Grant agreement number 265167

WaterDiss2.0

Dissemination and uptake of FP water research results

DELIVERABLE N° D.1.2

Dissemination practices: Assessment of the dissemination practices of the FP projects already ended

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Start of the project: 1 January 2011 **Duration: 3 years**

Organisation name of lead contractor for this deliverable: Ecologic Institute

Final version

Due date of deliverable: **M 6 – June 2011**

Actual submission date: **M 6 – June 2011**

Project co-funded by the European Commission with the Seventh Framework Programme		
Dissemination level		
PU	Public	X
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services).	
CO	Confidential, only for members of the consortium (including the Commission Services).	

Content

1 Introduction

The FP7 project WaterDiss2.0 aims to improve the uptake of water-related FP6 and FP7 research project results in order to support the implementation of EU water policy, in particular the Water Framework Directive. This is achieved via the use of social networking tools, i.e. by involving researchers, practitioners and policy makers within a social network, the European Water Community, and via dissemination activities tailored to specific audiences or stakeholder groups.

The objective of work package 1 is to identify and analyse relevant EU-funded research projects addressing key water management challenges and liaise with project coordinators.

Task 1.1 consisted of gathering, structuring and analysing information on the dissemination and uptake of project results for a selected set of projects through research, questionnaires, and interviews with project coordinators. This information was integrated in a dashboard of projects, which is continually being updated and acts as a shared database, an analysis tool and a means for documenting the status of communication with project coordinators.

The responses of project coordinators to the questionnaires and several interviews collected during Task 1.1 provide the information for an initial analysis of dissemination and uptake, which is the main focus of Task 1.2. Deliverable 1.2 thus aims to assess the dissemination practices of water-related FP projects that are no longer running. The current analysis conducted by the WaterDiss2.0 project can be considered a pilot phase. The observations are used to create the structure for the analysis grid, which will help the assessment of projects in the future. Also, this first assessment helps WaterDiss2.0 partners, who all participate in the interview process, to learn about characteristics of dissemination and uptake strategies that may be common to many projects.

This document presents the theoretical background for dissemination and uptake based on a literature review, the results of the questionnaires, and the results of first interviews with project coordinators. Based upon this analysis, WaterDiss2.0 developed first drafts of a generic analysis grid and a dissemination and uptake strategy template. In the following months, these tools will be used to develop project-specific strategies for furthering and expediting the uptake of project outputs.

2 Theoretical Background

To help the WaterDiss2.0 consortium in the analysis and design of dissemination and uptake strategies, a literature review serves the dual purpose of familiarizing project partners with best practice in dissemination design and exposing them to various methods for analyzing and evaluating dissemination and uptake.

This chapter outlines the results of the literature review. Section 2.1 presents an overview of diffusion theory and dissemination research. Section 2.2 is an overview of best practice of dissemination design. Section 2.3 outlines other uptake facilitators. Finally, section 2.4 introduces WaterDiss2.0's methodology.

2.1 Background

Scholars with diverse interests have been theorizing about the spread of innovations for over a century. Historically, diffusion was defined as, 'the process through which an innovation is communicated through certain channels over time among the members of a social system' (Dearing, 2008). Key components of classical diffusion theory include the innovation itself and adopter perceptions of its advantages; the adopter, especially their degree of innovativeness; the social system, especially its structure, opinion leaders, and pressures; the individual innovation-adoption process, a stage-oriented model of awareness, persuasion, decision, implementation, and continuation; and the diffusion system, especially external change agencies and their paid agents (Dearing, 2008; Dobbins et al, 2002; Rodgers et al, 2005). Diffusion studies have consistently shown an S-shaped pattern of adoption over time when an innovation spreads. The shape of the cumulative adoption curve is driven by the support and demonstration of opinion leaders who become early advocates, thus spurring an acceleration of uptake until saturation occurs. Much of the early literature used diffusion theory to explain non-engineered phenomena, not to design interventions (Dearing, 2008).

Current dissemination research and practice target societal sectors (groups of organizations operating in the same topical area, such as rural health clinics, elementary schools, or European geologists) rather than just the proximate community. Dissemination efforts have become more decentralized yet also more multifaceted, including repetitive messages delivered through a suite of mediums. Finally, there has been recognition that complex organizations are often making decisions about adoption and uptake of innovations, not only individuals (*Ibid.*).

This transition from an academic discipline that passively observed and described diffusion to a practice-driven field that design, tests, and evaluates interventions in a digital and corporate age is driven in part by governments' desire to justify the expenditure of public funds committed to research (Allen, 2005; Agrifood, 2010; CGIAR, 2008; GAO, 2008; Jones et al, 1999). This fiscal awareness led to an increased push for documentation of the impacts of public research, in effect, a desire for tangible proof that collaborative research not only exists, but also pays dividends in terms of "academic excellence, industrial competitiveness, employment opportunities, environmental improvements and enhanced quality of life for all" (APRE, 2010). In many cases, it became clear that high quality research outputs had low impacts because dissemination was overlooked (Jones et al, 1999). This reflects the oft-stated and controversial opinion that European public-funded research fails to commercialize its discoveries (Arundel et al, 2008).

As a result, dissemination of results is now a contractual obligation of participation in research initiatives supported under the European Framework Programs for Research and

Technological Development (Baumgartner, 2008). Projects must formulate and submit dissemination strategies as early as the proposal stage. The Guide for Application, Grant Agreement, and Consortium Agreement all mention dissemination. While projects are required to disseminate, only a few specific actions are mandated, such as the creation of an online repository for public documents (Baumgartner, 2008).

Much of the recent dissemination literature is produced by societal sectors that rely on public funding, and have thus been impacted by demands for justification of costs and improved dissemination. The bulk of the literature comes from the fields of education, health, social work, criminal justice, agriculture, and international development (CGIAR 2008; Dearing, 2008; Harmsworth, 2001). While these fields use different vocabulary to describe dissemination and uptake, the design guidance they offer and evaluation methods they outline have many similarities. Common vocabulary includes diffusion, dissemination, translation, exchange, implementation, uptake, impact, use, adoption, and exploitation. For the sake of WaterDiss2.0, the terms 'dissemination' and 'uptake' are used and defined in the following way:

Dissemination: 'The targeted distribution of information and intervention materials to a specific audience' (Schillinger, 2010)

Uptake: 'Knowledge or innovation utilization by target groups' (Landry, 2003)

2.2 Designing Dissemination

The projects selected for analysis by WaterDiss2.0 all pursue research in the water sector. However, the focus of projects ranges from technological solutions and applications for improving the status of water bodies (tangible project results) to improving management, capacity building and support actions (intangible project results). It is thus clear that there is no single approach to assessing, and later on assisting projects with their dissemination and uptake activities. Although no single strategy exists to ensure successful uptake of research outputs, there are several guiding principles for designing and implementing a dissemination strategy that are common across literature from different societal sectors.

A dissemination strategy is defined as, 'the combination of any appropriate tools to present, make known and accessible research results to a specific target audience, through clear and specific messages in a certain period of time' (APRE, 2010). While there are many different definitions of 'successful' dissemination, it is generally understood to be some objective function of reach, or how many/what percentage of the target audience were contacted, and effectiveness of dissemination means, which addresses the quality of the activities and materials produced (Schillinger, 2010). A more relative measure simply assesses whether actual dissemination fulfilled dissemination objectives laid out in project documents. Successful dissemination does not ensure uptake will occur. Good dissemination is one determinant of successful uptake, but it is influenced by other factors such as output quality and characteristics of the target group, for example, their affinity toward research (EUWI, 2006; Wandersman et al, 2008). These and other uptake facilitators that are not dissemination-related will be explored in section 2.3.

There is consensus within the literature that successful dissemination strategies display the following characteristics (Agrifood, 2010; CIRA, 2009):

- Use diverse dissemination means that reach the intended audiences (Agrifood, 2010; Allen Group, 2005; Bergman et al, 2005; Dearing 2008; Dobbins et al. 2002; Hamsworth 2001; Keen et al. 2008; Licht 2008; UNIFEM, 2009; Wandersman et al, 2008)
- Use dissemination means tailored to the characteristics of the target audiences, for example, adjusting the message and using the appropriate language and technicality

level in means viewed as credible by the target sector (Agrifood, 2010; Bergmann et al, 2005; CGIAR, 2008; CIRA, 2008; Dearing 2008; DG Research 2009; Dobbins et al, 2002EUWI, 2006; Harmsworth 2001; Keen et al. 2008; UNIFEM, 2009; Walter et al. 2003)

- Draw upon existing resources, relationships and networks within the project consortium and the target audience sector (Agrifood, 2010; Dobbins et al, 2002; ICT Results)
- Involve the target audiences in the project early and maintain personal, one-on-one contact with them (Allen Group, 2005; Agrifood, 2010; Bergmann et al, 2005; CGIAR, 2008; DG Culture & Education, 2010; Dobbins et al, 2002; EUWI, 2006; Harmsworth, 2001; Harvey et al, 2006; Jones et al, 1999; Keen et al, 2006; Landry, 2003; Licht, 2008; Wandersman et al, 2008)
- Appropriately time dissemination activities based on the project goals at each phase, including early dissemination for awareness (Agrifood, 2010; CGIAR, 2008; Keen et al. 2008; Licht, 2008)

These five attributes are at the core of dissemination design best practice. The literature also mentions the following factors as potential determinants of the overall level of dissemination success: the detail of the initial dissemination plan, how well and specifically dissemination deliverables are pre-defined, how well and specifically dissemination actions and targets are pre-defined; the types of means utilized, accessibility of means, the quality of consortium and dissemination management, clear responsibilities among partners, flexibility in the dissemination strategy, clarity of the key message, how well the means enable active discussion, the professionalism of activities and materials, the coordinator's commitment to dissemination, the size of the project, the geographic spread of the partners, the level of dissemination expertise within the consortium, the project duration, the project budget, the project scope, and synergies with other running or finished projects. See Appendix A for a full list of these factors including the literature where they are referenced.

There are many guidance documents that present sector-specific steps for formulating dissemination plans, but the core and secondary design characteristics outlined above can be incorporated by keeping a generic set of questions in mind thoroughgoing the dissemination planning and implementation process (Agrifood, 2010; CGIAR, 2008; Designing European Research, 2005; Schillinger, 2010):

Project objectives: What is the main problem the project is addressing? What is the main objective of the project? What are the sub-goals of the project? What is it seeking to help, clarify or change? What are the expected results? How they will serve the needs of the target audiences?

Target audience: For which target audience should a specific result of the project be disseminated? Are any target groups being overlooked (map them to identify)? What is the significance of that result for that target group? What are their motivations, priorities and characteristics? Are the target beneficiaries likely to realize the significance or do they need specific assistance or training to understand the benefits for them?

Goal: What are the objectives and goals of the dissemination effort? What impact is the dissemination plan aimed at producing?

Medium: What are the key messages to relay? Do they need to be tailored by target audience? What are the most effective and credible channels and tools to reach a target audience? Which methods fit best to their level of awareness and understanding? Which means are concise, interesting, and attractive? Which resources are necessary? How can different tools be combined in effective ways? How can the strategy remain flexible?

Execution: When should various dissemination activities be implemented during the project run? Are dissemination needs different at different stages? Who will be responsible for

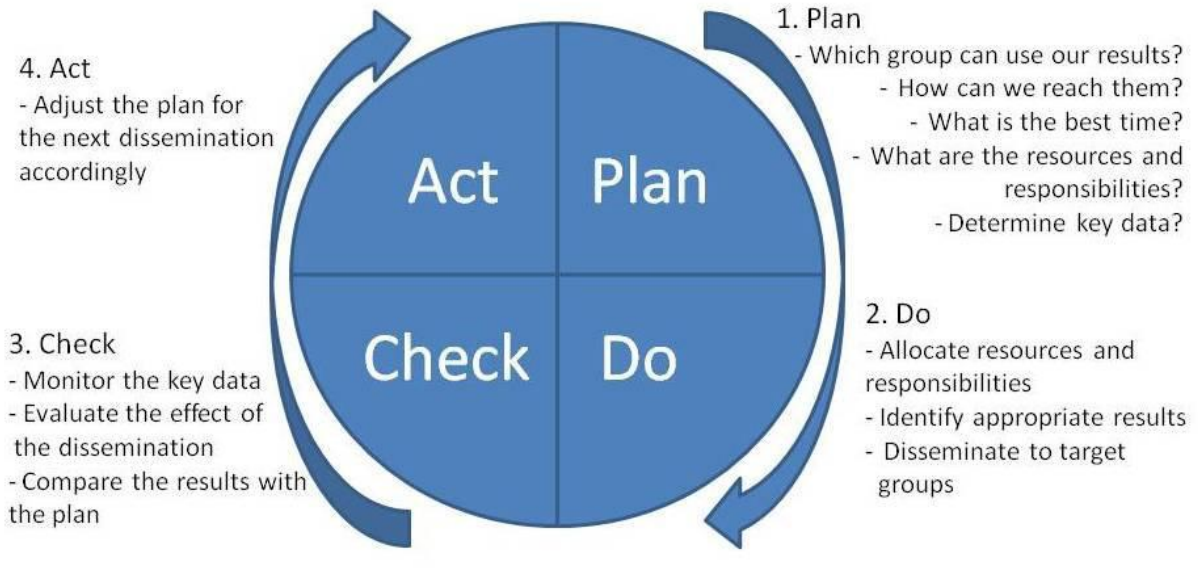
dissemination activities? Will the potential users be involved in the project and will their feedback be used to improve the applicability of the final results?

