacity to generate, access and use knowledge from all sources.

The World Bank's knowledge management strategy is implemented through the use of different channels such as advisory services, thematic groups, cross-sectoral or multi-sectoral teams, newsletters, websites, informal and formal learning events.

Communities of Practice (CoPs) of the World Bank

Communities of Practice are informal groups of practitioners from different countries and disciplines that share knowledge to solve real-life development challenges with a goal of adapting global experience to meet the local context. The Bank has two types of CoPs, namely, thematic groups which are internally focused and client CoPs which focus on external clients. E-discussions are a popular feature of any CoP because of their ability to connect practitioners relatively easy and serve as a platform for addressing development issues. The success of these CoPs depends on the selection of interesting thematic issues and active facilitation by qualified professionals.

[4] www.worldbank.org

World Bank experience of knowledge sharing networks

Virtual Communities

The members of virtual communities may never interact at a personal level but are connected by the internet for the discussion of topics of common interest. The concept of virtual communities has become increasingly popular at the Bank and other multilateral development agencies because it allows outsiders to make an input into the search for solutions to the development problems. The Bank has sponsored and promoted the following virtual communities and their success has been variable:

Global Development Network - The Global Development Network represents an online collaboration and tools designed for think tanks and research institutes in developing countries. Its focus is on promoting and sharing knowledge created by researchers in countries such as Tanzania, Bulgaria and India; it uses interactive websites and databases.

Development Gateway -This was designed as a "one-stop-shop" on the internet for development of knowledge with the aim of helping communities, organizations and individuals to build partnerships, share ideas and work together to reduce poverty.

Thematic Groups or CoPs - Some thematic groups have been successful in sharing best practice and creating a strong knowledge base.

Development Forum -The Development Forum (DF) is the Bank's venue for online discussions; it has hosted public and private e-discussions on a range of development topics. Discussions have been sponsored by NGOs, other development agencies, and various World Bank teams. Participation over a three year period has been very high with as many as 5000 participants from over 160 countries signed up for an individual discussion. The main challenge is the incorporation of the inputs from these discussions into the operational work of the Bank and finding ways of extending some of the discussions into genuine virtual communities rather than once-off online discussion.

Global Knowledge Partnership - The Global Knowledge Partnership (GKP) focuses on the use of information and communication technologies to increase participation of its members in the production, dissemination and use of knowledge and information in order to achieve sustainable development. The GKP has organized global conferences on knowledge management and development in 1997 and 2000. The virtual component of GKP has been unsuccessful because of diversity of partner organizations, lack of unity and time for engaging the partnership members.

Lessons learned from the World Bank's experience of virtual communities

The most important lesson learned by the World Bank was that developing and sustaining strong virtual communities was a challenging task. In addition the following lessons were learned:

Demand-driven: Virtual communities should address members' interest and add value for the participants.

Tools and facilitation: Appropriate tools should be developed to facilitate discussion and the role of an active facilitator to provide leadership to the virtual communities should not be neglected.

Relevance of the topic- Topics for discussion should be focused and address issues of importance to the development challenges faced by members and should help them in finding solutions to problems they encounter.

Participants – The number of participants was only important if all the members were actively contributing to the knowledge base. However, the success of a virtual community required a "critical mass" of active members who contributed on a regular basis, asked provocative questions and stimulated discussion and learning.

Partnership – Virtual communities consisting of internal WB members and external members were more successful because of the different perspective that was brought by external partners to the debates.

Discussion – Online discussion was the pillar of any virtual community. Open debates with a diverse range of participants promoted trust and learning.

Communication tool – The list server or mailing list was a low technology tool that was accessible to a greater number of people, especially, participants from developing countries with limited access to internet. The success of discussions depended on good moderation.

2.1.2 Knowledge management experience within the water and sanitation sector

Sanitation Connection – An internet portal for information on sanitation [5]

Sanitation Connection (Sanicon) was launched in 2000 by a partnership of International Water Association (IWA), United Nation Environmental Programme (UNEP), World Health Organization (WHO), Water and Sanitation Program (WSP) and the Water Supply and Sanitation Collaborative Council (WSSCC). Its purpose is to provide a one-stop-shop for information on environmental sanitation. Its aims are to provide a central access point via the internet for relevant, high quality information on environmental sanitation; to guide the users to access appropriate sources of information such as databases, networks and discussion

[5] www.sanicon.net

groups and to be the electronic hub for partner organizations which can provide access to information and publications related to environmental sanitation. Specialists from reputable institutions are responsible for developing and maintaining the thematic and topical nodes. They provide an up-to-date rigorous review of information relevant to the particular topic.

Challenges facing potential users of this sanitation portal include the following:

- The target audience who need access to water and sanitation sector includes professionals from the developing countries that have a problem of poor or no internet connectivity and they lack financial resources for sustaining the internet services;
- Sanicon is designed to guide readers to information sources; however, it cannot guarantee access to documents described on the website in real-time.

International experience on water and sanitation resource centres

Definition of a resource centre

According to the IRC (2004) an ideal resource centre is one that is positioned strategically within the country's water and sanitation sector with strong links to external support agents, governments, academic and research organizations, and service providers. It must serve as a collective memory bank, understand and anticipate the needs of the sector at all levels and be able to lobby governments to use reliable and accurate information. An ideal resource centre as a learning organization must be able to identify knowledge needs, develop a demand responsive knowledge base, share knowledge and promote its use and be able to evaluate the use of knowledge by sector stakeholders (Raschid-Sally et al., 2002).

Typical features of resource centres

Raschid-Sally et al (2002) identified the following typical features of resource centres:

- Centres of excellence – resource centres should be innovative;
- Pro-active – resource centres must anticipate and respond to change, i.e. they should be at the cutting edge of responding to sector needs;
- Sector memory –resource centres must acquire and manage sector knowledge; this puts them in a position of being key players in the analysis of the sector needs.

Diverse roles of resource centres

Raschid-Sally et al. (2002) identified the following diverse roles of resource centres based on the analysis of different resource centres

- Facilitation - resource centres create a learning environment for sector stakeholders in order to enable them to use their creativity to identify problems and find possible solutions to these problems.
- Creating synergies – synergies can be created when a network of resource centres shares skills and expertise to achieve common objectives of the water and sanitation sector.
- Advocacy – resource centres focus on raising awareness on sector issues in order to get commitment from political leaders and other decision-makers.

According to Raschid-Sally et al. (2002) an ideal centre should possess the following characteristics:

- Flexibility and responsiveness to demands of clients, service providers in the water and sanitation sector whilst focusing on long term sector goals;
- Ability to generate diverse sources of funding without compromising its strategic objectives or independence in judgment;
- The ability to receive feedback from clients in relation to knowledge needs through monitoring and evaluation;
- Ability to reach a defined though varied target audience e.g. accessibility to the poor;
- The ability to package information in a way that the target audience can make use of it at its current level of knowledge and understanding;
- Strong linkages with end-users, international development agencies, donor organizations, academic and research organizations, intermediate and vocational technical training institutions and relevant private or public utilities including small service providers;
- Ability to lobby governments and donors to use and appreciate the value of reliable, accurate and precisely tailored information at every stage of formulating policies and planning initiatives.
- Must enjoy sector confidence as a centre of excellence based on its team of sector experts who have the ability to package information and define thematic areas of information needs.
- Must be able to link research outputs to appropriate dissemination channels for knowledge sharing.

Knowledge management in the Water and Sanitation Program[6]

Knowledge management has a central place in the modus operandi of the Water and Sanitation Program (WSP). The WSP has operated as a learning organization since its establishment; it has continued to focus on improving the value of knowledge for the water and sanitation sector by creating information that orients sector professionals to new and more effective ways of providing access to safe water and sanitation services.

The WSP in its capacity as a knowledge broker for the sector assists its client in the following ways:

- Building capacity of sector players;
- Strengthening institutions in governance and regulatory functions;
- Providing politicians, civil society and sector professionals with pro-poor reform information and advice.

The WSP continually analyzes its work practices to ensure consistency and quality; it leverages feedback from its customers and clients to improve and update the products and services it delivers to its stakeholders.

2.1.3 Knowledge and information dissemination practices

Saywell and Cotton (1999) in their survey of knowledge and information dissemination practices in the development sector, identified the following important points with regard to knowledge dissemination:

- Most institutions surveyed did not have any knowledge dissemination strategies; knowledge and information tended to remain where it was generated;
- There was a need to link physical availability of research products with the knowledge sharing activities that support user comprehension;
- The linear, unidirectional model of information flow from the top to the bottom was not appropriate for influencing policy and behavioural change;
- Face-to-face interactions were more successful in ensuring that research led to adoption of good practice;
- Different target groups have different information needs, therefore a single research report could not be expected to meet the information needs of all the different user groups. Researchers should package the research results in accordance with the information needs of the different target groups and appropriate channels must be used

[6] www.wsp.org

for the dissemination of new knowledge and information to the different target end-user groups;

- The important role played by intermediaries in the translation of global research into local context should be acknowledged;
- The barrier to knowledge and information dissemination was lack of time and incentives ;
- Most research institutions put more resources in the generation of knowledge and neglected allocation of adequate resources to the dissemination and sharing of new knowledge;
- The problem of lack of indicators for measuring the impact of knowledge dissemination separately from the impact of research on behavioural change and adoption of good practice was highlighted.

Knowledge and information dissemination channels

Fisher et al (2003) made the following observation on the knowledge and information dissemination channels used by the development institutions:

- The suggested routes for dissemination to policy-makers and decision-makers were written materials (reports, posters, books etc.).
- Sector journals, newsletters and face-to-face interactions were used to disseminate information to practitioners.
- Dissemination channels for communities and project beneficiaries included educational materials, entertainment based methods, use of radio and TV and face-to-face interactions (workshops, community meetings/forums).
- Although internet could reach many people, it could not reach those without access to computers and internet connection such as rural municipalities and poor communities.
- Intermediaries played an important role in translating new knowledge into the local context.

Impact of knowledge and information dissemination

Fisher et al. (2003) highlighted the problem of overlap between the indicators for the impact of dissemination and uptake of the disseminated knowledge, i.e. the difficulty of separating success of effective communication and that of uptake of new knowledge into sector practice.

They proposed the following proxy indicators for evaluating the success of knowledge and information dissemination:

- Assessment of the awareness level of the new knowledge disseminated;

- Behavioural change such as evidence of hand washing due to effective hygiene education;
- Evidence of contribution of new knowledge to policy decisions\
- Level of demand for new information from other sources.

Barriers to effective knowledge and information dissemination
Saywell and Cotton (1999) identified the following barriers to knowledge dissemination from the literature review:

- *Organizational barriers* – Organizations did not give priority to the dissemination of new knowledge and information to a wider audience; they focused on internal knowledge dissemination.
- *Practical barriers* – Lack of resources and incentives for supporting knowledge and information dissemination. Researchers tended to prefer publishing their research in academic journals because this contributed to their career advancement (number of publications was an important key performance indicator in academic and research institutions).
- *Psychological barriers* -Fear of critical peer review from the established academic research community.

Prusak (1999) in a World Bank report identified the lack of support from senior management, no incentives for knowledge sharing and lack of measurable performance indicators for assessing the impact of knowledge dissemination and knowledge sharing as barriers to knowledge and information dissemination.

2.2 SOUTH AFRICAN EXPERIENCE

2.2.1 Knowledge management institutions in the water services and local government sector

The following institutions have been selected as examples because knowledge management is encapsulated in their mission statements.

Water Information Network- South Africa[7]

The Water Information Network (WIN-SA) has been established by the Water Services Sector Leadership Group as a network of South African organizations active in the field of water and sanitation sector. The mission of WIN-SA is to facilitate the creation of a well-managed body of knowledge for the water services sector which would contribute to the

[7] www.win-sa.org.za

improvement in decision-making and performance by the local government and other sector stakeholders.

Water Research Commission (WRC)[8]

The mission of the WRC is to strive to continuously improve its position as the dynamic hub for water-centred knowledge, innovation and intellectual capital in South Africa. It provides leadership for research and development through the support of knowledge creation, transfer and application. To support this mission, the WRC has a dedicated Water-Centred Knowledge Key Strategic Area (KSA). This KSA focuses on key aspects of knowledge management that are of importance to the water sector and affect the efficient and effective operation of the organization. For the WRC, knowledge management is considered as the process through which value is generated from the organization's intellectual and knowledge-based assets. Knowledge management deals with knowledge sharing and knowledge dissemination to meet the objectives of the WRC in its knowledge creation and learning activities. The WRC through the Water-Centred Knowledge KSA, acts as a resource centre to meet information requirements of the WRC and its external stakeholders and clients.

The Development Bank of Southern Africa (DBSA)[9]

The Development Bank of Southern Africa recognizes that knowledge is a critical element of socio-economic development, thus it sees knowledge management as critical strategic imperative for the Bank. Its knowledge management strategy is build on five pillars, namely, knowledge culture, learning organization, knowledge exchange, knowledge accounting and knowledge partnerships. The knowledge management function is not restricted to a specific division within the DBSA but it is an integral part of the whole organization. The Knowledge cluster is responsible for the coordination of knowledge management within the Bank and a Knowledge Management Committee is responsible for ensuring the institutionalization of the knowledge management strategy within the Bank.

Communities of Practice- The DBSA has created six Communities of Practice (CoPs) to ensure consistency in its modular approach to project preparation, appraisal, implementation, monitoring and evaluation. These CoPs are made up of analysts and specialists who have an in-depth knowledge in the specific dimensions of sustainable development.

The six CoPs are:

- Economic Community of Practice;

[8] www.wrc.org.za
[9] www.dbsa.org

- Environmental Community of Practice;
- Financial Community of Practice;
- Institutional Community of Practice;
- Social Community of Practice;
- Technical Community of Practice.

Rural Forum - The Rural Forum exists to share knowledge and improve understanding amongst development practitioners in facilitating a more broadly coordinated approach to the development of rural communities.

2.2.2 South African experience on resource centres

A search of South African literature for information on water and sanitation resource centres provided very limited information. The following three examples of resource centres were identified:

Multi-purpose community centres (MPCCs)

The South African Government has initiated the establishment of MPCCs to address the information poverty which is prevalent in poor communities, especially in rural areas. The Government Communications Information Services (GCIS) facilitated the establishment of 43 MPCCs by the end of 2003. These centres are designed to be one-stop service and information centres; they provide access to information, resources, training and services for poor communities. They are used by a variety of institutions (national, provincial and local government, parastatals, NGOs, CBOs and the private sector) to reach local communities with information and services (Benjamin, P 1997; Patel A, 1999).

Sigidi and Seti (undated) documented the following lessons learned from the implementation of the pilot phase of MPCCs:

- The success of the MPCCs depended on local community ownership and stakeholder involvement during the planning of the MPCCs;
- Sustainability of the MPCCs was linked to proper centre management and the institutionalization of effective administrative procedures governing services delivered through the centre.
- The centre and its benefits should be marketed throughout the District Municipality in order to ensure the use of the centre by the local communities.

- The presence of government institutions in MPCCs on a full-time or part-time basis added valuable resources to the centre and ensured stability.
- Inclusion of income -generating activities were important for the financial sustainability of the MPCCs.

The MPCCs provide a variety of government services such as Home Affairs, Social Development, Health, Agriculture and Land Affairs, municipal services, telecentres and postal services within easy reach of many poor communities (Minister Sigcau, Speech, 2004).

Tombo Sanitation Resource Centre[10]

Tombo Sanitation Resource Centre is a one-stop-shop for all sanitation related information such as Health &Hygiene Education materials, toilet construction information, subsidy arrangements, sanitation guidelines and tool kits. This centre is located within the Tombo MPCC in order to make it accessible to the local communities. More details on the nature and function of Tombo Sanitation Resource Centre are discussed in Chapter 3 below.

DBSA Local Government Resource Centre (LGRC) and Local Government Network[11]

The Local Government Resource Centre of the DBSA is a web-based resource centre, it can only be accessed via the Local Government Network (LGNet) which is a virtual private network established by the DBSA for municipalities. The LGRC makes provision for government departments and other partners to disseminate relevant information to municipalities that are connected to the LGNet. However, this method provides generic information which is not customized to meet the local needs. It might be necessary to have people at the local level who have the capacity to repackaged information so that it is appropriate for the local context. For more details refer to the case study in Chapter 3 below.

2.3 KNOWLEDGE AND INFORMATION DISSEMINATION TO POOR COMMUNITIES

Dissemination of information to poor communities with low level of literacy poses a major challenge for knowledge producers because electronic or print media are not accessible to these communities. The development of any society is dependent upon speedy access to relevant and reliable information to enable communities to make decisions that affect their lives. Reference is often made to capacity building programmes for the rural and urban

[10] Vuyo Mabandla – Manager of Tombo Sanitation Resource Centre
[11] Rudi Botha – Manager of the DBSA LGRC

communities, especially the poor, but such initiatives depend heavily on availability of information necessary to empower the recipients of such initiatives and enable them to move out gradually from a position of dependence. Amongst a number of considerations regarding access to information for poor people are the questions of strategies for information dissemination and formats in which it is delivered to these target groups. In South Africa, most of the people without access to adequate sanitation services are poor and have low literacy level; therefore, it is important to use knowledge dissemination channels that are appropriate for this target group.

Mchombu, quoted by Leach (2001) stated that the "relevant content must be supported by appropriate presentation if information products are to have the desired impact. The content might be right but if the presentation method is inappropriate the communication process will not be successful." This implies that presentation formats should be ones that can be accessed by the audiences for whom the information is intended. A number of studies have been undertaken in various fields on the methods used to disseminate information to poor communities in both urban and rural areas. Reference here is made to a few studies on information dissemination media.

Oral means of information dissemination

In most studies reviewed, personal contact and village meetings are preferred methods of oral communication. The oral and verbal communication channels are preferred because they do not require any technology (Leach, 2001). However, the information so communicated in this manner lacks permanence and is often distorted during transmission from one person to another. In modern times such methods have been combined with technology, such as audio-visual media or the radio in order to facilitate transmission across distance. According to Darnton (2004) the use of songs as a means of circulating information of any importance was popular before the advent of the community newspaper. The news that was favoured mostly by people came in the form of songs; any interesting and important incident was expressed in song. As time went on, more and more verses would be added to the song and distortions would occur along the way, but songs were a running commentary on current events. For that era the above-mentioned means of communication served their purpose. Even today some songs still carry very potent messages on current issues such as politics, epidemics such as HIV/AIDS and national disasters such as floods.

Oral communication on a one-to-one basis

Leach (2001) stated that sometimes organizations such as NGOs would identify an individual from a community who was used "to initiate a process, assist in identifying groups, spread the message, motivate and support" and such a person would be used as a contact. It was sometimes necessary to establish initial contact in a community with an individual who was a leader such as a Chief, an Induna, chairperson or member of a committee.

