Progress of communication and dissemination

IMPLEMENTATION OF C&D PLAN

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1. Introduction

This report presents the progress in the implementation of the Communication and Dissemination (C&D) Plan within FLOODsite. Section 2 reports on dissemination, with special attention to the project website and the tasks under Theme 5: Task 29 (text-based dissemination), Task 30 (web-based dissemination) and Task 31 (face-to-face, i.e. mainly educational dissemination). The section also briefly recalls the FLOODrisk2008 Conference that was organised by FLOODsite. Section 3 reports on communication, with special attention to the pilot application tasks under Theme 4: Tasks 21-27. These are the pivotal tasks for communication. Section 4 compiles information from the monitoring of C&D progress in the RIPs and the quarterly progress reports of Tasks 21-27. Some general points of C&D progress are highlighted below.

During Year 4 of the project, effort on communication and dissemination shifted from structuring and planning through to implementation and monitoring. Greater effort was made during this year to encourage dissemination by all partners, and in particular task leaders, of completed work. This dissemination was directly into the public domain wherever possible and at the earliest opportunity within the research programme. With the C&D Plan complete and launched, the remaining activity in Year 5 was to monitor and guide implementation through to project completion. This concentrated on the following activities:

1. Reviews of Task 29 Guidance Document;
2. Feedback on Task 29 Junior FLOODsite website;
3. Intensive support and guidance to Task 30 “Web-based dissemination”;
4. Encouraging Task 31 to bring master courses on a European level;
5. Encouraging and monitoring C&D activities in pilot application tasks 22-27.

Most efforts were made in supporting and guiding Task 30 and in prompting task leaders, and in particular leaders of the pilot sites, to frequently review their progress and actions in relation to C&D for their work. The latter has had mixed success, but with frequent reminders the awareness of team members of the importance to promote and disseminate their work has increased.

The C&D Plan distinguishes 7 target audiences for Communication and Dissemination. The table below shows how they are currently being addressed in the project.

<table>
<thead>
<tr>
<th>Target audience</th>
<th>Current C&amp;D</th>
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<tr>
<td>1. FLOODsite project team</td>
<td>FLOODsite website with document management system, annual project workshops, MT meetings, task meetings, task workshops, emails, telephone etc.</td>
</tr>
<tr>
<td>2. FRM research community</td>
<td>Conferences and scientific publications</td>
</tr>
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<td>3. FRM practitioners, including flood defence regulators and operators, emergency planners and services</td>
<td>Guidance developed by Task 29, modelling platform developed by Task 30, AIB involvement</td>
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<tr>
<td>4. Policy makers, who set regulatory, legislative and other decision-making frameworks</td>
<td>Communication at a European level through participation of the Project Co-ordinator Paul Samuels in Working Group F of the Floods Directive, National C&amp;D with policy makers of Defra (UK), Environment Agency (UK) and Rijkswaterstaat (NL) in particular and other authorities via some members of the AIB.</td>
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<td>5. Academic community, in view of focus on teaching and training</td>
<td>Development of European master course and Continued Professional Development (CPD) by Task 31, facilitated by guidance documents (Task 29) and e-Learning (Task 30)</td>
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<tr>
<td>6. Local groups, including NGOs, community groups, etc.</td>
<td>Socio-economic surveys, involvement in pilot applications</td>
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<tr>
<td>7. General public, with special attention for the next generation of potential scientists at secondary schools</td>
<td>Dissemination events in pilot applications. Hiring of Sandra Junior for C&amp;D to secondary schools (Junior FLOODsite – see <a href="http://www.floodsite.net/juniorfloodsite/index.html">http://www.floodsite.net/juniorfloodsite/index.html</a>), facilitated by guidance documents (Task 29) and e-Learning (Task 30)</td>
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Implementation of C&D activities has been monitored by reviewing the quarterly progress reports which include a section specifically for C&D actions, and by individual email. Task progress reports can be viewed online at http://www.floodsite.net/html/partner_area/progress_report.asp (summary in Section 4.3).
2. Dissemination

2.1 Project website

A number of actions has been taken to improve public access to FLOODsite outputs. These include:

- Executive summary now available in 15 languages;
- Pilot pages translated to national language as well as English;
- Links to and detail of EU Directives added;
- Significantly increased volume of publicly available content (reports, papers etc);
- Restyled newsletter – E-zine – to provide more readable team and public newsletters, with content also stored and accessible online.

The figure below shows the new structure for accessing public content that was presented at the end of Year 3. Whilst these ‘high-level’ pages were implemented early during Year 4, addition of significant detailed content, in a format attractive for public use, did not advance significantly until the latter half of Year 5. Development of this content draws on four different sources, namely:

- Task leaders to provide general information;
- Task 29 written guidance;
- Task 30 interactive and dynamic web content;
- Task 31 face-to-face (training) material.

