

*Integrate, Consolidate
and Disseminate
European Flood Risk
Management Research*

D6-3: Review of experiences in the 1st CRUE Funding Initiative (1st Common Call)

December 2008

DOCUMENT INFORMATION

Title	Review of experiences with the 1 st common call
Lead Author	Thomas Deppe
Contributors	Vicki Jackson, Andreas Pichler
Distribution	PP
Document Reference	

DOCUMENT HISTORY

Date	Revision	Prepared by	Organisation	Approved by	Notes
25/11/2008	v1 (Original)	T. Deppe	PTKA-WTE		
15/12/2008	v2 (Final)	T. Deppe	PTKA-WTE		

Contents

1	Background and objectives of the 1st Common Call.....	1
2	Selection of projects/approval	2
2.1	Check of basic criteria	2
2.2	Evaluation procedure and project selection.....	2
3	Research projects initiated by the 1st Funding Initiative	4
3.1	Survey	4
3.2	Project abstracts.....	6
4	Monitoring and project evaluation.....	7
4.1	Kick-off meeting in Vienna.....	7
4.2	Mid-term meeting in Lyon.....	7
4.3	Final Symposium of the 1 st CRUE Funding Initiative in Oxford	7
4.4	Reporting by the research projects and dissemination of results	7
5	Lessons learned – Drawing conclusions from experiences in the 1st ERA-Net CRUE Funding Initiative.....	7

1 Background and objectives of the 1st Common Call

The first Pilot Call launched by the ERA-Net CRUE consortium was entitled “Risk Assessment and Risk Management: Effectiveness and Efficiency of Non-structural Flood Risk Management Measures”. The call was advertised by Partners **between 1st October and 31st December, 2005** with a closing date of **1 March, 2006**. This funding initiative on the use and appropriateness of non-structural measures (NSM) in flood management was established against the background of the forthcoming EU Floods Directive¹. The Directive demands the establishment of flood risk management plans in flood-prone areas in Europe by 2015. This implies the evaluation of the effectiveness and efficiency of both structural and non-structural measures, and the justification and transboundary coordination of management plans. Whilst cost effectiveness or cost benefit models are relatively easy to apply to the assessment of structural measures, the evaluation of NSM needs innovative approaches. According to the definition agreed by the CRUE partners, NSM included all mitigation measures that are not based on large-scale defences, such as

- Improvement of water retention in the catchment area of the river (e. g. altered crop rotation, technologies for soil cultivation without ploughing, reforestation, small scale measures which increase the coefficient of roughness)
- Spatial planning, laws and regulations, zoning
- Economic instruments, insurance
- Early warning systems
- Flood awareness raising, improving information about flood risk.

The topic area covered the following four objectives:

- **To identify and systemise existing non-structural measures.** The focus should be on measures which already form part of existing flood risk management plans, considering the current importance of these non-structural measures.
- **To survey the perception of flood risks** on various societal and spatial levels (e. g., national, regional, local) and within different sectors (e. g., water, spatial planning and environmental protection authorities) and to work out its influence on flood risk

¹ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:288:0027:0034:EN:PDF>

management decisions within a selected set of CRUE partner countries.

- **To investigate and compare existing concepts / ideas of flood risk management**, with particular regard to the relevance of non-structural measures.
- **To investigate and compare existing approaches which quantify the effectiveness and efficiency of non-structural measures**, compared to structural measures, with a long-term goal to develop an approach allowing an effective combination and prioritisation within comprehensive flood risk management strategies.

2 Selection of projects/approval

2.1 Check of basic criteria

In response to the call, 15 proposals by international consortia were received. Before the proposals (common application forms, CAF) were sent to the scientific evaluators, the following basic criteria were checked (exclusion criteria):

- The submitted project outline had to include research institutions or companies from **at least three of the CRUE PARTNER** countries participating in the 1st common call.
- The proposal had to be submitted until **01 March, 2006** (postmark).
- The form of the project outline and further formal criteria had to be in line with the regulations in the call text. For example, the project duration was not to exceed 18 months.