Oral communication on a group basis - workshops and meetings

Schilderman (2002) referred to "key informants" as an important medium. He defined them as "people inside, or sometimes outside a community who are knowledgeable in particular livelihood aspects, and are willing to share that knowledge". Some of these informants might not always have accurate information and thus they might provide unreliable information; this might be a problem for local people who have no way of checking the reliability and validity of information supplied. With regard to information dissemination, Schilderman (2002) believed that NGOs perform better than the public sector in the transmission of knowledge, though some NGOs are accused of pushing their own agendas, gate keeping or circulating inappropriate information. From operations of NGOs observed, they do fulfil an important role in disseminating information to outlying communities, even those that seem to have been ignored by the public sector. Such agents would then deliver their information at public gatherings such as meetings or workshops. Workshops have become popular as means of transmitting knowledge and information to community groups, for example, development forums hold workshops for purposes such as training, capacity building and team-building. Workshops can be regarded as a useful means for disseminating information because of their interactive nature and the fact that there is an element of sharing because of the exchange of ideas. Leach (2001) stresses the need to create an atmosphere of trust which facilitates honesty.

Another element considered important in disseminating information to communities is working through established groups and not ignoring them. The idea is to acknowledge that groups are formed for specific purposes and using their coherence to communicate information because as people with a common goal it is relatively easy to win their trust and thus work harmoniously with them.

Drama/Theatre

According to Leach (2001) although drama/theatre could be viewed as another form of oral means of presentation, it could be regarded as a medium in its own right because it combines oral tradition with dramatization. Even though theatre has been used since the ancient Greek age, the use of drama to specifically present information is fairly new. In the South African situation, an example of live drama or theatre is the Department of Health's production of Sarafina II which conveyed the HIV/AIDS message. Durban Metro has also successfully utilized drama to teach communities about proper operation and maintenance of waterborne sanitation systems. Many communities are able to understand fully the messages contained in drama presentations. It is, however, an expensive medium to use and sometimes the poor infrastructure in rural areas makes it difficult to transport professional productions to these areas. Nevertheless, NGOs working in such areas do put up amateur productions. In many areas of KwaZulu-Natal both urban and rural, puppets were used extensively as a means of disseminating information, especially after the outbreak of the HIV/AIDS epidemic.

Role play

Role play is mentioned by Leach (2001) as a medium that is not so easy to use on its own but can be used as introduction to subsequent verbal interaction. In the survey he conducted on NGOs there was mention of the fact that it could be used to provide information or just to create a situation to facilitate the provision of information. Because it is fun and entertaining, it encourages direct participation and discussion afterwards. Wishart (1998) also refers to the use of role-playing as a means of educating rural communities about the new National Water Act of 1998.

Radio

Radio is used extensively in various places as a means of disseminating information because most households have access to a radio. Leach (2001) mentions that a number of NGOs he interviewed on the use of radio referred to its broadness in terms of the audiences it reaches, including communities who cannot be accessed by road or print media. The radio can reach a larger audience and offer an alternative to the printed handbook; this makes it more suitable for disseminating information to illiterate people. Public radio provides a useful vehicle for the dissemination of information because of its low cost, accessibility and apparent effectiveness. The use of radio for information dissemination is also mentioned in a 1991 study cited by Maveneka on rural women in Zimbabwe, a project that was called the

'Radio Listening Clubs" (Leach, 2001) where both radio and audiotapes were used to provide information to rural women. The women recorded their concerns, needs and problems on audiotape and these tapes were followed up by the appropriate agencies or government department and their responses on these issues were broadcasted on a radio programme. Leach's survey on NGO use of the radio also points out that the radio was also used to publicize NGOs and advertise meetings. It was also seen as a convenient medium because it reached areas that could not be reached because of bad roads or because of low literacy (Leach, 2001). In the South African situation the radio is used extensively for dissemination of information because all eleven official languages are catered for by the SABC.

TV and Video

Television and video have been regarded as powerful media for communication in the 20th century. However, the effectiveness has been limited by factors such as the availability of technology, e.g. access to electricity in both rural and urban because of poverty and lack of electricity infrastructure. Where these media are used they are often not used alone but are often used as means to stimulate discussion or reinforce what has been discussed. Sturges and Neil (1998) reported on such use and referred to the seductive nature of these media and the fact that they might overshadow the information or message they were supposed to carry.

Health Kiosks

Fintor (1998) refers to the use of health kiosks by researchers at the University of Michigan Comprehensive Cancer Care Centre to provide information on cancer and other related health risks. The kiosks used interactive television-like touch screen programmes to present health messages to suit user needs. The kiosk uses a combination of digital audio and video to communicate health messages that are suitable for a wide range of ages and educational levels. The kiosks are placed in high foot traffic areas such as shopping malls, departmental and grocery stores, health clinics and libraries and resource centres, low income neighbourhoods were especially targeted. Different health topics were covered, e.g. prostrate cancer, breast cancer, child immunization. The kiosks have telephone numbers for free or low cost services such as mammography and cancer screening.

Print-outs can also be made at these health kiosks. The kiosks were found to be very successful as means of disseminating information because of their flexibility to respond to

consumer demands and for catering for people from different socio-economic backgrounds. Because of the young generation's interest in new media, the kiosks were thought to be a good idea even for tertiary institutions. Information in kiosks was also packaged in other formats, for example, CD-Rom or down-loaded into corporate intranet computer sites.

Posters and pictures

Posters and pictures as examples of the visual means of communicating are regarded as being very useful in cases where literacy levels are very low. A study by Sturges and Neil (1998) which involved HIV/AIDS had respondents stating how useful it was to have such media because people can see what actually happens and the picture makes a lasting impression. As with a few other media, posters are usually used in conjunction with other media and help to get people talking. They are very useful for people with very limited or no literacy skills at all. Stilwell (1991) refers to the use of tapestries by women in Botswana to depict themes from incidents in their lives, current events, etc. The tapestries were then hung for display at some central meeting place and thus became a focal point for discussion.

2.4 SUMMARY

The literature review on knowledge management practices within the development sector showed that most development institutions have not mainstreamed knowledge management. The World Bank (WB) and the Development Bank of Southern Africa (DBSA) are the only two institutions within this category that have knowledge management as the centre of the organizational vision and mission. Both institutions have a knowledge management strategy which drives all the organizational activities.

An evaluation of knowledge management in the World Bank showed that the WB achieved success in several knowledge management platforms that it had established to promote knowledge sharing.

In other institutions assessed as part of the literature review, knowledge management was found to be a separate programme and there was no knowledge management strategy for ensuring the integration of knowledge management into all organizational activities.

The literature review showed that most developing countries needed knowledge sharing platforms that were not dependent on internet because of poor or no access to electronic communication infrastructure in these countries. This was necessary to make sure that the poor countries were not excluded from participating in knowledge sharing initiatives.

From this literature review, it can be concluded that internet alone would not solve the problem of knowledge dissemination to rural municipalities that are not connected to the information and communication technology (ICT) infrastructure. Innovative methods are necessary to enable the remote rural municipalities and towns to access sanitation, health and hygiene education information and knowledge they need to accelerate sanitation service delivery to their communities.

The literature review also showed that there were effective knowledge and information dissemination methods that could be used to disseminate sanitation knowledge and information to communities with low levels of literacy.

CHAPTER 3: CASE STUDIES OF KNOWLEDGE AND INFORMATION DISSEMINATION IN THE WATER SERVICES SECTOR

This chapter presents an in-depth analysis of selected international and national case studies of knowledge and information dissemination in water services and the local government sector. The focus is on showing how sector institutions are using available knowledge and information to contribute to capacity building for local government and facilitation of knowledge dissemination and sharing of good practice among sector stakeholders.

Criteria for the selection of case studies

Knowledge management is a relatively new area of focus in South Africa, therefore, there are still a few sector institutions that have knowledge management as one of the key performance areas. Selected case studies that are reviewed include sanitation services, water services and local government sector institutions. These institutions have been selected because they have in place systems and processes for supporting knowledge and information dissemination to the water services and local government sector.

3.1 INTERNATIONAL CASE STUDIES

3.1.1 Sanitation Connection[12]

Background

Sanitation Connection (Sanicon) was launched in 2000 by the following group of partners:

- International Water Association (IWA);
- United Nations Environment Programme- Global Programme of Action for the protection of marine environment from land-based activities (UNEP/GPA)
- World Health Organization (WHO);
- Water and Sanitation Program (WSP);
- Water Supply and Sanitation Collaborative Council (WSSCC).

Sanicon is an internet portal that gives users access to accurate, reliable and up-to-date information on sanitation, health and hygiene education. Its purpose is to provide a one-stop-shop for information on environmental sanitation. Specialists from reputable institutions are responsible for developing and maintaining the thematic and topical nodes.

[12] Odhiambo (2003) SANICON: An internet portal for information on sanitation- Paper presented at the Sixth Information Summit, Delft, The Netherlands

Financial support for Sanicon

The partners contribute time and expertise to the operation of the internet portal. The financial support for the establishment of the sanitation portal was provided by the following organizations:

- The Department for International Development (DFID) through the Global Water Partnership;
- Water Supply and Sanitation Collaborative Council (WSSCC);
- United Nations Environment Programme - Global Programme Of Action for the Protection of Marine Environment from Land-based Activities (UNEP/GPA).

Management structure for Sanicon

Sanicon was managed by the core group of partners which was made up of IWA Foundation, UNEP/GPA, WSP, WHO and WSSCC. WHO was responsible for the administration of Sanicon; it was also responsible for leading and convening of meetings of partners. Day-to-day management of Sanicon was undertaken by a manager, housed in WSP, who reported to the core group of partners. Technical expertise was provided by the Water and Engineering Development Centre at the University of Loughborough (WEDC) and the IRC. WSP administered the sanitation help desk.

Evaluation of Sanicon

An evaluation of Sanicon conducted by Odhiambo (2003) evaluated the following aspects:

Usage of the internet portal

Odhiambo (2003) emphasized the importance of promotion to the success of Sanicon because this increased awareness of potential users. This was achieved by two promotional events; the first event took place during the WSSD held in Johannesburg in 2002. Pamphlets, pins, posters and more than 1500 brochures were distributed and the second event was during the 3rd World Water Forum in Kyoto. An e-conference on sanitation for health and the environment was used to promote the sanitation portal site while creating a forum for electronic discussions on environmental sanitation. These events resulted in a significant increase in the number of hits for Sanicon website (30,000 hits achieved after WSSD event and 23, 000 after the Kyoto forum). In addition, the number of websites linking to Sanicon also increased to 500 by February 2003.

Content management

Sanicon manager was responsible for editorial content. In order to make sure that the portal remained relevant to the needs of users, the Sanicon manager was required to commission an independent evaluation of Sanicon every three years. The helpdesk was terminated in February 2003 because there was no demand for this service.

Lessons learned

Odhiambo (2003) identified the following lessons that should guide institutions considering setting up similar subject portals:

- The internet portal should have clear objectives and scope must be well defined; it was advisable to keep the scope small at the beginning and it could grow later in response to the demands of the users.
- The design of the pages should support short downloading time in order to improve access to those with poor or limited internet connectivity. It must also be updated regularly so that users could have access to current knowledge. The look of the site should be changed frequently to make it attractive to the end-users.
- A detailed business plan should be in place before the launch of portal; human and financial resources required to implement and promote the internet portal must be sourced.

The evaluation identified the following weaknesses in Sanicon portal:

- Its main target audience that needed access to water and sanitation sector information included professionals from the developing countries that had a problem of poor or no internet connectivity or lack financial resources for sustaining the internet services;
- Sanicon was designed to guide readers to sources of information in other websites, however, it could not guarantee access to documents described on the site in real-time.

The overall conclusion of the evaluation was that Sanicon was successful in providing a "one-stop-shop" for information on environmental sanitation.

3.1.2 The Namibian Municipal Learning Network [13]

Background

The Namibian Municipal Learning Network was established in 2000 as an initiative of the Local Governance Network Trust (LOGON)- a Cape Town based NGO. It was established

[13] Haricharan, S – www.ksp.org.za

with funds from Ford Foundation as the first pilot learning network and three Namibian municipalities participated (Oshakati, Ondangwa and Ongwediva). These three municipalities are located in Northern Namibia within a radius of 50 km from each other. They were selected because they share a similar historical background and face common challenges of huge municipal debts, insufficient revenue base, limited infrastructure, inadequate human resource capacity and almost 50% of its residents live in informal settlements. This initiative has turned this situation around, now the three municipalities are attracting investments and creating jobs for the residents (Haricharan - http://www.ksp.org.za).

Planning of the Namibian Municipal Learning Network

In 1999 LOGON project coordinators visited Namibia to explore the feasibility of establishing learning networks. They consulted with several municipalities and other relevant stakeholders. The concept of learning networks received broad support from the Namibian municipalities and other stakeholders. The project coordinators found that Namibian municipalities were faced with the same challenges that South African municipalities were grappling with. This created an ideal situation for mutual learning and knowledge sharing between Namibian municipalities and their South African counterparts.

The three Namibian municipalities committed to participate in the learning network in partnership with officials from Bloemfontein municipality and the City of Cape Town. The focus of the learning network was on the building of a better understanding of the roles, responsibilities and accountability of councillors and officials and improving tariff and rates collection.

Learning Network approach

The following approach was used to facilitate the sharing of experience, knowledge and resources across the participating municipalities:

Pilot projects: Critical institutional challenges faced by the three participating municipalities were tackled with the goal of improving performance, and achieve learning within the municipality and across the learning network.

Learning process: Internal municipal stakeholders were actively involved in the learning network activities in order to build internal capacity, sustainability and to ensure that solutions were appropriate for the municipality. The learning process was facilitated by external practitioners and specialists.

Practitioner exchange: Practitioners were seconded to provide the hosting municipalities with specialist expertise at a reduced cost because practitioners were also learning. The learning approach created an environment for policy makers and practitioners to work together to solve real life problems while exchanging knowledge and experience.

Learning network structure
It was not possible to have a project team in each municipality as originally planned because of resource constraints instead each municipality nominated a coordinator. The three coordinators formed the Namibian Joint Project Team which was responsible for the design of the programme, monitoring and reviewing of the project implementation. The LOGON Support Team coordinators facilitated and supported the programme implementation. Specialists and local government officials were seconded on a short-term basis to assist with the different aspects of project implementation.

Learning network outcomes
Learning network approach
The learning network focused on the needs of the municipalities such as building teams, addressing financial issues to ensure sustainable service delivery and strengthening leadership capacity. The project approach achieved capacity building and sustainability because municipalities were solving their own institutional problems. LOGON project team ran a training workshop for the mayors, councillors, Chief Executive Officers and senior managers from the three municipalities to orientate them to the learning organization concept. This workshop helped these policy-makers and decision-makers to appreciate the value of a learning network.

Peer-to-Peer Learning
The mayors and CEOs of the three Namibian municipalities visited the municipalities of Bloemfontein, Botshabelo and Thaba Nchu in Free State province; they interacted with their counterparts and visited infrastructure projects. The Namibian delegates derived more value from the visit compared to study tours to developed countries such as Canada because of common challenges and opportunity to share knowledge and experience with peers in Free State municipalities.

Strategic leadership and management support

LOGON facilitated strategic breakfast sessions for the mayors and senior officials of the participating municipalities. These sessions provided a forum for building relationships and strengthening the learning network. The mayors of the three municipalities have made a commitment to continue with these breakfast sessions on a rotation basis beyond the project term. The project also facilitated separate strategic sessions with Human Resource (HR) managers and treasurers from the three municipalities. These sessions provided the treasurers from the three municipalities with an opportunity to address financial issues of common interest such as salary grading and tariff structure.

Human Resource Management System

HR practitioners from Bloemfontein municipality facilitated workshops with councillors and senior management on the framework for developing the Conditions of Service document. The three municipalities used this framework document to develop their own Conditions of Service with the support of the South African counterparts.

Lessons learned

The following lessons were learned from the Namibian Learning Network:

- **Developing trust**: Joint learning to achieve a common objective contributed to the development of trust among the network participants.
- **Flexibility**: The learning network approach allowed the participants to design a process that met their needs and achieved their objectives.
- **Sharing skills and fostering innovation**: Structured peer-to-peer learning promoted effective learning because of the sharing of knowledge and experience among participants.
- **Common objectives**: Success of learning networks depended on clear objectives that were shared by all stakeholders. These were identified by the network partners based on the challenges faced by municipalities in the delivery of sustainable services.
- **Empowerment of champions**: Importance of identifying champions for driving the network processes internally and between municipalities. These network champions had capacity, power, support and resources necessary to bring about change.
- **Communication**: Regular feedback on the activities of the learning network were communicated to all the staff members at all levels within the participating the municipalities; this was very important to achieve full support for the learning network.

- **Facilitation of network activities**: Success of the learning network depended on the management and support by a secretariat which was trusted by all parties and perceived to be neutral. This function was performed by LOGON.

3.2 SOUTH AFRICAN CASE STUDIES

3.2.1 The Mvula Trust [14]

Background

The Mvula Trust was established in 1993 to support government in the delivery of sustainable water services in South Africa.

The Mvula Trust offers services to the communities by:

- Supporting local government in the delivery of sustainable and affordable water, sanitation and related services;
- Testing and advocating sustainable models of cost effective service delivery;
- Maximizing the capacity building and economic benefits of sanitation and water investments for poor communities.

Knowledge management as an objective is not explicitly stated in the Trust's guiding principles and vision statement. However one of the strategic objectives contained in the Mvula Trust's Strategic Planning Report 2003 – 2008, is the strengthening of knowledge management. Knowledge management is one of the key performance areas in the Performance Agreements of the Executive Director and Manager for Communication and Advocacy.

One of the guiding principles of the Mvula Trust is that it perceives itself as a learning organization as well as one that produces knowledge. It expects its entire staff to see themselves as learning and sharing in all work undertaken. While there are many knowledge/information dissemination initiatives within Mvula, the lack of access to core funding has limited the establishment of a fully fledged knowledge management department within the organization. However, a Communications and Advocacy unit takes primary responsibility for documenting information and encouraging the flow of lessons between the regional offices and the communications and advocacy unit. Kerry Harris, Manager Communication and Advocacy, strongly believes that the more people are encouraged to share lessons, the more they remember to do so.

[14] Kerry Harris – Personal communication

To further support knowledge management within the Mvula Trust, the organization has a shared network drive for common use and access by staff. There is also a library of primarily "gray literature" and sector related documents. A website and various project-tracking systems enhance knowledge sharing. However as organizational memory is a major contributory factor to knowledge management, it is important that the informal way in which the Trust currently handles this be replaced by a more formal method, for example, staff debriefing about important processes and milestones in projects and programmes.

Kerry Harris noted two important lessons sharing activities which are carried out annually by the Mvula Trust. They are the national policy / lesson learning conference and the national staff workshop. This annual conference is a lesson sharing forum for staff, communities and municipalities where the Mvula Trust has projects. The objective of the national workshop is to provide a platform for all staff to discuss progress, concerns, and achievements in relation to best practice and chart new direction for the organization.

Knowledge Management within the water and sanitation sector

In terms of the sector, Mvula is one of the founding members of the Water Information Network – South Africa (WIN-SA), and has played a leading role in setting it up. WIN-SA is funded by Masibambane and managed by the WRC.

Though the Mvula Trust is not responsible for knowledge management within the water services sector, it has made a contribution to knowledge management within the sector in various ways, namely:

- Responding to numerous requests for information from sector practitioners
- Sanitation training
- Sanitation material and tool development
- Research
- Advocacy in relation to the Mvula Trust's community management and people centered development approaches

Packaging of information for different target groups

The Trust endeavors to synthesize information as 'bits of information' between 1 and 4 pages with contact details for more information and resource lists for further reading. Kerry Harris sees this as 'Small bits of information which can be read quickly, and provide guidance on where to find out more'.

