Part 1
Introduction

1.1 Abstract

This document reviews the interim findings from Phase 1 of a Department for International Development (DFID) funded project (R7127) concerning the development of practical guidelines for research dissemination strategies. Results from a review of literature, case study analysis and interviews with key informants are discussed.

A total of 32 documents were examined in the literature review and discussion has been summarised according to relevant themes. Four selected case studies are presented to highlight both effective and less effective approaches to research dissemination, and the findings also draw on interviews with key research contractor staff involved in managing research projects for DFID and other donor agencies. Discussion of the key issues arising from analysis of these three activities is presented. The findings conclude with recommendations for Phase 2 of the project.

The purpose of Phase 1 is to understand current thinking and approaches to dissemination of research as adopted by sector based agencies both in the UK and internationally. This facilitates an initial analysis of common dissemination strategies used, problems and constraints experienced, and factors that aid effective dissemination. This in turn is used to provide tentative guidance for research contractors and DFID alike for dissemination of projects.

1.2 Methodology

Methodologically, a variety of techniques (both quantitative and qualitative) were employed during Phase 1.

For the literature review, a mix of document types were searched at the WEDC Resources Centre, including published project reports, books, academic and professional journals, conference papers and grey literature sources. Electronic databases were searched using selected keywords to collate relevant references for inclusion in the review. The critical database on dissemination related issues was found to be the Social Science Citation Index (years 1990-98), although other databases, including Article First, Net First, and Contents First were tried.

The case studies presented in this document seek to pose questions about *how* and *why* various research contractors approach dissemination. A multiple case study approach was adopted, with emphasis on literal replication so that corroboratory evidence could enhance the analytical generalizations drawn from the studies.

Semi-structured interviews were conducted with 13 key informants as a means to understand how individual research contractors approached dissemination of research outputs. In the majority of cases those interviewed were personnel from UK based organizations (in 11 cases), although a one day visit to the IRC International Water and Sanitation Centre (IRC) in the Netherlands permitted access to valuable non-UK perspectives on dissemination.

A picture of previous and current dissemination strategies employed by DFID research contractors was compiled by consulting with a series of ENGKAR bid documents. The dissemination pathways employed in each document were recorded and compared. Due to limited access to these documents at DFID Headquarters in London, the analysis presented here is based on the bid documents from three research contractors.

E-mail correspondence with the information officers of various sector agencies and other contacts based in Switzerland, the Netherlands, Colombia, Tanzania, Sri Lanka and Zimbabwe helped provide a broader input to the research.

Part 2
Literature review

Key points

- Information and knowledge tends to stay where it is generated. Hence the need for more effective dissemination strategies for research
- A critical challenge is to improve the accessibility of research, not only in terms of its physical availability but also in terms of user comprehension
- It is recognised that the linear, unidirectional model of information flow lacks credibility. Interactivity, feedback and the central position of users in dissemination need to be stressed
- Reliance on a single research output will rarely meet the needs of all target audiences; researchers should produce more than one kind of output, and disseminate it through a variety of media to maximise exposure
- The importance of intermediaries as interpreters of research results is critical for the adaptation of findings to the local context
- Support to active research networks and the creation of new ones, especially those that cut across intellectual or institutional boundaries, is to be encouraged (Platt, 1987: 196)
- The main barriers to improving dissemination are ones of time and institutional (dis)incentives acting on the researcher
- Not all researchers have the will or the skills to be active disseminators themselves, but if donor agencies wish to see more active dissemination they might influence this by the way they distribute their resources

- There are many methodological problems associated with dissemination impact. How can the impact arising from the use of a particular dissemination pathway be disentangled from the importance and value of the research findings themselves? How can dissemination impact be measured?

- A key conclusion was that dissemination activity per se should not be confused with the *impact* of the research disseminated

2.1 Publications reviewed

The review was widespread and covered a variety of document types (published and grey literature, books, leaflets, academic and popular journal articles). A total of 32 documents were consulted.

Within the WS&S sector, there is relatively little explicit consideration of dissemination of research as an issue in its own right. Typically, the sector's main preoccupation of recent years has been with Information, Education and Communication (IEC) issues, and it is within these publications that dissemination appears, although normally as a secondary issue.

Two (unexpected) outcomes from the review were firstly the discovery of several valuable dissemination related texts focused on social policy research produced by the Department of Health. In particular, work by Platt (1987) and Richardson et al (1990) proved to be of key importance. Similarly, the disciplines of women's health contributed important documents to the review. Secondly, a parallel DFID sponsored initiative (managed by the Max Lock Centre, University of Westminster), originating within the urban planning section of Engineering Division, has provided useful source material.

Although this research focuses on dissemination issues, it is clear that this cannot be entirely divorced from aspects of the communication debate, and therefore, the literature review touches on a broader spectrum of subjects than dissemination alone.

A list of references consulted can be found in Annex I.

2.2 Note on terminology used

In reviewing the literature, it became clear that many terms are used inconsistently, or meaning had been interchanged from one text to another. In an effort to clarify this situation, this document draws on an IRC/WSSCC text (Gorre-Dale et al, 1994) which includes some working definitions of key terms:

Data: recordable facts

Information: meaningful combinations of data

Knowledge: the sum of what is known by an individual, or about a subject. Knowledge is created through the accumulation of selected items of information. Knowledge is information which has been interpreted and made concrete in the light of the individual's understanding of the context (World Bank, 1999)

Communication: the transmission of data, information or knowledge between two or more points.

In this context, **dissemination** relates to the mechanisms by which data is transmitted. Snowsill (1995) suggests that dissemination is an active concept, one in which information flows from a source and is targeted and tailored for the intended audience. Lomas (1993) supports this definition of dissemination.

Throughout the document when discussing the term 'information', there is an assumption that this refers to research which falls into one of the four basic types of sector based information (Visscher, (1998)), including:

- **Operational project and sector**: relating to the progress and impact of sector projects and programmes
- **Technical**: covering technologies and methodologies
- **Management**: information generated for use in the planning, administration and day to day operation, management, performance and evaluation of specific institutions
- **Public**: to increase public awareness at global, regional and country level about the value of WS&S.

These categories of information need not be mutually exclusive; the important element is that the information is tailored to the needs of specific users.

2.3 The need for improved dissemination

The importance and significance of improved sector dissemination has been acknowledged and recognised at various international fora (Visscher, 1998; Lewando-Hundt and Al Zaroo, 1999). Two explicit examples of this acknowledgement include the United Nations Conference on Environment

and Development (UNCED), which identified weaknesses in information management and sought ways of improving the sharing of experiences and dissemination of information, and Chapter 40 of Agenda 21, which argued that all stakeholders are users and providers of information, thereby indirectly emphasising the need for dissemination.

The recognition of the central place for sector dissemination has begun to filter down to key institutions in the international community, who increasingly advocate the need for relevant, timely information on available knowledge and past experience in the sector. The Research Councils in the UK, and the European Commission both specify that research proposals must carry strategies outlining dissemination and user engagement (Lewando-Hundt and Al Zaroo, 1999). The World Bank has stressed the importance of 'knowledge management' as a guiding principle in its operations, and the 1998 World Development Report, entitled *Knowledge for Development*, stressed the role of knowledge in advancing economic and social well being. Similarly, DFID's own White Paper on International Development echoes this new thinking about knowledge transfer,

> "*Research is an important weapon in the fight against poverty. Without research, many development interventions would fail or be much less successful; and research has significant multiplier effects - solutions to the causes of poverty in one part of the developing world may well be replicable in another. The principle of shared knowledge is an important component of the partnerships which are essential to development. The government sees the continued investment in knowledge generation as a key element in achieving its aims and objectives for international development.*" (DFID, 1997)

Furthermore, the White Paper recognises the role of effective communication,

> "*Much knowledge is already available but often it needs to be adapted to the particular circumstances of developing countries. In other instances, existing knowledge is insufficient and investment in new knowledge, research and technology development is needed. Results need to be communicated effectively and the conditions created in which they can be implemented.*"

The concept of knowledge sharing for development is not new, nor particularly innovative, indeed many commentators argue that it is a vital step in the research life cycle (Hénault, 1991). The long standing problem is that

the transfer of information is inherently difficult, since even those with knowledge may not be conscious of what they know or what its significance is. Because knowledge has a tendency to stay where it is generated (what Hevey (1994) described as knowledge's 'sticky' characteristic), the need for improved dissemination is as critical an issue as ever. According to the literature reviewed, this need revolves around three broad arguments: the need to address the failure of existing policies and methods, the need to avoid loss of knowledge and the need for value for money.

Sector professionals are beginning to question old orthodoxies about research and its place in international development, and indirectly are questioning the efficacy of existing policies towards dissemination of sector knowledge. Mutter (1998:1), reflecting on how the Habitat Agenda was disseminated, poses a simple but provocative hypothesis,

> 'That far too large a proportion of the research that is undertaken in the field of Urbanization...remains far too inaccessible to the people that really need to be able to make use of it in the field'.

Assuming this premise to be true, the author questions the need for *more* research, and argues that increased emphasis should be placed on new mechanisms for knowledge transfer and the measurement of the success of its implementation in the field. Similar comments are recorded by the Max Lock Centre (1998) when describing the inadequacy of the current research communication process,

> "*...the transfer, as well as the creation, of knowledge is critical, though it is often seen as an additional and optional extra and, at worst, is not considered at all*."

Accordingly, much of the research produced through programmes such as ENGKARS is unavailable to the poor or those agencies who represent them.

Walt (1994:234) in a discussion of how research influences policy states,

> "*...both the research community and policy makers accept that much research communication, whether through reports to sponsors or funders or through scholarly journals, is esoteric, opaque and unclear.*"

This point is supported by the Max Lock Centre (1998) who argue that existing media and dissemination pathways have proved inadequate to the task

of wider transmission of research findings. Publications, radio and television responses, videos, manned enquiry services, even when successful hardly make a discernible impact on the development needs of the poor. New uses of existing media, and new methods of delivering research will need to be developed if the impact of research on development is to be adequately assessed. For the benefits of research in development to be appreciated, the failure of existing approaches to sector communication need to be urgently addressed.