Design of ‘Innovations & outcomes’ page for public web access

The menu of this ‘Innovations & outcomes page’ offers the following options:

- The project:
  - Overview
  - Task Outcomes
  - Pilot sites
  - Useful links
- Publications and guidance:
  - Project brochures and posters
  - Guidance documents (Task 29)
  - All Documents
- Tools:
  - Modelling facility (Task 30)
o Knowledge map (Task 30)
o Toolkit
- Training:
o Junior FLOODsite (Task 29)
o Post graduate studies (Task 31)
o CPD (Task 31)
o Visual Material Library

All publicly available science outputs can be accessed via the Task Outcomes section. Reports and papers with restricted circulation can be accessed via the same area but by ‘toggling’ to the Partner Area of the website. All public task outcomes are presented to three different audiences, namely, Public (Introduction), Research and Industry (Practice).

Design of a ‘Task Outcomes’ page for public web access

To assist in providing information in a range of easily accessible and digestible formats, both Fact Sheets and Executive Summaries have been provided. These are directly accessible from all of the public pages. Fact sheets offer a 2-page summary of the science; Executive Summaries offer a 10-20 page summary of the research.

Example access to Fact Sheets, Executive Summaries and Photos, Animations etc.
Newsletters and publications can be addressed through ‘All documents’ on this ‘Innovation & outcomes’ page as well as more directly through the ‘News & publications’ page.

As of 15th April 2009, the list of project publications on the website comprised

- 30 Executive summaries
- 160 Technical reports
- 21 Technical notes
- 125 Journal papers
- 277 Conference papers
- 3 News articles
- 55 Presentations
- 37 Fact sheets

2.2 Task 29: Text-based dissemination

The overall objective of Task 29 was to communicate and promote uptake of the findings of the whole integrated project (all themes) in the form of a best-practice guide and educational material for secondary schools.

For the best-practice guide, Task 29 produced a scoping document in Year 2 and discussed this document with all the partners involved. Subsequently, Year 3 was used to monitor the progress of all research tasks under Themes 1, 2 and 3 (Tasks 1-20), as those were the tasks focusing on methodologies and hence the tasks supposed to produce contributions to the best practice guide. Interviews with task leaders at the Dresden workshop intensified the monitoring. In Year 4, Task 29 drafted the table of contents of the guide and discussed it within the theme, with the theme leader and with the project co-ordinator. The actual writing was started, partly based on the various task executive summaries, which became available gradually from January 2008 onwards. The writing process saw three face-to-face meetings in Year 4 as well as various bilateral telephone conferences. The best-practice guide was completed and subjected to several intensive rounds of reviews and edits in Year 5. The result is a concise state-of-the-art in flood risk management that wraps up the main concepts developed in FLOODsite and gives an overview of the achievements of the FLOODsite scientific tasks that focused on methodologies. Its title reads “Flood risk assessment and flood risk management; An introduction and guidance based on experiences and findings of FLOODsite”. It’s relatively simple and easily accessible text makes the guide suitable for high school students, academic students (introductory text) and interested lay-people. At the same time, its rich and thorough treatment of the subject makes the guide a valuable reference book for professionals and policy makers. Many of them already showed a keen interest in obtaining a copy of the guide. Task 29 organised a special dissemination session at FLOODrisk 2008 in Oxford for final discussions on the guide’s scope, audience, character and possible uptake. This resulted in multiple requests to make the guide available on the internet rather than having it published by a commercial publisher. The easy access and free reproduction thus offered were expected to enhance the uptake.

The educational material for secondary schools was developed with the overall objective to arouse the interest of the future generation of EU researchers. TU Delft recruited additional personnel for this activity and started with a query amongst teachers and students at a school in Voorburg (the Netherlands) at various levels of education, in order to assess the level of knowledge and interest of the students and teachers. This resulted in interest from geography, Dutch (essay), mathematics (statistics, risk) and philosophy (debating, ethics). Also an investigation into teaching modes was performed and contacts were made with the ‘geography teachers community’ (www.kennislink.nl) and colleagues in the UK, resulting in the scoping of teaching material (internet-based with downloadable information sheets and task sheets). This revealed that internet-based material with downloadable info sheets and task sheets was preferred above printed matter. It was also established that the language will always be a problem in teaching situations. The original approach was to derive the material from
the best-practice guide, by wrapping up the main messages, concepts, theories and practices, by rewriting texts (simplifying them) and by selecting the most illustrative figures (and simplifying them if necessary). As the work proceeded, however, it was concluded that a simpler approach, more dedicated to the target audiences of school students and their teachers, would be more effective. This resulted in a dedicated website under the heading of training on FLOODsite’s main website: “Junior FLOODsite”, which provides information in English and Dutch. The website’s address is: http://www.floodsite.net/juniorfloodsite/index.html It provides information for teachers and students in two languages: in English, because this is FLOODsite’s working language, and in Dutch, because most working contacts were with Dutch school teachers via the lead partner on this activity (TU Delft).