Evaluation: How will dissemination and uptake be monitored and measured? How will the project know if dissemination was successful? How will the project know if uptake occurred? What success factors can be collected? Can evaluation procedures start at the beginning of the project? Can evaluation and feedback be embedded in various dissemination means?

Adjustment: How can dissemination be improved given feedback? Are there other shifting circumstances that call for a re-focusing of the strategy? Are there new target audiences?

Figure 1 displays these considerations pictorially as an iterative process.

Fig. 1 *The Dissemination Process*



Source: Agrifood, 2010

2.3 Uptake

As outlined in 2.1, both individuals and organizations uptake or use, innovations (Dearing, 2008). Characteristics of the target audience such as their level of innovativeness are a large determinant of the level of uptake an output achieves - one that projects have no control over. Other determinants of uptake include the dissemination process, characteristics of the outputs, and unpredictable outside circumstances. The section will explore each of these categories in turn.

Characteristics of the target audience, particularly their receptivity, determine the extent to which a group is exposed to a message, listens to it, understands it, and eventually uses it (EUWI, 2006). Receptivity is a function of other target group characteristics, including:

- Perceptions of the urgency, relevance, and compatibility of the outputs to the target audience needs (Agrifood, 2010; Bergmann et al, 2005; CGIAR, 2008; Dobbins et al, 2002; EUWI, 2006; Harvey et al, 2006; Jones et al, 1999; Schillinger, 2010; Wandersman et al, 2008)
- Target group affinity toward and knowledge of research, also known as ‘understanding capacity’ (Allen Group, 2005; CGIAR, 2008; Dearing, 2008; Dobbins et al, 2002; EUWI, 2006; Harvey et al, 2006; IPCC, 2000; Jones, 1999; Wandersman et al, 2008)

- The type of relationships between the project and the target audience, especially the existence of previous personal relationships (Agrifood, 2010; Allen Group, 2005; CGIAR, 2008; Dobbins et al, 2002; Harmsworth, 2001; Harvey et al, 2006; Jones, 1999; Keen et al, 2008; Landry, 2003)

Aside from receptivity, the following characteristics of target audiences can also influence the level of uptake: the extent to which an organization is influenced by the choices of its competitors, also known as the imitative effect; risk affinity; financial strength; organization size; and organizational structure, including management, complexity, hierarchies, decision making, culture, etc. See Appendix B for a full list of these factors including the literature where they are referenced.

Characteristics of the research outputs themselves also have an important effect on the overall level of uptake, including:

- The quality and credibility of the outputs (DG Research 2008; Dobbins et al, 2002; Keen et al, 2008; Schillinger, 2010)
- Output readiness for use (Agrifood, 2010)
- Output relevance to the wider public (Harvey et al, 2006)
- An output's relative advantage over similar available outputs (Dobbins et al, 2002; Rogers et al, 1995)
- Issues with patents and intellectual property rights (Allen Group, 2005; Arundel, 2008; CESPRI, 2006)
- The facilities, capacity, costs, and know-how necessary for production and use (CGIAR, 2008; Dobbins et al, 2002; Schillinger, 2010; Walter, 2003)
- The adaptability of the outputs (Bergmann et al, 2005; CGIAR, 2008; Walter, 2003)

2.4 Overarching Methodology

The purpose of the analysis of projects is two-fold. On the one hand, WaterDiss2.0 seeks to help each project improve their dissemination and achieve uptake if they need and request it. On the other hand, WaterDiss2.0 seeks to gather and synthesize information about dissemination experiences to inform best practice and contribute to general knowledge and guidance. In order to respond to these specific needs, both questionnaires and interviews were conducted.

While the questionnaire gathered statistical data and information about the project characteristics, the interviews served to delve deeper into the issues addressed in the questionnaire and expand on facilitators and barriers of uptake. The quantitative data from the questionnaires is used to create statistical information, which may highlight causal determination, enable prediction, and allow for generalized findings. The qualitative information serves to illuminate the projects' specific achievements and needs more closely, foster understanding and enable extrapolation to similar situations (Golafshani, 2003). The premise that qualitative research is not able to give a completely detached account, due to the personal involvement of the researcher should be kept in mind (Horsburgh 2002). However, to ensure good quality of the qualitative research, project partners were provided an interview guide containing key questions and indicators and a list of influential determinants of dissemination and uptake success. Detailed interview minutes were provided by the project partners as well as a filled-in copy of the aforementioned list highlighting which barriers were relevant to a project. Finally, the project partners were asked to write-up their personal experiences and opinions about the project, the communication with the contact person and their impressions on dissemination and uptake of project results. This three-fold

approach maximizes the transparency of the interview process and addresses the difficulty of having several project partners conduct interviews (Popay et al, 1998).

The reliability and validity of data was ensured during the planning stage of the analysis and is being revised through the first analysis in this deliverable. Reliability of data questions whether the result of the study is replicable. Some findings from the analysis are related to specific cases and will not be replicable due to unique characteristics of the projects. However, the study of several FP6 and FP7 projects allow drawing conclusions applicable to other situations. Validity, which indicates whether the means of measurement are accurate and whether they are measuring what they are intended to measure (Golafshani, 2003), is assured through this pilot phase, which shows that first conclusions can be drawn from the questionnaires and interviews.

For aiming at the highest possible degree of transparency throughout the approach for analyzing questionnaire and interview results, literature on qualitative and quantitative data analysis provides guidance.

According to Seidel, qualitative data analysis is a recurring process, which consists of noticing, collecting and thinking about the responses and information provided by project coordinators. During the noticing phase, the analyst should write down observations, creating a record of recurring aspects. Secondly, the information is collected according to overarching topics noticed, and sorted. Finally, the thinking process encourages the analyst to examine the different categories of observation, identify their meaning, look for patterns and relationships and make general discoveries.

WaterDiss2.0 also applied some aspects of the 'framework analysis' developed by Krueger (1994), who suggests a helpful way of thinking about data from interviews. First, the interview has to be skillfully facilitated through a discussion, generating rich data. Secondly, the interview data is complemented by observational notes and interpretation comments. Finally, going through several stages of the data analysis process will help transparency and lead to results. The stages of the 'framework analysis' recommend getting familiarized with with the topic and then identifying a thematic framework by writing memos and ideas arising from the interview write-ups. The data is then sifted, sorting out quotes and making comparisons between similarities. Finally, data is re-arranged and reduced to concluding remarks.

3 Analysis of Questionnaire and Interview Data

In cooperation with STREAM and Step-Wise, WaterDiss2.0 selected 65 projects based on the research needs for improved water policy implementation identified by the CIS-SPi conference in September 2010 in Brussels. Both completed and running projects are included in the selection. One of the milestones in the project Dashboard is the questionnaire, which is administered to each willing project coordinator and serves as a basis for further inquiry during interviews. The questionnaire design took place between months 2-4, and a detailed account of its creation and administration can be found in Deliverable 1. The final version was created online using LimeSurvey. A link to an example survey can be found here. Questionnaires were sent to the project coordinators of all projects that are no longer running (Phase 1/Pilot Phase). During Phase II, coordinators from running projects will be contacted. To date, 16 completed questionnaires have been submitted and 8 follow-up interviews have been carried out. This chapter presents the key questions of the questionnaire/interview process, partner experiences with the questionnaire and interview process, an overview of questionnaire results, an overview of interview results, and a brief discussion.

3.1 Key Questions

After the first round of questionnaire and interviews with coordinators, the original interview guide of 50+ questions (Appendix D) was streamlined and reduced to a core of seven critical inquiries based on two criteria: 1) what kinds of questions can coordinators offer meaningful answers to? and 2) which questions are critical for understanding if and how WaterDiss2.0 can assist a project with further dissemination? This shortened guide will serve to standardize the interview approach and structure partner thoughts. The following list highlights the core questions and sub-questions.

- What are the project's outputs?
    - What is the quality of each output?
    - How read to use is each output?
- Who are the target audiences for each output?
    - What are their needs?
    - What is the project's relationship with them?
- How successful do you judge dissemination to be (were target audiences reached to a satisfactory level)?
    - What are the factors of this success?
    - What mix of dissemination means was used?
    - What were the main barriers to dissemination?
- Has the desired uptake of each output been achieved?
- What were the main barriers to uptake?
    - Characteristics of the output itself (patent process, readiness for use, etc)?
    - Characteristics of the target audiences (risk aversion, financial stability, etc)?

- Characteristics of the dissemination plan (language, timing, tailoring)?
- Characteristics of the project itself (structure, budget, etc)?

- In your opinion, what are the next steps for the project?

3.2 Questionnaire Responses

Based on the 15 responses, appropriate statistics were generated for questions when possible. The summary statistics give a concise picture of project themes, outputs, and previous dissemination approaches while highlighting trends across projects. Fig. 2 gives general information about the respondent projects. 14 of 16 projects indicated that they want to collaborate with WaterDiss2.0. Beyond naming participating projects, their specific responses will remain internal to WaterDiss2.0 partners.

Fig. 2 *General Overview of Questionnaire Responses*

Project Title	Funding cycle	Project end date	Project coordinator	Coordinating Institution	Location of lead institution
INNOVA-MED	FP6	2010-05-31	Dr. Mira Petrovic	IDAEA-CSIC (Instituto de Diagnóstico Ambiental y Estudios del Agua)	Spain
AWARE	FP6	2008-06-30	Anna Rampini	Consiglio Nazionale delle Richerche Irea – Institute per il Rilevamento Elettromagnetico dell'Ambiente- Department of Milan	Italy
HYDRATE			Marco Borga	Università di Padova	Italy
WADI	FP6	2008-12-31	SCAPINI, Felicita (Professor)	University of Florence (IT) - Department of Evolutionary Biology	Italy
REBECCA	FP6	2007-05-31	Dr Seppo Rekolainen	Finnish Environment Institute (SYKE)	Finland
QUALIWATER	FP6	2010-10-31	Antonio Lopez Francos (Administrative); Ramón Aragüés (Scientific)	CITA (Centro de Investigacion y Tecnologia Agroalimentaria de Aragon)	Spain
BRIDGE	FP6	2006-12-31	Hélène Pauwels	BRGM	France
NEPTUNE	FP6	2010-03-31	Hansruedi Siegrist	Eawag	Switzerland
GABARDINE	FP6	2008-10-31	Prof. Martin Sauter	Geoscience Centre, University of Göttingen (GZG) Dept. Applied Geology	Germany
EUROWET	FP6	2005-04-30	Philippe Negrel	BRGM	France

RISKBASE	FP6	2009-12-31	Silvia Diaz - Damia Barceló (WP1b leader)	IDAEA-CSIC	Spain
HYDRONET	FP7	2011-11-30	Paolo Dario	Scuola Superiore di Studi Universitari e Perfezionamento Santa Anna - CRIM Lab	Italy
MODELKEY	FP6	2010-01-31	Dr. Werner Brack	Helmholtz Centre for Environmental Research - UFZ	Germany
ACQWA	FP7	2013-09-30	Martin Beniston	University of Geneva	Switzerland
REMOVALS	FP6	2011-06-16	Azael Fabregat, Christophe Bengoa	Departament d'Enginyeria Química, Escola Tècnica Superior d'Enginyeria Química, Universitat Rovira i Virgili	Spain
CROPWAT	FP&	2011-03-31	Prof. Radmila Stikic	Faculty of Agriculture-University of Belgrade	Serbia

Fig. 3 highlights project themes. Coordinators could select multiple themes for each project. 10 of 16 projects address water resource management, 8 address chemical aspects, 8 address ecological status, and 5 address river basin management and water consumption. To date, no respondent projects address drinking water issues.