Box 1: Importance of dissemination

The more local the research topic is set and developed, the better the chance that the research results will be disseminated to people who will put them in practice. An example is the unique Netherlands Development Assistance supported multidisciplinary long-term research programmes for development. Since 1992 scientists in Nicaragua, Bolivia, Mali, Uganda, Tanzania, Vietnam, India and Bangladesh were given the freedom to set and implement their own research agenda with Dutch funding. The only condition was that the research had to aim at poverty alleviation. The research scientists in combination with policy makers and people at the grassroots level decide the research topics. An autonomous steering group decides how the research will be implemented and how it will be disseminated.

In some countries this demand driven, multidisciplinary research on poverty alleviation has worked so well, that governments now involve these research programmes in policy development. In the massive floods in Bangladesh, for instance, the local research team sent researchers to the stations, harbours and slums of Dhaka, Chittagong and other cities to find out if the floods were driving many villagers into towns. This information was shared with organizations dealing with relief work in the cities as well as those which helped in the villages. The Research programme brought NGO's together to identify systematically which families needed relief assistance. This happened in 20,000 of the 68,000 villages in the country. The local researchers also checked if the assistance reached and if it was distributed fairly.

The programme also researched the situation of people who could not repay loans in time, because of the floods. This information was tabled in the consultation with government, banks, aid agencies and donors. In Kerala, India, local researchers work together with municipalities. They published in Malayalam a hand book for elected local leaders, stressing their duties and rights. Together with local training courses this contributes to better local decision making.

In Bolivia, Bangladesh, Nicaragua, Tanzania and Vietnam the multidisciplinary research programmes publish their research results in newsletters. In Nicaragua members of parliament are among the subscribers. In Bangladesh the researchnewsletter is also published in a popular magazine. In all eight countries the programme has contributed to strengthening of local research capacities.

Snowsill (1995) touches on the second argument; the need to avoid loss of knowledge through inadequate research dissemination. Although much information gained through research may be accurate and relevant, it is on its own, of little or no use. Without further action to disseminate the information from research effectively, the knowledge gained from it may be lost. Hamdi and Kalra (1998) reinforce this point by arguing that although there are substantial volumes of knowledge on sustainable development embodied in a variety of manuals, guidelines, databases etc, the challenge for research contractors is to make this knowledge more broadly accessible to communities and civil organizations in a form that is easily understood, simple to use, and practical.

A strong argument for the need for improved research dissemination, focusing on the need to maximise value for money, is made by Hevey (1984). In many spheres, government has invested (over several years) large amounts of money in practice oriented research with the aim of developing guidelines for best practice, or to create databases for informed, rational decision making. However, there is a worrying low level of research awareness amongst sector stakeholders, despite this investment. Policy decisions are frequently taken despite the existence of relevant research findings, and practitioners, for whom much practice oriented research is designed, seldom hear about it. In his study of the dissemination of research within social services departments in the UK, Stapleton (1983) builds on the value for money argument. Many millions of pounds are invested in social services research per year, leading to thousands of research projects, yet the results of the work tend not to surface beyond particular (local) context in which the project was commissioned. Hence much of its usefulness and value is wasted.

An analysis of the literature on the need for improved dissemination indicates that the production of research outputs should not continue without a critical consideration of its value, usefulness and impact. Attention to the effective dissemination of research in order to realize its true potential and benefits for fellow researchers, academics, policy makers and practitioners is therefore central to development.

2.4 Research dissemination process

The process of disseminating research has received various theoretical interpretations. Much of the literature reviewed emphasises different 'models' for this process, which are briefly discussed here.

Visscher (1998) identifies three basic components to the 'conventional', linear model of information transfer:

- **Information producers**: relate to individuals or organizations which create or produce information (research institutes, NGO's, government institutions, etc). Much of the development oriented information which is produced originates in Northern based institutions. Dietvorst (1994) estimates that 94 per cent of IRC's basic publication list is published by Northern based institutions and 88 per cent of these authors are from industrialised countries. An obvious constraint to the model is that much of the information is producer, not user focused.
- **Information media**: constitute many different dissemination pathways, including newsletters, data banks, training courses, exhibitions, radio, television and the Internet.
- **Information users**: comprise a diverse range of groups with a broad cross-section of interests. According to the conventional, linear model of information transfer, information users are effectively passive recipients of information.

Others recognise a similarly rigid, linear model to research dissemination. The Max Lock Centre (1998) describe three steps including knowledge generation, knowledge output and knowledge transfer. ITDG (1998) propose a simplified model of information flow between the original sources of the information and the end users. In all three cases, the assumption underlying the models is that dissemination is a one way process, top-down from specialists in the sector to a passive and grateful audience. A visual comparison of these different models is provided in Figure 1 below.

The key consideration with those conventional models is that the effectiveness of the process is only as strong as the weakest link in the linear chain. In reality, the models are only approximations of the dissemination process, and information flows are typically more complex. Increasingly, contemporary thinking in the sector (King et al, 1998; Eraut, 1994) has stressed information transfer as an interactive process, requiring a two-way exchange of information, knowledge and experience. De Jong (1999) provides further insights into this process by describing an example of changing roles. The researcher may begin as a user of information (in identification of a project). Following compilation and analysis, their role changes to one of provider through dissemination of findings. Finally, the researcher becomes a user of information again when feedback is incorporated into project outputs. Mutter (1998) supports this idea by arguing that learning from the experience of others in order to define and identify requirements for development has become a central theme of knowledge transfer locally.

The revised model of dissemination recognises the complexity and diversity of the communication process, one in which there are a variety of roles performed, where feedback is incorporated into transfer and where lateral connections and knowledge diffusion at all levels take place (see ITDG model in Figure 2).

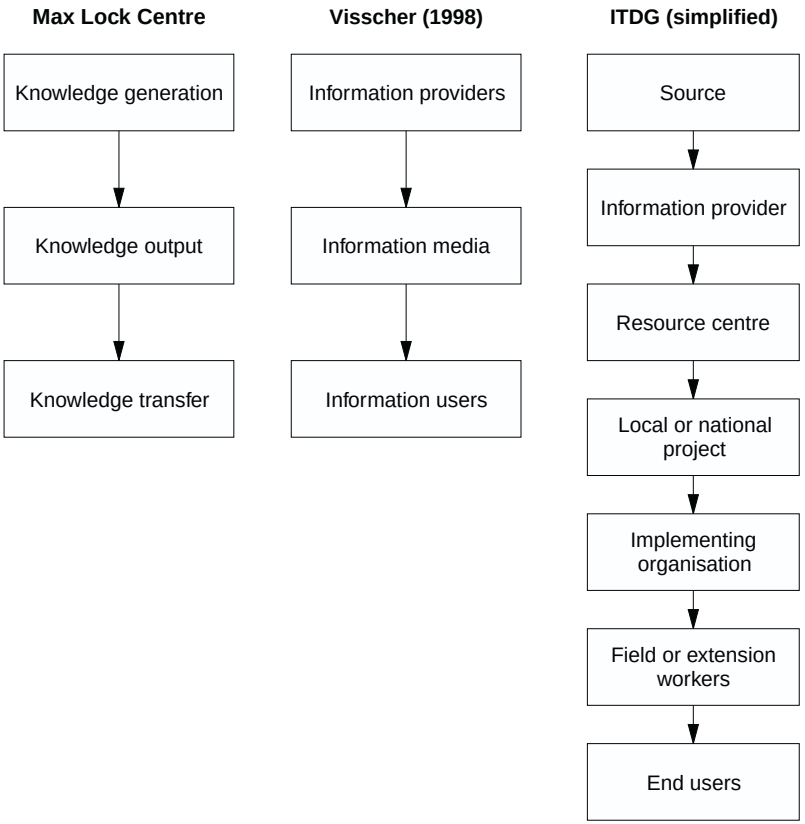

Figure 1. Comparison of conventional research dissemination models

CHEC et al (1998) develop this contemporary model of dissemination further with their emphasis on the 'community learning' process. The community learning approach stresses five key elements:

- **The information to be communicated**: must be suited to the needs of the community. While communities hold intimate knowledge of what already exists, what is required and what will work, specialist intermediaries can supply particular technical and non-technical information that is needed.
- **The identity of users**: key representative groups act as activists in community projects, operating as a channel for information and resources. Who these people are, and how representative they are will affect the outcome of the learning process.
- **The identity of the disseminator**: government, NGO, donor workers may act as trainers and educators. Existing channels of communication need to be strengthened, and community based capacity building should be stressed. The identity of disseminators may encourage or alienate a community depending on the associations attached to the person / groups involved.
- **How the dissemination process works**: disseminators need to know not only what information is to be disseminated, but how it should be given. Community learning can occur through interpersonal communication, by 'learning through doing' training, or by informal and traditional channels. Methods of communication need to be assessed to ensure that users are not alienated by the process.
- **Where the learning takes place**: focusing on 'place' in the learning process.

This approach is incorporated in the concept of the community learning and information centres (CLIC's). By focusing on the where learning occurs in the community, CHEC et al have given thought to the place in which users of research will learn about its findings, a perspective which is frequently lacking in thinking on dissemination. The concept of CLIC involves the use of community based focal points (such as street, bars, homes, schools, health clinics, libraries etc) for training and information dissemination, where low income communities can access a range of information on a sustainable basis, serving as a 'one-stop shop' that meets the diverse needs of communities. Development of CLIC's depends crucially on a thorough analysis of the

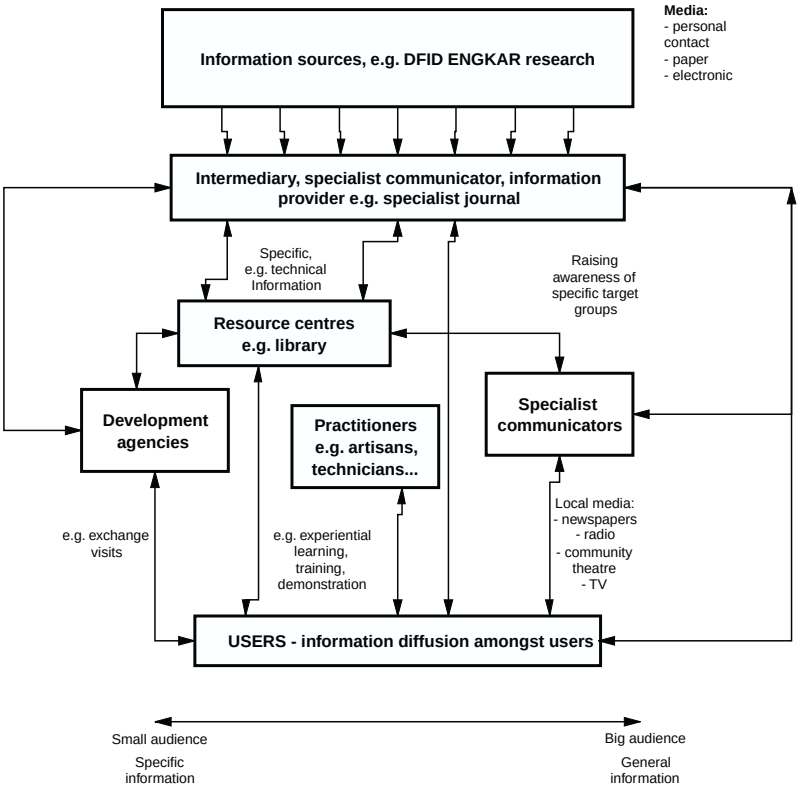

Figure 2. Information flow model (after ITDG)

learning needs and resources of the community, its location (determining accessibility), ownership (determining operation and use), design (determining activities) and management.