2.3 Task 30: Web-based dissemination

The overall objective of Task 30 was to enhance the uptake of project results through a web-enabled knowledge base, modelling and dissemination platform (E-Flood). Task 30 originally consisted of three activities: the development of a web-enabled Modelling Facility, the development of a Knowledge Map and the development of a Learning Facility. In Year 2, Task 30 prepared the specifications for E-Flood, the development of knowledge taxonomy, the design of the E-Flood platform as well as the corresponding data and information models. As the project evolved, it was decided to focus on the Modelling Facility in particular, in a more ambitious manner, and to terminate the development of the Learning Facility, despite initial progress in two prototypes, because elements of the Learning Facility were being developed already by Task 29 (for secondary schools) and Task 31 (for university master courses and Continuing Professional Development, CPD).

First prototypes of the Modelling Facility were developed in Year 3 after having investigated various options of suitable technologies. Further development in Years 4 and 5 encountered two main challenges. The first challenge was to adopt an effective approach for integrating heterogeneous project findings within a unified web-based framework. This is a common obstacle for this kind of knowledge transfer. The second challenge was to obtain the tools and materials from the contributing tasks in time and in the proper form, for which the key lies in joint development of functional design and specifications. Task 30 applied and tested the latest web technologies in the Modelling Facility, such as Ajax, Google-Map, server-side scripting, web-GIS, distributed computing, databases and dynamic scripting, in order to represent and demonstrate the state-of-the-art technological level of the developments of this kind.

The development of the Knowledge Map started in Year 3 with the discussion of possible options with the partners within Task 30 and representatives of Tasks 29 and 31. In Year 4, however, Task 28 acknowledged the difficulties regarding maintenance and usability of the Knowledge Map. This component was then modified into a Knowledge Map based on the Google map platform where resources are geo-referenced on a Google Earth map. It uses a relational data model which links research results and expertise in flood risk management to people, projects and organisations. This allows for efficient and effective knowledge networking and knowledge disclosure. The Knowledge Map is based on a light-weight web-GIS application coupled with industry standard Google Map technology and advanced, centralised database management.

The E-flood platform was originally developed at IHE in Delft. In Year 5, it was meshed seamlessly into the main FLOODsite website www.floodsite.net.

2.4 Task 31: Face-to-face dissemination

Task 31 focused on undergraduate and postgraduate training and education, as well as on the production of teaching materials (courseware) for transfer and dissemination of knowledge to the general public and to professionals involved in flood risk assessment and mitigation. To that end,
selected experiences and knowledge from FLOODsite were integrated into existing undergraduate (master) schemes in Dresden and Padova. Furthermore, a Continuing Professional Development (CPD) course was developed in Padova for postgraduates and all professionals involved in integrated flood risk management. In Year 2, Task 31 developed a framework for integration of the knowledge generated within FLOODsite into the two master courses and the CPD course. In Year 3, the task reviewed and selected FLOODsite topics for the master courses by matching them with the requirements of the courses. The courses were subsequently implemented and taught.

The integration of FLOODsite experiences and knowledge into the master course at Dresden University of Technology regarded the international teaching module “Integrated flood risk management of extreme events”. This is a module of the FLOODmaster programme, which is a part of the national research activity RIMAX (www.rimax-hochwasser.de), funded by the Federal Ministry of Education and Research. The module is embedded within the master programme “Hydro Science and Engineering” (www.tu-dresden.de/aaa/programme/hydro/Welcome.htm). The FLOODmaster programme consists of optional modules in the 2nd and 3rd semester (advanced courses) with 10 credits each. It is also open to advanced students from relevant courses such as Hydrology, Water Management and Hydraulic Engineering, as well as to professionals working on diverse tasks of flood risk management who want to reach further qualifications in their special field. The latter may attend the course externally via internet combined with periods of presence. Up to 36 students were involved in individual components during the first testing of the course from April to November 2006.

The integration at the University of Padova regarded the master course on “Hydrogeological risk mitigation”, taught under the patronage of UNESCO (www.tesaf.unipd.it/dmt). Its workload is 60 credits (ECTS). The modules include theoretical education as well as practical training. Five modules are followed by an individual project work of approximately 500 hours that results in an oral presentation and a written thesis. Ten students participated in the first testing of the course from January to September 2006.

The CPD course provides a synthesis of various disciplines such as hydrology, hydraulics, hydroinformatics, engineering, statistics, risk assessment, governance, socio-economic analysis and planning. It consists of three modules. The first module is an introduction to hydrology, hydraulics, geomorphology and statistical analysis. The second module deals with the analysis of flood hazard and flood vulnerability. The third module teaches assessment and management of flooding risks. The first module was taught first in the period April-May 2006, with 27 students involved. It was repeated in the academic years 2006-2007 and 2007-2008. The educational platform for the second module was completed in Year 5 and taught in the period April-May 2008. Twenty students participated in this module.