This method is particularly valuable within the sector context of time constraints experienced by municipalities and other sector practitioners.

Monitoring of impact of knowledge dissemination

The Mvula Trust monitors and evaluates the impact of its knowledge products in various ways, some of which include:

- The acceptance and use of Mvula developed documents by the sector, e.g. at a national level, the Basic Household Sanitation Policy became national policy.
- Feedback through the use of evaluation forms at the back of the annual diary produced by the organization, solicited evaluations of the Maru-a-Pula and informal feedback
- Monitoring also takes place at project level in various ways. An example of monitoring is taken from the uMgungundlovu District Municipality Sanitation Programme (which the Mvula-Durban Regional Office implements on behalf of the Municipality). Questionnaires are filled in thrice by households, i.e. pre- and post-intervention and during the implementation. This enables the organization to monitor the changes in behaviour in relation to knowledge received as a result of the health and hygiene information provided by the project.

Examples of the Mvula Trust's impact on the sector through knowledge transfer and capacity building

The Communications and Advocacy Manager for the Mvula Trust gave various examples of the impact of Mvula's knowledge transfer and capacity building within the sector. Some of which include the use of materials developed by Mvula Trust at national and local levels. For example, the use by municipalities of tools like the Water Services Authorities induction, Water Resource Management tool kit and various NORAD Groundwater Programme tools .She also noted the high sustainability rates of community managed rural schemes implemented by the Trust.

Challenges to knowledge management within the water services sector and within the Mvula Trust in general

From Mvula Trust's perspective, the greatest challenge is lack of resources for supporting knowledge management initiatives – in terms of people, budgets, equipment and systems (but also lack of enabling environment, political will, etc.). For example, The Mvula Trust has a Communication and Advocacy Unit staffed by two part time people (part time since both are expected to generate income from policy projects as well). In contrast, the IRC

International Water and Sanitation Centre (Netherlands) has a dedicated staff of eleven people who perform the same functions as Mvula's Communication and Advocacy Unit. The IRC is mainly funded by the Netherlands government.

The Mvula Trust made the following recommendations for implementing effective knowledge management within the sector:

- There was a need for the development of a clear information and knowledge management strategy. This strategy should address information and knowledge sharing over time through a mix and range of media and channels;
- Identification of sufficient resources for the roll-out of the strategy ;
- Building of knowledge management (and lesson learning) activities into project and programme budgets;
- Use, as much as possible of face to face encounters ("imbizo's", workshops, mentoring and coaching, on the job training, etc.), use of local languages, for transferring information and knowledge. This is by far the most effective means of transfer, although it is time consuming and costly.

3.2.2 Tombo Sanitation Resource Centre[15]

Background

Tombo Sanitation Resource Centre is a one-stop-shop for all sanitation related information such as H&HE materials, toilet construction information, subsidy arrangements, sanitation guidelines and tool kits. It was established in September 2003 in OR Tambo District Municipality by the Eastern Cape Provincial Sanitation Task Team (PSTT). The centre serves six local municipalities and a population of 1.75 million people in OR Tambo DM. This centre was established as an intervention to assist the OR Tambo DM in addressing the problem of water-borne and sanitation related diseases such as cholera outbreaks which were prevalent in this District Municipality.

The Sanitation Resource Centre is attached to the Infrastructure Department of the Operations and Maintenance division and it reports directly to the Deputy Manager of this division within the OR Tambo DM. The resource centre has two employees, it uses trained unemployed local women, youth and the physically challenged people to disseminate

[15] Vuyo Mabandla – Personal communication

sanitation information to their communities. The centre officials also make personal visits to their stakeholder groups.

Functions of the Sanitation Resource Centre
The centre is responsible for formulating, collecting, archiving and dissemination of various sanitation related campaign posters, pamphlets and brochures throughout the District Municipality. It is also responsible for the following additional functions:

- Promoting transparency and improving communication through knowledge dissemination;
- Maintaining a supply of key sanitation sector policy documents and guidelines
- Creating a demand for sanitation facilities through sanitation, health and hygiene promotion campaigns;
- Serving as a catalyst in addressing the economic imbalances within OR Tambo DM
- Setting up a demonstration of different on-site sanitation technology options.

Expected impact
Through improving access to sanitation information, the centre expects to make an impact in the acceleration of sanitation service delivery and achievement of the 2010 target. Through its awareness campaigns, the centre expects to make a contribution to the reduction of waterborne and sanitation related diseases such as cholera.

Funding
For the first two years the centre was funded as a pilot project by the Eastern Cape-Department of Water Affairs & Forestry with funding from DFID-SA. In terms of the MOU between DWAF-EC and OR Tambo DM, DWAF funding ceased in August 2005 and the DM is now funding the centre and additional funds are sourced from other donors such as the South African Sugar Association.

Achievements
Prior to the establishment of the centre, OR Tambo DM had a problem of deaths from waterborne diseases, especially cholera. According to the Vuyo Mabandla, Centre manager (personal communication, 2005), the dissemination of health and hygiene education information has had a major impact in reducing the number of reported cases of waterborne diseases and associated deaths in the OR Tambo District Municipality . Effective information dissemination has been achieved through the use of trained local people, press releases and other locally available communication media.

Challenges

- Lack of adequate funding to enable the Sanitation Resource Centre to undertake more projects in support of sanitation, health and hygiene education projects in OR Tambo DM.
- Slow processes in awarding sanitation contracts for project implementation in the DM has a negative effect on the success of the knowledge dissemination of the centre because the work of the Resource Centre is inextricably linked to the implementation of sanitation projects.

Recommendations

- The Centre Manager made the following recommendations for improving the effectiveness of Tombo Sanitation Resource Centre
- There is a need to link the activities of the sanitation resource centre to the implementation of sanitation infrastructure because dissemination of information on SHHE alone in the absence of sanitation infrastructure has limited impact on the reduction of incidence of waterborne diseases and behavioural change.
- On-going health and hygiene promotion is necessary to sustain positive behavioural change.
- The Sanitation Resource Centre must have resources to produce materials that are appropriate for the local context.
- Closer working relationship must be fostered between the Sanitation Resource centre and the Departments of Education and Health within the District municipality in order to improve coordination of information dissemination.
- Effective performance of the Sanitation Resource Centre should be included as a KPA for the DM manager to which the Centre reports so that it can have a dedicated budget allocation from the OR Tambo DM.
- The Resource centre should undertake additional fund raising activities in order to ensure its long term sustainability.
- The Sanitation Resource Centre is best positioned to provide a training centre for emerging contractors, sanitation project steering committees, builders, community health workers, quality assessors and other skills that are necessary to accelerate and sustain sanitation service delivery at a local level.

3.2.3 National Community Water and Sanitation Training Institute[16]

Background

The National Community Water and Sanitation Training Institute (NCWSTI) is an independent, non-profit organization which was established in September 1996 by the Minister of Water Affairs & Forestry in terms of the White Paper on Community Water Supply and Sanitation (1994). It aims to build a national centre of expertise and research to address such issues as adult training and education methodology, assessment of the impact of education and training programmes, community training requirements and training materials with a special focus on municipalities.

The Gender Mainstreaming Programme for South Africa (GEMSA) was established with the funding from the Dutch Government. Its main goal is to mainstream gender within water and sanitation sector and to build the capacity of the NCWSTI to become a national resource centre for supporting gender mainstreaming gender in water supply and sanitation sector. The Department of Water Affairs and Forestry (DWAF) in collaboration with the Department for Provincial and Local Government (DPLG) and the South African Local Government Association provided strategic guidance to GEMSA.

A gender documentation centre was developed with the aim of initially serving the GEMSA project, and becoming a self sustaining resource centre on project completion. The resource centre would focus on gender mainstreaming in water supply and sanitation in South Africa.

Evaluation of the NCWSTI

Type of resource Centre

The NCWSTI in relation to its gender mainstreaming activities was designed as both a walk-in resource centre and a web-based resource centre. The strategy plan notes that the NCWSTI "will provide organizations and individuals within the water and sanitation sector with an information centre that will be based on the internet and a small but targeted collection of resource centre material".

Both staff members interviewed on the challenges and success of web-based means of communication noted that the web site has not performed optimally. Ms Myburgh noted that the newsletter which was supposed to be produced as part of the resource centre activities did not materialize because there was no news worth publishing. Ms Makgoro was of the

[16] D Makgoro and N Myburgh – Personal Communication

opinion that the maintenance of the website was poor because of lack of capacity and high staff turnover.

The impact of Institute's documentation centre was limited because of its geographic location of the NCWSTI in Limpopo Province which is far from the target users in municipalities across the country and the website did not provide any information on availability of relevant publications and reports.

Impact of the NCWSTI as a resource centre

The gender mainstreaming programme has developed various tools to assist the NCWSTI and the water sector in general to monitor impact of gender mainstreaming. The funding for gender mainstreaming project however came to an end before these tools could be tested. As a result, a full scale monitoring and evaluation could not be carried out. However, the Institute has been able to evaluate its impact as a resource centre in relation to gender mainstreaming in the following ways:

Success factors[17]

According to the Acting Gender Manager, the NCWSTI has achieved a number of successes in relation to its gender mainstreaming activities, some of which include:

- Though the IRC is no longer providing support to the Institute in relation to gender mainstreaming, the gender section is still functioning. For example, NCWSTI was appointed as a project implementing agent for the DWAF GEMSA project nationally;
- The NCWSTI has institutionalized gender mainstreaming by inculcating gender into its skills and learnership programmes;
- NCWSTI has facilitated the establishment of the Eastern Cape Gender Forum;
- The Institute played a leading role in the establishment of the gender mainstreaming component of the Water Sector Services Leadership Group;
- The Institute has reached over 1000 people with its awareness training programmes;
- The Eastern Cape, which is one of the 3 provinces that received gender mainstreaming capacity building through the GEMSA project, won the DWAF national award for best practice in gender mainstreaming in 2005.

[17] As obtained from Ms Magoro and the NCWSTI gender mainstreaming pamphlet

3.2.4 The Local Government Resource Centre (LGRC) of the Development Bank of Southern Africa[18]

Background

The DBSA has been selected as case study because its major external client for its knowledge products is the local government sector. Its focus is to build the capacity of local authorities in order to enhance their effectiveness in service delivery.

The Bank has put in place the following initiatives for supporting Local Government and other clients:

The Bank's Knowledge centre

The knowledge centre and bookstore provide a one-stop shop for the Bank's development information products and services which is supported by expert personnel who are able to assist clients in sourcing relevant information.

Local Government Resource Centre

The Bank has established the Local Government Resource Centre (LGRC) for the purpose of coordinating various initiatives for supporting local government. The main aim of the LGRC is to establish a one-stop support centre that is directly accessible to all municipalities and other local government stakeholders through a private electronic network. As part of LGRC, an e-community is being established that will pool resources, share knowledge and cooperate to assist municipalities to deliver services more effectively. The LGRC is supported by an ICT network for local government, the Local Government Network (LGNet). The costs of operating the LGRC are carried by the Bank and its partners.

The Local Government Network

The LGNet was launched in 2003 with the aim of interconnecting all local government stakeholders into an e-community in order to facilitate the sharing of knowledge and information with all spheres of government. Partners include 284 local municipalities, national and provincial government departments, Municipal Demarcation Board, the South African Local Government Bargaining Council, DPLG and SALGA. The LGNet is supporting Project Consolidate by facilitating electronic communication with the municipalities under Project Consolidate. It is envisaged that the network when complete will have over 300 nodes covering the entire country.

[18] Rudi Botha, DBSA – Personal communication

The LGNet offers its stakeholders access to the LGRC portal, internet connectivity, e-mail and web mail and website hosting of other stakeholders such as Project Consolidate. The number of registered users stood at 1147 in 31 March 2005. However, there is a need to address issues of IT governance and operational risk management for local authorities. The Bank believes that with proper IT support and skills training, the LGNet will continue to provide a platform for sharing knowledge and information within the local government sector and its partners.

Knowledge management initiatives within the Bank[19]

According to Mike Marler, DBSA Manager, dissemination and sharing of information is supported by several internal activities such as:

- Regular brown bag workshops with the Knowledge cluster are held during the lunch hour to discuss specific topics.
- Regular conferences are held to facilitate knowledge dissemination. The Bank hosts an annual knowledge week which is a conference of internal and external stakeholders. These conferences attract 100-150 participants representing the Bank staff, clients and experts (Councillors and municipal managers are also included).
- Communities of Practice (CoPs)- the success of the CoPs has been variable, they tend to go in cycles; the level of participation and interest depends on the topic and the champion. Of all the five CoPs that have been established in the Bank, the Technical Community of Practice is working very well and it has generated a lot of interest from the members. Topical issues are discussed and both national and international experts are invited to make inputs to these discussions. The members meet once a month for two hours, and on average 5 to 12 people participate per meeting in this CoP.

Other knowledge management initiatives within the DBSA

The Bank facilitates replication of good practice among its clients, for example, the Bank facilitated knowledge sharing between Bloem Water (established with the Bank's support) and Mzuzu Waterboard in Malawi that was established with the funding from the Bank. The Bank also helped its Malawian client in setting up a project steering committee which has proved to be a valuable forum for stakeholder participation.

[19] Mike Marler, DBSA – Personal communication

3.3 BEST PRACTICE IN KNOWLEDGE AND INFORMATION DISSEMINATION

An analysis of the selected case studies of knowledge and information dissemination identified the following best practice guidelines:

Demand driven

Implementation of knowledge and information dissemination initiatives must be driven by the needs of the stakeholders. Clear objectives and benefits for the target groups must be spelt out during the planning phase. For example, the Sanitation Connection internet portal was launched to facilitate knowledge dissemination to all sanitation stakeholders with access to internet. The Namibian Municipal Learning Network was driven by the desire of municipalities to share knowledge and experience so that they could meet the development challenges that they faced. The demand must be linked to the commitment of human and financial resources to sustain the knowledge dissemination initiatives.

Institutionalization of the knowledge management initiatives

The success of the knowledge management initiatives requires institutional support; this is only possible if knowledge management is integrated into the organizational vision. For example, DBSA has a knowledge management strategy which guides the Bank in all its business activities. In addition, participation in knowledge management initiatives is one of the key performance areas for managers at the Bank. Knowledge management is not seen as one of the programmes but it is the way in which DBSA operates. Although, the Mvula Trust does not have a knowledge management strategy in place, it has knowledge management as a key performance area for the Executive Director and Manager for Communication and Advocacy. Both the DBSA and the Mvula Trust hold an annual knowledge management conference where the internal staff shares lessons with their clients and experts.

Coordination and synergy

The analysis of the South African case studies of knowledge and information dissemination showed that there was a need for better coordination of the knowledge and information dissemination initiatives in order to ensure that they deliver maximum benefits for municipalities. For example, the objective of providing local government with a one-stop-shop for knowledge and information necessary to support them requires better coordination through linking all the sources of relevant information to one portal such as the DBSA's Local Government Resource Centre. South Africa could adopt the approach followed by Sanitation

Connection internet portal which has linkages to sanitation information from all the key institutions that generate sanitation knowledge.

Role of champions

All the Local Government knowledge and information dissemination initiatives that have been reviewed from the literature emphasized the importance of champions in sustaining the activities of the municipal learning networks. Mayors and councillors played an important role in the success of the Namibian Municipal Learning Network because they have the power and access to resources necessary to sustain the learning networks.

Peer-to-peer learning approach

This approach seems to work well for local government as demonstrated by the Namibian Municipal Learning Network.

Peer review and quality control

The value added by the subject portals is the peer review and quality control for all documents available on the internet portal. Sanitation Connection uses subject experts to manage quality control and peer review processes. It is also critical to select the best publications and reports on the subject to avoid information overload for the target groups.

Stakeholder involvement and ownership

The success of the Namibian Municipal Learning Network demonstrates the importance of putting the stakeholders at the centre of knowledge dissemination activities. Stakeholders must play a central role in defining objectives of sanitation knowledge and information strategy.

Resource allocation

Human and financial resources are necessary to implement and operate the sanitation knowledge dissemination channels such as sanitation portal or sanitation resource centre. The Mvula Trust, Tombo Sanitation Resource Centre and NCWSTI highlighted the lack of access to dedicated funding as a constraint to effective knowledge and information dissemination.

Monitoring and evaluation

Periodic evaluation of the impacts of knowledge and information dissemination initiatives (sanitation portal or sanitation resource centres) must be conducted to assess the level of usage and the value added by the knowledge management activities to the achievement of sanitation sector goals.

3.4 SUMMARY

The findings from the case study analysis highlights the importance of making sure that knowledge and information for sanitation is integrated into the existing local government networks and resource centres in order to maximize the benefits of a one-stop-shop approach that is advocated by DBSA through its LGRC and associated LGNet. The challenges experienced by resource centres such as Tombo and NCWSTI highlight the importance of institutionalization these centres so that they can have access to annual budgets and not rely on project funding from donor agencies because they struggle to remain viable and functional once the donor funding is exhausted.

CHAPTER 4: FINDINGS FROM SURVEYS OF SANITATION SECTOR INSTITUTIONS

This chapter presents findings from an electronic survey of knowledge producing institutions to assess their current knowledge and information dissemination practices. Results of an electronic survey of end-users of sanitation knowledge and information to assess their sanitation knowledge and information needs are also presented.

4.1 CURRENT PRACTICES OF SANITATION KNOWLEDGE PRODUCING INSTITUTIONS

4.1.1 Assessment of knowledge and information dissemination practices

The findings are based on responses from eleven organizations representing water boards, science councils, government departments, international development agencies, NGOs and universities. The questionnaire was sent to 27 institutions. Copies of the survey questionnaire and a list of respondents are provided in Appendix 1.

Knowledge and information dissemination channels

Analysis of the responses showed that dissemination of research reports by surface mail and electronic mail were the preferred dissemination channels in all the institutions that responded. Newsletter, catalogues and website advertisements were sometimes used in most institutions, only Rand Water and WIN-SA always used the web to advertise new reports. Table 1 below shows the survey results for the 11 institutions which completed the questionnaire.

Table 1: Knowledge dissemination channels

Channel	No of institutions	Percentage
Mailing of reports	10	91
Electronic distribution	11	100
Newsletter	9	81.8
Catalogue	6	54.5
Website	8	72.7
Annual Diary	1	9

Knowledge sharing activities

Analysis of the methods of knowledge sharing used by the surveyed institutions showed that most of them used a wide range of knowledge sharing activities such as workshops, conferences, posters, training and seminars. Coaching, mentoring and electronic group discussions were sometimes used in more than 50% of the surveyed institutions. Less than 50% of the institutions surveyed used videos. Detailed results are shown in Table 2 below.