Fig. 3 *Project Themes*

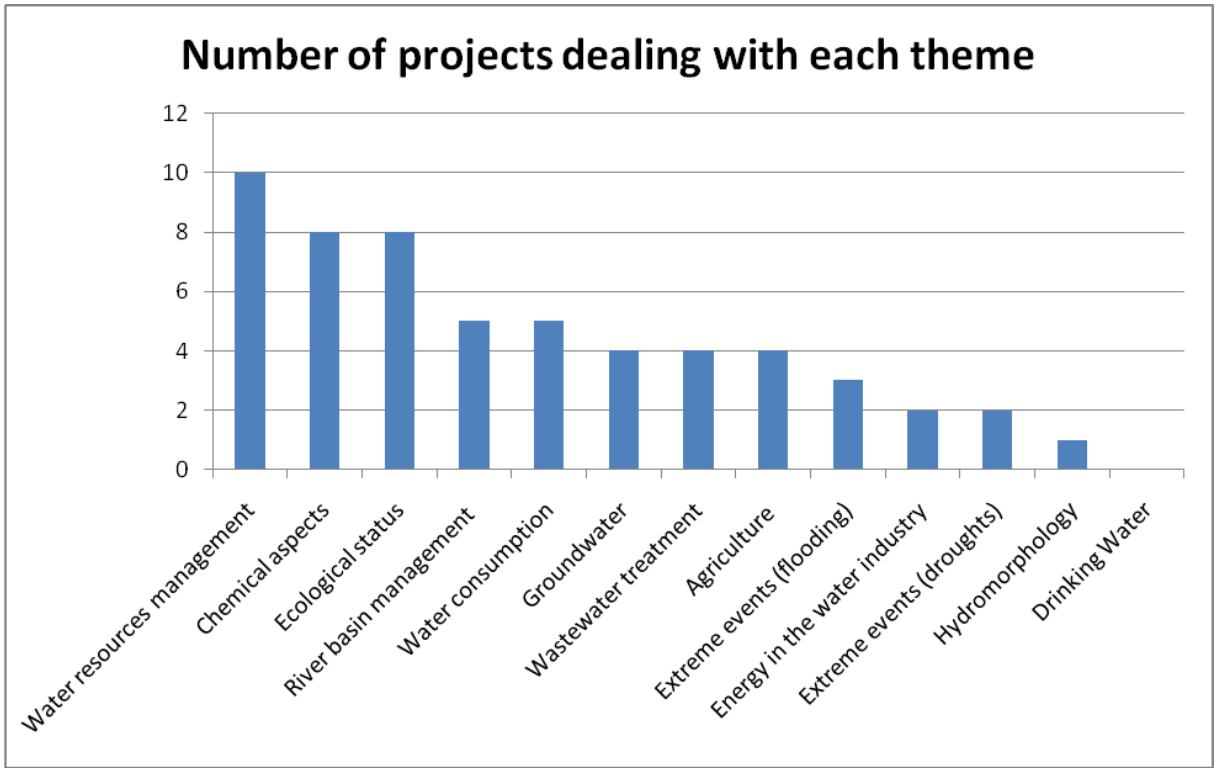


Fig. 4 shows which policies respondent projects are most often linked to. Coordinators could select multiple policy links for each project. To date, no projects are relevant to the Bathing Water Directive, the Drinking Water Directive, the Environmental Technologies Action Plan, the Industrial Emissions Directive, the Sustainable Consumption and Production Action Plan, or the Soil Framework Directive. 12 of 16 projects are linked to the Water Framework Directive (WFD).

Fig. 4 *Policy Linkages*

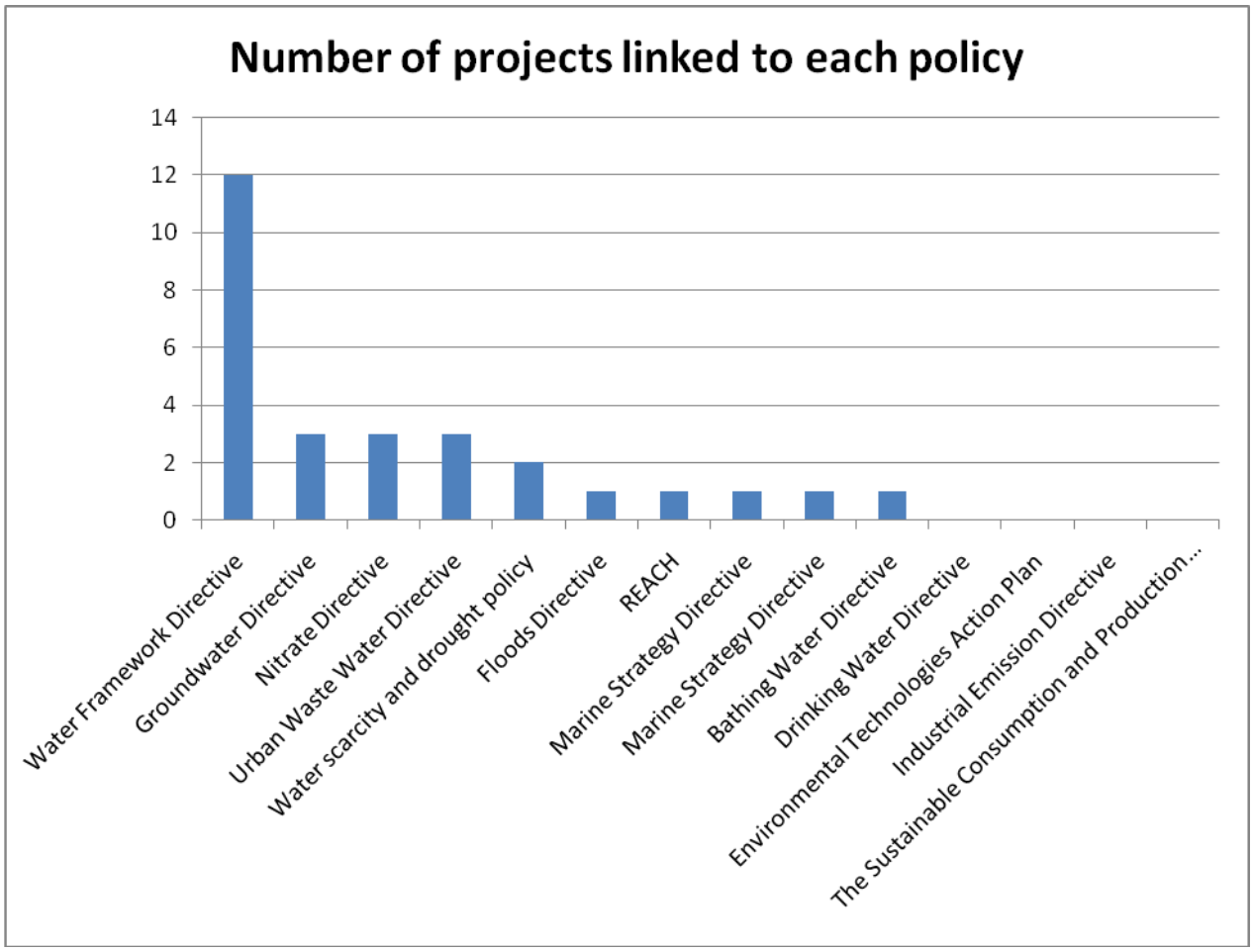


Fig. 5 breaks down all reported outputs by different categories. The number of outputs a project coordinator could describe were limited to their four 'most important.' Two projects have only 2 outputs, but the majority indicated 3 or 4 outputs. 17 of 53 reported outputs are methodologies, 11 are guidance documents, 8 are novel technologies/processes, and 7 are 'other.' The 'other' category includes: books, training courses, conflict identification, measures, and further development of technology.

Fig. 5 *Output Classification*

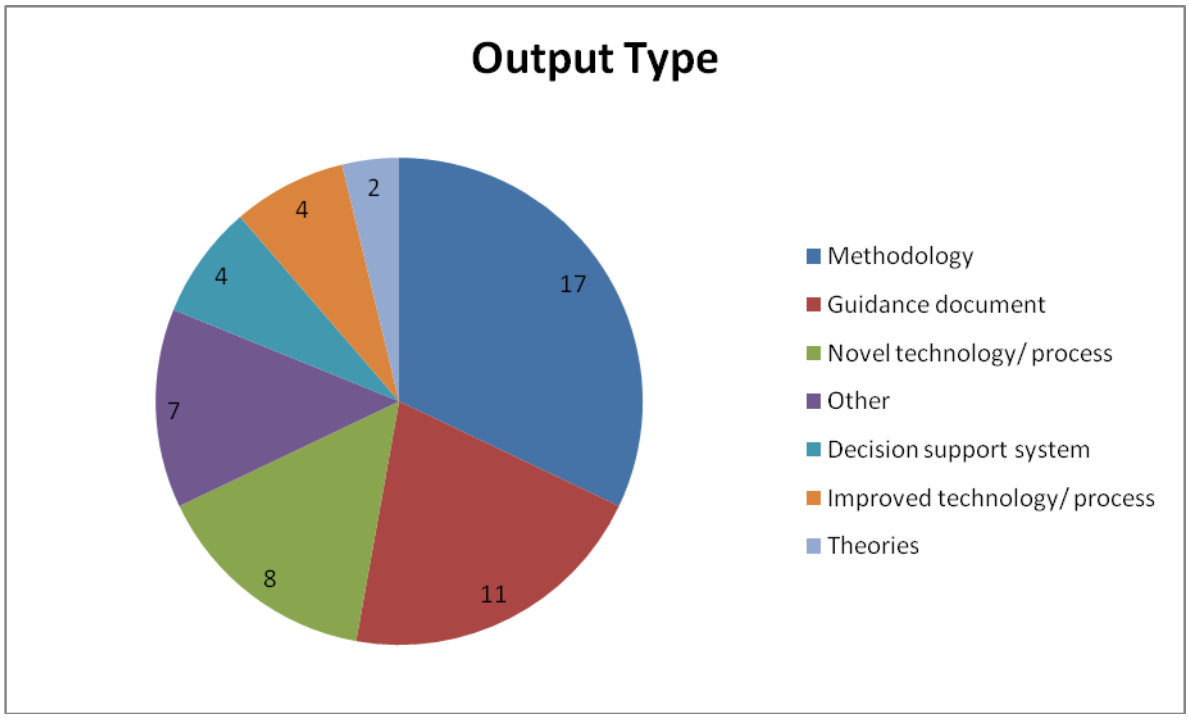


Fig. 6 shows the number of projects focused on each type of target group. Many projects had multiple target groups and reported them with varying levels of specificity. 13 of 16 projects target administrators and managers, 11 target scientists and the research community, 8 target ‘other’ groups, and 7 target policymakers. The ‘other' category includes: DG Environment, expert groups, coastal guards, harbor authorities, model developers, Working Group C, and students. To date, none of the respondent projects have targeted the general public or NGOs. Note that policymakers decide whether to use an output while administrators and managers have the knowledge to use and implement it.

Fig. 6 *Target Groups*

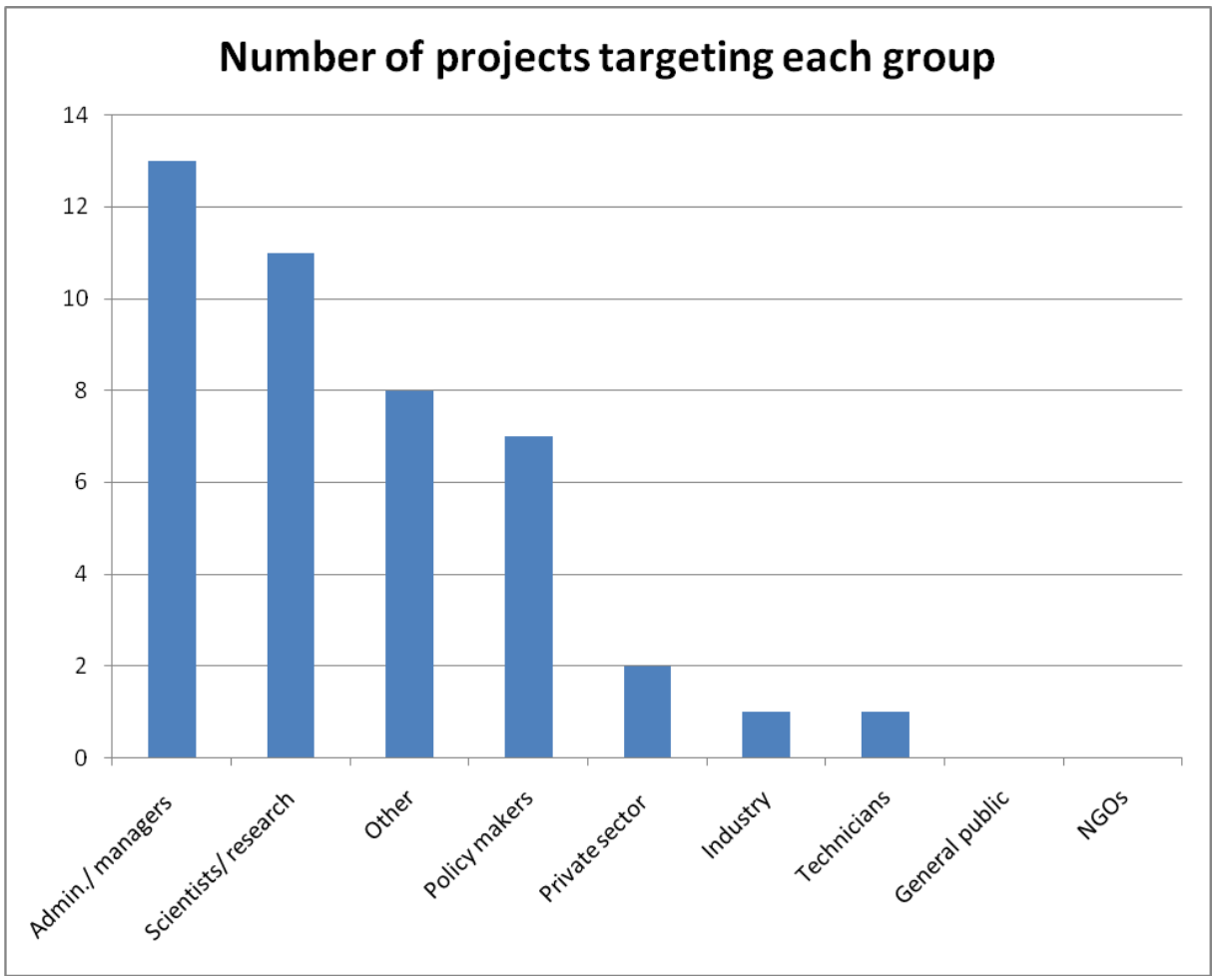


Fig. 7 presents the name/description of each output as well as its specific target group (in the exact words of the project coordinators). The outputs are organized by output type.