2.5 **FLOODrisk2008 Conference**

FLOODrisk2008 – European Conference on Flood Risk Management – Research into Practice was held at Oxford, UK from 30th September to 2nd October 2009. Apart from having been a general forum for dissemination of research from the FLOODsite project as well as other initiatives related to flood risk management, it included a specific session on dissemination, addressing issues of how to get important messages across. The conference was considered to be very successful, having been fully booked well ahead of the registration closing date. The conference aimed to address the specific issue of transferring research into practice. It is likely that the conference will be repeated in future years, hence this FLOODsite event could mark the start of a new series of conference events dedicated to the uptake and implementation of flood risk research into practice.
3. Communication

3.1 Communication in Task 21: Elbe pilot application

End users were involved through 4 workshops with regional stakeholders (Action 6 in RIP).

3.2 Communication in Task 22: Tisza pilot application

Task 22 was carried out in close collaboration with the stakeholders. The Upper and the Central Tisza Valley Environmental and Water Management Boards were involved as partners within Task 22. Consultations on intervention options with planners, stakeholders and end users took place in the framework of the closely related Update of the Vásárhelyi Plan. A wider audience was addressed with general information about FLOODsite and the Tisza Pilot at the annual conference of the Hungarian Hydrological Society.

3.3 Communication in Task 23: Flash floods pilot application

3.3.1 General public and local groups

Dissemination and communication activities towards the general public and local groups were developed to inform the public about the chain of the hydrometeorological monitoring and flood warning. In collaboration with the MeteoHydological Offices of Metotrentino (Provincia Autonoma di Trento) and the Hydrological Office (Provincia Autonoma di Bolzano), UniPad collaborated in the organisation of the events ‘Open doors to MeteoTrentino’ and ‘Open doors to Ufficio Idrografico’ on 6 and 7 October 2007. Here researchers from UniPad explained the role of weather radar within the chain of the hydrometeorological monitoring and flood warning. The events saw the participation of more than 700 persons, who visited the facilities of the radar offices (see attached newspaper article). Several schools participated in these events. The organisers considered the events a significant success.

*Il Trentino, 8 October 2007*
### 3.3.2 Practitioners and policy makers

Several meetings were held with practitioners from MeteoTrentino and Ufficio Idrografico, with a focus on the organisation of a flood forecasting and warning communication and response chain. They were held twice a month in the period February-September 2007.

Furthermore, two meetings were held to summarise and communicate the findings from the work carried out jointly by ISIG (Bruna de Marchi and Anna Scolobig) and UniPad on the analysis of social perception of risk among local decision makers and residents. A first meeting was held in Trento on 4 July 2007. It was attended by managers from the various technical services in charge of civil protection in the two provinces of Trento and Bolzano. A second meeting was held on 4 December 2007, with the aim to communicate the results to both policy makers and the general public (http://www.ladigetto.it/article.aspx?c=1&a=2978).

### 3.3.3 Surveys on flood risk perception among decision makers, local stakeholders and residents

**Focus groups**

Focus groups with local stakeholders were identified before starting the actual surveys in order to better define key research themes, thus benefiting from insiders’ knowledge and perspectives. From a methodological viewpoint, focus groups are not intended to be statistically representative. Rather, their use allows us to explore and clarify a set of issues and to ascertain the positions of different participants, as well as interactions among them. Also, face-to-face discussion involving a number of stakeholders helps bringing in the open different motives and justifications, which normally remain unspoken. The focus group technique involves a small number of individuals (normally between six and ten), selected according to the research objectives. They convene to discuss some pre-defined topics under the coordination of a skilled facilitator, who provides stimuli for discussion on the basis of a protocol prepared beforehand. Discussions are usually audio or video recorded, subject to the participants’ consent, and the facilitator is assisted by one or more observers who keep track of the discussion and the group dynamics during the sessions. Subsequently the observers and the facilitator, both separately and jointly, revise the focus group notes and transcripts, which are then organised and commented by the researcher who produces a report. Before being circulated widely, for research or policy purposes, the report is submitted to the focus group participants and their observations are taken into account. In our case, two researchers acted also as facilitator and observer, being responsible for organizing and leading the discussions, as well as for analyzing and commenting their results.

Task 23 applied this method to four focus groups:

1. Officers from provincial services and agencies in charge of civil protection, water resources and demographic data collection and analysis (Trento): March 2005;
2. Officers from provincial services and agencies in charge of civil protection, risk prevention, water resources, hydrology (Bolzano/Bozen): April 2005;
3. Officers from municipal services (Vipiteno/Sterzing): July 2005;

Group discussions lasted between two and three hours and were all audio taped and then fully transcribed.

**Surveying with interviews**

Interviews were held among residents of places hit by floods in the last five years. These interviews were focused on understanding the perception of flooding risk among the residents. Each interview lasted from forty minutes to two and a half hour. Variations are not amenable to any classification, as
they depend on the characteristics of the respondents, the styles of the different interviewers, the interactions among them, the interview setting and circumstances, the type and number of flood events discussed, and so on.