Table 2: Knowledge sharing activities

Activity	No of institutions	Percentage
Workshops	10	91
Conferences	10	91
Seminars	9	82
Videos	5	46
Posters	10	91
Training	9	82
Coaching	6	55
Mentoring	7	64
Electronic discussion groups	7	64
Other: Brochures	1	9
- Meetings	1	9
- Focus groups	1	9
- Informal knowledge sharing	1	9

Key performance indicators for the knowledge and information dissemination

More than 60% of the surveyed institutions indicated that they evaluated the impact of knowledge dissemination using a range of key performance indicators (KPIs), such as:

- Assessment of the implementation of new technologies;
- Reduction in incidence of disease such as diarrhea due to sanitation, health and hygiene education and awareness;
- Reduction in the incidence of pollution of natural water resources due to new knowledge on the prevention of pollution;
- Continuous tacit knowledge sharing and application;
- Institutionalization of knowledge management practices within the organization;
- Number of communities of practice established;
- Adoption of new practices and behaviour;

- Increased awareness of target groups around specific themes and topics;
- Number of web site hits per month;
- Documentation of lessons learned;
- Effectiveness of the Masibambane provincial sector forums;
- Participation of key sector stakeholders in Masibambane forums.

Barriers to effective knowledge and information dissemination and knowledge sharing

The respondents identified the following barriers to effective knowledge dissemination and knowledge sharing in their organizations:

- Difficulty in the identification of target groups and their needs;
- Inadequate funding for the re-packaging and distribution of knowledge products according to the information needs of the different target groups;
- Lack of a culture of knowledge and information sharing within organizations;
- Slow internet connection makes it difficult to download documents;
- Corporate culture and company politics not supportive of knowledge management activities;
- Lack of knowledge and information dissemination strategy;
- Lack of integration of knowledge management activities into organizational business strategy;
- Poor communication among sector institutions;
- Employees' attitude and behaviour not supportive of knowledge management activities;
- Lack of coordination of knowledge management activities within the organization;
- Competition – internal and external competition leads to the hoarding of knowledge and information;
- Limited publication of new knowledge;
- Key people are very busy and they do not priorities knowledge sharing;
- Documentation of lessons learned remains a challenge and lack of skills and time to document lessons learned;
- Poor or no access to internet and other communication infrastructure in rural municipalities;
- Lack of funding for updating information;
- Poor timing of the publication of new information due to slow organizational processes;

Recommendations for improving knowledge and information dissemination

The respondents made the following recommendations for improving knowledge dissemination within the SHHE sector:

- There was a need for user-friendly publications packaged to meet the needs of different target groups (language should be taken into consideration);
- Use of appropriate communication channels in addition to the print media;
- Frequent updating of information to meet the changing sector needs;
- Need for quality assurance to avoid dissemination of inaccurate information;
- Development of a directory of professionals working in the SHHE sector (hard copy and on-line) to facilitate networking;
- Development of simple guidelines for documentation and sharing knowledge;
- There was a need to link the current initiatives with WIN and to have a common framework on knowledge transfer;
- Publication of a sanitation newsletter for advertising new publications; this should be made available on the WIN webpage;
- Promotion and documentation of good sanitation practice;
- Establishment of communities of practice for the SHHE sector;
- Auditing & mapping of knowledge experts and resources within the sanitation sector;
- Sanitation knowledge portal must be developed to improve access to sanitation information; this must be linked to the WIN website;
- Knowledge management seminars, conferences and workshops must be supported;
- Need to bring different stakeholders and experts in KM sharing activities;
- Identification of knowledge champions within the SHHE sector;
- Annual conferences to share new sanitation knowledge and improve knowledge and information dissemination;
- Creation of opportunities for knowledge sharing and learning especially at the Local Government level.

4.2 SANITATION KNOWLEDGE AND INFORMATION NEEDS ANALYSIS OF END-USER ORGANIZATIONS

An electronic questionnaire was used to assess the sanitation knowledge and information needs of target end-users with a special focus on municipalities and sanitation implementing agencies. This assessment was necessary to ensure that the knowledge and information dissemination strategy was informed by the needs of the target end-users of sanitation

knowledge and information. Findings from the survey of 23 institutions are presented below. (The questionnaire was distributed to 100 institutions)

4.2.1 Sanitation knowledge and information needs

Analysis of responses showed that there was a need for sanitation information on the listed sanitation topics. Results of knowledge needs analysis are shown in Table 3 below:

Table 3: Knowledge needs analysis

Topic	No. of institutions	Percentage
Sanitation policies	22	96
Sanitation , Health and Hygiene Education strategies	22	96
Ecological sanitation	15	65
On-site sanitation technology options	21	91
Waterborne sewerage systems	14	61
Health and Hygiene Education	11	48
Institutional and Social Development	10	43
Free basic sanitation services	15	65
Financing sanitation and cost recovery	17	74
Participatory approaches	12	52
Community management	17	74
Sanitation and hygiene promotion	13	57
Monitoring and Evaluation of sanitation projects	19	83
Reuse of wastewater	17	74
School sanitation	12	52
Gender and sanitation	13	57
Wastewater treatment technologies	11	48
Solid waste management	10	43
Other- O&M for basic sanitation facilities Clinic sanitation WATSAN – HIV/AIDS	 1 1 1	 4 4 4

4.2.2 Sanitation knowledge and information packaging preferences

The respondents were asked to indicate their sanitation knowledge and information packaging preference in order to make sure that knowledge producers package knowledge and information in a format that meets user needs. The analysis of the responses showed a strong support for guidelines and use of English as a medium of communication. 70% of the respondents preferred research reports and manuals and posters and videos were preferred by 30% of the respondents. Very few respondents expressed an opinion on the use of other official languages. For detailed results refer to Table 4 below:

Table 4: Knowledge packaging preferences

Packaging format	No. of institutions	Percentage
Research reports	16	70
Manuals	16	70
Guidelines	20	87
Tool kits	13	57
CD Rom	14	61
Posters	9	39
Videos	9	39
Brief notes (1-4 pages)	11	48
Language		
English	23	100
Other official languages		
Setswana	2	9
Sepedi	2	9
Xhosa	2	9
Zulu	2 (posters, videos, toolkits)	9
Afrikaans	3	13
Xitsonga	1	4

4.2.3 Knowledge and information dissemination channels

The analysis of response showed that the majority of the respondents preferred e-mail dissemination and advertisements of new knowledge and information in newsletters and e-mail alerts. 78% of the respondents supported the establishment of a sanitation portal and 87% of the respondents indicated that they would be willing to share their sanitation information via a sanitation portal.

Only 43% of respondents expressed a preference for the surface mail and most of these institutions were rural municipality without access to internet. Respondents from rural

municipalities and NGO's indicated a preference for Walk-in Sanitation Resource Centres. Detailed results are present in Table 5 below:

Table 5: Preferred knowledge dissemination channels

Dissemination channel	Preference	Percentage
Surface mail	10	43
E-mail	22	96
Internet	16	70
Workshops	20	87
Conferences	18	78
Seminars	20	87
Face-to-face meetings	15	65
Walk-in-Resource Centres	13	57
Sanitation help-desk	19	83
Sanitation internet portal	18	78
Advertisements of new reports in: ✓ Newsletter ✓ E-mail alerts	19	83

4.2.4 Recommendations for improving knowledge and information dissemination

The end-user institutions made the following suggestions for improving dissemination of sanitation knowledge and information to municipalities:

- Monthly sanitation forums held at different municipalities (some municipalities were already having these forums;
- Sanitation road shows for the dissemination of good practice;
- Sanitation information and guidelines must be housed in a National Sanitation Resource Centre and demonstration sites for sanitation technology options should be located at Regional DWAF offices or at District Municipality offices;
- Use of notice boards/ billboards in public places to promote sanitation H&HE awareness;
- Sanitation information resource centres should be decentralized to improve access to people at a local level;

- All institutions that are involved in the production of sanitation knowledge and information should be encouraged to share it via the sanitation internet portal;
- Easy to read handbooks on sanitation matters must be produced
- Consolidation of sanitation knowledge information on CDs for easy dissemination
- Increase sanitation awareness to communities through the use of media such as radios and local community newspapers etc.

4.3 SUMMARY

The comparison of dissemination channels preferred by end-users to the dissemination channels used by knowledge producing channels showed a mismatch, for example, 91% of knowledge producing organizations used the surface mail to disseminate reports while only 43% of the end-users indicated a preference for this dissemination channel. This highlights the importance of involving users in the selection of appropriate dissemination channels for sanitation knowledge and information.

From the assessment of current knowledge dissemination practices in sanitation knowledge producing institutions, it was shown that this knowledge dissemination was seen as an ad-hoc activity in all the institutions surveyed. There were no knowledge dissemination strategies in any of these institutions. The lack of resources and support from senior management was highlighted by the respondents and similar barriers were identified in the international literature review (Saywell & Cotton, 1999). The assessment provides baseline information which should guide the development of knowledge and information dissemination strategy that would be appropriate for the sanitation sector. The recommendations made by the respondents should be taken into consideration in the development of a knowledge and information dissemination strategy for sanitation.

CHAPTER 5: GUIDELINES FOR A KNOWLEDGE AND INFORMATION DISSEMINATION STRATEGY FOR SANITATION

The guidelines for a knowledge and information dissemination strategy have build on the international and national experience in knowledge and information dissemination, best practice guidelines identified from selected case studies and findings from the assessment of current practice of knowledge producing organizations and preferences of end-users of sanitation knowledge and information.

Definition of knowledge and information dissemination

Snowsill (1995) defines knowledge and information dissemination as an active concept, one in which information flows from a source and is targeted and tailored for the intended audience. It is an essential means of maximizing the impact of research on sustainable development.

5.1 DRIVERS OF KNOWLEDGE AND INFORMATION DISSEMINATION

National and international sanitation delivery targets

Lack of skills and capacity at municipal level has been identified as a major impediment in the delivery of sanitation infrastructure to the millions of South Africans without access to a basic sanitation service level. Effective dissemination of available knowledge on sanitation, health and hygiene education from research institutions and sector departments is necessary to build the capacity of municipalities and sanitation implementing agencies. This dissemination must be supported by effective knowledge sharing activities such as training, coaching and mentoring.

Technological advances[20]

Advances in the information and communication technologies provide more effective platforms for knowledge dissemination that challenge the traditional paper based methods of knowledge dissemination. These new methods are accelerating knowledge production process and also reducing the lifespan of knowledge and this compels research institutions to find more effective methods of ensuring that new knowledge is applied to the solution of development problems before it becomes obsolete.

Changes in patterns of research collaborations and partnerships

The advances in the digital technology have created more interconnections of research networks at both national and global levels. These networks support accelerated knowledge

[20] The Canadian Association of Research Libraries: www.kdsstudy.ca/index.html

production and create an enabling environment for interdisciplinary and multidisciplinary research. For new research to make an impact, knowledge producers must use effective and fast knowledge dissemination channels to reach the different target groups.

Growing diversity of users of research products

Research institutions that rely on public funds are under pressure to demonstrate impact and relevance of their research to national development goals. In the past research outputs mainly benefited the research community, however, there is now a general expectation that research knowledge should be made accessible to policy makers, decision-makers, general public and its contribution to the national development goals such as poverty reduction must be explicitly demonstrated.

5.2 KEY ELEMENTS OF A KNOWLEDGE AND INFORMATION DISSEMINATION STRATEGY

The following key elements of a knowledge and information dissemination strategy were identified from the literature review, selected case studies of knowledge management, stakeholder interviews and surveys:

5.2.1 Alignment with the mission and vision of the organization

The knowledge dissemination strategy must be aligned to the organizational mission and vision and should be an integral component of the business strategy to ensure that it receives the same priority as other strategic objectives of the organization; this will prevent it from being seen as an ad hoc activity with low priority. The strategy should address both internal and external knowledge dissemination and sharing activities.

5.2.2 Focus on needs and priorities of the different target end-user groups

The sanitation knowledge to be disseminated should have explicit benefits for the different target groups; the focus should be on the needs of the target groups. The message should be designed to influence the target audiences to take action. Knowledge should be packaged to meet the needs of the different target audiences; one size fits-all model cannot work. This requires a good understanding of the values and aspirations of the different target groups.

The following question should be addressed; 'To whom should research knowledge be transferred' (Lavis et al., 2003). This requires identification of those groups that can act on the basis of the knowledge transferred to them, identification of those that influence the

primary target group to act on the new knowledge and target the group that is most likely to act on the new information. Key questions should focus on the understanding of the needs of the target groups such as "what they know, what they need to know, how they communicate, how they share information and what channels do they use to receive information, language used and how the new knowledge will help the target groups to address their sanitation, health and hygiene challenges."

5.2.3 The Message[21]

The main aim of transferring research results to policy makers and planners is to provide them with research evidence necessary to guide them in the policy making process. Therefore, messages should focus on what the target audience wants to know rather than what the researcher thinks they should hear. The message should be packaged to demonstrate its value adding features in order to get the buy-in of the target audience. It must be tailored and presented in a way that will elicit the reaction that is desired by the researcher.

The message must be relevant to the local context, comprehensible and be presented in a simple language appropriate for the different target groups. The following four Cs of communication should be taken into consideration:

- Clear: self explanatory
- Concise: brief and to the point
- Consistent: avoid conflicting messages
- Compelling: commands attention.

Focus on behaviour

The message should focus on the behaviour to be changed because there is enough evidence that telling people the right thing to do has limited impact on behavioural change. This is particularly relevant to sanitation, health and hygiene education materials targeting the individual, household and community levels. The message formulation should be guided by the question, 'What do you want people to do'? It should be tailored and presented in a way that will elicit the desired reaction. This requires a good understanding of the factors that motivate the different target groups to adopt certain actions.

[21] Canadian Health Services Research Foundation (2001) A Report on a conference: 'Knowledge transfer: Looking beyond health.' www.chsrf.ca

Delivery

The question to be addressed here is 'By whom should research knowledge be transferred?' (Lavis et al., 2003). According to Shonkoff (2000), the credibility of the messenger plays an important role in the success of knowledge dissemination interventions. Endorsement of the new knowledge by a respected individual or institution can also contribute to the successful transfer of new knowledge. The choice of the messenger has a great impact on the success of knowledge transfer. Use of influential people that are viewed as credible by the target audience can be beneficial in ensuring uptake of the message and achievement of the desired behavioural change. This is important in face-to-face interactions such as workshops, seminars, training, etc.).

5.2.4 Selection of appropriate knowledge dissemination channel

The selection of dissemination channels should be guided by the needs and interests of all target groups and accessibility of the dissemination channels to the target groups. A wide variety of communication channels can be used to reach the different target groups (print media, interpersonal communication, and electronic media). Dissemination of knowledge to the poor people with low levels of literacy requires use of traditional methods such as community meetings, radio broadcasts, posters and use of intermediaries.

5.2.5 Financing knowledge dissemination activities

Lack of financial resources has been cited as one of the reason for poor dissemination of research outputs. For research to influence policy and practice there is a need to give this component the same priority as the research process. Adequate budgets should be allocated to this component during the project planning stage in order to ensure that it is not neglected or perceived to be an add-on activity.

5.2.6 Quality assurance

Quality assurance forms an important component of the knowledge and information dissemination strategy to ensure that the different target groups are provided with good quality and reliable information.

5.2.7 Monitoring and evaluation of the impact of knowledge dissemination activities

Monitoring and evaluation of the impact of knowledge dissemination should be conducted at two levels, namely, assessment of the effectiveness of the dissemination process and assessment of the impact of the new knowledge on sector practice such as contribution to policy and decision making processes, adoption of good practices by sanitation

implementing agencies, change in behaviour (H&HE) and decrease in the incidence of sanitation related diseases.

5.3 BEST PRACTICE GUIDELINES

The following best practice guidelines for knowledge and information dissemination should be taken into consideration in the development and implementation of the sanitation knowledge and information dissemination strategy:

Demand driven

Implementation of knowledge and information dissemination initiatives must be driven by the needs of the target end-users. Clear objectives and benefits for the target groups must be spelt out during the planning phase.

Institutionalization of the knowledge and information dissemination

The success of the knowledge and information dissemination initiatives requires strong institutional support; this is only possible if knowledge and information dissemination is integrated into the vision and mission of organization.

Coordination and synergy

Coordination of knowledge and information dissemination activities with other sector partners is important in order to avoid duplication; this could be achieved by internet links with other sources of information that is relevant to the needs of the target audiences.

Role of champions

Champions are very important to the success of knowledge and information dissemination initiatives; these champions must have power and authority to mobilize resources necessary to sustain the knowledge and information dissemination activities.

Quality control

Peer review mechanisms must be put in place to ensure that the sanitation knowledge and information disseminated to the different target end-user groups is relevant and of good quality.

Stakeholder involvement and ownership

Stakeholders must play a central role in setting up of priorities and objectives of sanitation knowledge and information dissemination initiatives in order to ensure relevance and appropriateness.

Resource allocation

Human and financial resources that are necessary to implement sanitation knowledge and information dissemination strategies must be allocated during the planning phase of projects in order to ensure that knowledge dissemination is mainstream in knowledge producing institutions.

Monitoring and evaluation

Periodic evaluation of the impacts of knowledge and information dissemination initiatives must be conducted to assess the level of usage and the value added by these dissemination activities to the sanitation sector stakeholders.

5.4 SUMMARY

These guidelines for a knowledge and information dissemination strategy for sanitation provide a roadmap for the sanitation sector institutions that are considering the development of their own knowledge and information dissemination strategy for the sanitation.

CHAPTER 6 : SANITATION KNOWLEDGE AND INFORMATION DISSEMINATION CHANNELS

This chapter investigates the dissemination channels of knowledge and information for sanitation. The successful implementation of a sanitation knowledge and information dissemination strategy would depend on the selection of appropriate dissemination channels that are easily accessible to the different target end-user groups. Models of sanitation resource centres for meeting the knowledge and information needs of end-user without access to internet have been proposed. A framework for a sanitation portal has been proposed as an appropriate sanitation knowledge and information dissemination channel for target end-user groups with reliable access to the internet.

6.1 MODELS OF SANITATION RESOURCE CENTRES

The IRC (2004) defines a resource centre as an organization or a network of organizations that provides independent support services to the water and sanitation sector by providing available knowledge and information to the various sector stakeholders in a form that they can use to meet their specific knowledge and information needs.

Types of resource centres[22]

Resource centres can be categorized according to the method of information dissemination:

- Web-based resource centres are internet based, for example, the Sanitation Connection. Sanitation information can be downloaded from the web sites of linked sanitation organizations. This type of resource centre offers easy access to information for those that have access to internet, however, those lacking access to computers and internet connection cannot access this form of information.
- Walk-in resource centres have the advantage of being accessible to people without access to internet but spatial restrictions in relation to location might hinder access for the poor communities. These resource centres can provide hard copies of reports and documents; they can also provide access to the internet for computer literate users. However, it is important to make sure these centres are located closer to the target end-users; the information provided must be packaged appropriately and be in local languages to facilitate access for users with low literacy levels, especially those that serve poor rural communities.

[22] IRC 2004a The 'Ideal Resource Centre.' www.irc.nl/page/4536

6.1.1 Guiding principles for the establishment of sanitation resource centres

The following principles should guide the establishment of sanitation resource centres in order to ensure their sustainability:

Location within existing local institutions – Sanitation resource centres should be located within existing local institutions and be institutionalized within well-resourced local institutions in order to ensure their sustainability;

Local ownership -Sanitation resource centres must be demand responsive and be established to meet the knowledge and information needs of local sanitation stakeholders. Local stakeholders must be represented in the management structures of the sanitation resource centres to ensure accountability to the local communities.

Financial sustainability- A business plan for the sanitation resource centre should indicate clearly how the sanitation resource centre would be funded and plans for ensuring long term financial sustainability should be included.