In studying the dissemination of information to the policy level, Lewando-Hundt and Al Zaroo (1999) cite Crosswaite and Curtice's (1993) typology of four dissemination models, comprising:

- **The rational model**: making information available is sufficient for it to be incorporated into policy making process
- **The limestone model**: Richardson et al (1990) argue that the rational model rarely occurs and that in fact research findings tend to infiltrate policy making in the same way that water trickles down through porous rock, circuitously and gradually
- **The gadfly model**: emphasises the dissemination of research as much as the research itself so that there are meetings to feedback results to an advisory group, media, and funders
- **The insider model**: researchers exploit links within government or international agencies and are able to adapt the presentation of research findings to specific policy making audiences

All the models listed in this section do not give detailed guidance on what media would be best to used to disseminate information. This is considered below in section 2.5.

Irrespective of the conceptual framework which guides dissemination, Snowsill (1995) argues that dissemination of research is a process which incorporates four key elements for consideration:

- **Research objectives**: there is a need to determine whether dissemination is part of the research objectives. How and to whom findings are disseminated is dependent on the purpose for which the information will be used, i.e., the research objectives.

  Dissemination is frequently dictated by the funding and other resources left after the project has finished. But resources for dissemination should be dictated by the type of dissemination needed, rather than vice versa. The implication of this is to incorporate dissemination from the beginning of the research, and to be aware of possible target groups.

- **Audience**: information should not be restricted only to policy makers and other sector professionals. An important first question is, 'Who do you want the findings to reach?' since how the information is disseminated depends on how that information will be used by that audience. Deciding on specific audiences goes back to the purpose for which the information will be used.

- **Communication**: when planning dissemination of research findings, two issues need to be considered (i) the presentation of materials, and (ii) how

the materials are accessed by the people to whom they are most relevant. Research findings need to be adapted to the local norms and values; they may need to be disseminated to quite different audiences. Appropriate presentation is key if the findings are actually to be read; reports which only comprise pages of dense text are often not the best way to communicate results. The critical aspect is to maintain a balance between conciseness and comprehensiveness.

- **Effectiveness**: measuring effectiveness is not simple, since what is defined as 'good' dissemination may be subject to variation. Effectiveness may be related to the implementation of a policy or simply receiving a report, but without a clear paradigm for a dissemination strategy, it is difficult to know where to begin the evaluation process. Possible questions to be asked when evaluating dissemination include: Who were you trying to reach? Did you reach them? What were the consequences of disseminating the information Can the dissemination process be improved?

Box 2: Sector resource centres

The availability and access of objective information is a crucial aspect in informed decision making (Visscher,1998). Information has to be close to the user and users need to be assisted to ensure they can access the information they really need without going through a laborious review process. IRC have identified Sector Resource Centres that operate through a network of centres as a way of achieving this objective. A typical resource centre would have a number of key roles, including:

- Acting as a knowledge broker and clearing house for sector information
- Sharing experience with other resource centres
- Constituting a sector memory in a country or region where they operate as they will store available information in a retrievable way

- Supporting innovation by linking in to applied research and innovative training
- Encouraging and helping other sector institutions to comply with their social mission and adopt the changes that are needed to improve sector performance

A number of organizations in the WS&S sector are already working in this manner, such as CINARA in Cali, Colombia; NETWAS in Nairobi, Kenya. Others such as CREPA and ESTHER/EIER, Burkina Faso; Sarvodya, Sri Lanka and NEWAH, Nepal are growing into these types of centres. Some of these are involved as partner organizations in the MANAGE dissemination project.

The development of a resources centre network as described is an important way in which supply and demand of sector based information can be matched.

2.5 Dissemination media

2.5.1 Media variety

There is a consensus in the literature on the need to employ a wide variety of media for dissemination (Snowsill, 1995; Stapleton, 1983; Richardson, 1990)), since the optimum media choice is likely to be dependent on the target audience and purpose and nature of the message (all of which vary).

Although the list of potential media is extensive, ranging from verbal communication techniques to virtual libraries accessible through the Internet (see section 2.5.3 on media typology), there has been undue emphasis placed on disseminating research findings via the written word, even though this medium in itself is not the most effective means of communication (Stapleton, 1983). A range of media types, drawing on the oral and visual communication traditions, need to be employed. Conferences, seminars, workshops and other forms of interpersonal communication held on national or regional basis add value in different ways to dissemination; they provide an opportunity for researchers to meet and exchange information, to provide ongoing mutual support and advice, to encourage collaborative projects involving more than one authority, to formulate new areas for future research and to act as a focus for the wider dissemination of research previously undertaken.

Similarly, little effective use has to date been made of visual techniques of dissemination, such as film or video, or of mediums such as role play or theatre.

2.5.2 Media appropriateness

Appropriate media for dissemination is a recurring theme in the literature. Walt (1994) echoes many authors when arguing that the first dissemination action at the end of a project is typically the writing of papers for journals. Although there may be strong incentives for this, the role of the journal in providing broad based dissemination is limited. Much research is not written in an accessible form for non-experts.

The media chosen for dissemination should always meet the needs of the specific audience targeted, and within the medium selected, language should be unambiguous, clear and accessible (Snowsill, 1995). For a non-technical audience, technical language and jargon frequently leads to misunderstanding and misinterpretation. The use of appropriate language becomes especially important if communication between different sectors is to be effective.

The World Bank (1999:133) reinforces the need for appropriate packaging of information, and argues that *adapting* knowledge is critical because,

"...one size often does not fit all. In many cases, if knowledge is to be effective, it needs to be locally created or recreated, domestically owned and internalised."

A variety of outputs, such as short policy briefings, practitioner oriented recommendations or checklists, and technical outputs for the research community are the logical steps from this debate on appropriateness.

2.5.3 Media typology

The selection of dissemination pathways may reflect the particular institutional bias and 'mind-set' of an organization, rather than an analysis of the relationship between product, target group and media. The following table represents *some* of the common, formalised dissemination pathways (adapted from Max Lock Centre, 1988) although others can no doubt be identified.

A comparison of the relative advantages and disadvantages of these pathways is included in Annex V.

There is considerable debate in the literature concerning the relative merits of a range of media types, some of which have been included in section 2.5.1 above. Briefly, other considerations noted are reviewed below.

A large number of written research reports fail to think of who is reading the output and how it will be applied. Hevey (1984) argues that much scientific research is published in the technical jargon of the research community, primarily for the benefit of academics. This is generally the fault of a system of funding research on short term contracts that rarely allows time for the material to be redrafted for non-specialist audiences. Furthermore, the incentive structure in many organizations rewards those with large numbers of academic publications. As a result, research based information often becomes inaccessible to the average practitioner. Richardson (1990) supports this view and argues that the value of the classic research report needs to be questioned. Typically, these reports tend to be long and unfocussed, and those for whom they are produced may think that the investment to read them is not worthwhile. The sheer lack of time for reading lengthy reports is a strong complaint from many users of research. Additionally, the salience and practicability of research findings are often unclear. Recommendations are framed with little understanding of the perspective of the person taking the issue forward.

Talking about research through face to face contact is increasingly recognised as a key means by which those concerned with policy, as well as practitioners, learn about issues which concern them (Streatfield and Wilson, 1980 as cited in Richardson, 1990). Conferences and workshops help to enliven research findings and allow for assessment of a researchers'

Table 1: Typology of typical dissemination methods

Type	*Notes*
Working documents	Concept notes, field diaries, and reports for internal use and the wider research community
Research reports	Detailed summary of research to satisfy funding requirements or those with high level understanding of subject
Refereed article	Directed at research community
Professional journal	Directed at practitioner community
Stand alone manual	Classic linear dissemination product. Single product for single audience
Stand alone text book	Educational model - influencing practice through higher education courses
Training manual	To support an active training process
Networking	Reaches members who share common research interests. Potential for interaction and discussion of findings
Internet, e-mail	Immediate, convenient dissemination. Potential may be, or is temporarily underdeveloped
Intermediaries	Specialist agency intervening to disseminate and explain research to local constituency
Popularisation	As a means for reaching a wider audience. Influencing policy from below; uses mass media
Publicising	Use of mass media as means of marketing new research
Participatory concept	Knowledge disseminated to the community level using participatory techniques
Policy briefs	Directed at policy and decision makers
Interactive computer presentation	Showing decision makers on their screens the impact of research results on planning
Demonstrations	Seeing research results on the ground can be persuasive

knowledge for the subject. The scale and type of consultation is an important consideration; many prefer the informal workshop, especially practitioners, which may allow for learning of details about how to change practice.

Newspapers generally tend to focus on what can be defined as 'newsworthy', and pressure groups tend to focus on research that can be used to support their cause. It should be noted that Platt (1987) recognises the important role of the apparently accidental (informal) in transmitting ideas to those not in routine contact with them.

The Internet as a dissemination pathways offers great potential (as demonstrated in developed countries), but opportunities to exploit this medium for research dissemination are restricted in developing countries where poor connectivity and slow download times can make accessing information a time consuming and costly business.