A total number of 400 questionnaires (100 in each of four different sites) was collected in the Trento area between November 2005 and January 2006. Out of 544 people contacted, 144 refused to be interviewed (response rate: 73.5%). In Romagnano, several contacted residents were newcomers and had not even heard about the 2000 event, as they had moved into the village afterwards.

A total number of 186 questionnaires was collected in Vipiteno/Sterzing in the Bolzano area between March 2006 and April 2006. Of the 298 persons contacted, 112 refused to answer the questionnaire (response rate: 62.4%). Originally, Task 23 aimed at collecting 200 questionnaires, but the high percentage of refusals, together with other circumstances, induced Task 23 to lower its target. In particular, it became clearer and clearer during fieldwork, that flood risk awareness was generally very low and that the majority of those approached had little or no interest for the issue. In the majority of cases the interviewers were well received even in case of subsequent refusals and there were only a few cases of impolite (and in one case aggressive) behaviour. Certainly prior networking activities and support from local authorities had a positive impact. Refusals were motivated with different reasons: lack of interest, time constraints, work or family problems.

The questionnaire was submitted face-to-face by trained interviewers: seven in Trento and six in Vipiteno/Sterzing. This was coordinated by a supervisor, also involved in data collection. Of the six interviewers in the Bolzano area, two were from the ISIG team, including the supervisor, who speaks German. The other four were from the Bolzano area, all bilingual. The briefing of the interviewers lasted about half a day and took place some time before the beginning of the actual work (in Padova for the Trento area, in Vipiteno/Sterzing itself for the Bolzano area). The briefing made the interviewers familiar with the procedures of the survey and the content of the questionnaire.

3.4 Communication in Task 24: Thames pilot application

The UK government agencies - Environment Agency and Defra – were directly involved with research under Task 24. Methods developed within Tasks 14 and 18 in particular, we done so in collaboration with the Environment Agency under Task 24. This was meshed with a national programme for flood risk analysis on the River Thames – the Thames Estuary 2100 project. Hence, methods and procedures developed under FLOODsite were the direct result of team working (workshops, consultation etc.) with the Thames management authority and were simultaneously used and put into practice to analyse flood risk on the Thames and plan future management scenarios.

3.5 Communication in Task 25: Scheldt pilot application

3.5.1 Overview of communication activities

Task 25 developed the following communication activities:

1. Interviews with local stakeholders from the Netherlands and Flandres, September-November 2005 (completed);
2. Workshop with policy makers from the Netherlands and Flandres in Lillo (B), 9 December 2005 (completed);
3. Workshop with local stakeholders from the Netherlands and Flandres, 26 January 2007 (completed);
4. Questionnaire to local stakeholders from the Netherlands and Flandres, December 2007 (results are still pending);
5. Workshop with policy makers from the Netherlands (scheduled for 2008).
3.5.2 Some preliminary conclusions on public participation in flood risk management

Introduction and method

One of the main objectives of the Scheldt Pilot is to evaluate sustainable flood risk management strategies in association with stakeholders. For this objective Task 25 has chosen to engage both scientists, policy makers and the local public (citizens) in its research. While this research is still ongoing, Task 25 can draw some preliminary conclusions from its experiences so far.

Task 25 hypothesises that active involvement of citizens can contribute to knowledge development for a flood risk assessment. Its study approach consists of a mixture of semi-structured interviews, workshops and questionnaires (see figure below).

The figure shows that the method provides insight in the (unbiased) perception of local citizens with respect to flood risk through the interviews and questionnaire, as well as in the effect of communication between people of different backgrounds on their opinions through the workshops that were held in different settings.

Preliminary conclusions

**Conclusion 1: Stakeholder engagement**

There was a general willingness from most of the stakeholders that were approached to take part in the Task 25 research activities. The team found a great hospitality from the 16 local inhabitants, both from Belgium and the Netherlands, who were willing to spend at least 1.5 hours of their free time for the interviews, which were held either at their homes or at their work. Also the policy makers that participated in the workshops had a positive attitude towards the research. There was one exception with regard to the Belgian governmental authority responsible for the Zeeschelde area. Recently, the Flemish parliament ratified an ambitious plan for improving the flood management around the Scheldt (the Sigma Plan). This implied that any work Task 25 would do in this field (be it interviewing local people or modelling flood risk) attained high political sensitivity. Understandably, there was a fear that the FLOODsite research could interfere with the implementation of the adopted plan. This experience
is clear evidence that scientists are not objective outsiders, but should regard themselves as stakeholders too.

**Conclusion 2: Relevant local knowledge**

Despite the exploratory nature of this research, some valuable conclusions can be drawn. Where the Task 25 team was concerned prior to the study as to whether it would even be able to identify relevant local knowledge regarding flooding and the danger of flooding amongst the citizens selected for the study, the team found an astonishing depth of understanding of their living environment amongst the people of the Scheldt. Only those with professions providing them with primary contact with the water showed an understanding of flooding comparable with that of the scientists. However, peoples’ insights regarding the consequences of flooding and the recovery thereafter went deeper than scientific understanding and their comments regarding the (lack of) utility of some of the planned policy measures to promote safety from flooding were confirmed as valid by policy makers. In fact, the policy advisors were also surprised by the high quality of the information derived from the study and felt challenged by the request for precautionary post-flood planning measures.