6.1.2 Structure of a sanitation resource centre network

A sanitation resource centre network is proposed as an ideal channel for the dissemination of sanitation related information to all levels. The major components of the sanitation resource centre network should be the national coordinator of network, knowledge-producers and knowledge and information end-users. The national coordinator would serve as a central one-stop-shop for collection and collation of sanitation knowledge and information from the knowledge producers, quality assurance, knowledge and information dissemination. Other responsibilities of the national coordinator could be the identification of knowledge and information gaps, monitoring and evaluation of the impact of sanitation knowledge on sector performance.

The end user groups should include all those organizations or individuals that have a demand for sanitation knowledge and information. This group could be made up of national and provincial government departments, District Municipalities, Water Services Authorities, CBOs, NGOs, sanitation implementing agencies, village project steering committees and households. In addition to the knowledge producer and end-user categories, there is need for the identification of sources of funding for the establishment and operation of local walk-in sanitation resource centres.

Sanitation resource centre network

The structure of the sanitation resource centre network should be such that it allows the network to function as a collective memory bank of peer-reviewed sanitation information which is accessible to everyone and can be used and modified to meet the different needs of end-users. In this regard, it should:

- Be made up of a national sanitation resource centre network coordinator, knowledge providers category , local walk-in sanitation resource centres and funding organizations;
- The organization which hosts and coordinate the national sanitation resource centre network should ideally be one which already possesses the capacity to fulfill all the requirements of an ideal resource center. The national sanitation resource centre network coordinator should be responsible for the internet-based dissemination and also mailing of sanitation reports and documents to local walk-in sanitation resource centres;
- The walk-in sanitation resource centres could be located within district municipalities or other appropriate government institutions at a municipality level.

National Coordination of the sanitation resource centre network

Ideally, the national coordination of the sanitation resource centre network should be a statutory body that has water and sanitation knowledge generation as part of its core business. DWAF and its sanitation sector partners should identify a suitable institution that has the capacity to act as National Coordinator of the sanitation resource centre network.

Sanitation knowledge and information producers

Science Councils, academic institutions, municipalities, waterboards, Government Departments and NGOs - Most of these institutions are funded by the WRC, government departments and international donors to conduct sanitation research necessary to improve the delivery of sanitation services. All new sanitation knowledge and information produced by these institutions would be collated by the national coordinator and then disseminated to end-users via the web-based sanitation portal. In addition, the national coordinator could disseminate hard copies and soft copies of sanitation information to walk-in sanitation resource centres at a municipality level.

Walk-in sanitation resource centres

District Municipalities: Municipalities are well-placed to host the walk-in sanitation resource centres because of the following reasons:

- They are responsible for sanitation service delivery.

- They are the main target for knowledge transfer, therefore, hosting the sanitation resource centre would ensure that information and knowledge is easily accessible to them and the local agencies responsible for the implementation of sanitation infrastructure at a local level.
- Local stakeholders could direct their needs for new information to these centres which would convey it to the national coordinator.

Funding arrangements

It is proposed that the Departments of Water Affairs and Forestry, Provincial and Local Government and Health should be jointly responsible for funding the sanitation resource centres at the district municipality level as part of their support function to the municipalities.

Sanitation resource centre networks options

The following diagrams show two options for the structure of a sanitation resource network and the Figure 3 shows the proposed roles for the different components of the resource network. The difference between the two options for the structure of the sanitation resource network is the manner in which the sanitation knowledge and information flows to the end-users. The option proposed in Figure 2 is preferred because it would be more cost-effective and avoid duplication.

FIGURE 1: SANITATION RESOURCE CENTRE NETWORK – OPTION 1

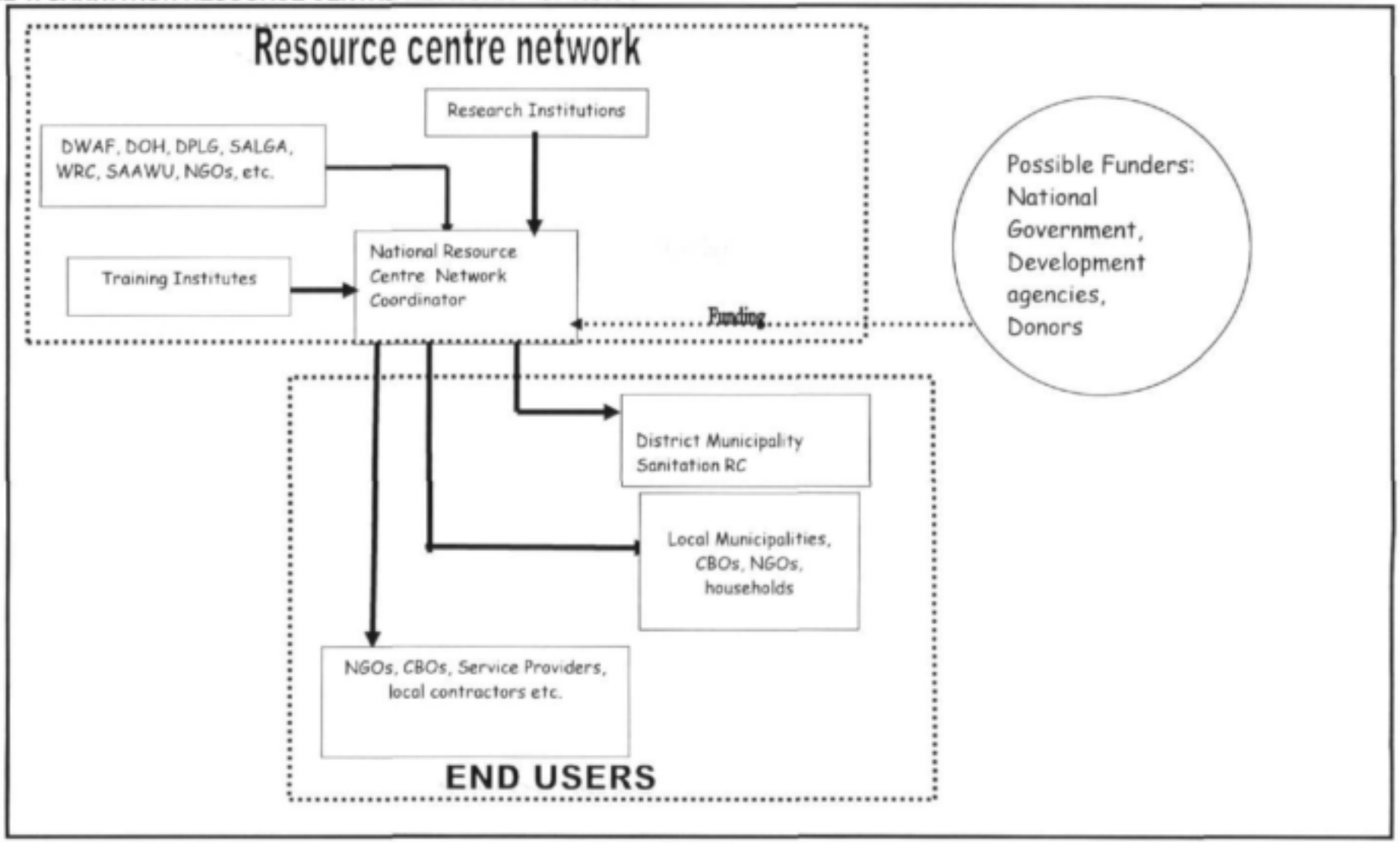

FIGURE 2: SANITATION RESOURCE CENTRE NETWORK – OPTION 2

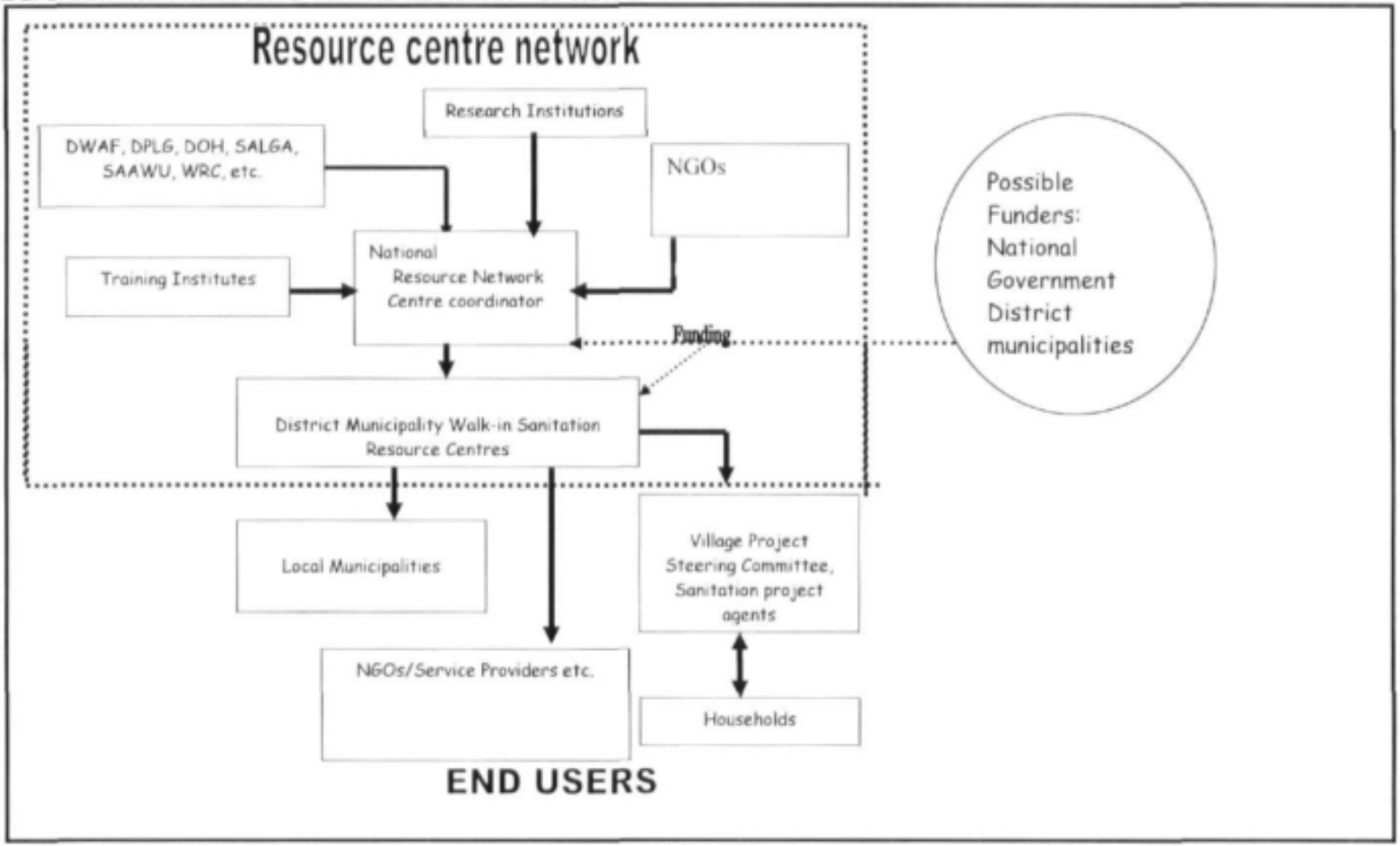

FIGURE 3: ROLES OF THE RESOURCE CENTRE NETWORK PARTNERS

6.2 A FRAMEWORK FOR A SANITATION PORTAL FOR SOUTH AFRICA

The primary purpose of the sanitation internet portal is to provide a subject gateway to other websites that have the sanitation, health and hygiene education information. It aims to provide a brief overview of sanitation, health and hygiene themes and topics and provide linkages to websites with publications on the different themes and topics. It would provide users with quick access to appropriate sources of high quality sanitation information. The sanitation portal will focus on the key areas of sanitation delivery which are required in terms of policy, strategies and other topics identified by the sanitation stakeholders.

In addition to providing information, the sanitation portal will provide a facility for users to give feedback with regards to usefulness of the sanitation portal and also identification of sanitation information gaps. Other useful features would be web pages with answers to frequently asked questions (FAQs) and a help-desk facility. It is envisaged that the target end-users of the sanitation portal would be water services authorities, sanitation implementing agencies and decision-makers at national, provincial and local government levels. The proposed sanitation portal could be incorporated into WIN-SA water services portal.

6.2.1 Design of the sanitation internet portal

Guiding principles for the design of the sanitation internet portal

Clearly defined objectives and scope

The objectives of the sanitation portal must be clearly defined and the target end-users must be identified so that the portal can meet their knowledge and information needs.

Relevance

It must provide information that is relevant to the needs of the target end-users.

Reliability of the information

It must provide the users with carefully selected high quality information that is reliable and up-to-date in order to help the users save time by using the subject gateway instead of using other search engines. This would require the portal manager and sanitation topic experts to be committed to the regular updating of information available on the sanitation portal.

Regular maintenance of the sanitation portal

In order to attract and keep dedicated users, the site must be maintained for both content and technical aspects. The sanitation portal manager must check frequently that all links to the portal continue to function and documents could be accessed easily. The sanitation experts responsible for updating the content of the web pages to frequently make sure that end-users are provided with new information on a regular basis.

Content management by sanitation experts

To ensure credibility of the content of the sanitation portal, it would be important to appoint recognized and respected sanitation experts for the content management of the different sanitation themes and topics. These experts should be willing to make the time commitment required to review and select information of high quality for posting on the sanitation portal.

Architecture of the sanitation internet portal [23]

The sanitation portal would present sanitation information under different themes and each theme would lead to pages with relevant sanitation topics. It is envisaged that each topic would be linked to the relevant reports, articles and documents located in websites of the different sanitation knowledge and information producing organizations. The selection of sanitation themes and topics to be covered should be done in consultation with sanitation sector stakeholders.

6.2.2 Management of the sanitation portal

Governance

It is suggested that the governing body for the sanitation portal should be the steering committee for WIN-SA in order to make sure that this sanitation portal is integrated into WIN-SA's knowledge and information sharing activities. The role of the steering committee would be to provide strategic guidance on high priority information/knowledge gaps that must be addressed in order to meet the needs of the sanitation sector stakeholders.

[23] The proposed design of the sanitation portal draws extensively from that of Sanitation Connection (http://www.sanicon.net)

Hosting and coordination

The creation of a portal service for the water services sector is one of the key focus areas for WIN-SA; therefore, in order to avoid duplication and a waste of resources, it is suggested that the sanitation portal should be hosted by WIN-SA.

Quality assurance

Quality assurance is a very important feature of a sanitation portal; this function should be performed by sanitation experts. The review of the content for the different themes and topics should be the function of sanitation experts. It is suggested that each theme should be led by a theme leader who would be responsible for coordinating the quality assurance of new knowledge and information products on the different sanitation topics. For each theme, the theme leader and topic experts would be responsible for the review, selection and quality assurance of reports and documents before they are posted on the sanitation portal.

Sanitation help-desk

The majority of respondents to the electronic survey of sanitation knowledge and information needs analysis expressed interest in a sanitation help-desk. It is proposed that the sanitation portal should include a help-desk facility which would assist those end-users that experience difficulty in identifying the relevant sources of sanitation information they need. The help-desk should also provide a facility for end-users to express their views and give feedback on the usefulness of the sanitation portal and recommendations for improvements.

Promotion of the sanitation portal

The setting up and launching of a sanitation portal alone would not suffice to create awareness of the availability of the sanitation portal and its potential benefits to the end-users. There would be a need for awareness campaigns to promote usage of the sanitation portal among the target groups especially government departments and municipalities. SALGA and DPLG and their provincial and district level forums could provide a platform for awareness campaigns. The annual events such as sector conferences, workshops, water and sanitation week celebrations could also be used to promote the sanitation portal.

Monitoring and evaluation

Indicators must be developed to monitor the usage of the sanitation portal such as the number of hits and the number of websites linked to the sanitation portal. The number of times documents are downloaded could be used to monitor the demand for information. Evaluation of the impact of the sanitation portal could be difficult and costly to undertake; however, resources must be allocated to support occasional impact assessment studies in order to evaluate the cost-benefit of the sanitation portal.

Funding

A preliminary analysis of websites of national sector institutions showed that most of these institutions were not ready for a sanitation portal because their sanitation reports were not available on the websites, for example, a visit to the sanitation page of the DWAF website showed that only the 2001 White paper on basic household sanitation and supporting documents were on that website. Before a sanitation internet portal could be developed and launched, resources must be allocated to facilitate the posting of key sanitation research reports and documents on websites of sanitation sector institutions. Once the existing reports are posted on the websites and linked to the sanitation portal, the operation and update of the sanitation internet portal would be part of the routine cost of maintaining the sanitation portal.

6.3 SUMMARY

The principle of using existing sector institutions has guided the development of models for sanitation resource centres and the framework for a sanitation portal. This was necessary to ensure that these knowledge and information dissemination channels would be integrated into appropriate sector institutions at national and district municipality levels. The proposed models of sanitation resource centre and the framework for a sanitation portal should be evaluated by the key sanitation stakeholders for their relevance to the sanitation knowledge and information needs.

CHAPTER 7: CONCLUSIONS AND RECOMMENTATIONS

7.1 CONCLUSIONS

7.1.1 Global trends

The literature review of knowledge and information dissemination practices within the development sector showed that most development institutions have not mainstreamed knowledge dissemination. The World Bank (WB) and the Development Bank of Southern Africa (DBSA) are the only two organizations within this category that have integrated knowledge management into the organizational vision and mission. Both institutions have a knowledge management strategy which drives all the business activities.

Most developing countries still needed knowledge sharing platforms that were not dependent on internet because of lack or poor access to electronic communication infrastructure. From the review of South African literature on knowledge dissemination practices, it was concluded that internet alone could not solve the problem of knowledge and information dissemination to rural municipalities and towns that are not connected to the information and communication technology (ICT) infrastructure. Innovative methods are required to enable the remote rural municipalities to access sanitation, health and hygiene education knowledge and information they need to accelerate sanitation service delivery to their communities.

The literature review showed that there were effective knowledge and information dissemination methods that could be used to disseminate sanitation knowledge and information to communities with low literacy levels.

7.1.2 Case studies of knowledge dissemination in the water services sector

An analysis of selected case studies of knowledge and information dissemination identified the following best practice guidelines:

Demand driven

Implementation of knowledge and information dissemination initiatives must be driven by the needs of the end-users.

Institutionalization of the knowledge and information dissemination

The success of the knowledge and information dissemination requires institutional support and integration into the organizational vision and mission.

Coordination and synergy

Better coordination of sanitation knowledge and information dissemination is necessary in order to ensure maximum benefits for municipalities and other sanitation sector stakeholders.

Role of champions

Mayors and councillors have an important role to play as champions of municipal learning networks because they have the power, influence and access to resources necessary to sustain the learning networks.

Quality control

The value added by the subject portals is the peer review and quality control for all documents available on the internet portal.

Stakeholder involvement and ownership

The success of the Namibian Municipal Learning Network demonstrated the importance of putting the stakeholders at the centre of the knowledge dissemination activities. Stakeholders must play a central role in defining objectives of sanitation knowledge and information dissemination initiatives.

Resource allocation

Human and financial resources are necessary to implement and operate the sanitation knowledge dissemination channels such as sanitation portal or sanitation resource centre.