In discussing the delivery of information, ITDG (1998) argue that information provided directly from remote sources, external to the target audiences' local context, is unlikely to be effective as a means of dissemination. Problems such as misinterpretation of users' needs or delivery through unsuitable mediums are cited as reasons for avoiding such a strategy. An alternative process is advocated, one in which a series of intermediaries are used to repackage the information and forward to the target audience in the most appropriate medium available. This essentially involves the decentralization of dissemination, where delivery would be according to choices made by the intermediary, based on their experience and feedback from users.

The central importance of intermediaries to dissemination is recognised by many, notably the Max Lock Centre (1998), Platt (1987) and Lomas (1993). The key advantages of using intermediaries are that disseminated research findings have to be adapted to prevailing (local) norms, values and the attitudes and expectations of the immediate user community. This cannot effectively be done by some outside agent, but requires local bodies who are knowledgeable and seen as credible within the specific environment.

Since most development knowledge is applied by intermediaries with technical training, the task for research contractors is to look at ways of providing knowledge in a format that can better facilitate communication between intermediaries and beneficiaries, possibly by using special presentation skills, interpreters or particular, locally based media. Identified key intermediaries can help to reach the ultimate clients of the research, and can be involved in the discussions about *what* and *how* to disseminate the findings. Similarly, the World Bank (1999) advocates the use of intermediaries when transferring internationally available knowledge. Well trained government officials or other stakeholders have the potential to merge international knowledge with local knowledge to devise locally appropriate policies or projects.

However, Platt (1987), advises caution when solely relying on intermediary organizations in transmitting research. Different types of intermediary organization will abstract and use different research findings, some of which may not align with the central message of the project. There are potential difficulties for researchers in using dissemination pathways which might inadvertently misinterpret the findings from research outputs.

The significance of socio-intellectual networks to the communication of research ideas was recognised by Platt (1987). Where networks are already established, dissemination of results was found to proceed automatically among network members. Where such networks were absent, the constraining forces of social structure and intellectual habits made it difficult for knowledge of shared interest to be transmitted. A logical inference from this conclusion is that those networks which tend to cut across boundaries (of different stakeholders) are of particular value and significance.

2.6 Barriers to effective dissemination

The literature surrounding constraints to effective dissemination of research focus on two categories: barriers which prevent the researcher from disseminating their work; and barriers which prevent research findings from reaching their potential audience, in a usable form.

Stapleton (1983) cites Hooper's (1983) work which identified three barriers preventing staff disseminating their work: organizational, practical and psychological.

- **Organizational**: institutional priorities may dictate that the results of research are used only for internal consumption, and that no priority is given to disseminating the work to a wider audience. A constant paradox which is highlighted in the literature is that using research conducted by others was seen as valuable, yet spending any time making one's own research available was not encouraged.

- **Practical**: certain practical difficulties act as disincentives for researchers undertaking dissemination, the most obvious of these being time spent photocopying material, the bureaucratic elements involved in invoicing organizations for publications which are for sale, and the need to prepare research in any format other than that in which it was presented to the client. Platt (1987) and Richardson (1990) argue that researchers are frequently handicapped in dissemination by lack of time. This frequently begins at the proposal writing stage where not enough time is allocated for

writing up research findings. When time is made available for dissemination it may be at the expense of other activities on which their livelihood depends, or which help in career promotion (i.e., academic paper production).

- **Psychological**: in many cases, applied researchers lack confidence in disseminating findings for fear of critical peer review, especially from within the established academic research community. Furthermore, the lack of 'reward' from within the researchers' institution associated with dissemination acts as a strong disincentive. Richardson (1990) argues that in many institutions, dissemination does not 'count'; it lacks intellectual credibility and hence there is little credit (and incentive) for active dissemination.

Regarding barriers to application, a diverse range of ideas is presented by several commentators. Stapleton (1983) reports that the main constraints are that decision makers either view the research as irrelevant, or are unaware of it, and secondly that research may be disseminated in an unusable, or unobtainable format. By way of illustrating this latter point, an internal IRC document (IRC,1998) refers to a meeting between the Head of the Swedish Natural Resources Department in the Swedish Development Agency and a staff member from a UK international development research contractor. The Department Head is quoted as saying,

> "*He admitted, we are paying you and others to generate all this research and information. But we don't have the time to even read the executive summaries of your outputs.*"

The World Bank (1999), in identifying why information sharing efforts fail, identify three further considerations which can be included as barriers of application: the lack of support from senior management, organizational incentive structures which do not reinforce knowledge sharing and the difficulty of identifying the impact of knowledge sharing (important as justification for dissemination). Lomas (1993) and Payne (1998) both discuss the importance of the credibility of the disseminator as a factor and constraint in the process of communicating research findings. Where the credibility of the disseminating agent is low, the process of communication is likely to be compromised. Others such as Lewando-Hundt and Al Zaroo (1999) argue that ownership issues (copyright) and delays from publishing in academic journals act against the applications of research findings.

Both the barriers (for researchers and application) imply that research workers need to understand the information needs of their target audiences more intimately. Possible options to overcome these barriers focus on improving the perception of dissemination and its value to the research process, thereby bringing about positive institutional incentives regarding the transmission of research findings. An example of such incentives might include a clear message from senior management to researchers to disseminate their work.

2.7 Dissemination impact

Lewando-Hundt and Al Zaroo (1999) argue that despite the increased importance laid on dissemination, there is still relatively few evaluative studies of dissemination conducted. The authors cite work by Potvin (1996) in calling for both process and outcome evaluations of dissemination, the former focusing on tracing how dissemination transactions occur, while the latter measure the extent to which these changes are achieved. Further research on the key area of evaluation remains a priority if effective dissemination is to be achieved.

Much of the discussion (with a few exceptions) relating to indicators of the impact of dissemination tends to stress the methodological difficulties of the process. The key methodological problem is to disentangle the impact of the dissemination pathway from the importance and value of the research findings themselves, yet there is little published work on how to overcome this problem.

The World Bank (1999) argue that organizations must be prepared to accept some ambiguity when evaluating the impact of knowledge sharing exercises. Although dissemination outcomes can be illuminated through quantifiable surveys, focus groups, etc, the results may not be easy to interpret. Impact may be assessed through correlations with other measures, but causal connections are difficult to trace and are often speculative. Few organizations, if any, have established credible measures to establish a causal relationship between spending on knowledge sharing and specific improvements in key performance measures of those projects.

Platt (1987) explicitly discusses impact of dissemination and its measurement within the social policy research field, arguing that academic citation services can be used to trace dissemination impact (within this discipline, the most obvious service is the Social Science Citation Index (SSCI)). There are however, concerns over the validity of using citations as an objective measurement of research impact. Granovetter (1983: 217) refers to ‘the

strength of weak ties' in the transmission of scientific information, which implies that dissemination occurs because of personal connections or 'intellectual proximity' within a subject. In essence, using citations as an indicator of dissemination impact fails to recognise that citations are not represented randomly across a subject, but tend to reflect the informal and formal knowledge networks that exist in each discipline.

The Max Lock Centre (1998) in its report from a workshop on dissemination in July 1998, suggests that various digital forms of communication (such as websites, electronic discussion groups) can address to some extent this problem of unquantifiable dissemination impact. 'Hits' on web home pages, and archiving messages from electronic forums, however crude, do at least provide a measurable indicator. The measurement of dissemination impact needs further research to determine best practice approaches, and to explore the possibility of using qualitative measures more effectively.

2.8 Summary

Generally, the literature within the WS&S sector on dissemination of research has shown itself to be poor and incomplete; a much richer body of material has been found in disciplines outside international development and many lessons can, and need to, be learnt from these sources. This is particularly true with regard to market segmentation of research outputs, use of a variety of dissemination media and the accessibility of research findings.

More specifically, it is clear that the literature lacks sufficient depth with regard to three subject areas:

- the user perspectives on dissemination of research:- very little consideration is given to the perspective of NGO's, government and other development organizations in the South concerning their needs, problems, constraints and priorities regarding dissemination
- the impact and evaluation of the success of dissemination:- including comparisons between different dissemination pathways, the application of different dissemination media for different audiences and indicators of impact of dissemination
- ways of overcoming barriers to effective dissemination.

Part 3:
Case study analysis

This section is divided into two parts. In the first, the results from an analysis of the dissemination pathways proposed in ENGKAR bid documents are presented and discussed. In the second, a series of short case studies drawn from a cross-section of organizations working in the WS&S and health sectors are reviewed.

The breakdown presented in section 3.1 is based on the analysis of 37 ENGKAR proposal documents from three research contractors. A broader cross-section was originally planned for Phase 1, but limited access to ENGKAR proposals at DFID headquarters restricted the range of potential examples to draw on.

The case studies presented in section 3.2 pose questions about *how* and *why* various research contractors approach dissemination, and are focused on the organisation as the unit of analysis. Clearly, the cases cannot claim to be representative, but they are presented as indicative of how different agencies have managed dissemination. In some cases the lessons learnt are drawn from negative, rather than positive experiences.

Each case study ends with a series of key learning points specific to that example, and part 3 concludes with some preliminary cross-case analytical generalizations.

3.1 Dissemination pathways proposed in ENGKAR bid documents

Several points of note arise from Table 2. There is no mention of summary reports (not the same as an executive summary in the final report). Therefore, unless the final report document is a brief and concise publication, a separate summary publication will be crucial if it is to be read by staff with limited time in target audience organizations. It is also informative to see that publication in academic refereed journals is a common dissemination pathway. This may reflect more the institutional incentives which exist within many research organizations to be seen to publish in academic arenas, rather than an objective assessment of the best way in which to disseminate findings. Academic journals, although having a definite place in dissemination, are not widely read

Table 2: Modes of dissemination, ENGKAR proposals, selected contractors

	No.	*%*
Final report	**20**	54.0
Selected distribution list	**15**	40.5
UK workshop	**3**	8.1
Regional workshop	**15**	40.5
Article (popular journal)	**24**	64.8
Academic refereed paper	**19**	51.3
Face-to-face conference	**2**	5.4
Electronic conference	**3**	8.1
Global Applied Research Network (GARNET)	**7**	18.9
Other network	**15**	40.5
Website	**5**	13.5
Training course	**9**	24.3
Peer review comment	**5**	13.5
Demonstration project	**5**	13.5
Dissemination via:		
Extension services	**1**	2.7
British Council offices	**1**	2.7
International organization	**7**	18.9
Total cases (37)		

outside the academic community or accessible for a cross-section of potential research users. Their value as a primary dissemination pathway should be critically reviewed.