Where the team expected differences between the views of Dutch and Belgian respondents regarding flood risk management there were more differences between people with an affinity for water and those without, than between the Dutch and Belgians. Those who work or spend leisure time on, or near, the water (e.g. fisherman) had a deeper appreciation for the dangers of flooding than did the respondents with no affinity for water. In this, those with an affinity for water had an understanding more comparable with that of the scientists.

**Conclusion 3: Criteria for the planning process or for evaluation?**

The criteria that the respondents use in evaluating flood risk management measures do indeed differ from those of the scientists who are looking to establish the utility of a particular measure. Local inhabitants are more concerned about the process of designing all of these potential measures and not of evaluating only one. In essence, the respondents provided criteria for the planning process itself rather than for the detailed measures therein. For instance, when it comes to the expropriation of farming land for nature development or to protect the city of Antwerp from flooding, some view this as necessary, but ask that the process be organized so as to limit the secondary effects of increasing the price of farming land or disinvestment because the expropriation does not happen speedily enough. Such concerns are presently not considered explicitly in a policy process because the public is not involved in the design of the process itself. This study indicates that it is public involvement in its design that could potentially lead to improvements in the quality of the planning process.

**Conclusion 4: Perceptions on flood risk management phases**

There was a significant sense of realism among the local citizens with respect to a possible failure of the flood control system. Even in the Dutch case where relatively high safety standards are present, people have explicit opinions and knowledge about what to do when things go wrong. Probably, this can be attributed to the fact that the 1953 flood still plays a role in the history and minds of the people. For instance, the participants during the second workshop were very much in favour of measures such as the creation of safe havens and inspection of the dikes. This reflects a growing understanding on the part of the participants that evacuation out of the area would not be possible for all citizens and that a safe haven located relatively nearby was likely to offer more safety in the short term and make rescue at a later date possible. Dike inspection was viewed as necessary because the people most threatened could then be evacuated first and others warned to go to the safe havens.

Following the discussions and information exchange, participants indicated that they wished the policy makers to spread their attention more evenly over the flood risk management phases, i.e. flood prevention, flood amelioration during an event and flood recovery phase.

Interestingly, there was a marked difference between local citizens from both countries with respect to the role of the government after a major flood would occur. The Flemish were universally convinced
that the state would do as much as it could to help the recovery and were relatively secure in this trust. The Dutch respondents were less convinced. They thought that the Dutch government would do its best, but that this would be insufficient and that the recovery would have to come from the people themselves.

3.6 Communication in Task 26: Ebro pilot application

Action 3 “Identification of management strategy” deals with a participatory process in which stakeholders communicate their preferences. This action also identifies who the stakeholders are.

3.7 Communication in Task 27: German Bight pilot application

An advisory group has been set up at the start of the work of Task 27. It consists of about 10 representatives of different institutions and organizations such as:
- the community government of Sankt Peter-Ording;
- local dike and water boards;
- the regional (county) disaster preparedness unit;
- the regional office for water management and coastal protection planning;
- the state government office for coastal protection;
- the state government office for disaster mitigation.

The Task 27 team has held repeated meetings with this advisory board (the last one on October 9th, 2007) to inform them about the results and to discuss with them how these relate to their practical planning and decision-making work which involves the public of the Task 27 region. It has been agreed with the advisory board to hold two public symposia in the region - the first one (as a workshop) involving all regional and trans-regional experts dealing with coastal safety, and the second one as an open forum to the general public in the Task 27 area. Moreover, 2 public surveys on risk perception of the local population have been carried out in the Task 27 area.

Task 27 has hosted a large group of FLOODmaster students from Dresden University for a weekend seminar at the North Sea coast, both in January 2006 and January 2007, to relate the specific coastal risk issues and risk management concepts to them. Moreover, Task 27 has given public lectures on these issues that were promoted by the local press both on the North Sea coast and in Kiel. Finally, these issues are a core part of the academic teaching activities at Kiel University where the academic staff has been educating geographers with a pronounced focus on coastal risk assessment and management for years and will continue to do so in the new Bachelor and Master programmes.
4. Monitoring of use of C&D Plan

4.1 Introduction

The use of the C&D Plan was monitored in the early stages of the project on the basis of the RIPs (Research Implementation Plans) and the quarterly progress reports of the pilot application tasks. The next sections provide an overview of the results from the last monitoring in Autumn 2007.