Fig. 7 *Outputs and their Target Groups by Output Category*

	Project	**Output Description**	**Target Group**
Methodologies	WADI	Development and testing in the real case of biological indicators of ecosystem health	Environmental managers
	REBECCA	Assessing ecological impacts of toxic compounds	WFD implementing groups at European (ECOSTAT) and member state level
		Classification tools (based on biological quality elements)	
	QUALI-WATER	Set-up of methodology to develop mass balances (water, salt, nitrogen) at the irrigation district level, and characterization and quantification of diffuse pollution erising from irrigated agriculture	Water authorities
		Development of methodology for large-scale characterization of soil salinity	Soil authorities, farmers
	BRIDGE	A procedure for threshold values setting in groundwater, which is based on a tiered approach and on knowing the nature of the final receptor at risk. The first tiers take account of the Natural background level and refers to existing standards or referen	Working Group C- the group of the Common Implementation Strategy for the Water Framework Directive in charge of groundwaters
	GABARDINE	Water treatment technology in artificial groundwater recharge	Water practitioners, scientists
	EUROWET	Eurowet conference in Orleans	Experts in wetlands
	RISKBASE	River basins risk based management approach based in three guiding principles: (1) Be well informed; (2) Manage adaptively; (3) Take a participatory approach.	River basin managers, policy makers, research funders and scientists.
	HYDRONET	new methodologies for water monitoring	Environmental experts
	MODELKEY	Tools to identify and assess toxic stress in aquatic ecosystems	water agencies, scientists involved in monitoring and assessment according to WFD
		Suggestions for improvement of WFD water quality monitoring programmes	
		New approach for deriving candidate compounds for monitoring and priorisation	DG Environment and related expert groups
	ACQWA	Projections of changing water regimes in a warming climate	Research institutions and academia
		Identification of key impacts on economic sectors where water is essential to those	Research institutions and

		sectors	academia, stakeholders
	CROPWAT	Molecular identification of pathogenic in water for irrigation as new data for pathogenic gene bank in Serbia	Researchers in the area of microbiology, Serbian ministries for Health, Environment and Agriculture
		Practical application of new methods for detection of microbiological and chemical contaminants in water for irrigation and their removal	Ministry for Environment and Ministry for Agriculture
	INNOVA-MED	Report on Problems and needs of sustainable water management in the Mediterranean area for the Union for the Mediterranean under the Spanish presidency of the EU (2009)	Policy makers
	HYDRATE	Development of a focused flash flood observation strategy in Europe	Local, regional and national agencies involved in environmental data collection
		Development of procedures and concepts for flash flood risk management	Research community; Local, regional and national agencies involved in flood risk/water resources management
	WADI	Involvement of stakeholders in water issues	Researchers, Environmental managers and Policy makers
		Development of a work-together strategy to achieve interdisciplinary integration	Researchers, Students and Environmental managers
	QUALIWATER	Economic analysis of pollution control management alternatives	Policy makers
	EUROWET	Technical guidance	Stakeholders, decision makers and policy makers
	RISK-BASE	Set of recommendations to river basin managers, policy makers, research funders and scientists	River basin managers, policy makers, research funders and scientists.
		Booklet (Disseminated by the European commission Research Directorate)	
		Scientific book (in preparation - Springer Ed.)	
	ACQWA	Suggestions for adaptation to avoid adverse impacts of climatic change on water resources	Stakeholders and policymakers
Novel technologies/ processes	AWARE	online geo services:web map services, web processing services	Scientists and water managers
	HYDRATE	Development of models and techniques for	Research community; Local, regional and national

		flash flood forecasting	agencies involved in flood risk/water resources management
	NEPTUNE	Investigation and evaluation of technical measures to improve micropollutant removal	Policy maker, engineering companies, operators, supplier
	GABAR-DINE	Groundwater flow and transport model (program code-software)	Model developers (efficient codes)
	HYDRO-NET	new robotic system for water monitoring	Environmental agencies
		new miniaturised sensor for water quality measurement	Coastal guards, harbor authorities
	REMOVALS	Automatic control loop based on in-line OUR measurement applied for partial nitrification in an activated sludge system with three-reactors in series.	If an upgrade in terms of nitrogen removal is foreseen for an existing WWTP already treating specifically the reject water, this technology is a good strategy to retrofit the nitrifying reactor to a high capacity partial nitrification system.
		Determination of optimum sludge for producing SBAs	Activated carbons manufacturers.
	CROPWAT	Molecular identification of pathogenic in water for irrigation as new data for pathogenic gene bank in Serbia	Researchers in the area of microbiology, Serbian ministries for Health, Environment and Agriculture
Decision support systems	QUALI-WATER	Calibration, validation and application of two models (CIRFLE and APEX) for evaluation of best management practices for control of salt and nitrate pollution in irrigation return flows	Water authorities, Water User Associations
	GABAR-DINE	Decision Support System (DSS) for ARS planning and management	Water resources managers
	MODEL-KEY	Decision Support System to support river basin management	Water agencies, scientists involved in monitoring and assessment according to WFD
	ACQWA	Identification of shortfalls in today's water governance that could exacerbate problems of water use in a changing climate	Stakeholders and policymakers
Theories	HYDRATE	Development of a flash flood focused data archive, including physical and socio-economic data.	Local, regional and national agencies involved in flood risk/water resources management

	REBECCA	New indicators for ecological classification of lakes, rivers and coastal waters and thresholds for class boundaries	WFD implementing groups at European (ECOSTAT) and member state level
Improved Technologies	AWARE	Assimilation of remote sensing data in hydrological models	Scientists and water managers
	NEPTUNE	Micropollutant analysis and ecotoxicological evaluation	Policy maker, protection agencies
	REMOVALS	Pre-treatments for sludge stabilisation	Wastewater treatment plants
	CROPWAT	Practical application of deficit irrigation methods for tomato and potato irrigation in polytunnel and field conditions.	Farmers and vegetable producers
Other	INNOVA-MED	Book Waste Water Treatment and Reuse in the Mediterranean Region for Springer-Verlag series “The Handbook of Environmental Chemistry”	Scientists, (waste)water practitioners and water managers
		Knowledge	Wastewater practitioners and Ph.D. students
	WADI	Identification of conflicts about water bodies	Scientists, Students and Policy makers
	REMOVALS	Conditions appropriate to stable continuous hydrogen production from sewage biosolids	Full scale anaerobic digestion of lignocellulosic biosolids, particularly sewage sludge. WWTP.
	CROPWAT	Increase existing research expertise	FA and research community in Serbia targeting CROPWAT activities
	NEPTUNE	Measures to improve nutrient removal and recycling	Policy maker, engineering companies, operators, suppliers
		Further development of LCA to evaluate micropollutant removal measures	Policy maker, consulting companies, protection agencies

Fig. 8 shows the number of projects utilizing each dissemination mean. All projects used multiple means to reach their target audiences. Articles in peer-reviewed journals were used by 15 of 16 projects. 14 projects used conferences, reports, and a website; 12 used press releases and workshops; and 10 used newsletters and posters. To date, no project had used direct marketing.

Fig. 8 *Dissemination Means*

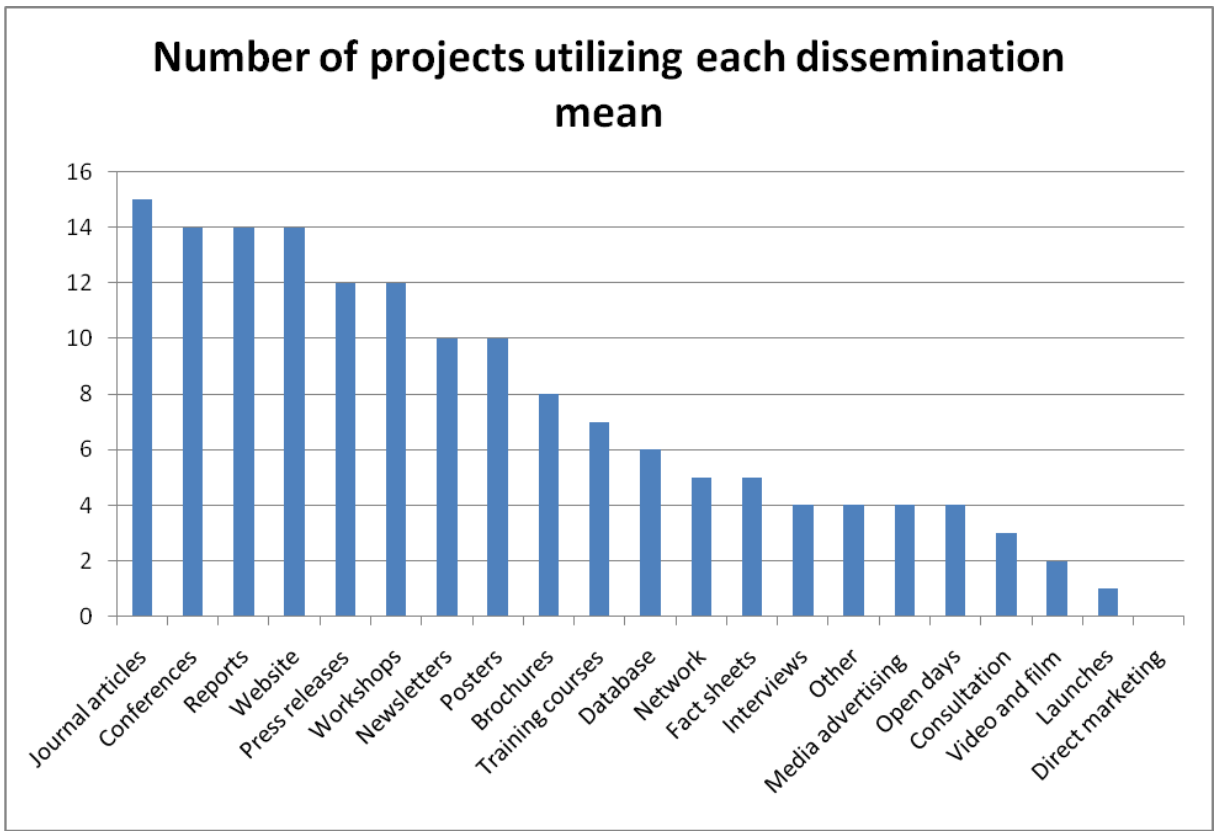
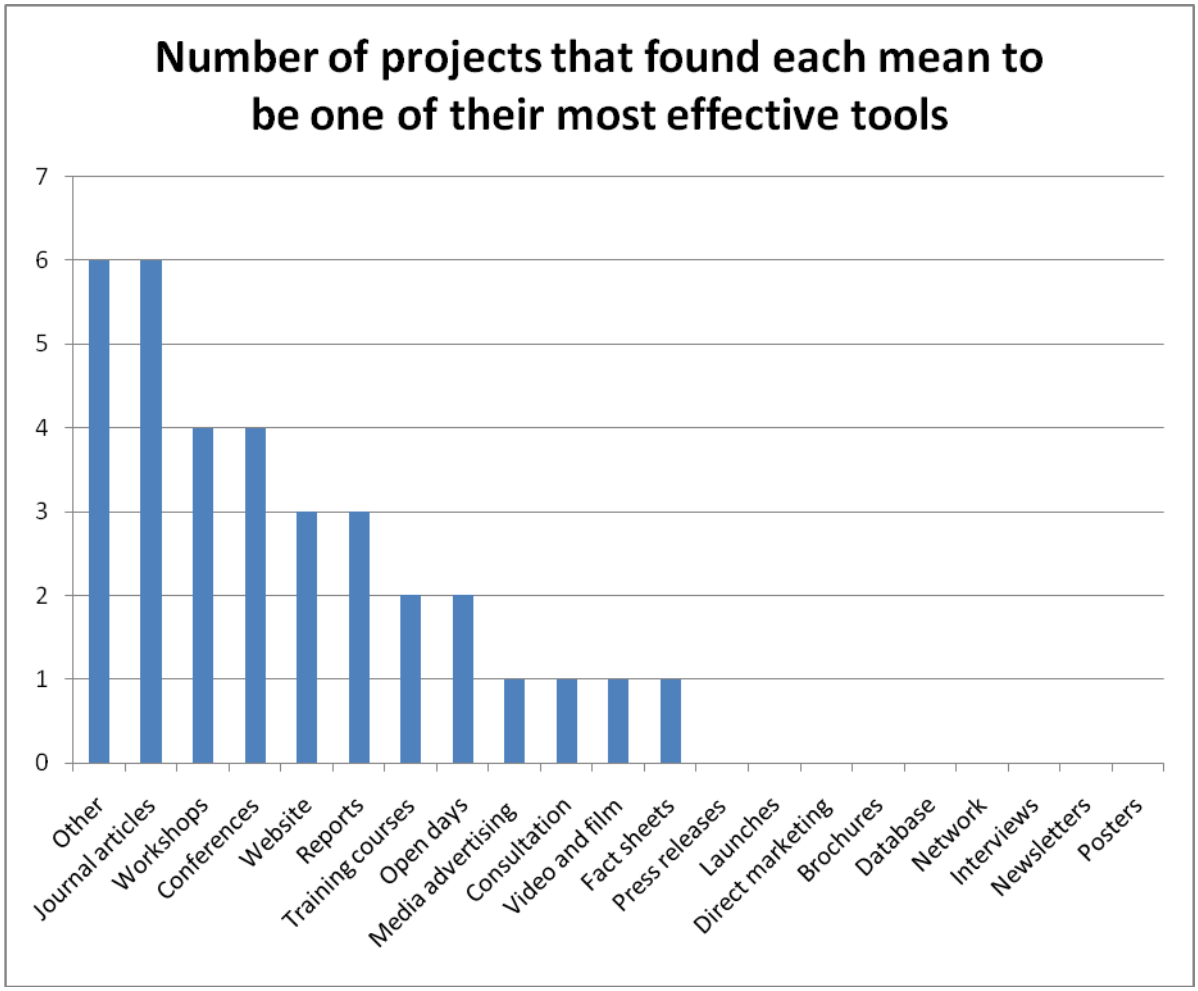


Fig. 9 shows the number of projects that found each mean to be one of its most effective dissemination tools. Coordinators could indicate up to four effective dissemination tools. Six projects considered 'other' dissemination tools and peer-reviewed journals to be most effective, five projects considered workshops to be most effective, and four considered conferences to be most effective. The 'other' category includes: working in tandem with target groups, books, field days, presentations at non-conference venues (plenaries, legislative sessions, etc.), and PhD theses. To date, no projects found launches, direct marketing, brochures, databases, networks, interviews, newsletters, and posters to be one of their most effective dissemination tools.