In light of this point, it is encouraging to see the emphasis which is placed on writing articles in popular journals (such as *Waterlines*, and DFID *WATER*). However, these figures may be skewed somewhat by the presence of HR Wallingford proposals which include, as a matter of course, reliance on DFID *WATER*, which is edited in-house.

Networking, in one form or another, is popular as a pathway. This may indicate the considerable potential that networking initiatives have to reach a wide, geographically dispersed audience at low cost and to indirectly infiltrate adjacent intellectual networks.

However, at present there is considerable emphasis placed on the use of documentary modes of dissemination, with the final report as the principal means of presenting research findings. Although it is recognised that researchers will naturally wish to bring together all aspects of their research activities as part of the process of gaining an understanding of the subject in question, it may not be the most effective way of reaching target audiences. If researchers were to put greater emphasis in the production of non-technical reports and non-documentary modes of dissemination (such as the preparation of training materials) then there may be flexibility to recycle this material in different formats, such as journal articles or briefing papers designed for a variety of target audiences.

3.2 Selected case studies

3.2.1 Urban Waste Expertise Programme (UWEP)

Background

The Urban Waste Expertise Programme is a six year programme which started in 1995. The programme is divided into two stages; a research project phase which was completed in early 1997 and a pilot project phase which started later in the same year in Mali, the Philippines, India and Honduras.

UWEP has two stated aims (i) to improve the living conditions of beneficiaries in Southern countries, and (ii) to create employment among beneficiaries and improve working conditions. The first of these objectives is focused on low income urban neighbourhoods; UWEP aims to reach this group through intermediary organizations, such as CBO's and NGO's. The second objective focuses on reaching small and micro-enterprises active in waste management. Other target groups include local authorities and donor organizations who are key if the second of these objectives is to be realized.

UWEP is managed by a Netherlands based consultancy group, WASTE Advisers on urban environment and development, with support from the Netherlands Development Assistance of the Dutch Ministry of Foreign Affairs.

Dissemination of the programme

The original programme proposal for UWEP makes explicit reference to dissemination,

> "*The collected and elaborated information [will], in order to have as many people as possible profiting from it, be disseminated to the different*

target groups, having different sources of information." (UWEP Programme Proposal, 1997:31)

The main instrument to achieve the aims of the programme is to supply appropriate target groups with relevant information generated through applied research projects. For UWEP, dissemination plays a dual role and involves the target groups, either (a) enlarging knowledge on urban waste management, or (b) increasing awareness of the potential role for small and micro-enterprises in waste management.

Through dissemination, UWEP aims to influence the decision making process of selected target groups in the following ways:

1. **Awakening**: attention to the problem and its importance
2. **Information**: knowledge of the background and what needs to be done
3. **Consideration**: weighing up dis/advantages in the light of possible action
4. **Decision**: deciding to act in a particular way
5. **Changing behaviour**: realising new attitudes towards an existing problem
6. **Maintaining behaviour**: holding on to new attitudes

Influencing this decision making process means intervening with information in a certain phase in the decision making process for each individual target group (in a language appropriate to their context).

In deciding on the groups to be targeted in the research, a series of key questions were posed while planning the programme:

- What is the relation of a particular target group to the goal/s of the programme?
- Who gains most by reaching the envisaged goal/s?
- Who (and in what way) can contribute to reaching these goals most effectively?
- Are the target groups attainable (physically and socially)?

Reaching target groups

Target groups are abstracted from the broad UWEP network, and typically consist of private sector organizations, government bodies and intermediary organizations. UWEP's target groups include:

Direct beneficiaries

- Intermediary organizations: CBO's, NGO's, development organizations representing low income urban neighbourhoods

- Local experts
- Local authorities and donor agencies

Indirect beneficiaries
- Small and micro enterprises active in urban waste management in Southern countries

The messages which are disseminated to these divergent groups vary according to each groups' characteristics and needs. A simple example is that local authorities and donor agencies may favour, or be persuaded by facts and figures, whereas NGO's might need more practical advice on the application of research findings.

The aim of changing attitudes and behaviour towards waste management has been left to intermediary organizations, who have closer contact with some target groups, notably urban neighbourhood residents. There are some concerns however with decentralised dissemination, particularly relating to the intermediaries' agenda and the affect this has on dissemination, and validating dissemination.

The media

This refers to the channels by which UWEP communicates its messages. Criteria for choice of media include:

- Will the medium reach the envisaged target group?
- Is the medium suited for the message?
- Will the medium have the desired effect?

Although UWEP employs mixed media, the choice inevitably brings with it limitations - impersonality, difficulty in controlling the media (and message), and the mono-directional nature of most media channels. UWEP employs a cross-section of media types including: oral communication (workshops, seminars, personal visits), printed media (books, issue papers, working documents, articles, Q&A, information leaflets), periodicals (UWEP annual plans, UWEP news**),** audio media (radio interviews), audio-visual media (video), and electronic media (e-mail bulletin, website, e-conferences, news groups). UWEP also makes use of technical journals, local newspapers, networks, local resource centres and databases of contacts.

Combining target group, media and objectives

UWEP made a clear attempt to link the programme's target groups to specific programme objectives and specific dissemination pathways.

Urban Waste Expertise Programme - key points

- Dissemination is one instrument in achieving UWEP goals (a means, not an end)
- Dissemination is clearly thought out and integrated into the programme proposal
- Target groups for research outputs are identified before the project commences and their information needs are assessed
- Dissemination needs to be guided by a strategic framework of intervention (i.e., timely dissemination of outputs to maximise impact of dissemination)
- Decentralised dissemination through intermediary organizations is a realistic channel for effecting attitudinal and behavioural change. Concerns with using intermediaries are acknowledged, however
- Mixed media may need to be used to optimise effectiveness of communication (although there may be limitations to consider)
- The main constraint has been one of time to adapt source material towards various target groups
- Repetition of the message to be disseminated is an effective way of reinforcing communication

3.2.2 Hygiene Evaluation Procedures (HEP) Handbook

Background

The Hygiene Evaluation Procedures (HEP) handbook was conceived as a field based companion *to Actions Speak: the study of hygiene behaviour in water and sanitation projects* (Boot and Cairncross, 1993), and managed by

the London School of Hygiene & Tropical Medicine. Unlike *Actions Speak*, the HEP focused on field personnel who need to plan, design and manage their own hygiene behaviour evaluations.

The primary emphasis of the HEP has been on qualitative information and how to gather, abstract and interpret this type of data, with a view to making qualitative research skills more accessible to practitioners with limited or no prior training. Additionally, HEP was developed as a practical solution to the limitations of strict questionnaire or other stand alone approaches of evaluating water and sanitation related hygiene practices. It emphasises the use of mixed methodologies and tools which can be selected and combined to maximise data reliability.

DFID supported the development and field based testing of the handbook, based on qualitative assessments of hygiene practices, in five different countries in Africa and Asia. Preparation, testing and review of the handbook were carried out in two phases: (I) the development of the draft handbook through the activities of the Environmental Health Programme at the London School of Hygiene & Tropical Medicine, and (II) serial field-testing, review and publication. Phase III, focusing on dissemination, wider field testing and revision of the handbook is currently underway (with UNICEF funding).

HEP was developed for field level personnel in WS&S, and hygiene education projects. Anticipated target audiences included: water/sanitary engineers, public health technicians, community workers, health educators, communication specialists, health workers and other public health practitioners. Project planners, managers and trainers were also targeted.

Dissemination of HEP Handbook

A decision was made to conduct the dissemination of the HEP Handbook through training workshops and seminars. UNICEF funded the first regional training of trainer (TOT) workshop for Southern and Eastern Africa. This was convened in Eritrea (upon the initiative of UNICEF Eritrea). Five countries in the region participated. The main dissemination pathways used for the HEP Handbook included:

- Training of trainers workshops
- Translation of handbook into languages other than English (into French and Spanish in order to cater for Francophone and Central/South American users. An Arabic translation has been started, but has yet to receive funding)
- Dissemination of handbook by agencies active in the sector, mainly UNICEF and WaterAid

However, there have been some unexpected outcomes from the dissemination of HEP in the Southern and Eastern African region, which provide general lessons of interest for the dissemination debate. These include:

- The main focus has been on using training of trainers workshops to widen dissemination of the HEP approach. The first TOT workshop produced 15 skilled trainers (out of 35 who participated) for UNICEF and its partners in the region. The reason that all 35 could not conduct follow up training was that most of them had little or no previous experience with the use of qualitative methods of investigation and analysis, and one week's training was not enough for them to train others. However, all were capable of harnessing the necessary social science skills and resources in their own countries. To date, the most successful dissemination activities following the Asmara workshop are those conducted by WaterAid Tanzania. The remaining 'action plans' formulated at the workshop (for Ethiopia, Malawi and Zimbabwe) have not materialised, because of what is thought to be a function of time, initiative and funding constraints. In Eritrea, there was immediate follow up in one province, before conflict with Ethiopia diverted interest.
- The uptake of the HEP handbook has not been limited to the anticipated target audiences. For example, in the UK, schools of nursing and primary care have shown great interest in the HEP, partly because qualitative research methods are part and parcel of their training courses.
- WaterAid took hold of HEP and distributed it in the field. In 1998, an international workshop was convened in Bangladesh on how the HEP was being used. The critical discovery was that the Handbook had not actually reached the field, because those in project offices had kept the publication on their own book shelves.

Hygiene Evaluation Procedures Handbook - key points

- The research identified specific target audiences for its findings
- Translation of research outputs into local languages was actively pursued
- It should not be assumed that training trainers will necessarily widen dissemination of research findings. Regular monitoring and incentives for knowledge transfer need to be built into dissemination practices

- Often research findings which are disseminated will be used and applied in more ways than may be expected

3.2.3 MANAGE - The Role of Communities in the Management of Improved Rural Water Supplies in Developing Countries

Background

This action research project, co-ordinated by IRC, studies the factors affecting the willingness and capacity of communities to take responsibility for their own water supplies, and of support agencies to undertake new facilitating roles.

Research teams from local non-governmental organizations in six countries - Kenya, Cameroon, Nepal, Pakistan, Guatemala and Colombia - are working with community research groups in 22 communities to develop and document a participatory research and support methodology which local communities and support agencies can continue to use in future, and which they can share with others in their countries or localities.