4.2 Use of C&D Plan in RIPs

<table>
<thead>
<tr>
<th>Task</th>
<th>Section on dissemination and communication activities</th>
<th>Other information and remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>21 Elbe Schanze</td>
<td>Planned/actual Dates</td>
<td>Type</td>
</tr>
<tr>
<td>Month 24, 36, 44, 52</td>
<td>Publications</td>
<td>Research</td>
</tr>
<tr>
<td>Month 24, 36, 44, 52</td>
<td>Project website</td>
<td>Scientists, practitioners, professionals</td>
</tr>
<tr>
<td>Month 28</td>
<td>Excursion</td>
<td>Higher education</td>
</tr>
<tr>
<td>Month 42</td>
<td>Presentation / Report</td>
<td>Local authorities and other involved institutions</td>
</tr>
<tr>
<td>Month 42</td>
<td>Leaflet</td>
<td>General public</td>
</tr>
<tr>
<td>Month 44, 52</td>
<td>Press release (press/radio/TV)</td>
<td>General public</td>
</tr>
<tr>
<td>Month 52</td>
<td>Direct e-mailing</td>
<td>Scientists, practitioners, professionals</td>
</tr>
<tr>
<td>Month 52</td>
<td>Workshop</td>
<td>Scientists, practitioners, professionals</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Task</th>
<th>Section on dissemination and communication activities</th>
<th>Other information and remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>22 Tisza Bakonyi</td>
<td>- empty -</td>
<td>Stakeholder meetings in previous project. Middle Tisza District Water Authority has a technical role</td>
</tr>
<tr>
<td>23 flash floods Borga</td>
<td>- empty -</td>
<td>Page 2: close collaboration with operational organisations, stakeholders and local communities in four pilot areas. Includes socio-economic data and warning programme for communicating and alerting general public</td>
</tr>
<tr>
<td>24 Thames Gouldby</td>
<td>Outputs from this task will be presented in the following forms:</td>
<td>Only Environment Agency and Defra involved</td>
</tr>
<tr>
<td></td>
<td>• Technical report – Detailing the pilot site application</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Conference papers – At least one conference paper presenting the findings from the pilot study</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Journal paper - At least one journal paper reflecting the application of the new science</td>
<td></td>
</tr>
<tr>
<td>25 Scheldt Marchand</td>
<td>- empty-</td>
<td>Interesting inquiry by J. Slinger. End user involvement only Rijkswaterstaat and Belgian counterparts. Activity 1: interviews with stakeholders</td>
</tr>
</tbody>
</table>
| **26 Ebro Jiménez** | **The public outputs from the task will be:**  
- Report on vulnerability, risk and defence needs against flooding at the Ebro delta.  
- Flood hazard map for the Ebro delta and potential implications for the use and management (actual) of the territory (potentially very interesting for press coverage although sensitive material depending on how they are presented).  
- Proposal of management strategies for dealing with flood hazards in the Ebro delta (potentially very interesting for press coverage although sensitive material depending on how they are presented).  
- Papers, conferences and seminars. | **Action 3 “Identification of management strategy”: participatory process where stakeholders communicate their preferences (who are the stakeholders?)** |
| --- | --- | --- |
| **27 German Bight Stern** | **The FLOODsite project already produced great interest with the local, regional and federal authorities. They have already evinced their possible interest on testing different tools such as an inundation model or risk management tools. The intention is to set up an advisory board where different representatives from relevant authorities will be informed about the project process. At the same time the authorities can draft their requirements. That enables a more effective work and the information will be passed on to the responsible Theme leaders.**  
The following potential outputs are foreseen for Task 27:  
- Scientific papers, reports  
- Workshops for local/regional authorities  
  -> There will be an information day in the pilot site of St. Peter-Ording in the beginning of October. First of all the municipality representatives have to be informed about the project. Dependent on the outcome of this process there will be more information for the public developed.  
- Press release (see above)  
- Information material concerning risk management for municipalities/authorities  
- Close communication with responsible authorities (advisory board, see above)  
- Integration of results/knowledge into national projects and programmes | **-** |
### 4.3 Use of C&D Plan in progress reports