Monitoring and evaluation

Periodic evaluation of the impacts of knowledge and information dissemination initiatives (internet portal or sanitation resource centres) must be conducted to assess the level of usage and the value added by the knowledge dissemination activities to the sanitation sector stakeholders.

7.1.3 Current practice in knowledge and information dissemination in sanitation sector institutions

Knowledge and information dissemination in surveyed knowledge-producing institutions was an ad-hoc activity and there were no knowledge and information dissemination strategies in place. Lack of adequate resources to support effective knowledge and information dissemination was highlighted as a constraint. Sanitation knowledge and information end-user institutions indicated a preference for e-mail distribution of sanitation reports and other relevant documents. Most of the respondents were in support of the establishment of a sanitation portal; respondents from rural municipalities indicated a preference for walk-in sanitation resource centres.

7.1.4 Guidelines for the development of a knowledge and information dissemination strategy for the sanitation sector

The following key elements which were identified from the literature review and stakeholder inputs should guide the development of a knowledge dissemination strategy for the sanitation sector:

Alignment with the mission and vision of the organization

The knowledge dissemination strategy must be aligned with the mission and vision of the organization and should be an integral component of the business strategy to ensure that it receives the same priority as other strategic objectives of the organization; this would ensure that knowledge management is mainstreamed instead of being treated as an ad-hoc activity.

Focus on needs and priorities of the different target groups

The knowledge and information to be disseminated should have explicit benefits for the different target groups; the focus should be on the needs of the target groups. The message should be designed to influence the different target audiences to take action.

Selection of appropriate knowledge and information dissemination channels

The selection of appropriate dissemination channels should be guided by the needs and interests of all target groups and accessibility of the dissemination channels to the target groups. A wide variety of communication channels could be used to reach the different target groups (print media, interpersonal communication and electronic media etc.).

Financing of knowledge and information dissemination activities

Lack of financial resources has been cited as one of the reasons for poor dissemination of research products. For research to influence policy and practice there is a need to give the knowledge dissemination component the same priority as the research process. Adequate budgets should be allocated to this component during the project planning stage in order to ensure that it is not neglected or perceived to be an add-on activity.

Quality assurance

Quality assurance forms an important component of the knowledge dissemination strategy to ensure that the different target groups are provided with good quality and reliable information.

Monitoring and evaluation of the impact of knowledge dissemination activities

Monitoring and evaluation of the impact of knowledge dissemination should be conducted at two levels, namely, assessment of the effectiveness of the dissemination processes and the second level should focus on assessing the impact of the new knowledge on sector practice such as contribution to policy and decision-making processes, adoption of good practices by sanitation implementing agencies, change in behaviour (H&HE) and decrease in the incidence of sanitation related diseases.

7.1.5 Knowledge and information dissemination channels

Models of sanitation resource centres

Two options for models of walk-in sanitation resource centres have been proposed as a suitable knowledge and information dissemination channel for end-users without access to the internet and other ICT infrastructure. The principle of using existing institutions has guided the development of models for walk-in sanitation resource centres.

A framework for a sanitation portal for South Africa

A framework for a sanitation portal has been proposed as a knowledge and information dissemination channel for institutions that have reliable access to internet. The sanitation portal must provide relevant, reliable and high quality sanitation information. Sanitation experts must be appointed to manage the content of the information available on the sanitation portal.

A preliminary assessment of sanitation information available on websites of the major sanitation sector organizations showed that there was limited sanitation information that could be downloaded from these websites.

7.2 RECOMMENDATIONS

- The guidelines for knowledge and information dissemination strategy and the proposed dissemination channels for sanitation must be presented to key sector stakeholders so that they can make a decision on the appropriate actions to be taken to improve knowledge and information dissemination for the sanitation sector.
- All the sanitation sector institutions that produce sanitation knowledge should be encouraged to post their research reports, guidelines and other key documents on their websites. Financial resources must be mobilized to support those institutions that lack funding to post their information on their websites.
- The major institutions involved in the production of sanitation knowledge should cooperate in finding innovative ways for improving access to sanitation knowledge and information for municipalities and other sanitation sector institutions.

7.3 CONCLUDING REMARKS

This research report has made an attempt to capture global trends in knowledge and information dissemination within the development sector and identified best practice from the analysis of selected case studies of knowledge and information dissemination within the water and sanitation sector. The guidelines for a knowledge and information strategy and proposed dissemination channels for improving access to sanitation knowledge and information for end-users with or without access to internet have identified important elements and principles to be taken into consideration in the development of knowledge and information dissemination strategy for the sanitation sector.

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APPENDICES

Appendix 1: Electronic survey of water and sanitation knowledge producing organizations

1.1 List of responding institutions

Name of respondent	Institution	e-mail
Ms Thoko Sigwaza	DWAF-Masibambane	Thokos@dwaf.gov.za
Jabu Masondo	The Mvula Trust	jabu@mvula.org.za
Kamuho Mosoeunyane	NCWSTI	kmosoeunyane@ncwsti.co.za
Ms Thuli Khambule	DFID-SA	KhambuleT@dwaf.gov.za
Dr Charles Reeve	EU-SA	Charles.reeve@cec.eu.int
Melanie Wilkinson	CSIR	mwilkinson@csir.co.za
Benny Phaladi	Rand Water	bphaladi@randwater.co.za
Ms Grace Nyovane	Umgeni Water	Grace.nyovane@umgeni.co.za
Dr Nicola Rodda	UKZN-School of Biology and Conservation	roddan@ukzn.ac.za
Ms Ndala Duma	WIN-SA	ndalad@wrc.org.za
Ms Karen Keddy	NICD	Karen.keddy@nhls.ac.za

1.2 Questionnaire for Sanitation Knowledge Producers

Target groups: Research institutions, Government Depts, Water Boards and NGOs

A. DETAILS OF RESPONDENT

Name of respondent:

Position:

Name of organization:

Tel no:

E-mail address:

Website:

Please rate your answer on a 1 to 3 scale where 1= never, 2=sometimes and 3= always

B. KNOWLEDGE DISSEMINATION CHANNELS

Dissemination channels	1	2	3
Mailing of reports			
Electronic distribution			
Advertisement of new publications Newsletter			
Catalogue			
Website			
Other			

C. KNOWLEDGE SHARING ACTIVITIES

KM activities	1	2	3
Workshops			
Conferences			
Seminars			
Videos			
Posters			
Training			
Coaching			
Mentoring			
Electronic group discussions			
Other			

D. EVALUATION OF THE IMPACT OF NEW KNOWLEDGE ON SECTOR PRACTICE

List of key performance indicators used for the evaluation of the impact

E. OTHER KM INITIATIVES

F. BARRIERS/CONSTRAINTS TO EFFECTIVE KNOWLEDGE DISSEMINATION AND KNOWLEDGE SHARING

G. RECOMMENDATIONS FOR IMPROVING KNOWLEDGE SHARING WITHIN THE SHHE SECTOR

THANK YOU FOR YOUR CO-OPERATION

Appendix 2: Electronic survey of sanitation knowledge end-users

2.1 List of responding institutions

Name	Position	Institution	e-mail
David Nicoll	CEO	Albany Coast Water Board	albwater@border.co.za
John Kings	MD	Tsogang Water & Sanitation	tsogang@pixie.co.za or johnkings@tzaneen.co.za
Priscilla Mamabolo	ISD coordinator	Capricorn DM, Limpopo	facilitations@cdm.org.za
H J Badenhorst	HOD W&S	Greater Tzaneen municipality	hjb@tzaneen.gov.za
Rhudzani Khalushi	Manager-Research & Policy	Nzumbululo Heritage Solutions, Limpopo	khalushi@hessa.co.za
O M Mokate	Deputy Director	North West Dept of Health	omokate@nwpg.gov.za
Amogelang Motlhale	Senior Technical Assistant	Polokwane Municipality	Amogelang.m@polokwane.org.za
Jabulile Mhlophe	Assistant Director	National Dept of Health	mhlopd@health.gov.za
Gerhard Lategan	Senior Engineer	Umhlathuze Municipality, KZN	glategan@richemp.org.za
Dumisani Mphalala	Researcher	ESETA	dumim@eseta.org.za
Vuyo Mabandla	Centre Manager	Tombo Sanitation Resource Centre, OR Tambo DM	Tombosrc@telkomsa.net
V Mostert	Manager	Amatola Water, EC	vmostert@amatolawater.co.za
Thabang Motla	Director	Ekurhuleni Metro Municipality	strydomm@ekurhuleni.com
Priscilla Mohapi	Assistant Director	DWAF- Free State Region	mohapip@dwaf.gov.za
T Masakona	Manager	Vhembe DM	082 453 6484
C P Terblanche	Director	Ventersdorp, NW Municipality	Pierre@ventersdorp.co.za
Felix Labuschagne	Manager	Southern District Municipality, NW	flabuschagne@sdm.org.za

Andre du Preez	Consultant	Moedi Consulting Engineers, NW	andre@moedi.co.za
Lindela Tshwete	Head of WS dept	Emalahleni LM	S300291@emalahleni.co.za
Takalani Singo	Environment and Land use Coordinator	SALGA NW	salganw@intekom.co.za
Martha Komape	Manager WS	Madibeng LM, NW	marthakomape@madibeng.gov.za
Munzhedzi Mavusha	Sanitation coordinator	DWAF-Limpopo	mavhusham@dwaf.gov.za
Limpho Klu	Regional Director	Mvula Trust-Limpopo	Limpho@mvula.org.za

2.2 Questionnaire for end-users of sanitation knowledge and information

Target groups: Municipal officials and project implementation agencies

A. DETAILS OF THE RESPONDENT

Name of respondent:.....

Position.....

Name of organization.....

E-mail address:.....

Website address:

B. KNOWLEDGE NEED ANALYSIS

Please tick topics that are of interest to you

Topic	
Sanitation policies	
Sanitation ,Health and Hygiene Education strategies	
Ecological sanitation	
On-site sanitation technology options	
Waterborne sewerage systems	
Health and Hygiene Education	
Institutional and Social Development	
Free basic sanitation services	
Financing sanitation and cost recovery	
Participatory approaches	
Community management	
Sanitation and hygiene promotion	
Monitoring and Evaluation of sanitation projects	
Reuse of wastewater	
School sanitation	
Gender and sanitation	
Wastewater treatment technologies	
Solid waste management	
Other	

C. KNOWLEDGE/INFORMATION PACKAGING

Please tick preferred format of knowledge packaging:

Research reports	
Manuals	
Guidelines	
Tool kits	
CD Rom	
Posters	
Videos	
Brief notes (1-4 pages)	
Language English Other official languages (indicate)	

D. KNOWLEDGE/INFORMATION DISSEMINATION CHANNELS

Please indicate your preferred dissemination channels on a scale of 1 to 3 where 1= most preferred and 3 least preferred:

Channel	1	2	3
Surface mail			
E-mail			
Download from the internet			
Workshops			
Conferences			
Seminars			
Face-to-face meetings			
Walk-in-Resource Centres			
Sanitation help-desk			
Sanitation internet portal			
Advertisements of new reports in: Newsletter E-mail alerts SMS alerts			
Other			

E. Indicate whether your organization would be willing to share its sanitation knowledge/information with other SHHE sector stakeholders through a link with the sanitation internet portal to be established as an output of this WRC project

YES/NO

F. Additional suggestions for improving access to sanitation knowledge/information:

.....

.....

.....

THANK YOU FOR COMPLETING THE QUESTIONNAIRE

Appendix 3: List of interviewed stakeholders

Name	Position	Institution	e-mail
Vuyo Mabandla	Centre Manager	Tombo Sanitation Resource Centre	tombosrc@telkomsa.net
Mike Marler	Manager	DBSA	mikem@dbsa.org
Rudi Botha	Manager	DBSA (LGRC)	rudib@dbsa.org
Ms Ndala Duma	Coordinator	WIN-SA	ndalad@wrc.org.za
Ms Thoko Sigwaza	Director	DWAF-Masibambane	Thokos@dwaf.gov.za
Dr Innocent Msibi	Director	WRC	Innocentm@wrc.org.za
George Tsibani	Deputy Director	DWAF-NSP	TsibaniG@dwaf.gov.za
Ms Marie Brisley	Director	DWAF-Water Services	Brisleym@dwaf.gov.za
Ms Kerry Harris	Communications Manager	The Mvula Trust	kerry@mvula.org.za
Ms Ditshego Makgoro	GEMSA coordinator	NCWSTI	dmakgoro@ncwsti.co.za
Ms N Myburgh		NCWSTI	nmyburgh@ncwsti.co.za

APPENDIX 4: LITERATURE REVIEW REPORT

TABLE OF CONTENTS

LIST OF ACRONYMS

CEN	European Committee for standardization
CoPs	Communities of Practice
DBSA	Development Bank of Southern Africa
DF	Development Forum
DFID	Department for International Development-UK
DPSA	Department of Public Service and Administration
EBRD	European Bank for Reconstruction and Development
GDNet	Global Development Network
GKP	Global Knowledge Partnership
HIV/AIDS	Human immuno virus / Acquired immunodeficiency syndrome
HSRC	Human Science Research Council
ICT	Information and Communication Technologies
IRC	International Water and Sanitation Centre
IPSP	Integrated Provisional Support Programme
IWA	International Water Association
JICA	The Japan International Development Cooperation Agency
KM	Knowledge Management
KSA	Key Strategic Area
LKM	Learning and knowledge management
MDGs	Millennium Development Goals
M&E	Monitoring & Evaluation
NCWSTI	National Community Water and Sanitation Training Institute
NGO	Non Governmental Organization
NISC	National Inquiry Services Centre
ODI	Overseas Development Institute
SAAWU	South Africa Association of Water Utilities
SABC	South African Broadcasting Corporation
SIDA	Swedish International Development Agency
STREAM	Study on resources and management project
UNEP	United Nations Environment Programme
WB	World Bank
WHO	World Health Organization
WIN-SA	Water Information Networks – South Africa
WRC	Water Research Commission
WSP	Water and Sanitation Program
WSS	Water Supply and Sanitation
WSSLG	Water Services Sector Leadership Group
WSSCC	Water Supply and Sanitation Collaborative Council

1. INTRODUCTION

1.1 Background

The main challenge facing institutions that have knowledge creation as a core activity is ensuring that the knowledge produced adds value for their clients and stakeholders. This is necessary in order to justify the large financial investments in research and development. The challenge is exacerbated by the different levels of knowledge and expertise of the users of the information with special reference to the development sector where research outputs have to be accessible to technical and non-technical users including community based development agencies.

A scan of international and national literature on sanitation, health and hygiene education and awareness shows that a lot of research has been done to address all major issues that are responsible for poor progress in the reduction of sanitation service backlog in developing countries. Effective communication and dissemination of this information to decision-makers and sanitation implementing agents at all levels remains a big challenge for the sector. There is a need to for a strategy for improving knowledge sharing, dissemination and communication for the WSS sector. This strategy should identify suitable platforms and channels for knowledge sharing and dissemination; this strategy should include mechanisms for facilitating access to information for municipalities and development institutions that lack access to the internet.

1.2 The concept of knowledge management

It is important to distinguish between knowledge management and data/information management because access to data and information do not automatically lead to knowledge. People can acquire knowledge through reflection and processing of information. There is a general tendency to equate knowledge management to the information and communication technology (ICT). ICT provides an essential tool for managing knowledge. Knowledge management goes beyond ICT to knowledge held in people's heads (tacit knowledge) and mechanisms for sharing this information to build capacity of others.

Box 1: Important KM definitions (http://www.systems-thinking.org/kmgmt)

Data

Data is a meaningless point in space and time, it must be processed to give it meaning.

Information

It is the organization of data into useful form; it relates to description, definition, or perspective (what, who, when, where).

Knowledge

Knowledge is information to which intent has been attached. Information becomes knowledge when one is able to realize and understand the patterns and their implications. Knowledge comprises strategy, practice, method, or approach (how). It can be explicit and/or tacit, individual and/or collective.

Knowledge management

Knowledge Management (KM) entails the knowledge generation, knowledge sharing, dissemination, accumulation and processing of knowledge using various tools such as ICT tools and socio-cultural tools, e.g. workshops, seminars, mentoring, coaching , training etc. (Seppala, 2003). At an individual level, KM means knowing what you need to know, how to make good use of the information and how to share what you know with others. At an organizational level, it is mainly about changing the culture of an organization so that people focus on wider goals and share their skills and information, rather than focusing on their narrow goals and hoarding knowledge.

1.3 Key components of knowledge management

The European Guide to Good Practice in Knowledge Management (CEN 2004) identifies the following five core knowledge management activities that are widely used by most organizations in Europe:

Identification of knowledge gaps

This activity includes analysis of existing knowledge and identification of knowledge gaps (gap analysis). It looks at both organizational level of strategic knowledge needs and the personal level of required knowledge and information. Methods and tools used to undertake this activity include systemic search strategies, brainstorming, mapping techniques and customer surveys and feedbacks.

Creation of new knowledge

At a personal and team level, this can be achieved through training, learning by doing, joint problem solving or brainstorming. At an organizational level, innovation processes are aimed at creating new knowledge for products and services. Knowledge creation can also take place within the research and development function. People bring their existing expertise and knowledge which they use to create new knowledge. Tools for capturing and storing tacit knowledge are important to this activity.

Storage of knowledge

Building of knowledge assets within an organization requires that knowledge be embedded within an organization. Knowledge stored in people's brains, the so-called 'tacit knowledge' must be institutionalized as so-called 'structural capital' within the organization's structures, processes and culture. Technical tools for knowledge storing include document databases, narrative and expertise locators.

Sharing of knowledge

This is the transfer of knowledge to the right place at the right time and it must arrive in the right context i.e. where value is created. New knowledge can be added to databases or distributed via documents and reports. Knowledge can also be transferred from one person to another by direct interaction such as collaboration, workshops, coaching and apprenticeships. Methods and tools that support knowledge sharing include intranet/internet portals, databases, collaboration, Communities of Practice (CoPs), coaching, seminars, workshops and training.

Use of knowledge

Knowledge can only add value to the organization if it is used. Use of knowledge leads to the discovery of new knowledge gaps.

KM needs for the sanitation sector

The main constraint to the acceleration of sanitation service delivery is poor management of available sector specific knowledge. Most of knowledge is located in international development agencies and the key challenges for South Africa include:

- Adaptation of international and national experience in SHHE into the different local settings so that it can be appropriate for local environment.
- Development of capacity in municipalities and other sector institutions so that they can manage the available knowledge and facilitate learning and innovation.
- Identification and support of research needed to make the global sanitation solutions appropriate to the regional and local context.
- Development of a knowledge management strategy for improving access to information and knowledge within the sanitation sector.

The achievement of national and international sanitation targets will depend on access to the right knowledge in the right context at the right time for those responsible for implementing sanitation programmes so that they can deliver sustainable sanitation services.

1.4 Objectives

The overall objective of the study is to improve dissemination of sanitation, health and hygiene education information and to develop effective mechanisms for promoting implementation of best practice by sector players. The focus of the project is on the following:

- Development of sanitation knowledge/information strategy including appropriate distribution channels;
- Development of a knowledge management strategy, this will address the whole process from research gap analysis, advocacy and integration of new knowledge into human resource development initiatives and practice within the sanitation sector;
- Preparation of sanitation best practice guidelines.