The overall objective of the MANAGE project is to improve the efficiency, sustainability and cost effectiveness of water management by rural communities in developing countries. More specifically, the project aims to:

- To improve the current state of understanding on community management of rural water supply through the participatory assessment and analysis of the performance of selected community-managed rural water supply systems in six developing countries.
- To analyse and identify the support requirements for successfully building capacity for community management of rural water supply systems.
- To develop and test approaches, methods and tools to enhance the capacity of rural communities to manage their own rural water supply systems in an efficient, sustainable, gender-conscious and cost-effective way.
- To enhance the research and support capacities of the partner organizations in six developing countries.
- To disseminate and share findings on research and approaches concerning community management of rural water supplies at community, national and international levels

The project started in 1994 with four years of learning followed by development of a dissemination strategy from 1998 - 2001 to stimulate the

development of sound community managed water supply systems in developing countries.

Dissemination of results

The project has given dissemination a high profile; it is viewed as a critical activity not only towards the end of the project but throughout the research cycle. A key feature of MANAGE has been that dissemination opportunities have been built into the project through workshops with research partners, regional level consultation and country level forums. These mechanisms provide an opportunity to follow up on particular research findings and to develop further ideas during the course of the research.

All six partners have signed a proposal for an active dissemination strategy for the promotion of community management of rural water supplies in developing countries.

The key mechanisms employed for dissemination include:

- Audio-visual material, produced for country and sub-regional levels
- Publications (disaggregated for different elements of the research, and by target audience)
- Electronic networking (web page on the IRC site)
- Training activities (Training of trainers of partner institutions, to be applied locally)
- Information focal points (country teams to organize documentation units, information products and services in response to local demand)
- IRC participation in selected consultations

The partners themselves decided what mix of dissemination activities is the most relevant to suit their local situation. The partners involved are: CINARA (Colombia), NETWAS (Kenya), NEWAH (Nepal), PAID, (Cameroon), SER (Guatemala) and Aga Khan Housing Board (Pakistan). Some of these partners also play a role as sector resource centres in the country, or region.

MANAGE - key points

- Dissemination is viewed as a dialogue with project partners and a stimulus to the process of mutual learning, rather than the linear transfer of knowledge from information producer to information consumer

- All project partners have been asked to submit a dissemination plan, with a budget for consideration
- Different levels of dissemination are envisaged for the project (disaggregated according to partner capacity)
- Dissemination is given a high profile throughout the project

3.2.4 The Sisterhood Method

Background

Community based estimates play a crucial role in drawing attention to the problem of maternal mortality and as a basis for action. In the majority of developing countries, however, routine sources of information - health facilities and vital registration, are seriously deficient in terms of coverage of the population and reliability. It is well recognised that the prospects for improving these sources, to the point where they yield reliable estimates of maternal mortality in the community, are extremely limited. In response to the call from the Safe Motherhood Initiative for new approaches to estimation, a team at the London School of Hygiene and Tropical Medicine developed the Sisterhood Method.

This method was first tested in the Gambia in late 1987, and yielded an estimate of the maternal mortality ratio (maternal deaths per 100,000 live births) of 1005. Since then the sisterhood method has been used in numerous countries, as illustrated in the figure below, and is now cited as one of the sources of estimates in the WHO Global Factbook on Maternal Mortality. The extent to which the method has been widely applied is one indicator of the effectiveness of the dissemination process. It indicates that the message has reached a major part of the intended audience - individuals working in field contexts in which a community based estimate of maternal mortality is needed. The range of potential users is enormous in terms of skills in data collection, management and interpretation, and in terms of the scale of operation, from national to local levels. The application of this method does not, however, give any indication of the capture of another type of audience - policy decision makers. One of the ultimate objectives of developing the sisterhood method was to increase awareness of levels of maternal mortality among decision makers as a stimulus to improved resource allocation and programme action. It is extremely difficult to judge the extent to which the method has affected policy; improvements in the allocation of resources to

maternal health in countries where the method has been applied may be one indirect indicator.

Appropriate dissemination of the Sisterhood Method has thus involved a spectrum of communication to cover technical and non-technical audiences. This process of dissemination has evolved as the needs and feedback from users have become apparent. The following mechanisms have played a part:

- Poster presentations at international scientific and donor meetings
- Short articles in organizations' newsletters
- Detailed journal papers
- Teaching sessions and practical work lessons
- Seminar and conference presentations
- Letters to journals
- Workshop presentations
- Model questionnaire and application guidelines

Sisterhood Method - key points

- A variety of dissemination media are employed
- Messages are targeted to specific audiences

3.3 Summary of case studies

Analysis indicates a degree of consensus between the case studies with regard to the approach to dissemination, particularly over the identification of target audiences to be reached by the research; through the decentralization of dissemination activities to intermediaries; and reliance on a variety of dissemination media.

An important difference in approach can be identified between UK (re: HEP; Sisterhood Method projects) and non-UK (re: UWEP; MANAGE projects) based contractors experiences. In both instances, the non-UK based contractors had developed a framework and strategy to guide dissemination which underpinned the research project. This framework laid emphasis on factors such as analysing the information needs of target audiences; disaggregating dissemination activities according to the relative skills of project partners; and giving dissemination a high profile throughout the course of the research. The MANAGE project encapsulates a critical conceptual gulf: here, dissemination is viewed as a dialogue with project partners with the aim of stimulating a process of mutual learning and capacity building. The dissemination pro-

gramme is the second phase of the MANAGE project, with a new budget for wider sharing of the results of this participatory action research on community managed water systems.

Emphasis is given to the use of a decentralised dissemination approach in the majority of the case studies, relying on intermediaries to reach end users, particularly at community level. Closely associated with this approach is the need for rigorous monitoring and evaluation of dissemination plans. The HEP example demonstrates that it cannot be assumed that dissemination will proceed as planned, even when a framework has been established.

Part 4:
Key informant interviews

Key informant interviews - key points

- Only one of the contractors interviewed possessed a formalised dissemination strategy. This tended to reflect the commercially oriented nature of that organization. In most other cases, dissemination had happened in an informal, ad hoc manner

- There was very little commonality over dissemination pathways employed. The main consensus was over the use of concise, readable summaries of research (either in 'newspaper' format, or through glossy marketing style leaflets on research projects)

- The main constraints to dissemination were identified as lack of time and resources for dissemination, and the institutional disincentives which acted on the type of research outputs produced

- Increased recognition of the need to 'slice' research data into a variety of outputs targeted at different audiences

- Research contractors are not necessarily best placed to manage dissemination activities or write outputs for specific audiences (context specific dissemination at community level) should be left to intermediaries, as contractors may lack the skills required for the task)

A series of semi-structured interviews were conducted with selected research personnel with a view to understanding how each institution approached dissemination of research findings. The information included in this section represents a summary of the main discussions arising from these interviews. Part 4 concludes with a series of key learning points.

4.1 Summary

Ines Restrepo Tarquino (Sanitary Engineer, CINARA, Cali, Colombia) explained that CINARA's dissemination strategy was not focused, nor systematic, but had evolved informally. The main dissemination pathways used included:

- 'Agua' workshops:- international conferences held every two years to allow for knowledge transfer to key regional and international contacts
- Research placements:- to permit professional / technical diffusion of ideas from CINARA to other units, and vice versa
- 'Team learning projects':- projects in which research findings from previous outputs, and knowledge from sector professionals in general are applied to a specific development project
- Research 'stations':- used as a way to popularize understanding of the technology or research being used
- Newspapers:- such as *Agua y Vida*, which disseminate information to a wide cross-section of stakeholders

Agua y Vida was an interesting example of how the value of a dissemination pathway could become compromised. Used primarily as a means to reach and inform mayoral level in Colombia (mayors have primary responsibility for water and sanitation service delivery), CINARA have been forced to cease publication because the national government (through the Ministry of Development) sought to compromise the newspaper's content and editorial line. Furthermore, the Colombian government was reluctant to see an NGO (successfully) disseminating technical information in the WS&S sector (there was presumed to be some jealousy over the role and importance this conveyed to CINARA).

In terms of the impact of dissemination, the use of these pathways did lead to some tangible changes in practice at governmental level (although recognition of CINARA's role in this is not publicly acknowledged). By way of example, the use of non-conventional treatment technologies at municipal water plants is a direct outcome of CINARA research and advocacy activities in this field.

At the University of Leeds, **Professor Duncan Mara** ranked the principal dissemination pathways employed for WS&S sector research as follows:

- Books (key text and specialist)
- Papers in academic refereed journals such as *Water Science & Technology* and *Water Research*

- Research monographs
- Conferences

Of these pathways, books were considered the most effective way to disseminate research and to influence knowledge transfer. For staff at the University of Leeds (in common with many UK universities), the motivation was to write up individual or collected research findings into a book on the subject. The rationale for this approach was based on the understanding that practising engineers will rarely find time to read scientific papers, but may read key text books in the sector. Additionally, books can reach the newcomer to the subject, whereas papers tend to 'preach to the converted'. Books also have some potential to reach Third World undergraduates, a key group if research is to have any longer term impact.

Access to written outputs (i.e. books and papers) was acknowledged as being problematic in many developing countries given the fragile library and communications infrastructure. However, it was noted that a now abandoned, but effective bridge between producers and users of information had been the English Language Book Society (supported by the British Council). ELBS had supplied technical publications (including the whole spectrum of Engineering discipline publications) to developing country libraries and book stores at very low cost.

The main constraints to the research contractor for dissemination were identified as:

- Time taken to produce outputs (i.e., monographs). Leeds have recently started to employ technical writers to produce research monographs
- Conflict of interest on time (i.e., intellectually, researchers may be focusing on new research projects rather than disseminating the findings from previous research)
- Institutional disincentives, especially within Universities where promotion and advancement are linked to publication of academic refereed papers, rather than publication in popular journals

Geoff Pearce explained that HR Wallingford Ltd. are using a conceptual framework to guide dissemination of research work carried out for DFID and thereby encourage take-up of results in follow-up projects and in uptake by other organizations. The range of dissemination pathways used are described below.

The take-up may result in direct transfer of technology to developing countries, and represent a tangible benefit added to the original DFID project

funding. In some cases the outputs are utilised for other funding organizations in projects carried out as part of HR Wallingford's consultancy activities. The research outputs are offered free of charge to organizations in developing countries, and are made available to other commercial organizations at nominal costs. All of which is intended to encourage the use of project results after the project has itself been completed.