Fig. 9 *Effective Dissemination Means*



3.3 Interview Responses

To date, eight interviews have been conducted. Coordinators from BRIDGE, CROPWAT, GABARDINE, INNOVA-MED, NEPTUNE, QUALIWATER, RISK-BASE and WADI spoke with a WaterDiss2.0 partner for at least one hour after the submission of their questionnaire. Following the interview guide, the partners extracted information pertinent to the seven core questions. This section reports all barriers and facilitators to uptake mentioned in interviews and sorts them into four categories: characteristics of the outputs, characteristics of the target audiences, characteristics of dissemination, and characteristics of the project itself. With only 8 interviews completed, reducing this list to the most commonly cited barriers and facilitators seemed premature. Also note that one project's barrier could be another's key facilitator, and some characteristics are mentioned in both sections. While generalizability

about barriers is possible, context is very important, and each of the observations below comes from a specific project.

Reported barriers to uptake:

- Outputs
  - High costs of implementation
  - Not ready for use
  - Address topics that are too specific
  - Address geographic range that is too specific
- Target Audiences
  - Unwillingness of target groups to participate
  - Confidentiality requests
  - Deep-seated perceptions or resistance from the general public
  - Problems with administrative/bureaucratic permitting procedures
  - Intratransferability (information given to one member of a target group not being transmitted to the proper people within the organization)
  - Level of understanding of the research/science/output
  - Intertransferability (a lack of communication between target groups)
  - Reluctance to change technologies (consolidated and entrenched procedures based on existing tools)
- Dissemination
  - Time frame for proposal preparation
  - Language of publications, events, and communications
  - Content of a mean was too technical
  - Bad match between the output and local conditions for its implementation
  - A lack of clear dissemination responsibilities among partners
  - Difficulty in reaching local stakeholders
  - The way the EU evaluates dissemination plants (more detailed dissemination plans score better, but these do not always allow for flexibility)
  - Ineffectiveness of scientific publications and conferences at reaching water managers and scientific advisors
  - High costs of dissemination activities/lack of resources
  - Difficult to reach target audiences when they are large and diffuse, such as farmers
  - Failure to take local context into account
  - Patents, ownership
- The project itself
  - Administrative and management differences across the consortium
  - High administrative burden on participating stakeholders
  - Length of project funding does not coincide with uptake cycle

- A lack of real collaboration with stakeholders/SMEs (often required by the proposal)
- Focus and language of consortium too scientific for stakeholders to fully participate
- Too few resources
- Too many outputs made it difficult to follow through on disseminating each one
- Project run is too short to have an actual dissemination policy
- Not enough time has passed to judge uptake
- Geographic spread of partners

Reported facilitators for uptake:

- Outputs
  - None
- Target audiences
  - High demand for the output
  - Geographically diverse stakeholders
  - Project partners and target group overlap (i.e. representatives from target audience included in project consortium)
- Dissemination
  - Early dissemination
  - Using all partners for dissemination
  - Previous personal relationships with target audiences
  - Investing time in developing new personal relationships with targets
  - Trainings at both the beginning and end of projects
  - Flexibility
  - Early and ongoing involvement of stakeholders
  - Extremely specific target groups
  - Revision of target group needs and adaptation of dissemination means accordingly during the project
  - Direct contacts with a follow-up project
- The project itself
  - Geographic spread of partners
  - Thematic spread of partners
  - Synergies with other past or running FP projects
  - Clear communication and distribution of work among partners
  - Strong engagement of project coordinator to promote the results
  - Long-term relationships among consortium members (have worked well together on previous project, etc)

- Alternative sources of funding for continuation of project work or dissemination after the project end

3.4 Discussion of general conclusions

This chapter synthesizes general conclusions based on the questionnaire and interview responses, explores how they relate to the literature, and discusses shortcoming of the approach. Initially, the analysis of ended projects was meant to reveal best practices in dissemination design that would influence the rest of WaterDiss2.0 activities. However, it was difficult to define best practice based on a sample of 16 completed questionnaires and 8 interviews. Because of this, the literature review in Chapter 2 was undertaken. The general conclusions and preliminary trends from completed projects of WaterDiss2.0 can be used to confirm and expand upon the literature review. They are a work in progress that will become more meaningful and useful as the number of participating projects increases. The following paragraphs outline preliminary conclusions.

While 14 out of 16 project coordinators indicated they want to collaborate with WaterDiss2.0 in the questionnaire, attempts to set up interviews and the interviews themselves have shown that coordinators lack the capacity to devote time to already finished projects. If dissemination is to continue after a project's run time, it must be set up during the project and have some sustainability mechanism, because very little will happen afterward. The literature is clear about the crucial importance of the timing of dissemination and the continuation of dissemination after the project end. Initial WaterDiss2.0 data confirm that poor timing and an abrupt end to dissemination can be a large barrier to further uptake.

The majority of projects (12 out of 16) are linked to the Water Framework Directive. Many water-related policies were not addressed by any FP6 or FP7 research projects. While this may be a natural result of the size and scope of the WFD and its phase of implementation, or a reflection of a lack of research needs, it could also signify a lopsided focus.

Over 50% of the outputs described were either methodologies or guidance documents. While it is difficult to generalize, it is possible that water-related EU-funded research tends to produce more intangible outcomes than actual technologies. Furthermore, almost all research outputs from the WaterDiss2.0 sample are targeted toward the public sector, be it administrators, managers, scientists, or policymakers. Only two 2 projects out of 16 targeted the private sector. Given the intangible outputs and this public focus, it appears that EU-funded water research may be less focused on commercialization. This finding offers preliminary support to authors who claim the EU lags behind on this front.

Some project coordinators describe their target audiences in very general terms. The lack of specificity in target group identification perhaps indicates issues with dissemination planning and a possible lack of personal relationships with target audiences. References from all corners of the literature confirm that both of these characteristics are important determinants of uptake, and preliminary results confirm that they are often overlooked in current projects. However, the lack of specificity could also be due to the fact that at the outset of the project the exact problem addressed, and who would benefit from its solution, was unclear. Also, target groups' preferences are difficult to discern and may lead to a mismatch in spite of good research.

5 of the top 6 most utilized dissemination means correspond to the top 6 means that coordinators perceived to be most effective. These were articles in peer-reviewed journals, conferences, workshops, reports, and websites. While press releases are heavily used, coordinators found 'other' means, such as books, field days, and PhD theses, to be more effective at reaching target audiences. It is important to note that 'effectiveness' was not defined, and these responses are based on coordinator opinion and perception. It is also possible that the 'effective' means reported were relatively effective (in comparison to

perhaps other mediocre means) as opposed to objectively effective. The overlap between used and effective means is positive in that it confirms projects are investing time and resources to produce dissemination means that seem to work. In the case of workshops and conferences, is also confirms the literature's consensus opinion that dissemination activities with face-to-face communication are highly effective (Keen et al, 2008; Nutley et al, 2002; Walter et al, 2003). The data seems to endorse journal articles as an effective dissemination mean, but the literature is critical of the effectiveness of peer-reviewed articles at reaching those beyond the scientific community. While the questionnaire results showed that journal articles were tied for first place as the most effective mean used (6 of 16 projects selected it), coordinators presented a tempered view during interviews that is more in line with the literature. Many noted that peer-reviewed articles were not effective for reaching those outside of the research community, and some even pointed out that their articles did not reach those within it.

When coordinators reported their most effective dissemination means in the questionnaires, the 'Other' category was tied with peer-reviewed journals as the most effective mean. Coordinators could write in what they meant, and the responses included books, field days, presentations at non-conference venues (plenaries, legislative sessions, etc.), PhD theses, and other creative options. This is a surprising result that highlights how creativity and thinking beyond the typical set of well-used dissemination means can pay dividends for some projects.

The literature says very little about characteristics of the project itself impacting the overall level of target audience uptake. However, respondents experienced more barriers to uptake as a result of their project itself than output characteristics and target characteristics combined. These barriers include administrative and management differences across the consortium, a high administrative burden on stakeholders, short funding cycles, a lack of real collaboration with stakeholders, small budgets, and too many outputs to properly disseminate each. The quality of dissemination, and thus level of uptake, appears to be influenced by structural aspects of the project that are often overlooked in the literature and difficult to address short of overhauling the way research is funded in the EU.

Coordinators confirmed that the following characteristics outlined in the literature facilitated overall uptake: high demand for an output, personal relationships with target audiences, early dissemination, using all partners in dissemination, flexibility, early and ongoing involvement of stakeholders, specific target groups, the geographic spread of the partners, the thematic spread of the partners, synergies with other running FP projects, clear communication and distribution of work among partners, and strong commitment by project coordinator to dissemination. This highlights the benefits of carefully planning dissemination with well-known best practices in mind.

Some coordinators specifically reiterated the effectiveness of trainings at both the beginning and ends of projects during their interviews. This confirms the literature's support of person-to-person dissemination means. Another coordinator noted that scientific publications and conferences were not an effective means of reaching administrators and managers, confirming views widely found in the literature.

In addition to the small number of interviews received by month 6, the WaterDiss2.0 approach has encountered various other issues. In the process of contacting coordinators to distribute questionnaires and administer interviews, project partners made several observations:

- There is limited interest from coordinators, especially those whose projects are no longer running (no more funding, need to focus on other projects, etc).
- Phase I contact is ill-timed: many project coordinators are involved with academic institutions, and thus busy with end-of-semester tasks. Many have agreed to participate once the semester ends.

- While it sometimes made sense to generate statistics and observe trends based on questionnaire responses, the generalizability of other trends, such as whether or not projects overall seem to be meeting their uptake objectives or which kinds of outputs were most often successfully uptaken, made less sense based on the very small sample size. This is why there is no attempt made at extrapolating some trends. Tasks like this will be a priority once the number of responses grows in the coming months.

The combination of best practice in the literature and best practice trends reported by WaterDiss2.0 participants serve as the basis for the analysis grid.

4 Dissemination Strategies

The final chapter presents draft versions of the analysis grid and dissemination strategy template. These documents are influenced by the project's ongoing interviews and data gathering, and will be updated throughout the project run.