1.5 Purpose of this document

The purpose of this document is to review knowledge management experience in the development sector; assess knowledge management practice in selected South African institutions and document methods used to disseminate information to poor communities.

The document presents background information on knowledge management and provides a framework for engaging stakeholders in the development of a knowledge management strategy that is appropriate for SA sanitation sector. An extensive review of KM experience in national and international organizations has been undertaken in order to highlight the complex aspects of knowledge management. A review of methods used to disseminate information to poor communities with low literacy levels is also presented.

2. METHODOLOGY

The following approach will be followed in the development of a knowledge management and knowledge sharing strategies:

- Desktop review of literature on knowledge management in the development sector;
- Analysis of KM experience in selected international and national institutions;
- Development of a KM questionnaire to assess the status of knowledge management and information dissemination in the sanitation sector in selected South Africa institutions;
- Stakeholder consultation to solicit inputs into the development of knowledge dissemination strategy and knowledge dissemination channels.

3. INTERNATIONAL KNOWLEDGE MANAGEMENT EXPERIENCE IN THE DEVELOPMENT SECTOR

3.1 Literature review of knowledge management in the development sector

An Overseas Development Institute (ODI) working paper no.224 prepared by Hovland (2003) highlighted the following issues on knowledge management from a development perspective:

- Knowledge management has an important role to play in assisting the international development agencies in the achievement of goal of poverty alleviation and the Millennium Development Goals (MDGs). KM is also important in building partnerships with different stakeholders and influencing policy process.
- There is a lack of literature on the knowledge needs and specific challenges of Southern institutions.
- Poor access to information and communication technologies (ICT) limits access to information and knowledge sharing activities for researchers and practitioners in the South.

According to Hovland (2003) the following questions are pertinent to the successful implementation of KM in developing countries:

- Can KM increase the responsiveness of development institutions to the needs of the poor? Most development agencies are using KM to address internal information flow in order to improve efficiency; there is limited focus on contribution to knowledge management in the South.
- Can KM improve the impact of the development agencies on the policy process?
- Can KM improve the translation of development policy into practice?
- Can KM contribute to meaningful engagement of the South in international development debates and decision-making processes?

3.2 Knowledge management in the World Bank

The vision of the World Bank is to fight poverty by helping people help themselves and their environments through sharing knowledge, building capacity and forging partnerships in the public and private sector.

The knowledge sharing/ knowledge management strategy of the World Bank is based on the following three pillars:

- Making effective use of knowledge to support the quality of its operations- The thematic groups are responsible for capturing information and processing it into useful knowledge.
- Sharing knowledge with its clients and partners- The Bank has developed a range of new technology-based programs that enhance knowledge sharing capacity.
- Helping clients enhance their capacity to generate, access and use knowledge from all sources – Supporting countries to enhance their development capacity is central to the Bank's mission of poverty reduction (www.worldbank.org).

The Bank's knowledge sharing strategy is implemented through the use of different channels such as advisory services, thematic groups (CoPs), cross-sectoral/multi-sectoral team learning, newsletters, websites, informal and formal learning events.

CoPs of the World Bank

CoPs are informal groups of practitioners from different countries and disciplines that share knowledge to solve real-life development challenges with a goal of adapting global experience to meet the local context. The Bank has two types of CoPs, namely, thematic groups which are internally focused and Client CoPs which focus on external clients. E-discussions are a popular feature of any CoP because of their ability to connect practitioners relatively easily and serve as a platform for answering issues. The success of these CoPs depends on the selection of interesting thematic issues and active facilitation by qualified professionals/practitioners.

Box 2: Lessons learned from e-discussions hosted by the World Bank

i) E-discussions are cost-effective but need to be complemented by other forms of face-to-face communication such as workshops, seminars and videoconferences.

ii) Objectives must be clearly defined in order to ensure that the discussion delivers specific outcomes.

iii) The technology must be kept simple, it must be e-mailed based to enable participation of practitioners with limited access to internet especially those from the poor developing countries.

iv) The success of e-discussions depends on the active facilitation and coordination by a professional with the necessary qualifications and expertise.

v)The topic of the e-discussion and objectives must be advertised widely to ensure a broader participation of professionals and practitioners from both developed and developing countries. (http://www.worldbank.org)

A review of knowledge management at the World Bank conducted by Prusak (1999) showed that:

- Thematic groups were the heart and soul of knowledge management;
- Most staff at the Bank did not have access to a large volume of knowledge resources within the Bank because of the fragmented way in which knowledge resources were being made available on various web-sites.

World Bank knowledge sharing networks
Virtual Communities

These are communities whose members may never interact at a personal level but are connected by the internet for the discussion of topics of common interest. The concept of virtual communities has become increasingly popular at the Bank and other multilateral development agencies because it allows outsiders to make an input into the search for solutions to the development challenges. The Bank has sponsored and promoted the following virtual communities and their success has been variable:

➢ *Global Development Network*

The GDNet represents and online collaboration and tools designed for think tanks and research institutes in developing countries. Its focus is on promoting and sharing knowledge created by researchers in countries such as Tanzania, Bulgaria and India. It uses interactive website and database. Marketing, development of an incentive structure and access remains an ongoing challenge for GDNet.

➢ *Development Gateway*

This was designed as a "one-stop-shop" on the internet for development knowledge with the aim of helping communities, organizations and individuals build partnerships, share ideas and work together to reduce poverty. The challenge of Gateway is updating and adding content and getting participation for its online discussions.

➢ *Thematic Groups or CoPs*

The virtual community side is one of the elements of the CoPs; some thematic groups have been successful at sharing best practice and creating a strong knowledge base. The challenge is the creation of more successful thematic groups that can extend the learning, outreach, and

knowledge sharing to external WB clients and, thus, create a larger and more diverse community.

➢ *Development Forum*

The Development Forum (DF) is the bank's venue for online discussions; it has hosted public and private e-discussions on a range of development topics. Discussions have been sponsored by NGOs, other development agencies, and various WB teams. Participation over a three year period has been very high with as many as 5000 participants from over 160 countries signed up to an individual discussion. The main challenge is the incorporation of the input from discussions into the operational work and finding ways of extending some of the discussions into genuine virtual communities rather than once-off online discussion.

➢ *Global Knowledge Partnership*

The Global Knowledge Partnership (GKP) focuses on the use of information and communication technologies to increase participation of its members in the production, dissemination and use of knowledge and information, so as to achieve sustainable development. GKP has organized global conferences on knowledge management and development in 1997 and 2000. The virtual component of GKP has been unsuccessful because of diversity of partner organizations, lack of unity and time for engaging the partnership members.

Box 3: Lessons learned from the WB experience of virtual communities

The most important lesson learned by the WB is that developing and sustaining strong virtual communities is a challenge. In addition the following lessons have been learned:

Demand-driven: Virtual communities must address members' interest and add value for the participants.

Tools and facilitation: Appropriate tools must be developed to facilitate discussion and the role of an active facilitator to provide leadership to the virtual communities should not be neglected.

Relevance of the topic- Topics for discussion should be focused and address issues of importance to the members daily work and should help them find solutions to problems they encounter.

Participants – The number of participants is only important if all the members are actively contributing to the knowledge base. However, the success of a virtual community requires a "critical mass" of active members who contribute on a regular basis, ask provocative questions and stimulate discussion and learning.

Partnership – Virtual communities consisting of internal WB members and external members are more successful because of the different perspective that is brought by external partners to the debates.

Discussion – Online discussion is the pillar of any virtual community. Open debates with a diverse range of participants promote trust and learning.

Communication tool – The list server or mailing list is a low tech tool that is accessible to a greater number of people, especially, participants from developing countries with limited access to internet. Success of discussions depends on good moderation.

Knowledge infrastructure and localization of global knowledge

Stiglitz (1999) in his keynote address to the first Global Development Network Conference gives a different perspectives on 'scan globally, reinvent locally', he argues that 'best practice' might work well in some countries but fail dismally in other context. He stresses the importance of adapting global knowledge to the local context and this process should allow active participation of local role players who know and understand their institutional environment. Institutions such as the World Bank can scan globally to identify good practice and then play a broker role to facilitate horizontal learning process between developing countries facing certain problems and the countries with successful practices.

The following horizontal learning methods are more appropriate for turning global knowledge into local knowledge:

- **Study tours** to allow knowledge sharing with countries or communities that are more successful ('see how it is done')
- **Cross-training** is being shown how to do it by those who have already done it.
- **Twinning** or **secondments** pair together similar organizations or institutions for a horizontal transfer of know-how.

He addresses the notion of learning how to learn. Global knowledge institutions should help the local knowledge institutions and policy makers to carry out research, experimentation and social dialogue to learn it themselves, thus creating the local knowledge infrastructure and practice entails 'learning how to learn'

3.3 KNOWLEDGE MANAGEMENT WITHIN THE WATER AND SANITATION SECTOR

3.3.1 SANITATION CONNECTION – An internet portal for information on sanitation (http://www.sanicon.net)

Sanitation connection (Sanicon) was launched in 2000 by a group of partners, namely, IWA, UNEP/GPA, WHO, WSP and the WSSCC. Its purpose is to provide a one-stop-shop for information on environmental sanitation. Its aims are to provide a central access point via the internet for relevant, high quality information on environmental sanitation; to guide the user to access appropriate sources of information such as databases, networks and discussion groups and to be the electronic hub for partner organizations which can provide access to information and publications related to environmental sanitation. Specialists from reputable institutions are responsible for developing and maintaining thematic and topical nodes. They provide an up-to-date rigorous overview of information relevant to the particular topic.

Challenges facing potential users of this sanitation portal include the following:

- The target audience who need access to water and sanitation sector includes professionals from the developing countries that have a problem of poor or no internet connectivity or lack financial resources for sustaining the internet services.
- Sanicon is designed to guide readers to information sources, however, it cannot guarantee access to documents described on the site in real-time. This would require a full time editor to ensure that all documents are available in real-time.

An evaluation of the usage of Sanicon (Odhiambo, 2003) showed that Sanicon has been successful in providing a one-stop-shop for information on environmental sanitation.

3.3.2 The STREAM approach to knowledge sharing

The **ST**udy on **RE**sources **A**nd **M**anagement project (STREAM was initiated to support the development of sector capacity through the establishment of resources centres as recommended by the 1994 Ministerial Conference on Drinking Water and Environmental Sanitation held in Noordwijk. The global trend towards decentralization of service provision to the local level increases the potential role for resource centres in building the capacity of local decision-makers and service providers.

Knowledge sharing

An electronic conference was held to provide a clear definition of knowledge sharing within the context of water and sanitation sector. This conference raised the following issues: generation of knowledge, making knowledge useful, networks for knowledge sharing and effectiveness of knowledge sharing via the internet and implications for resource centres and the Streams of Knowledge coalition.

- *Generation of knowledge*

A typical resource centre may be involved in doing research in partnership with universities and research institutions and specialize in providing training to improve sector skills.

- *Making knowledge useful*

The usefulness of knowledge is judged by the extent of usage by the target groups. The following basic conditions must be met to make knowledge useful and relevant:

- **Applicability** in local situations- this requires adaptation of global technical knowledge to the local knowledge base and participation of people who will use the new knowledge is the key element to the success of this process.
- **Packaging** has to be appropriate for the target audience.
- **Accessibility** to the people who need the knowledge to perform their functions.

Networks for knowledge sharing

The fundamental requirements for establishing a network of resources centres in the water and sanitation sector is that it should add value for the members. Members should recognize value of the network and be prepared to commit the time and resources required to maintain it.

The following benefits of a network were identified by Raschid-Sally et al. (2002):

- Prevention of duplication of efforts and resources by sharing knowledge.
- Increase in opportunities for mutual learning experiences.
- Enhancement of accessibility to knowledge especially for members with limited resources and living in knowledge-drought conditions.
- Facilitation of lobbying and advocacy for good practice.

Effectiveness of knowledge sharing via internet

First world countries enjoy easy access to internet while the poor developing countries who need access to information necessary to help them in meeting the MDGs are unable to enjoy the benefits of internet connectivity due lack of skills, infrastructure and poor telephone connectivity. This inequity in access to internet indicate that there is still a demand for other means of knowledge sharing in order to ensure that poor countries are not denied access to the latest WSS information. Resource centres have an important role to play in ensuring access for those professionals and practitioners without easy access to internet facilities.

Emerging issues on knowledge sharing and the development of resource centres

The following ideas for improving knowledge sharing were generated during an electronic conference (Raschid-Sally et al., 2002):

- The role of resource centres as organizations for bridging the gap between research knowledge and practice should be explored;
- There is a need for models for linking research outputs to appropriate dissemination pathways in order to improve knowledge sharing;
- Two-way information flow in support of a bottom-up approach to knowledge sharing is required;
- Enhance the role of resource centres as antennas for assessing demand for new knowledge or knowledge gaps from sector players.

3.3.3 Water and Sanitation Program

Knowledge management has a central place in the modus operandi of the Water and Sanitation Program (WSP). The WSP has operated as a learning organization since its establishment; it has continued to focus on improving the value of knowledge for the water and sanitation sector by creating information that orients sector professionals to new and more effective ways of providing access to safe water and sanitation services.

WSP role as a knowledge broker for the sector assists its client in the following ways:

- Building capacity of sector players;
- Strengthening institutions in governance and regulatory functions;
- Providing politicians, civil society and sector professionals with pro-poor reform information and advice.

WSP continually analyzes its work practices to ensure consistency and quality; it leverages feedback from its customers and clients to improve and update the products and services it delivers to its clients. (www.wsp.org)

3.4 Case studies of knowledge sharing in 4 development agencies

The four agencies studied by King &McGrath (2003) include the Swedish International Development Agency (SIDA), Department For International Development (DFID), The Japan International Development Cooperation Agency (JICA) and European Bank for Reconstruction and Development (EBRD).

Knowledge sharing strategies

Knowledge sharing is not the focus of the vision for the four agencies.

DFID- The emphasis is on the dissemination of its development knowledge to partners to influence their practice. The profile of knowledge sharing was raised in 2001 through the establishment of a Deputy Director-General post for knowledge sharing.

SIDA- The importance of knowledge for development is highlighted in vision of SIDA ('Knowledge is our most important resource', Sida 1997).

JICA- No strong emphasis on knowledge is present in key policy documents except reference to support of creation of local knowledge rather than global knowledge.

EBRD- It does not have knowledge vision in its mission statement.

Scope of activities in Knowledge Sharing in the four institutions

The knowledge sharing activities range from a highly technological approach to formal knowledge transfer that relies on human-centred interactions which stress organizational learning and capacity development more than knowledge dissemination.

DFID sees the COPs as informal interactions which are not managed. JICA sees COPs as very important to the success of knowledge sharing which must be properly organized and managed.

Intranet is being used by all agencies as a way of facilitating effective internal knowledge sharing. SIDA has not supported the intranet approach; however, the possibility of e-learning has been investigated.

Externally-focused knowledge sharing activities

DFID is focusing on developing the skills and knowledge of staff so that they can promote the adoption of policies and practices that reflect DFID's view of what constitutes 'best practice' knowledge. SIDA stresses mutual knowledge creation and learning with their development recipients. JICA prefers focusing on infrastructural and institutional support. DFID has been a strong innovator in supporting knowledge

networks and websites since 2000 through its Knowledge Policy Unit and a number of sector departments. Both DFID and JICA are supporting e-learning initiatives.

JICA has supported South-South collaboration and knowledge sharing through sponsoring a series of Tokyo International Conference on African Development. Japan has also sponsored joint meetings on development between African and Asian economists and politicians to discuss inter-continental lesson learning. SIDA uses twinning as an approach of supporting capacity building in Swedish civil society and in partner countries. Twinning is based on a philosophy of mutual learning, rather than knowledge transfer.

Monitoring and evaluation

- None of the evaluated agencies have undertaken evaluation of knowledge sharing activities .Knowledge sharing is currently not part of staff performance evaluation but all the agencies are in different stages of developing performance indicators for knowledge sharing.
- Indicators for monitoring knowledge sharing in the agencies are under-developed, more work is required to develop appropriate indicators because of the informal nature of learning and knowledge sharing.
- SIDA uses the annual Human Resources Report to report its learning activities within SIDA. This report shows that about 5% of SIDA staff time is spent on formal learning activities.

The evaluation study shows that there is no common understanding and approach to knowledge sharing. DFID's approach to Communities of Practice stresses the informal nature of knowledge sharing and seeks to do little to interfere with its operation. On the other hand JICA emphasizes the importance of doing knowledge sharing well and seeks to achieve this through formal structures and management. The study also shows successful external knowledge sharing has not been driven by any explicit corporate strategy.

4. SOUTH AFRICAN EXPERIENCE OF KNOWLEDGE MANAGEMENT

4.1 National strategic context for knowledge management within the water services sector

The Water Sector Leadership Group (WSSLG) identified knowledge management, best practice promotion and information dissemination as a strategic priority for the WS sector in 2002.

The Strategic Framework for Water Services (2003) identifies knowledge networking as one of the six mechanisms for supporting the establishment of capable, effective and efficient water

services institutions; this is necessary to support the sharing of best practice across the sector. The Water Information Network- South Africa (WIN-SA) has been established with funding from the Masibambane to facilitate the process of knowledge sharing.

South Africa is one of 18 countries that are participating in a global initiative, Streams of Knowledge, coordinated by the IRC and funded by the Netherlands Government to strengthen resource centres and promote structured forms of collaboration worldwide. The Water Information Network (WIN) has been established by the WSSLG as a network of South African organizations active in the field of water and sanitation sector. The mission of WIN is to facilitate the creation of a well managed body of knowledge for the WS sector, which is readily accessible and applied and contributing to improved decision-making and performance by the local government and other sector stakeholders.

Box 4: Governance and management of WIN-SA

WIN is hosted and chaired by the Water Research Commission and a steering committee comprised of representatives from WS sector departments, the Mvula Trust, SAAWU, NCWSTI, NISC and IRC. Funding of WIN is provided by DFID and Masibambane WS Sector Support Programme. The Steering Committee reports to the WSSLG through the chair of WIN.

The main objectives of WIN is to improve access and use of information/knowledge as required by the users within the WS sector; to create a culture of learning and knowledge sharing amongst sector stakeholders and to strengthen water services centres and maximize returns on the existing investment in information/knowledge initiatives (2004 WIN Business Plan)

4.2 Knowledge management experience in selected institutions

4.2.1 Water Research Commission (WRC)

The mission of the WRC is to strive to continuously improve its position as the dynamic hub for water-centred knowledge, innovation and intellectual capital in South Africa. It provides leadership for research and development through the support of knowledge creation, transfer and application. To support this mission, the WRC has a dedicated Water-centred Knowledge Key Strategic Area (KSA). This KSA focuses on key aspects of knowledge management that are of importance to the water sector and affect the efficient and effective operation of the organization. For the WRC, knowledge management is considered as the process through which value is generated from the organization's intellectual and knowledge-based assets. Knowledge management deals with knowledge sharing and knowledge dissemination to meet the objectives of the WRC in its knowledge creation and learning activities. It develops a culture based on the understanding that 'knowledge resides in the user and not in the collection of information'. The WRC through this KSA acts as a resource centre to meet information requirements of the WRC and its external stakeholders and clients (www.wrc.org.za).