Research outputs are tailored to the particular (information) requirements of sector audiences, e.g. software for particular types of problems, guidelines for local managers. This type of targeting of the project beneficiaries is integral to the research process. Dissemination is viewed as a means to an end, not as an end in itself.

The main dissemination pathways used by HR Wallingford include:

- DFID *WATER* newsletter:- the Engineering Division newsletter on research in WS&S sector was proving to be a strong and effective dissemination pathway, with a distribution list of 6,000 sector professionals internationally. Indicators of impact are limited, and are anecdotal in evidence, but many contributing project managers had commented on the volume of information requests following publication of a review of their funded research. For contractors, the process of contributing to WATER was relatively simple and straightforward.
- Technical reports:- the Overseas Development series are written with specific target audiences in mind
- International Programme for Technology Research in Irrigation and Drainage (IPTRID):- this network provides a major influence for dissemination of technical information on the subject. HR Wallingford provide technical intellectual input into the network. IPTRID offers added value to technical outputs by widening circulation and permitting peer review of outputs
- International Commission on Irrigation and Drainage (ICID):- provides official / governmental representation for the subject to all countries
- One page project summaries:- 'OD Technical notes' are used as a marketing tool, to allow for 'knowledge from the DFID structure to enter into other [agency] structures'

Other, complementary but secondary pathways include:

- One-off publications
- Internet / HR website (with a commercial orientation)
- Counterpart publication and dissemination (local publishing of findings in English)

- Audio-visual media:- Slide packs, videos, teaching aids;
- Software:- (CD-ROM's, expert systems, etc). Packaged and distributed to key informants. Some software packages are offered free, some are priced

Jeremy Cain (Institute of Hydrology (IoH)) explained that there was no formalized process for developing a dissemination strategy at the Institute. Research project proposals were frequently used to define the target audiences for dissemination, and for IoH projects target groups typically involved a variety of stakeholders (although community based users are not primary stakeholders - this group is usually reached through intermediaries or other representatives). When research tools are developed it is usually with different stakeholders in mind, and it is usually these stakeholders that define the dissemination tool to be produced.

The key dissemination pathways used include:

- End of project workshops
- Concise summaries of research (i.e., 'marketing' style brochures)
- End of project findings outputs (i.e., manuals, guidelines, etc)
- Software packages

Academic, refereed papers were not necessarily an effective means for communicating research findings, even to the specialist audience of researchers which they seek to inform. The lesson that needs to be learnt is that the style of writing research findings is important if wider access is to be an objective, and in many cases, the text and language used in papers acts as a barrier to communication rather than facilitating comprehension. Appropriate use of case studies to communicate lessons both about context and to conceptualize findings has been recognised as a critical step.

It was clear that IoH places an emphasis on research staff producing academic, refereed papers in scientific journals, and that there had been very little institutional recognition of the value (strictly in terms of dissemination) from abstracting findings for popular journals.

Frank Farquharson (IoH) argued that the Institute was a good example of the transformation taking place in the traditional research contracting environment. The traditional approach had been to win research funds for development purposes, conduct the research and write papers based on the findings which were submitted to academic journals (a procedure which was consistent with the promotion and advancement structures internally).

Today, research findings are being 'sliced' to meet the needs of different and specific audiences, and there is a greater consciousness of who the outputs are being written for, and their particular information needs.

A further point made during this discussion was the necessity to co-opt other institutional structures to assist in dissemination of research results. Therefore, IoH would seek to use well established institutional platforms and networks to widen dissemination of research findings. An example cited here was IoH's FRIEND project, the findings of which had been incorporated into a relevant UNESCO network.

Advocating the introduction of specialised staff within institutions to deal with dissemination was a point made by **Celia Kirby** (IoH). Contractors need not only a formal communications policy, but personnel or a framework to allow for research to be disseminated. This argument was echoed by other interviewees who felt that as research contractor agencies, they were not best placed or qualified to disseminate the results of research.

Two constraints were raised during this discussion to achieving more effective research dissemination. There is a pressing need to resolve the 'conflicting culture' which is typical within many research contractors organization; advancement and promotion are frequently linked to publication of research results in journals which are read by a small proportion of sector professionals. Secondly, there are problems of how dissemination activities are perceived within many institutions (i.e., that it is not 'respectable', and should not be valued in the same way as research activity).

Gillian Lewando-Hundt and **Astier Almedom** (London School of Hygiene & Tropical Medicine) explained that LSHTM's approach to dissemination was best described as informal. A typical approach to dissemination was to focus on the production of academic, refereed journals. Within the Environmental Health Programme (1990-95) there had been an attempt to widen the approach with an informal policy whereby for every academic paper submitted, an equivalent article(s) was written for a practical / non-academic journal (e.g. Waterlines, Child Health Dialogue).

Part 5:
Discussion and recommendations

5.1 Discussion

Phase 1 of this research was designed to facilitate some initial analysis of current thinking on research dissemination as a way of guiding the more substantial work envisaged in Phase 2. As individual activities, the literature review, case study analysis and key informant interviews have raised critical points. This section draws these findings into a wider discussion.

It is a truism to say that research cannot be used unless it is available to those who might best use it, at the time they need it, in a format they can use and with findings that are comprehensible and adaptable to local circumstances. The lessons learnt from the literature review, case study and interviews support this view. However, dissemination of research, as practised by UK based research contractors investigated in Phase 1 fail to meet these fundamental criteria. Undue emphasis is still placed on the production of a single, often lengthy output for a (perceived) homogenous audience.

The reason for this may be attributable to several factors. The first is that in the majority of cases dissemination activities do not have legitimacy within the research life cycle or within those organizations working in international development. Researchers and others involved in communicating research need to feel that time allocated to this task is time properly spent. For dissemination efforts to be improved the activity needs to be viewed as part of the research process; a central part of the wider process of planning and executing research. Appropriate institutional incentives are required to bring about this change in status and behaviour.

Secondly, the typical conceptual approach to dissemination is one which places it firmly at the end of the project. The orientation of research contractors at this stage of the research may be to satisfy the donor agency by producing a report commensurate to the funding available, rather than focusing on the needs of potential users of information. The cases analysed in this report demonstrate that dissemination is a continuing process, which is likely to occur before, during and certainly after the research has been completed. This approach is one which offers opportunities for feedback and learning *during* the research life cycle, potentially increasing the added value of the work commissioned. Embedding dissemination into a research project

in this way implies an enhanced role for quality assurance procedures to prevent communication of partially informed findings.

Thirdly, there is very little awareness or critical analysis of the dissemination media available to research contractors, or to incorporating the views of the potential users of research into a strategy guiding its dissemination. Because there is very little interaction between the producers of information and the intended users, it is unsurprising if research outputs fail to meet information needs in the South. Given the diversity of potential users of research information, it is inevitable that information needs will vary depending on experience and capacity. The needs of those already exposed to many different sources of information will differ markedly from those in rural and urban communities who still have very little information at their disposal. More appropriate packaging of information (leaflets, summaries, policy briefings, videos, theatre) will facilitate the process of dissemination, and is one way in which these diverse needs of a range of information users can be met.

Dissemination of research is not a precise science, in which measured inputs lead to specific outputs. Likewise, an optimal amount of dissemination cannot be specified; this depends on the project and the range and nature of the audiences for a study. Some projects will inevitably warrant much less dissemination than others, and this needs to be judged objectively during the project's life cycle. The recommendations which follow in section 5.2 are to be taken as broad guidelines and suggest ways in which research contractors and DFID can improve the process of research dissemination.

5.2 Recommendations

These recommendations are based on an analysis of the activities undertaken during Phase 1. In order to ensure that these points have some basis in what can be practically achieved, it is intended that Phase 2 of the research be used to validate and consolidate these recommendations through more thorough user consultation and peer review processes both with relevant DFID staff and a cross-section of research contractors (see Part 6: Recommendations for Phase 2 and Logframework for the project listed as Annex IV).

For research contractors

- Plan and integrate a dissemination strategy into the life cycle of the research project. Make reference to, or cross check, individual dissemination plans against a series of key planning questions when submitting ENGKAR research proposals (see Annex II for an example)

- Use a 'cascade' model of research outputs of increasing detail, complexity and technical specialisation. This model needs to be linked to a clear understanding of target audiences, and appropriate dissemination pathways to reach those groups. Production of brief, concise summaries of the key research findings which communicate the range and importance of the conclusions should be a high priority. Research outputs need to be accessible - i.e., attractive to pick up and simple to navigate around. Outputs do not need to include everything that has been found by the research.

- Identify, assess the information needs, and write research outputs for different target audiences (i.e. policy, practitioner, researcher, public, etc).

- Use a variety of dissemination media when communicating research. Consider who the research is intended for and link outputs to target audience information needs (refer to Annex III on 'Planning a dissemination strategy')

- Adopt an 'equality of dissemination pathway' approach to the production of papers from research. For every academic refereed paper submitted to a journal, a paper written for a popular outlet should be submitted

- Consider dissemination opportunities during the life of the project, rather than at the project end (this assumes that quality assurance procedures are designed into the research from the beginning). Interim reports could highlight potential dissemination outputs.

- Submit a dissemination report with DFID's formal terminal report detailing what channels have been used, and any instances of impact of dissemination (this to be used in assessing future ENGKAR proposals from the same contractor). Early written material is invaluable in dissemination terms. Contractors should produce a short summary of their findings before they write up their results formally, to give DFID a sense of what is available, and to assist in the process of planning dissemination.

For DFID

- Closer monitoring of dissemination activities is required. There is a need for dissemination arrangements to be formalised in the research contract. This would lead contractors to state the kinds of publications and other

outputs to be envisaged by the research and the time at which they are likely to be produced.

- Make a condition of ENGKAR funding that research contractors use and contribute details of their research projects to existing DFID funded dissemination channels, such as the Global Applied Research Network (GARNET), Engineering Division's *WATER* newsletter, ID21 research reporting service and the *Waterlines* journal.

- Ease the administrative requirements regarding applications for small funds (to be used for dissemination purposes). An example gathered during Phase 1 relates to attempts to gain funding for the translation of the HEP Handbook into languages other than English. This was rejected by DFID on the grounds that it was administratively burdensome to manage. Greater flexibility on this issue would increase the effectiveness of dissemination activities.