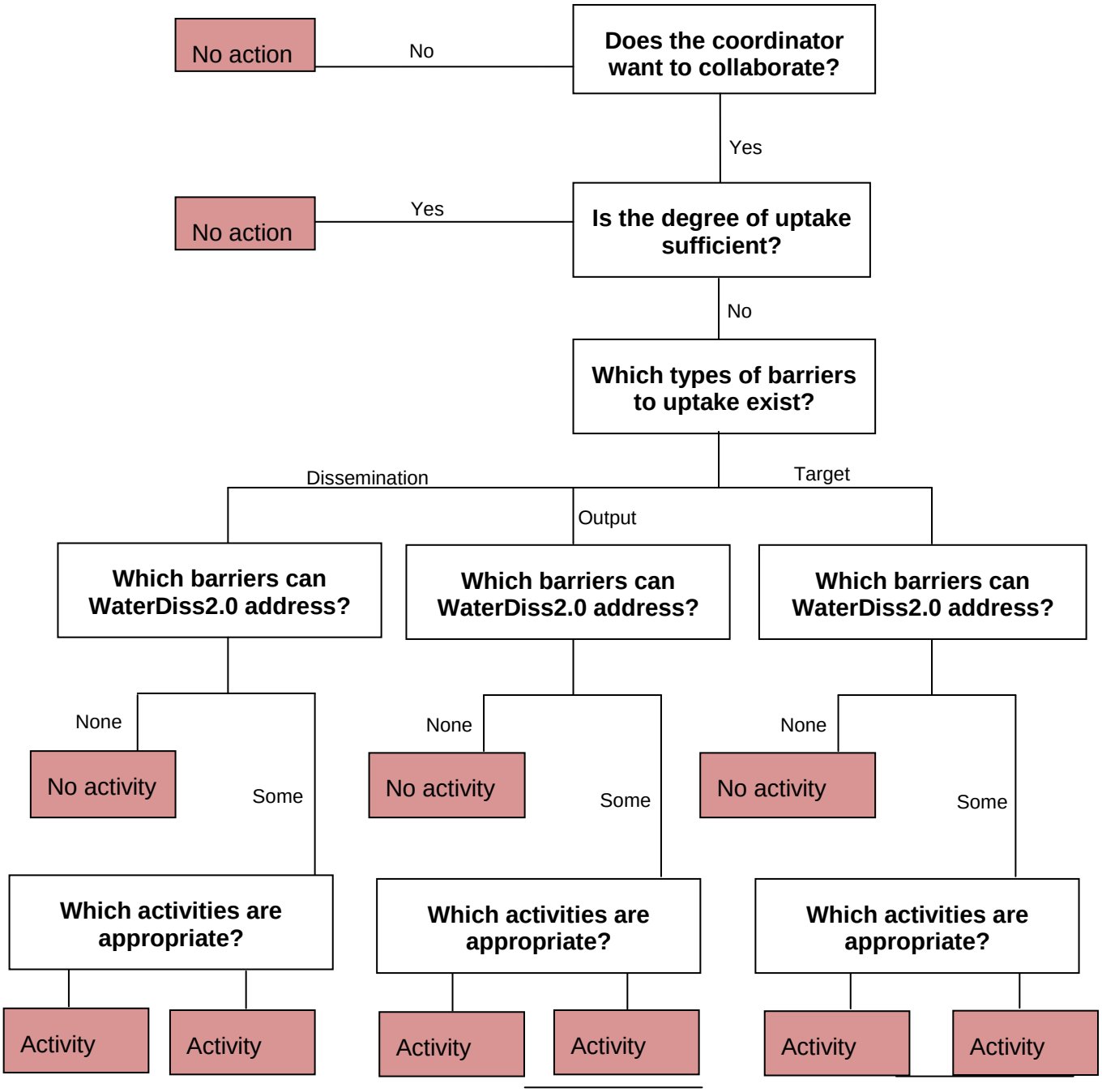
4.1 Analysis Grid

The analysis grid is a decision making tool for use at the individual output level. Its inputs, the responses to the core questions in Section 3.1, flow through a decision tree with sets of criteria that help partners answer the following questions about each output:

- Is the degree of uptake sufficient?
- What are the dissemination-related barriers to uptake?
- What are the output-related barriers to uptake?
- What are the target-related barriers to uptake?
- Which barriers can WaterDiss2.0 help overcome?
- Which activities are appropriate to overcome the barriers?

The outcome of the exercise is a classification of a project's main barriers to uptake and an idea of how WaterDiss2.0 can help to address them. It is possible that WaterDiss2.0 will not be able to offer any assistance based on the nature of the barriers, for example, high risks associated with implementing the output. This is more likely when the barriers to uptake are output or target audience related due to the fact that, unlike the dissemination strategy, they are beyond a project's control. The outcomes of this exercise are one of many inputs during the process of authoring a project's individual strategy for further dissemination (ISFU). The ISFUs will be created in close collaboration with project coordinators in the following months. Fig. 10 presents the decision tree, and the following text lays out its criteria and instructions for use.

Fig. 10 *Decision Tree*



The decision tree contains four levels of questions. Each question has important criteria for judging how to move to the next level in the tree. Most of these criteria must be evaluated based on opinions, value judgments, and reference to the literature. For some criteria, WaterDiss2.0 collected appropriate qualitative and quantitative indicators for evaluation. The follow section explores how to judge and answer each question in the tree.

Does the coordinator want to collaborate?

This critical question relies entirely on the coordinator's desires as expressed in the questionnaire and during the interview. It may be useful to speak with coordinators who said 'no' again once the project has developed a clearer idea of what activities it is offering and the commitments it requires.

Is the degree of uptake sufficient?

This can be judged using three criteria:

- The project coordinator's opinion is the most important basis for answering this question. They will have a sense of whether their outputs have met their uptake goals.
- Verifiable further use of an output highlights whether or not uptake has occurred. The coordinators should be able to list their uptake success factors, such as use in follow-up project, incorporation into policy, adoption of a methodology, etc. These can be easily verified.
- A comparison of an output's further use to the original objectives (usually listed on CORDIS, the DOW, and early deliverables) can assist WaterDiss2.0 partners in formulating their own opinion about how satisfactory uptake was.

Which types of barriers exist? Which barriers can WaterDiss2.0 address?

If uptake is deemed insufficient, the next step is to identify and classify which types of barriers an output encountered. Identification of uptake barriers comes from the coordinators' opinions and WaterDiss2.0 assessment of specific characteristics and activities of a project (appendix C contains qualitative and quantitative measures for various project characteristics). WaterDiss2.0 has identified three categories of barriers to uptake: dissemination strategy-related barriers, output-related barriers, and target audience-related barriers. Below are lists of specific barriers for each category that can be used to identify where the bulk of a project's problems lie. As indicated above, WaterDiss2.0 is less able to assist when barriers are output and target related.

The next step is determining if WaterDiss2.0 has any activities or tools to address the identified barriers. In the lists below, a check mark indicates barriers that WaterDiss2.0 can help ameliorate.

Dissemination-related barriers to uptake

- Detail of dissemination strategy
- Flexibility of strategy
- Consortium management
- Effort (funding, time dedicated)
- Timing of activities and means

- Key message of the means
- Networks of consortium members (stems from the composition of the research group: do they offer many diverse connections into different target communities?)
- Professionalism of means
- ✓ Target audiences reached by current means (wrong audiences)
- ✓ Scope of current activities
- ✓ Accessibility of means
- ✓ Tailoring to conditions of local stakeholders (language, context, etc.)
- ✓ Level of complexity/technicality/generality of means
- ✓ Diversity of means
- ✓ Continuation of dissemination after project end

Output-related barriers to uptake

- Quality of the output
- Adaptability of output (transferability)
- Implementation issues, such as facilitates, capacity, cost and know-how for production/use (risks)
- Competition with similar outputs
- Synergies with other projects (networking)
- Trialability
- ✓ Readiness for use by target audience
- ✓ Issues with patents, ownership

Target-related barriers to uptake

- Demand/need for output
- Popularity of output
- Receptivity/affinity toward research
- Risk affinity
- Financial strength
- Personal relationships with consortium members
- Inclusion in the project consortium
- ✓ Technical capacity/understanding

Which dissemination activities should be used?

If an output has barriers that WaterDiss2.0 can help address, the next step is determining which dissemination activities are appropriate for overcoming them. In selecting activities, the same basic set of criteria should guide decisions:

- Target groups (type)

- Target group characteristics (language, technical capacity, location)
- Output (type and topic area)
- Desired scope of dissemination
- Desired level of interactivity

4.2 Draft Dissemination Strategy Template

The dissemination strategy template lists and describes the dissemination support activities WaterDiss2.0 is offering. At its core, WaterDiss2.0 is encouraging use of the Tweeg platform and offering 20 total activities over the course of three years, including workshops, summer schools, and brokerage events. The selection criteria outlined in the Analysis Grid can assist in choosing activities that are well tailored to the output and its intended target audiences. The best practices identified during the literature review and interviews will inform the execution of these activities. The text below describes each type of activity WaterDiss2.0 is offering and which situations it is appropriate for.

Brokerage Events (5-6) are typically 1-day side-events organized back-to-back with larger regular events such as trade shows, exhibitions, or conferences. Project representatives interact with stakeholders through booths, stands, and posters. Brokerage events are appropriate for all types of outputs and target audiences depending on the focus of the main event. For example, WaterDiss2.0 could organize a brokerage event at the IFAT ENTSORGA trade fair in Berlin. This event appeals broadly to those involved in water, sewage, waste, and raw materials management.

Good for: Outputs that are ready for use, all target audiences, informal communication, wide dissemination

Summer Schools (2-3) are organized through universities to target young researchers and practitioners. They aim to promote inter-relationships, interdisciplinary approaches, and sharing of state of the art research. They also facilitate networking for future consortia. The scope of this dissemination is narrower: it is focused on a specific field of science, particularly on the younger practitioners.

Good for: All outputs (including those are not ready for use and complicated/technical outputs that require explanation and training), young scientists, practitioners, formal communication, informal communication, focused dissemination

Workshops/national seminars (5-10) will typically be one-day events organized at a national or regional level, particularly where local stakeholders do not speak or are not fluent in English. They will be used to disseminate information about relevant projects and their outputs to water managers and implementers. The audience will be selected and invited. The scope of this dissemination is spatially and topically focused on specific target groups.

Good for: All outputs, local stakeholders, smaller stakeholders, informal communication, topically focused dissemination, narrow dissemination

The Tweeg platform of the European Water Community is a virtual social community for anyone involved or interested in European water issues. WaterDiss2.0 will be encouraging projects to become involved in disseminating their results and updates through this medium. It is especially appropriate as a tool for identifying potential partners for follow-up projects when a project's final outputs are not yet ready for use. This type of dissemination has the potential to be both wide and focused depending on the types of relationships fostered.

Good for: all outputs, all stakeholders, informal communication, wide dissemination, focused dissemination, consortia building

Non-scientific water journals will be targeted by WaterDiss2.0 as a previously un-exploited dissemination medium. WaterDiss2.0 partners will develop agreements with non-scientific, national/regional water journals targeted at professionals to host periodic papers promoting innovation by various projects. While the scope of this dissemination is still wide, it is more regionally, linguistically, and topically focused than large European journals while also providing access to a previously ignored readership. OIEau already has such an agreement with 'Environment & Techniques' in France and CFPPDA has an agreement with 'APA' in Romania.

Good for**:** all outputs, practitioners, specific language groups, specific regions, specific topics, formal communication, focused dissemination

5 Conclusion

Deliverable 1.2 reviews the work done during the WaterDiss2.0 project up to month 6. The tasks of designing questionnaires, collecting information on projects, conducting first interviews and analyzing the results in order to prepare a draft analysis and dissemination strategy template are completed. To render the analysis more reliable and valid, a detailed literature review highlighted the most important characteristics, facilitators and barriers of dissemination and uptake. The questionnaires produced statistical information about project characteristics, while interview minutes and observations gave an insight in the problems and best practices of projects. Preliminary conclusions from this data will evolve as more projects participate, and responses will feed into a more useful analysis grid. The draft Individual Strategy for Further Uptake provides a first look at WaterDiss2.0 activities that will be developed and organized in the coming months.

6 Bibliography

The Allen Consulting Group. Measuring the impact of publicly funded research. Rep. Sydney: Australian Department of Education, Science and Training, 2005.

Apre. Report on strategies for communication of scientific results in the food sector. Rep. AgriFoodResults, 2010.

Arundel A, Bordoy C. Developing internationally comparable indicators for the commercialization of publicly-funded research. UNU-MERIT Working Paper Series 2008; #75.

Bader, M. A. Transfer von Forschungsergebnissen, Kritischer Erfolgsfaktor geistiges Eigentum. *Wissenschaftsmanagement 5*, September/Oktober 2007

Bacchiocchi E, Montobbio F. Knowledge diffusion from university and public research: A comparison between US, Japan and Europ using patent citations. CESPRI Working Paper Series 2006; #193.

Baumgartner M. The Consortium Agreement and IPR issues in FP7. RUSERA EXE Training course 2008; Vienna.

Bekkers R, Freitas I. Analysing knowledge transfer channels between universities and industry: To what degree do sectors also matter? *Research Policy* 2008; 37:1837-1853.

Bergman et al. Quality Criteria of Transdisciplinary Research: A Guide for the Formative Evaluation of Research Projects. Rep. Frankfurt am Main: Institute for Social-Ecological Research, 2005.

Bero et al. Closing the gap between research and practice: an overview of systemic reviews of interventions to promote the implementation of research findings. *Journal of British Medicine* 1998; 317:465-469.

Bradley et al. Translating research into practice: speeding the adoption of innovative health care programs. *The Commonwealth Fund* 2004; 724:1-12.

CARE: Community Alliance for Research and Engagement. Beyond Scientific Publication: Strategies for Disseminating Research Findings. 2010 Yale Center for Clinical Investigation.

Carrada G. A Scientist's Survival Kit: Communicating Science. European Commission, DG Research, 2006.

Center for Interdisciplinary Research on AIDS. Strategies for Disseminating Research Findings. Rep. Community Research Core, 2009.

Chiesa V, Piccaluga A. Exploitation and diffusion of public research: the case of academic spin-off companies in Italy. *R&D Management* 2000; 30(4):329-340.

Choi B. Understanding the basic principles of knowledge translation. *Journal of Epidemiology and Community Health* 2005; 59(2):93.

Clinical and Translational Science Institute, UCSF. A toolkit for health research in partnership with practices and communities: Disseminating and measuring impact. http://www.researchtoolkit.org/home/disseminating-and-closing-research/disseminating-and-measuring-impact.html.

Cobbold I, Lawrie G. The Development of the Balanced Scorecard as a Strategic Management Tool. Rep. Boston: 2GC Conference Paper, 2002.

Colditz et al. Translating Science into Practice: Community and Academic Perspectives. *Journal of Public Health Management & Practice* 2008; 14(2):144.149.