4.2.2 The Development Bank of Southern Africa (DBSA)

The vision of the Development Bank of Southern Africa is to become a knowledge Bank, a centre of excellence that can provide not only loan funding but a value added package of knowledge products and services that would maximize the development of its investment. DBSA recognizes that knowledge is a critical element of socio-economic development, thus it sees knowledge management as critical strategic imperative for the Bank. Its knowledge management strategy is build on five pillars, namely, knowledge culture, learning organization, knowledge exchange, knowledge accounting and knowledge partnerships.

DBSA's strategy for knowledge management

Knowledge culture – i.e. capitalizing on the existing knowledge and the enhancement thereof. This involves the identification of culture barriers and development of plans to address the barriers; formulation of knowledge goals and performance measures; motivate knowledge workers to share their knowledge and reward creativity and innovation.

Learning organization – i.e. continuous focused learning that builds the knowledge capital. This requires increased collaborative learning in order to make a meaningful development impact on the lives of the poor. This can be achieved through development and transfer of skills through staff exchange, internship, professional associates and fellowship and mentoring/coaching programmes as well as expanded on-the-job training; conversion of project experience and evaluation into learning vehicles and leveraging the knowledge gained through external formal courses.

Knowledge exchange – i.e. knowledge flows within the DBSA and between the DBSA and its clients, partners, stakeholders and beneficiaries. This includes knowledge sharing through systematic capturing and organizing the wealth of knowledge and experience of staff, clients, stakeholders, beneficiaries and partners; making this knowledge readily accessible internally and externally; linking interested groups and knowledge communities that work on similar initiatives. Knowledge sharing can be enhanced through:

- Structured development dialogue and debating series by leading development practitioners to exchange experiences and innovations;
- Intranet/internet access, development publications and help-desk facility as a call centre to address enquiries, and provision of advice;
- Establishment of knowledge and learning dissemination points (Multi-purpose Community Centre networks);
- Information and development support materials- packaged materials for informal and formal external systems.

Knowledge accounting – i.e. quantification and reconciliation of knowledge management efforts and resources. This refers to continuous evaluation of knowledge to determine the appropriateness of current system. This can be done by using regular knowledge surveys and audits; knowledge inventory management, including data archiving and retrieving; quantification of knowledge generation and utilization; identification of sources and applications, and identification of current and potential internal and external users; Knowledge benchmarking and tracking; knowledge reporting to be included in the Annual reporting.

Knowledge partnerships – i.e. sustained and enhanced partnerships based on the common goal of enhancing development knowledge. The DBSA is a knowledge broker and relies on other organizations and individuals for its development knowledge requirements. Smart partnerships with communities of research and practice such as tertiary education facilities, research institutions, government departments and non-governmental development agencies will enhance the knowledge base of the Bank. The partnerships are critical to effective knowledge transfer, national and regional cooperation, creation of networks, capacity development and penetration of development markets.

Implementation of the knowledge management strategy

Knowledge management function is not restricted to a specific group but is an integral part of the whole organization and the knowledge cluster is responsible for cross-cutting skills which is also responsible for the facilitation of the management of knowledge in the Bank. A Knowledge Management Committee was established and championed by the knowledge cluster; this committee is responsible for ensuring that the knowledge strategy is institutionalized and maintained. It is responsible for conceptualizing, initiating and nurturing the five pillars of the KM strategy.

The DBSA has established the following bodies in support of its knowledge management strategy:

Communities of Practice

The DBSA has created six Communities of Practice (COPs) to ensure consistency in its modular approach to project preparation, appraisal, implementation, monitoring and evaluation. These are made up of analysts and specialists who have an in-depth knowledge in the specific dimensions of sustainable development. The six COPs are:

- Economic Community of Practice
- Environmental Community of Practice
- Financial Community of Practice
- Institutional Community of Practice
- Social Community of Practice
- Technical Community of Practice

Rural Forum
The Rural Forum exists to share knowledge and improve understanding amongst development practitioners in facilitating a more broadly co-ordinated approach to the development of rural communities. (www.dbsa.org)

4.2.3 Human Sciences Research Council (HSRC)

Knowledge Management is one of the programmes of HSRC; its main activity is knowledge production, measurement and sharing. Focus areas for the programme cover overlapping domains namely, Information Society, National System of Innovation Studies and Knowledge intensive research organizations. It is not clear how this KM programme promotes knowledge management within the organization and there is no explicit KM strategy for the organization. Success of this programme is measured by the increase in the number of projects and publications; this indicates that KM at the HSRC is defined narrowly as the production of knowledge without addressing the broader aspects of KM. (www.hsrc.ac.za)

4.2.4 Department of Public Service and Administration (DPSA)

The Department of Public Service has established the Learning and Knowledge Management (LKM) Unit to facilitate sharing of lessons learned and knowledge generated from the Integrated Provincial Support Programme (IPSP) within government. (TradeInvestSA, July 2005).

Objectives of the LKM unit are the following:

- To facilitate public-service-wide platforms for learning and knowledge management within the public service;
- To generate and coordinate learning products on service delivery improvement in the public service;
- To facilitate strategic framework to support the culture and practice of learning and knowledge management in the public service;
- To facilitate and incubate learning networks on service delivery improvement in the Public Service.

The LKM unit has developed the following learning and knowledge management platforms for government institutions:

- A Service Delivery Review Journal – forum for exchange of information
- Annual Service Delivery Learning Academy was launched in 2002; this a three day annual event for showcasing experience and lessons or innovative service delivery approaches for DPSA. The target audience for the academy includes heads of service delivery institutions which serve as an interface between government and the public.
- Learning networks – these are groups of practitioners who share ideas, experiences, lessons learned and insights on specific themes and help one another to find solutions to problems and develop a common practice or approach to the field. Learning networks have been established at national and provincial levels. Examples of national learning networks include the Batho Pele learning network, the Project and Programme Management learning network and M&E learning network

5. REVIEW OF KNOWLEDGE AND INFORMATION DISSEMINATION METHODS USED TO TARGET POOR COMMUNITIES

Dissemination of information to poor communities with low level of literacy poses a major challenge because electronic or print media are not accessible to these communities. The development of any society is dependent upon speedy access to relevant and reliable information to enable communities to make decisions that affect their lives. Reference is often made to capacity building programmes for the rural and urban communities, especially the poor, but such initiatives depend heavily on availability of information necessary to empower the recipients of such initiatives and enable them to move out gradually from a position of dependence. Amongst a number of considerations regarding access to information for poor people are the questions of strategies for information dissemination and formats in which it is delivered to the target groups. Mchombu, quoted by Leach (2001) states that the "relevant content must be supported by appropriate presentation if information products are to have the desired impact. The content might be right but if the presentation is inappropriate the communication process will not be successful." This implies that presentation formats should be ones that can be accessed by the audiences for whom the information is intended. A number of studies have been undertaken in various fields on the methods used disseminate information to poor communities in both urban and rural areas. Reference here is made to a few studies on information dissemination media.

5.1 Oral means of information dissemination

In most studies reviewed, personal contact and village meetings are preferred methods of oral communication. The oral and verbal communication channels are preferred because they do not require any technology (Leach, 2001). However, the information so communicated lacks permanence and is often distorted during transmission from one person to another. In modern times such methods have been combined with technology, such as audio-visual media or the radio in order to facilitate transmission across distance. According to Darnton (2004) the use of songs as a means of circulating information of any importance was popular before the advent of the community newspaper. The news that was favoured mostly by people came in the form of songs: any interesting and important incident was expressed in song. As time went on, more and more verses would be added to the song and distortions would occur along the way, but songs were a running commentary on current events. For that era the above-mentioned means of

communication served their purpose. Even today some songs still carry very potent messages on current issues such as politics, epidemics such as HIV/AIDS and cholera and national disasters such as floods.

Oral communication on a one-to-one basis

Leach (2001) states that sometimes organizations such as NGOs would identify an individual from a community who was used "to initiate a process, assist in identifying groups, spread the message, motivate, support" and such a person was then used as a contact. It was sometimes necessary to establish initial contact in a community with an individual who was a leader such as a chief, an induna, chairperson or member of a committee.

Oral communication on a group basis: workshops and meetings

Schilderman (2002) refers to what he calls "key informants" as an important medium. He defines them as "*people inside, or sometimes outside a community who are knowledgeable in particular* livelihood aspects, and are willing to share that knowledge". Some of these informants might not always have accurate information and thus they might provide unreliable information; this might be a problem for local people who have no way of checking the reliability of what they supply. With regard to information dissemination he believes NGOs perform better than the public sector in the transmission of knowledge, though some NGOs are accused of pushing their own agendas, gate keeping or circulating inappropriate information. From operations of NGOs observed, they do fulfill an important role in disseminating information to outlying communities, even those that seem to have been ignored by the public sector. Such agents will then deliver their information at public gatherings such as meetings or workshops.

Workshops have become popular as means of transmitting information to community groups, for example, development forums hold workshops for purposes such as training, capacity building and even team building. Workshops can be regarded as a useful means for disseminating information because of their interactive nature and the fact that there is an element of sharing because of the exchange of ideas. Leach (2001) stresses the need for creating an atmosphere of trust which facilitates honesty.

Another element considered important in disseminating information in communities is working through established groups and not ignoring them. The idea is to acknowledge that groups are

formed for specific purposes and using their coherence to communicate information because as people with a common goal it is relatively easy to win their trust and thus work harmoniously with them.

5.2 Drama/Theatre

According to Leach (2001) although drama/theatre can be viewed as another form of oral means of presentation, it can be regarded as a medium in its own right because it combines oral tradition with dramatization. Even though theatre has been used since the ancient Greek age, the use of drama to specifically present information is fairly new. In the South African situation, an example of live drama or theatre is the Department of Health's production of Sarafina II which conveyed the HIV/AIDS message. Durban Metro has also successfully utilized drama to teach communities about proper operation and maintenance of waterborne sanitation systems. Many communities are able to understand fully the messages contained in drama presentations. It is, however, an expensive medium to use and sometimes the poor infrastructure in rural areas makes it difficult to transport professional productions to these areas. Nevertheless, NGOs working in such areas do put up amateur productions.

In many areas of KwaZulu-Natal both urban and rural, puppets were used extensively as a means of disseminating information, especially after the outbreak of the HIV/AIDS epidemic. It was thought to be very effective because of its visual nature.

5.3 Role play

Role play is mentioned by Leach (2001) as a medium that is not so easy to use on its own but can be used as introduction to subsequent verbal interaction. In the survey he conducted on NGOs there was mention of the fact that it could be used to provide information or just to create a situation to facilitate the provision of information. Because it is fun and entertaining it encourages direct participation and discussion afterwards. Wishart (1998) also refers to role-playing as a means of educating rural communities about the new National Water Act.

5.4 Radio

Radio is used extensively in various places as a means of disseminating information because most households have access to a radio. Leach (2001) mentions that a number of NGOs he interviewed on the use of radio referred to its broadness in terms of the audiences it reaches, including communities who cannot accessed by road or in print. The radio can reach a larger audience and offer an alternative to the printed handbook; this makes it more suitable for disseminating information to illiterate people. Public radio provides a useful vehicle for the dissemination of information because of its low cost, accessibility and apparent effectiveness.

The use of radio for information dissemination is also mentioned in a 1991 study cited by Maveneka on rural women in Zimbabwe, a project that was called the 'Radio Listening Clubs" (Leach, 2001) where both radio and audiotapes were used to provide information to rural women. The women recorded their concerns, needs and problems on audiotape and these tapes were followed up by the appropriate agencies or government department and their responses on these issues were broadcast on a radio programme.

Leach's survey on NGO use of radio also points out that radio was also used to publicize NGOs and advertise meetings. It was also seen as a convenient medium because it reached areas that could not be reached because of bad roads or because of limited literacy (Leach, 2001).
In the South African situation radio is used extensively for dissemination of information because all languages are catered for by the SABC.

5.5 TV and Video

Television and video have been regarded as powerful media for communication in the 20th century. However, the effectiveness has been limited by factors such as the availability of technology, e.g. electricity in both rural and urban because of the problems of poverty. Where these media are used they are often not used alone but are often used as means to stimulate discussion or reinforce what has been discussed. Sturges and Neil (1998) reported on such use and referred to the seductive nature of these media and the fact that they might overshadow the information or message they were supposed to carry.

5.6 Health Kiosks

Fintor (1998) refers to the use of health kiosks by researchers at the University of Michigan Comprehensive Cancer Care Centre to provide information on cancer and other related health risks. The kiosks used interactive television-like touch screen programmes to present health messages to suit user needs. The kiosk uses a combination of digital audio and video to communicate health messages that are suitable for a wide range of ages and educational levels.

The kiosks are placed in high foot traffic areas such as shopping malls, departmental and grocery stores, health clinics and libraries and resource centres, low income neighbourhoods were especially targeted. Different health topics were covered, e.g. prostrate cancer, breast cancer, child immunization. The kiosks have telephone numbers for free or low cost services such as mammography, cancer screening. Print-outs can also be made at the kiosks.

The kiosks were found to be very successful as means of disseminating information because of their flexibility to respond to consumer demands and for catering for people from different socio-economic backgrounds. Because of the young generation's interest in new media the kiosk were thought to be a good idea even for tertiary institutions.

Information in kiosks was also packaged in other formats, for example, CD-Rom or down-loaded into corporate intranet computer sites.

5.7 Posters and pictures

Posters and pictures as examples of the visual means of communicating are regarded as being very useful in cases where literacy levels are very low. A study by Sturges and Neil (1998) which involved HIV/AIDS had respondents stating how useful it was to have such media because people can see what actually happens and the picture makes a lasting impression. As with a few other media, posters are usually used in conjunction with other media and help to get people talking. They are very useful for people with very limited or no literacy skills at all. Stilwell (1991) refers to the use of tapestries by women in Botswana to depict themes from incidents in their lives, current events, etc. The tapestries were then hung for display at some central meeting place and thus became a focal point for discussion.

6. CONCLUSION AND WAY FORWARD

6.1 Conclusion

The literature review on knowledge management within the development sector shows that only the World Bank and the Development Bank of Southern Africa have KM as the centre of the organizational vision and mission. Both institutions have an explicit KM strategy which drives all the organizational activities. Evaluation of KM experience within the World Bank shows that success has been achieved in several knowledge management platforms that have been established to promote knowledge sharing. No information was available on the evaluation of the impact of the KM strategy of the DBSA. In other institutions assessed as part of the literature review , KM was a separate programme and no explicit KM strategy was in place to integrate KM into all organizational activities.

Evaluation of KM implementation in the developing countries show that there is still a need for knowledge sharing platforms that are not dependent on internet because of poor electronic communication infrastructure in some developing countries in order to make sure that the poorer countries are not excluded from participating in knowledge sharing initiatives.

From this literature review, it is clear that internet alone will not solve the problem of knowledge dissemination for rural towns and municipalities who are not connected to the ICT infrastructure; innovative methods are necessary to enable the remote rural municipalities and towns to access sanitation, health and hygiene education information and knowledge they need to accelerate sanitation service delivery to their communities.

The review also showed that unlike international organizations, most South African institutions within the water sector do not post reports on their websites so that users can easily download the information they want.

6.2 Way forward

This document will be used as a background document for the development of guidelines for a knowledge and information dissemination strategy and dissemination channels for sanitation knowledge and information.

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Other related WRC reports available:

The evaluation of the anaerobic baffled reactor for sanitation in dense peri-urban settlements (ABR).

Foxon KM; Buckley CA; Brouckaert CJ; Dama P; Mtembu DZ; Rodda N; Smith M; Pillay S; Arjun N; Lalbahadur T; Bux F

The provision of water and sanitation services to previously unserved communities is a South African development priority. No single technological solution is universally applicable to solve this backlog and a solution for a particular community requires that a range of technologies to be available for consideration. One option or type is the anaerobic baffled reactor (ABR) as a possible technology for the treatment of water-borne sewage. This system was originally developed for high-strength organic loads as found, for example, in agro industrial effluent. The ABR's particular attributes are that it provides for efficient COD removal, does not require external power and has been shown to be resilient to shock loads (hydraulic and organic loading). The motivation for this project was that, in Durban, it could take approximately 20 years for water-borne sewage to be provided to some of the dense peri-urban communities of the Metro. Because of the lack of availability of water, both for consumption and household use, the wastewater produced from these areas is concentrated. Moreover, the ambient temperatures in KwaZulu-Natal are relatively high. In this context, it was hypothesised that the application of the ABR could provide an immediate solution to the sanitation problem in dense peri-urban areas, where it could be used to treat the domestic wastewater of a small community. The density of dwelling and the topography of these settlements negate the possibility of implementing treatment options such as anaerobic ponds or wetlands. The ABR is similar in design and application to the up-flow anaerobic sludge blanket (UASB) but requires no special granule formation for its operation. The ABR has alternately hanging and standing baffles, which divide it into compartments. The liquid flow is alternately upward and downward between the partitions. A sludge blanket accumulates by settling in the bottom of each compartment, and the liquid flow is forced through this blanket as it passes under each hanging baffle. Good contact between wastewater flow and active biomass is ensured by this design. In principle, all phases of the anaerobic degradation process can proceed simultaneously in each compartment. However, the sludge in each compartment will differ depending on the specific environmental conditions prevailing and the compounds or intermediates to be degraded. This project was undertaken to determine the appropriateness of an anaerobic baffled reactor in treatment of domestic wastewater in low-income communities. A pilot ABR was built and operated at two municipal WWTPs and operation in terms of chemical and microbial performance was characterised under a number of different operating conditions. A study was performed in which water use patterns and wastewater characteristics in a low-income community were measured. These data were incorporated in a model to predict the performance of the ABR would perform in a low-income community. Based on experiences with pilot ABR, a series of design, operating and maintenance guidelines were developed for future installations. The pilot ABR operated fairly smoothly, showing good biological activity in all of the operating periods. Almost all the problems associated with operation of the system were related to the feeding system and peripheral equipment required to sample wastewater from a much larger flow. These included pump blockages, wear and tear on the compressor and pneumatic valve, limitations of the programmable logic controller (PLC) algorithm and blockages of the effluent pipe at the magnetic flow meter. In a community installation, none of these problems will occur since the ABR unit would be gravity fed, and would treat the entire wastewater flow generated. The ABR was found to be a robust treatment system, with biological and hydraulic advantages over septic tank systems, and with considerably reduced installation, operation and maintenance costs compared to aerobic or centralised systems. It also provides an option for communities with dry sanitation that aspire to waterborne sanitation. However, the ABR was not able to treat wastewater to an acceptable chemical and microbiological standard alone. There must be some post-treatment step and appropriate reuse or discharge method implemented with the ABR as an integrated sanitation system, since unpolished ABR effluent is not fit for discharge to surface or groundwater or for direct use in agriculture. As with septic tank systems, the ABR has no intrinsic mechanism for managing build-up of inert solids. Therefore an installation treating domestic wastewater must include a screening and grit removal pre-treatment step, or a maintenance plan for regular degritting of the first compartment should be in place. A key factor in the management of inert solids in the ABRs to educate system users to avoid disposing of unsuitable substances into the wastewater treatment system. The ABR meets several critical requirements, namely, it does not require energy for operation; require slow maintenance; is compact and could be mass-produced. Several ABRs could service small sub-groups within an area and eventually connect to a sewer system for further treatment at a WWTP. Some limitations of the ABR are: no nutrient removal; and insufficient pathogen removal.

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