<table>
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<tbody>
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<td>will be result of coming phase</td>
<td>will be result of coming phase</td>
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<td>not yet</td>
<td>N.A. (Oct. 4)</td>
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<tr>
<td></td>
<td>Recommend changes C&amp;D Plan?</td>
<td>-</td>
<td>-</td>
<td>N.A. (Oct. 4)</td>
</tr>
<tr>
<td></td>
<td>End users involved? Who? How?</td>
<td>Consultations on intervention options with planner, stake- holders and end user within Update of Vásárhelyi Plan</td>
<td>Consultations on intervention options with planner, stake- holders and end user within Update of Vásárhelyi Plan</td>
<td>Consultations on intervention options</td>
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<td>very effective: a meeting each month to discuss implementation of FFG concept into Adigé River Flood Forecasting system ARFFS</td>
<td>very effective: a meeting each month to discuss implementation of FFG concept into Adigé River Flood Forecasting system ARFFS</td>
<td>very effective: a meeting each month to discuss implementation of FFG concept into Adigé River Flood Forecasting system ARFFS</td>
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<tr>
<td></td>
<td>Influence of end users on activities?</td>
<td>Yes, by suggestions on how to include FFG into ARFFS</td>
<td>Yes, by suggestions on how to include FFG into ARFFS</td>
<td>Yes, by suggestions on how to include FFG into ARFFS</td>
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<td></td>
<td>Recommend changes C&amp;D Plan?</td>
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<td>-</td>
<td>-</td>
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<tr>
<td>23 flash floods</td>
<td>Acted upon C&amp;D Plan? How?</td>
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<td>yes</td>
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<td>Yes, by suggestions on how to include FFG into ARFFS</td>
<td>Yes, by suggestions on how to include FFG into ARFFS</td>
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<td></td>
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<td>-</td>
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<td>ongoing dialogue with project partners on methods</td>
<td>ongoing dialogue with project partners on methods</td>
<td>ongoing dialogue with project partners on methods</td>
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<td>End users involved? Who? How?</td>
<td>Env. Agency kept informed through Thames Estuary 2100 Project</td>
<td>Env. Agency kept informed through Thames Estuary 2100 Project</td>
<td>Env. Agency kept informed through Thames Estuary 2100 Project</td>
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<td>very effective, as Env. Agency has been prepared to use model on consultancy study</td>
<td>very effective, as Env. Agency has been prepared to use model on consultancy study</td>
<td>very effective, as Env. Agency has been prepared to use model on consultancy study</td>
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<tr>
<td></td>
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<td>yes, Env. Agency was key to shaping form of research and tailoring it for application</td>
<td>yes, Env. Agency was key to shaping form of research and tailoring it for application</td>
<td>yes, Env. Agency was key to shaping form of research and tailoring it for application</td>
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<td>through workshops</td>
<td>through workshops</td>
<td>through workshops</td>
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<td>very effective in terms of quality, not very effective in terms of quantity</td>
<td>very effective in terms of quality, not very effective in terms of quantity</td>
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<td>yes, they made it impossible to continue with our study</td>
<td>yes, they made it impossible to continue with our study</td>
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<tr>
<td></td>
<td>Recommend changes C&amp;D Plan?</td>
<td>recognize the inherent problem of engaging end users and managers in research activities. One end user was not interested at all in research that could interfere with his own policy</td>
<td>recognize the inherent problem of engaging end users and managers in research activities. One end user was not interested at all in research that could interfere with his own policy</td>
<td>recognize the inherent problem of engaging end users and managers in research activities. One end user was not interested at all in research that could interfere with his own policy</td>
</tr>
<tr>
<td>26 Ebro</td>
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<td>by publishing papers</td>
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<td>-</td>
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<tr>
<td></td>
<td>End users involved? Who? How?</td>
<td>different stakeholders contributed to development of integrated assessment and supplying data</td>
<td>different stakeholders contributed to development of integrated assessment and supplying data</td>
<td>different stakeholders contributed to development of integrated assessment and supplying data</td>
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<td>good</td>
<td>good</td>
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<td></td>
<td>Influence of end users on activities?</td>
<td>they are providing aspects of interest to be covered</td>
<td>they are providing aspects of interest to be covered</td>
<td>they are providing aspects of interest to be covered</td>
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<tr>
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<td>no</td>
<td>no</td>
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<tr>
<td>27 German Bight</td>
<td>Acted upon C&amp;D Plan? How?</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td></td>
<td>End users involved? Who? How?</td>
<td>yes, keeping end users informed about progress</td>
<td>yes, keeping end users informed about progress</td>
<td>yes, keeping end users informed about progress</td>
</tr>
<tr>
<td></td>
<td>Effectiveness of communication?</td>
<td>-</td>
<td>-</td>
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<tr>
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<td>Influence of end users on activities?</td>
<td>no</td>
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<tr>
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<td>Recommend changes C&amp;D Plan?</td>
<td>no</td>
<td>no</td>
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</table>
5. Final conclusions and recommendations for other projects

Upon completion of the FLOODsite Project it is possible to review the effectiveness of the approaches adopted for communication and dissemination within FLOODsite and highlight aspects that worked well and not so well. Our conclusions are as follows:

1. Adoption of a structured approach to research communication and dissemination was generally very well received and overall, an effective method for improving activities.

2. The C&D plan provided a useful means for explaining the importance and process of C&D activities to both team members and end users alike. In particular, the definitions of C&D activities and the distinction between C&D and Uptake & Implementation activities were very useful.

3. The C&D plan also provided a clear check list of activities that all team members could use to help prompt actions. It is our recommendation that such an approach should be adopted for all similar research projects to help focus team member efforts on C&D activities.

4. Whilst the C&D plan provided a good framework for action, two aspects of implementation could be improved for future projects. Firstly, the timing of development and implementation should be moved forward in the overall project schedule. Greater impact would be felt if team members acted upon a C&D plan from as early as the first 6 months of the project. Secondly, adequate resources should be allocated to C&D activities, and ring fenced for those actions. The time and effort required for effective C&D actions should not be underestimated. Both of these actions help to avoid any confusion with team members as to their responsibilities to undertake C&D activities throughout the project.