Claessens M (Ed.). Communicating European Research 2005: Proceedings of the Conference. European Commission, Brussels.

Consultative Group on International Agricultural Research. Impact Assessment of Policy-Oriented Research in the CGIAR: Evidence and Insights from Case Studies. Rep. Science Council, 2008.

Dearing J. Evolution of Diffusion and Dissemination Theory. *Journal of Public Health Management Practice* 2008; 12(2):99-108.

Dobbins et al. A Framework for the Dissemination and Utilization of Research for Health-Care Policy and Practice. *The Online Journal of Knowledge Synthesis for Nursing* 2002; 9: Doc. #7.

Ernst & Young. Assessment of Internet-Based Communication and Dissemination by Projects Funded under the 6th Framework Programme. Rep. Brussels: DG Research, 2009.

European Commission, DG Education and Culture, Dissemination and exploitation of results of our programmes, Accessible at: http://ec.europa.eu/dgs/education_culture/valorisation/index_en.htm

European Commission, DG Research. Comparison between IPR provisions under FP6 and FP7 proposal. 2007. http://cordis.europa.eu/fp7/how_en.html

European Commission, DG Research. The future of European Union research policy, Accessible at: http://ec.europa.eu/research/fp7/index_en.cfm

European Commission, RTD. Guide to successful communications. http://ec.europa.eu/research/science-society/science-communication/index_en.htm

EU Water Initiative. EU-INCO Water Research from FP4 to FP6 (1994-2006): A Critical Review. Rep. The European Commission Community Research, 2006.

Fixen et al. Implementation research: A synthesis of the literature. The National Implementation Research Network, University of South Florida. FHMI Publication #231, 2005.

Flaspohler et al. Unpacking Prevention Capacity: An Intersection of Research-to-practice Models and Community-centered models. *Community Psychology* 2008; 41: 182-196.

Gardner et al. Measuring the impact of knowledge transfer from public research organizations: a comparison of metrics used around the world. *International Journal of Learning and Intellectual Capital* 2007; 7 (3/4):318-327.

Green et al. Diffusion Theory and Knowledge Dissemination, Utilization, and Integration in Public Health. *Annual Review of Public Health* 2009; 30:151-174.

Green et al. Dissemination and utilization of health promotion and disease prevention knowledge: theory, research, and experience. *Canadian Journal of Public Health* 1996; 87:7-11.

Glasgow et al. Practical clinical trials for translating research to practice: design and measurement recommendations. *Medical Care* 2005; 43(6):551-557.

Golafshani, N., Understanding Reliability and Validity in Qualitative Research, The Qualitative Report Volume 8 Number 4 December 2003 597-607, http://www.nova.edu/ssss/QR/QR8-4/golafshani.pdf

Grimshaw et al. Experimental and quasi-experimental designs for evaluating guideline implementation strategies. *Family Practice* 2000;17 Suppl 1:S11-6.

Hargadon A. The Best Practices of Technology Brokers. Harvard Business School: Working Knowledge for Business Leaders, 2003. http://hbswk.hbs.edu/archive/3613.html.

Harmsworth S, Turpin S. Creating an Effective Dissemination Strategy: An Expanded Interactive Workbook for Educational Development Projects. TQEF National Co-ordination Team, 2000.

Harvey O, Gray C, and Wong K. Science and Technology Adoption in the Vegetable and Savoury Foods Sub-Sector. Rep. Innovation & Systems, 2006.

Horsburgh, D. Evaluation of Qualitative Research. *Journal of Clinical Nursing* 2007; 12:307-12.

IPCC Working Group II. Methodological and Technological Issues in Technology Transfer. Special Rep. Intergovernmental Panel on Climate Change, 2000.

Jones S, Fischhoff B, Lach D. Evaluating the Science-Policy Interface for Climate Change Research. *Climatic Change* 1999, 43:581-99.

Keen S, Todres L. Strategies for Disseminating Qualitative Research Findings: Three Exemplars. *Forum: Qualitative Social Research* 2007, 8(3): Art. 17.

Lavis et al. How Can Research Organizations More Effectively Transfer Research Knowledge to Decision Makers? *Milbank Quarterly* 2003; 81(2):221-248.

Lee et al. Association of Journal Quality Indicators With Methodological Quality of Clinical Research Articles. *The Journal of the American Medical Association* 2002; 287(21):2805-2808.

Licht, G. How to Better Diffuse Technologies in Europe. *Knowledge Economists* 2009; Policy Brief no7.

Licht, G. Technology Production vs. Technology Diffusion. Centre for European Economic Research (ZEW). Germany, Mannheim. Presentation.

Lomas J. Improving Research Dissemination and Uptake in the Health Sector: Beyond the Sound of One Hand Clapping. McMaster University Centre for Health Economics and Policy Analysis. 1997; Policy Commentary C97-1.

Proctor et al. Implementation Research in Mental Health Services: an Emerging Science with Conceptual, Methodological, and Training Challenges. *Administrative Policy Mental Health* 2009; 36:24-34.

Rabiee, F. Focus-group interview and data analysis. *Proceedings of the Nutrition Society (2004), 63, 655–660.* University of Central England

Rabin et al. A Glossary for Dissemination and Implementation Research in Health. *Journal of Public Health Management & Practice* 2008; 14(2):117-123.

Rogers E. Diffusion of innovations. New York City; The Free Press, 1995.

Schillinger D. An Introduction to Effectiveness, Dissemination and Implementation Research: A Resource Manual for Community-Engaged Research. From the Series: Resource Manuals and Guides to Community-Engaged Research. 2010 Clinical Translational Science Institute Community Engagement Program, University of California San Francisco.

Seidel, J. V. Qualitative Data Analysis. *Qualis Research* (1998). Accessed at: www.qualisresearch.com

Siegel, D. Toward a Model of the Effective Transfer of Scientific Knowledge from Academicians to Practitioners: Qualitative Evidence from the Commercialization of University Technologies. *Journal of Engineering and Technology Management* 2004; 21(1-2):115-42.

SPLASH. Lessons for Improved Uptake of Research Results in Policy and Practice. Fact Sheet 3. www.splash-era.net.

Thelwall M. Research Dissemination and Invocation on the Web. *Online Information Review* 1992; 26(6):413-420.

United States General Accounting Office. Program Evaluation, Strategies for Assessing How Information Dissemination Contributes to Agency Goals. *Report to Congressional Committees* September 2002

United Nations Development Fund for Women (UNIFEM). Guidance Note on Developing an Evaluation Dissemination Strategy. *Evaluation Guidance Note Series No.10* UNIFEM Evaluation Unit. December 2009

Walter et al. Research Impact: A Cross Sector Review. University of St. Andrews: St. Andrews, Scotland: 2003.

Wandersman et al. Bridging the Gap Between Prevention Research and Practice: The Interactive Systems Framework for Dissemination and Implementation. *Journal of Community Psychology* 2008; 41:171-181.

Woolf, S. The Meaning of Translational Research and Why It Matters. *The Journal of the American Medical Association* 2008; 299(2):211-213.

7 Appendices

7.1 Appendix A: Dissemination Determinants of Uptake

The following table lists dissemination-related factors that influence the overall level of uptake, various measures of them, and where they are mentioned in the literature.

Fig. 11 *Determinants of Dissemination Impact and their References*

	Determinants of uptake	Measures/Aspects	References
Quality of the dissemination strategy	Detail of the plan	Match between dissemination objectives and uptake objectives	Harmsworth 2001
		How well and specifically dissemination deliverables were pre-defined	Harmsworth 2001; Agrifood 2010; UNIFEM 2009
		How well and specifically actions/targets were pre-defined	Harmsworth 2001; Agrifood 2010
	Diversity of means	Types	Allen Group 2005; Dobbins et al. 2002; Agrifood 2010; CIRA 2008; OCERA 2004; Keen et al. 2008; UNIFEM 2009; Wandersman et al. 2008
		Media Mix	Harmsworth 2001; Agrifood 2010; UNIFEM 2009
		Number	Allen Group 2005
		Means that take advantage of existing resources, relationships, and network	Dobbins et al. 2002; Agrifoods 2010; ICT Results
	How tailored the strategy is to the target audiences		Bergmann et al. 2005; Harmsworth 2001; Agrifood 2010; CIRA 2008; Dearing 2008; DG Research 2009; Keen et al. 2008; Walter et al. 2003;

			EUWI 2006
	Geographic proximity to targets		Allen Group 2005
	Flexibility of strategy		Bergmann et al. 2005; Harmsworth 2001; Agrifood 2010; Schillinger 2010
	Scope and phasing of dissemination	(Awareness, understanding, action/ commitment, involvement, support and favorability, etc).	Harmsworth 2001; Agrifood 2010
	Timing of activities	Appropriate and strategic spread of activities over time	CGIAR 2008; Allen Group 2005; Agrifood 2010; Keen et al. 2008; Licht 2008
		Did the output come 'in time'' for its need?	CGIAR 2008; Jones 1999; Schillinger 2010
	Continuation after project end/ sustainability		Agrifood 2010; DG Research 2009; Schillinger 2010
Quality of the dissemination means	Effort	Budget	INCO 2009
		Work input	Agrifood 2010
	Clarity of the key message		CGIAR 2008; Harmsworth 2001; Jones 1999
	Suitability of the selected means for the target audience	Content, complexity, technicality, terminology (how well translated they are for each group)	Bergmann et al. 2005; CGIAR 2008; Jones 1999; Dobbins et al. 2002; Agrifood 2010; Keen et al. 2008; Wandersman et al. 2008; Licht 2008
		Language	Bergmann et al. 2005; Agrifood 2010; EUWI 2006; UNIFEM 2009
	Accessibility of activities/materials		Harvey, Gray 2006; Jones 1999; DG Research 2009; Wandersman et al. 2008
	How well the means enable active discussion		Keen et al. 2008; Nutley et al. 2002; Walter et al. 2003
	Professionalism/		CGIAR 2008

	appearance of materials		
Facilitators and barriers	Consortium characteristics and management	Size	
		Geographic spread	Bergmann et al. 2005
		Involvement of stakeholders/targets (early)	Bergmann et al. 2005; CGIAR 2008; Allen Group 2005; Dobbins et al. 2002; Agrifood 2010; Keen et al. 2008; Licht 2008; EUWI 2006; Wandersman et al. 2008
		Dissemination expertise within consortium	Bergmann et al. 2005; Harmsworth 2001; Agrifood 2010
		Successful collaboration among partners	Bergmann et al. 2005; CGIAR 2008; Hargadon 2003; Harmsworth 2001
		Clear responsibilities among partners	Harmsworth 2001; Agrifood 2010; UNIFEM 2009
		Clear vision of project coordinator	Harmsworth 2001
	Project characteristics	Duration	
		Size	
		Scope	
		Synergies/networking with other past or running projects	Bergmann et al. 2005; Hargadon 2003; Harmsworth 2001; DG Research 2009; EUWI 2006
	Target audience characteristics	Diversity of target groups	Harvey et al, 2006

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7.2 Appendix B: Other Determinants of Uptake

The following table outlines non-dissemination related determinants of uptake, various measures of them, and where they are mentioned in the literature.

Fig. 12 *Determinants of Uptake and References*

	Determinants of uptake	**Aspects/Measures**	**References**
Output-Related Determinants	Quality/credibility of outputs	How well they meet their technical objectives	Dobbins et al. 2002; DG Research 2008; Keen et al. 2008; Schillinger 2010; Rogers et al. 1995
	Readiness for intended use		Agrifood 2010
	Relative advantage over similar outputs available		Dobbins et al. 2002; Rogers et al. 1995
	'Trialability'		CGIAR 2008; Walter 2003; Dobbins et al. 2002; Schillinger 2010
	Risks	Cost	
		Functionality	
	Adaptability of outputs		Bergmann et al. 2005
		Reversibility	CGIAR 2008; Walter 2003
	Barriers to implementation of output	Facilities, capacity, cost, and know-how needed for production/use	CIGAR 2008; Walter 2003; Dobbins et al. 2002; Schillinger 2010
	Patents/Ownership issues		Allen Group 2005; Arundel 2008; CESPRI 2006
	Transferability	Specificity of objectives	
		Specificity of target	

		groups	
		Synergies with other projects, policies, and technologies	Bergmann et al. 2005; EUWI 2006
Target-Related Determinants	Urgency of need	Relevance to policy needs	CGIAR 2008; Schillinger 2010; EUWI 2006; EUWI 2006
		Relevance to target needs	Harvey, Gray 2006; Bergmann et al. 2005; Dobbins et al. 2002; Agrifood 2010; Schillinger 2010; EUWI 2006; EUWI 2006; Wandersman et al. 2008; Rogers et al, 1995
		Relevance to wider public	Harvey, Gray 2006
	Receptivity/ affinity toward research		Harvey, Gray 2006; CGIAR 2008; Jones 1999; Allen Group 2005; IPCC 2000; Dobbins et al. 2002; Dearing 2008; EUWI 2006; Wandersman et al. 2008
	Knowledge/ understanding capacity/ technical exertise		Wandersman et al. 2008
	Risk affinity		Harvey, Gray 2006; Dearing 2008
	Financial strength		Harvey, Gray 2006; Allen Group 2005; Licht 2008; Wandersman et al. 2008
	Scale of the target		Harvey, Gray 2006

	group (small vs. large)		
	Organizational structure (management, complexity, hierarchies, decision making, culture, etc.)		Dobbins et al. 2002; Licht 2009; Wandersman et al, 2008
	Geographic proximity to project partners/activities		Licht 2009
	Imitative effect	How many other have uptaken the output	Agrifood 2010; Dearing 2008
		Support from opinion leaders	Dearing 2008
	Relationship with project	Personal relationships	Harvey, Gray 2006; CGIAR 2008; Landry 2003; Harmsworth 2001; Jones 1999; Allen Group 2005; Dobbins et al. 2002; Agrifood 2010; Keen et al. 2008
Other	Outside circumstances	Government incentives; political will, etc.	Allen Group 2005; Dobbins et al. 2002; Licht 2008; Schillinger 2010

7.3 Appendix C: Interview Table

WaterDiss2.0 partners filled in the following table after each interview with details specific to each project. This table shows what WaterDiss2.0 is assessing about each project and how to 'measure' various characteristics. While sometimes the measures are quantitative, they often require qualitative value judgments, such as how well an output fits with a policy need. This table also indicates the purpose of the collection of each data point. Some data serves to enhance an understanding of dissemination design best practice while other data is critical for forming an ISFU and allows partners to consider what support activities may be appropriate.