- There is a need for internal advocacy of research findings to DFID staff, especially at Field Office level. DFID should critically review its existing procedures for disseminating research to desk and field offices (see later point on research liaison unit).

- DFID could greatly aid the dissemination process by sending a clearer message to research contractors (through ENGKAR bid documentation) that dissemination is an important and valued aspect of ENGKAR funding. Stronger incentive systems for dissemination would help, and might include linking future ENGKAR funding to dissemination performance on previous projects. In turn, this will enable research contractors to put pressure on internal management structures to recognize the importance of this facet of research work

- DFID should consider the creation of a research liaison unit. This would consist of a (small) team of people who are aware of current research projects and current development projects. As research reports were submitted, the liaison unit would review them and ensure that DFID development projects benefit from the information gained. This might simply mean forwarding reports to projects or asking researchers to contact or visit particular projects, or to prepare targeted publicity materials if appropriate.

A further role of the liaison unit could be to produce a series of factsheets. These would be short, colourful three to four page documents summarising and promoting research results. They would be written jointly be researchers, communication specialists from the liaison unit and development workers involved in the original research. These factsheets would be distributed worldwide to all who registered an interest (possibly via DFID *WATER* newsletter). Recipients would have a ring binder for these factsheets and there would an annual index produced. In this way, the results from previous and on-going DFID research would be available in an accessible format in the offices of a wider constituency of development agencies worldwide.

A factsheets series would provide a valuable source of ideas to development workers as well as links to networks of researchers who could help in adapting ideas to local circumstances.

- Adequate funding for dissemination activities needs to extend beyond the active project life cycle. This would mean that a predetermined amount of time after the completion of the project would be set aside, when the time and expenses of researchers are paid for.

- In an attempt to be more responsive to the particular dissemination needs of projects, DFID could provide initial funding for the science only part of a ENGKAR project, with dissemination funding being reserved. A meeting between the research contractor and DFID staff after two thirds of the project has been completed could be arranged at which time the outcomes and findings to date of the project would be examined, and a better picture of how and what needs to be disseminated could be made. The meeting could also draw on wider DFID staff knowledge (both HQ and desk based) to determine the dissemination strategy to be used and the most effective way in which to target audiences locally.

- Build into research proposals more explicit methods of measuring impact of effective dissemination.

Part 6:
Recommendations for phase 2

Although the literature review, case studies and other analyses have provided substantive discussion on research dissemination, consultation was limited and focused on information providers. A key activity is to gain information users perspectives on the research dissemination process. In particular, there is still a need for more detailed study and analysis of the following:

- The needs of Southern based information users with regard to the dissemination of research from DFID contractors (including government, NGO's and broad organization categories not normally covered in DFID research, such as students, teachers, consultants, etc.)

  Phase 2 will employ consultation exercises in country (via workshops and limited field study visits) to determine the perspectives that Southern based information users have on research findings disseminated from Northern based contractors. Key issues will be to determine user focused criteria which lead to effective dissemination strategies, and to understand how dissemination can be integrated into the existing mainstream information channels such as textbooks, newspapers, television, etc.

- Developing an understanding of the relative merits of different dissemination media. This is required to facilitate an understanding of what dissemination strategies work and why.

  There is limited guidance on what media are best used to disseminate information in given (developing country) situations. Phase 2 of the research will involve more extensive surveying of existing information providers (both Northern and Southern country based), analysing the responses on why they chose particular media and their experiences with these media, and highlighting commonly identified advantages and disadvantages with different media in different situations. The method developed would have to be tested through controlled information dissemination exercises and modified according to the results and feedback obtained. Such a process could involve establishing criteria on how to rate

different media for particular situations for different stages in the dissemination process. From this rating selection processes could be developed.

- An exploration of potential indicators of the impact of dissemination

  A comparison of different indicators of the impact of dissemination will be made (based on consultation with Southern based users and providers of information), with emphasis being given to both possible quantitative and qualitative approaches.

Annex

Table 3: Dissemination checklist questions by research stage

This table includes a list of key questions for consideration (by research contractors) during the research process. Questions are disaggregated according to various stages of the research process, as identified by Kolsky (1990). Questions may occur under more than one stage, and are listed in italics where they are of secondary importance.

Stage	*Key questions*
Identify priority areas of need	Who will be the intended beneficiaries of research outputs? Are beneficiaries convinced they need it? Are you able to assess demand? Are those who need it involved in producing and disseminating it? Do they own it? How will the research findings be used by the target audience/s? What are the existing channels of dissemination that are available? Where and how will dissemination take place? Does this suit the medium? Who will conduct dissemination? (e.g., you, an intermediary...?) What is the relevance of the research findings and who are they relevant for?
Develop specific research questions	
Develop research plans and proposals	What are the main aims of dissemination? What is it for? In which direction will information go? What are the constraints? How much information will be included in the outputs - and why? What are the existing channels of dissemination that are available? Where and how will dissemination take place? Does this suit the medium? Who will conduct dissemination? (e.g., you, an intermediary...?) Is the information reproducible if necessary?

	What facilities, time, money, energy are available for dissemination? How will the impact of dissemination be evaluated? What indicators will be used to judge impact? What is the relevance of the research findings and who are they relevant for?
Submit proposals for funding	
Review/approval by funding sources	
Perform research, including quality control and monitoring	*Are the outputs comprehensible? Can they be adapted to local circumstances?* *What level of language will be used in dissemination outputs?*
Disseminate research results and develop applications	Are the outputs comprehensible? Can they be adapted to local circumstances? What level of language will be used in dissemination outputs? What are the existing channels of dissemination that are available? Where and how will dissemination take place? Does this suit the medium? Who will conduct dissemination? (e.g., you, an intermediary...?) Is the information reproducible if necessary? *How much information will be included in the outputs - and why?* *Are those who need it involved in producing and disseminating it? Do they own it?*
Dissemination of applications	

Table 4: Planning a dissemination strategy

This table (after Feuerstein, 1993) summarises who might need access to findings, how and why? It is a guide which can be adapted to individual situations and to stimulate ideas for planning a dissemination strategy.

Who needs access	*Reasons to disseminate findings*	*Which findings are needed and why*	*Methods for dissemination*
Community members (not directly involved in research project)	Access to WS&S information	Summary of results to create interest and support in WS&S	Meetings Discussions Mass media Newsletters Pictures Demonstration
Community members (directly involved in research project	Take a part in the planning, implementation, monitoring and dissemination	Fuller periodic summary of results so that they can continue to have a key involvement	Meetings Discussion Study of results Mass media Newsletters Pictures Demonstration
Main investigators and staff	Responsibility for project implementation and monitoring community decision making and action	Regular flow of findings to be able to monitor project, make decisions and adjustments, plan	Thorough meetings Study of results

District and provincial level departments, agencies, organizations	Receive information and/or specified active role Disseminate lessons learnt Support future action	Full results or summary only for analysis of lessons learnt and policy decision making	Full report or summary (1-2 pages) Mass media Discussions Meetings Exchange visits Courses
National level ministries, agencies, organizations	Receive information Disseminate lessons Support future policy and action	Full results or summary for analysis of lessons learnt and policy making	Summary Discussions Meetings Policy briefs Interactive computer presentations Articles
External funding agencies	Receive information Disseminate lessons Support future action	Full results or summary for analysis of lessons learnt and policy making	Full report plus summary and discussions
International agencies, UN Development agencies	Receive information Disseminate lessons Support future action	Full results or summary for analysis of lessons learnt and policy making	Probably summary only Discussions Presentations at meetings Articles
Scientific community	Receive information and build on research in the design of further studies	Full scientific results	Papers, international and national Verbal presentations and conferences Seminars Articles

Table 5: Dissemination pathways: comparison of relative advantages and disadvantages

Pathway	*Notes*	*Advantage/s*	*Disadvantage/s*
Working documents	Concept notes, field diaries, and reports for internal use and the wider research community	May target research findings to particular groups	Problems with limited access
Research reports	Detailed summary of research to satisfy funding requirements or those with high level understanding of subject	Provides a single reference point for all aspects of the research	Assumes report read by single audience group May be written in inaccessible manner
Academic, refereed journal	Directed at research community	Informs scientific community of findings; citations lead to wider impact on intellectual networks	Limited audience May be written in an inaccessible manner Lacks practical orientation
Professional journal	Directed at practitioner community	Reaches a wide practitioner oriented community	Academic rigour may be lower than refereed journal
Stand alone manual	Classic linear dissemination product. Single product for single audience	Typically encompasses all research findings from project	Difficult to identify salient points for specific target groups
Stand alone text book	Educational model - influencing practice through higher education courses	Potential to impact on wide audience Potential to influence development professionals	Difficulty in accessing key texts in Southern countries Not practice oriented
Conference, workshop, seminar	Face-to-face contact with peers on specific subject	May allow professionals to **learn** more about research Potential for networking	Expense
Training manual	To support an active training process	Helps to translate information into knowledge which can be applied	Limited audience Expense

Networking	Associations of individuals / agencies which share a common goal or purpose and who contribute resources in two way exchange	Reaches members who share common research interests. Reduces 'reinventing of wheel' Potential for interaction, discussion and review of findings	Typically, low levels of *active* participation Requires strong incentives for participation Time consuming to operate and manage
Internet, e-mail	Worldwide electronic network of linked computers	Immediate, convenient Wide interest in electronic media	Access to hardware limited in Southern countries Potential may be, or is temporarily underdeveloped Expense
Intermediaries	Specialist agency intervening to disseminate and explain research to local constituency	Ensures that research is translatable - based on local norms	Problems may arise if research agenda of intermediaries is not consistent with research project
Popularisation	As a means for reaching a wider audience. Influencing policy from below; uses mass media	Reaches wide audience	Core message may be diluted or misinterpreted during process of popularisation
Publicising	Use of mass media as means of marketing new research	Reaches wide audience at relatively low cost	No control over interpretation of message
Participatory concept	Knowledge disseminated to the community level using participatory techniques	Translates research results into practical guidance at community level	Time consuming
Policy briefs	Directed at policy and decision makers	Potential to influence on decision making process	Difficulty in gaining access to decision makers
Interactive computer presentation	Using PC software to demonstrate research findings	High impact	Difficulty in gaining access to decision makers Limited access to hardware Expense
Demonstrations	Seeing research results on the ground can be persuasive	High impact	Limited audience

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