UPTAKE			
What are we assessing?	**What factors might be influential?**	**How can we judge this?**	**How might we use the knowledge? Can we offer support?**
Extent of uptake	Actual uptake compared to desired uptake	What further use has been made of outputs (follow-up research, small-scale demonstration, production, uptake in policy)	Analyse best practice, consider support activities
	Time lag to uptake	Length of time from dissemination until uptake, whether uptake is expected without further dissemination action	Analyse best practice
Facilitators and barriers to uptake	Readiness of outputs for use	Status of output (development, demonstration, etc.), do outputs match original project objectives	Consider support activities
	Distance of outputs to market	Work, costs needed to improve readiness for use	Consider support activities
	Urgency and need of application	Fit with policy need, user need, prioritization of outputs, relevance of outputs to wider public, extent of market analysis carried out,	Analyse best practice
	Patents, ownership		Analyse best practice, consider support activities
	Facilities, capacity and know-how for production/use		Analyse best practice, consider support activities
	Risks involved with uptake or	High costs, functionality	Analyse best practice, consider

UPTAKE			
What are we assessing?	**What factors might be influential?**	**How can we judge this?**	**How might we use the knowledge? Can we offer support?**
	use of outputs		support activities
	Transferability of output	Specificity of project objective(s) and target groups(s), synergies with other projects, policies, technologies, etc.	
	Adaptability of outputs to changing needs (flexibility)		Analyse best practice, consider support activities
	Characteristics of stakeholder group	Affinity toward and knowledge of research, risk affinity, financial strength, diversity, degree of networking	Analyse best practice
	Extent of personal relationships with target audiences	Strength, duration, inclusion in project, influence within project	Analyse best practice
	Change of initial needs as identified at project begin		Consider support activities
	Outside circumstances	Legal barriers, administrative barriers, business climate, funding shortfalls, etc.	Analyse best practice

DISSEMINATION			
What are we assessing?	**What factors might be influential?**	**How can we judge this?**	**How might we use the knowledge?**
Quality of dissemination strategy	Overall level of detail of initial dissemination plan at project begin	Match of diss. objectives with uptake objectives, how well and how specifically were dissemination deliverables pre-defined	Analyse best practice
	How informed was choice of dissemination means?	Rational behind means chosen, how systematic was approach taken, how clearly was the approach tailored to reaching specific audiences	Analyse best practice, consider support activities

DISSEMINATION			
What are we assessing?	**What factors might be influential?**	**How can we judge this?**	**How might we use the knowledge?**
	Accessibility / transparency of dissemination strategy	Availability on web	Consider support activities
	Appropriate delegation of responsibility for dissemination, successful collaboration	Were responsibilities clear, was dissemination expertise available within consortium, was successful collaboration for dissemination possible	Analyse best practice
	Flexibility of dissemination strategy	Modification of dissemination strategy in light of changing objectives or output development during project runtime	Analyse best practice
Quality of dissemination activities	Level of dissemination effort	Available resources (budget); available resources (work input)	Analyse best practice
	Appropriate choice of dissemination activities considering status of outputs and project	Is focus correctly placed upon raising awareness, understanding, action, etc.	Analyse best practice
	Appropriate spread of dissemination effort over time considering objectives	Did dissemination efforts come at a logical time in the project run?	Analyse best practice
	Appropriate choice of dissemination means to reach target audiences	What factors influenced choice of specific dissemination means, was there a systematic approach?	Consider support activities
	Actual dissemination impact of each mean (reaching target audiences)	See list of possible indicators (i.e. hits, downloads, participants)	Analyse best practice
	Time lag for dissemination impact	How long did the mean take to reach target groups?	Analyse best practice
	Accessibility of materials	Level and ease of availability to target groups	Consider support activities
	Professionalism of materials	Feedback	Analyse best practice

DISSEMINATION			
What are we assessing?	**What factors might be influential?**	**How can we judge this?**	**How might we use the knowledge?**
Facilitators and barriers to dissemination	Consortium characteristics	Size, geographic spread, involvement of stakeholders, dissemination expertise within consortium	Analyse best practice
	Project characteristics	Duration, size, scope, degree to which new territory is covered, synergies with other running projects, etc.	Analyse best practice
	Target audience characteristics	Size, diversity, their affinity towards and understanding of research.	Analyse best practice
	Diversity of dissemination means	Type, mix, number, etc.	Consider support activities
	Continuation of dissemination after project end	Are means updated?	Consider support activities

7.4 Appendix D: Interview Guide

The interview guide was the original document created to give structure to partner interviews. It was meant to be comprehensive and include any question that could possibly be relevant to understanding a project. One of the goals of the pilot phase of interviews was to understand which of these questions coordinators could shed light on and which were critical for authoring an ISFU. The table in Appendix C was the first revision of this document, and Section 3.1 contains the greatly reduced set of core questions.

Uptake Questions

Structure	Suggested Interview Questions	Indicators of uptake that help to assess the response	Questionnaire questions to reference
Basic (or baseline) project information?	What are the project objectives (Q9)?		Q8, Q9
	What are the results you expected when planning your project?	Correlation with final outputs	
	What policy objectives does the project support (Q10)?		Q10
	What are the project outputs (Q11)?		Q11
How ready to use are the outputs?	What are the main outputs your project has produced and what category do they belong to? (Q11)		Q11
	What is the current status of your output? To help you, you can use the following status descriptions, for example: best planning phase, development phase, testing phase, ready-for-use phase, introduction-to-market phase	Readiness for use	
	Which additional work input would be needed to make the output more ready to use?	Work input needed for uptake	
	Could you provide an estimate of how much the up-take or adoption of the output would cost?	Cost	
	Is specific technical training needed to use your output?	Readiness for use	
	Are your outputs geared towards a very specific and exclusive objective?	Transferability of output	
	Can the outputs be transferred to other types of projects / policies / technology?		
	Do your project outputs overlap with topics you did not target directly?		
	Does the uptake of your project outputs help to address other topics?	Synergy with other topics	
How useful is the output?	What are the main objectives of your project? (Q9)	[Information]	Q9

	Please indicate the specific needs for practice, science or policy that each of the outputs responds to (Q13)	Alignment with policy objectives and needs	Q13
	To what extent was project design driven by these needs?		
	How well do the outputs respond to these policy and market needs?		Q13
	Did the outputs align with the needs of any other specific target audiences?	Alignment with target audiences	
	How strongly / urgently was the application of your output needed?	Urgency/need of application	
	Have the needs you initially identified changed over time? If so, did you adapt your outputs to the needs?		
	Link to EU policy development: Does the project deliver recommendations and support for the development and implementation of any of the following EU policies? (Q10)	Policy relevance of use	Q10
To what extent did up-take take place?	For each output, please describe the desired impact or uptake and to what extent you feel this has been achieved? (Q19)		Q19
	Did any contacts result from dissemination means?	Contact resulting from dissemination means	
	Did these contacts lead to up-take? If no, why not?		
	If the contacts did not lead to uptake, did you try to follow-up?		
	In what other ways did target audiences use your output? (Awareness, Understanding, Action)	Use by target audiences	
	According to you, was uptake of outputs successful?	Perceived success of up-take	
	When did you expect uptake of outputs to happen? Should uptake already have taken place in your opinion?	Time to uptake	
	Do you think that uptake will still take place with no further action taken?		
Facilitating factors and barriers?	Were the project objectives and outputs relevant to the general public, and did that facilitate or hinder the uptake of your outputs?	Relevance to public	
	Did the number of target groups and their size facilitate or hinder the uptake of your outputs?	Size of target group	
	Do you have a network of personal contacts in the target audiences? Was their existence a facilitiating or hindering factor?	Existence of personal relationships with target audiences	
	How long did you maintain contacts with the target audiences for? Was the duration of the contact a	Duration of relationship with target audience	

	facilitating or hindering factor?		
	Was your project connected to other projects? If yes, which ones?	Project linkages	
	Were these project linkages / connections a facilitating or hindering factor?		
	Can you think of any additional factors that facilitated or hindered uptake of your project outputs?		
	Did you prioritize the outputs you focused on for up-take? According to which criteria?	Prioritization of outputs, which should be focused on for up-take	
	Did time-lag increase due to administrative procedures? Did this hinder your project uptake happening within the designated deadlines?		
	Are regulations in your country flexible enough to allow uptake of your outputs?		
Further action and need for ISFU	Given more time and funding as well as support, which further steps would you like to take?		
	Which output and target audience should further action focus on?		
	Would you like us to assist you in developing and implementing an ISFU and if yes, in which direction should the ISFU develop?		

Dissemination Questions

Structure	**Suggested Interview Questions**	**Indicators of dissemination impact**	**Questionnaire questions to reference**
What are the conditions of dissemination?	Who are the target audiences for dissemination of each output (Q12)? Why were they selected?	Appropriateness of target audiences (given sector, objective, etc.)	Q7, Q9, Q11, Q12
	Are there target audiences that were not included in your dissemination plan that would have been worth considering?	Appropriateness of target audiences	
	Is the project dissemination plan available to the public?	Detail of dissemination plan	
	What were the project deliverables related to dissemination?		
	Is the dissemination effort spread among partners or concentrated on fewer partners?		
	Are there ways in which your project can quantify your dissemination effort, such as dissemination budget or work	Dissemination effort	

	days (person months) allocated?		
	Can you briefly summarize your dissemination approach?	Detail of dissemination plan	
	What was the level or goal of your dissemination? Did it aim to achieve awareness, understanding, action, etc? Did the dissemination goals vary by output or over time?		
	Did your dissemination effort vary throughout the course of the project? For example, were all activities focused during the last three months? Or were certain outputs disseminated in the first three months?	Weight of dissemination effort over time	
	Was your dissemination approach modified during implementation due to changes in output content, readiness to use, or target audiences, etc?	Flexibility of strategy	Q19
What means of dissemination were used?	Which means of dissemination were used in your project (Q15)?	Dissemination means	Q15
	Can you confirm that the quantitative information in this list of dissemination means is correct?		Q15
	Why did you select this mixture of dissemination means?	Diversity of dissemination means	Q15
	What did you seek to accomplish with each type of mean?		
	On which means did you concentrate your efforts? Could you quantify this with a percentage of dissemination effort?	Weight of dissemination effort over means	
What was the impact of dissemination (how well did the strategy reach the appropriate audiences)?	Which of your target audiences did you reach? How well? Did the impact of diss differ according to outputs named?		
	Which of your means were most effective at reaching your target audiences (Q16)?	Perceived effectiveness of means/channels	Q16
	Why do you feel these means were successful in the context of your project? What were the factors of success?	Appropriateness of means given output/content Appropriateness of means given target audiences	Q9, Q11, Q12
	***See criteria list for sub-questions about each type of dissemination mean		Q15
	Which means were less successful at reaching your target audiences? Why do you think they did not work as intended?	Perceived effectiveness of means/channels	

	Were the targeted audiences included as stakeholders in the project? Did this affect the dissemination impact?	Duration of relationship with target audiences	
	Did you experience time lags in reaching your target audiences due to the nature of certain means such as academic journal review periods? Did the majority of the impact occur during the active project period?	Appropriateness of means given time frame	
	Did you collect feedback about your dissemination activities, such as questionnaires after a conference?		
	We have read that your project has x partners. In your opinion, did the size of the consortium affect the impact of your dissemination activities?	Consortium size	Q14
	In your opinion, did the spread, regional coverage, or specific locations of consortium members affect the impact of your dissemination activities?	Consortium spread	
	[How large was your stakeholder network?] In your opinion, did the size of your stakeholder network affect the impact of your dissemination activities?	Stakeholder network size	
	In your opinion, did the spread, regional coverage, or specific locations of the stakeholder network affect the impact of your dissemination activities?	Stakeholder network spread	
	In your opinion, did the duration or length of the project affect the impact of your dissemination activities?	Project duration	Q3
	In your opinion, did the size of your project as measured by budget or other indicators affect the impact of your dissemination activities?	Project size	
Is dissemination continuing?	Is dissemination continuing beyond the project end date?	Continuation of dissemination activities	