2.2 Evaluation procedure and project selection

2.2.1 Scientific evaluation

The CRUE consortium agreed that the Partners would nominate national scientific evaluators to assess research proposals (CAF's). Each country represented in an international joint project was asked to assign one evaluator per project. (Consequently, a joint project would be reviewed by as many evaluators as there were sub-projects; cf. Fig. 1). It was agreed that the evaluation would be carried out following an accepted written procedure. For this purpose, the evaluators received evaluation forms containing the following ten evaluation criteria:

1. Added value for the European flood research area
2. Thematic relevance in regard to the objectives of this announcement
3. Potential for solving problems
4. Innovation
5. Qualification and expertise of the coordinator and the project partners team
6. Inter- and transdisciplinarity
7. Prospects for success with regard to the work and financial plan including time schedule
8. Quality of the management
9. Expected exploitability of results
10. Transnational linkage and benefit of cooperation

For each of the criteria, evaluators were asked to award 1...5 points (5 being best). Finally, all points were added up to a total score.

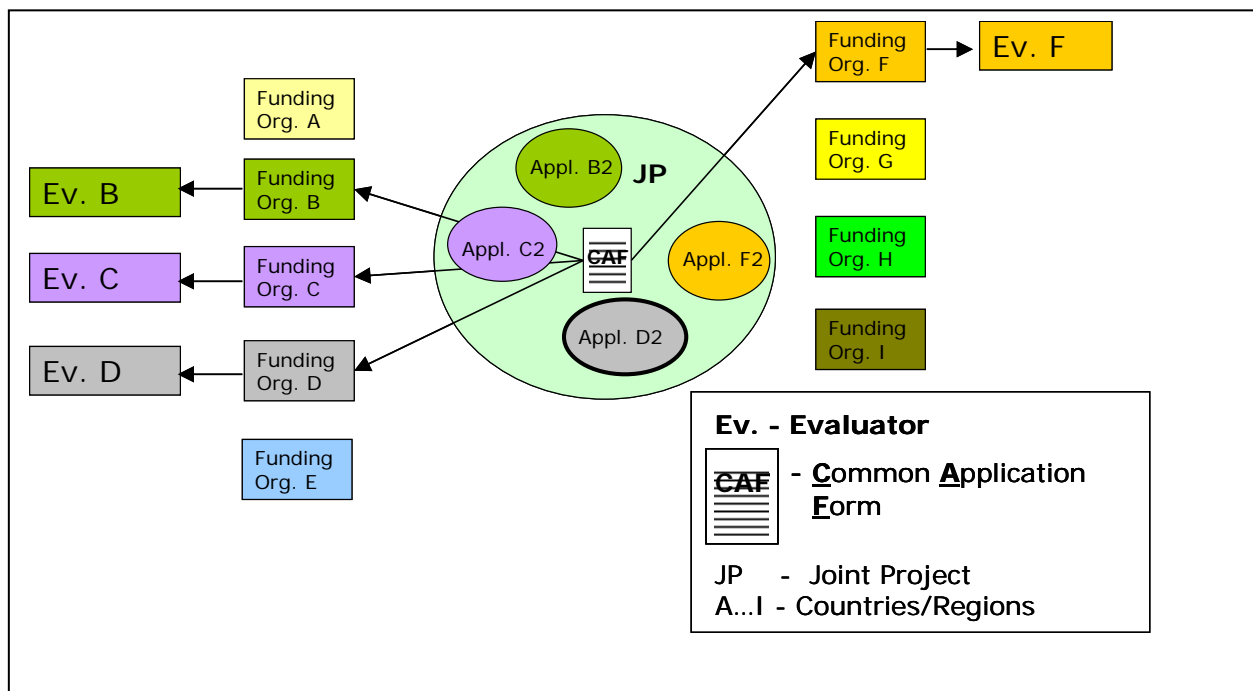


Figure 1 – Assignment of evaluators to the joint project proposals

After all evaluation forms had been received, a ranking list of the proposals was generated based on average total scores. In addition, the participating CRUE Partners were asked to assess the proposals according to their own strategic criteria according to three categories:

A=funding B=not sure about funding C=no funding

The results of the scientific evaluation and of the funder assessment (by participating funding institutions) were combined into one table to inform project selection.

2.2.2 Funding agreements

As a basic scheme for funding transnational joined projects within CRUE, the ‘virtual common pot’ model was chosen. This means that the sub-projects within a joint research project are funded nationally, according to the administrative rules of the respective funding organisation.

On **15/16 May 2006**, an extra meeting was held of the CRUE partners participating in the 1st common call in Dresden (Germany). At this meeting, decisions about funding were made on the basis of the scientific evaluation and according to the available budget. In addition, CRUE partners expressed their preferences in line with their national, priority strategic criteria. As a result, seven research projects were selected for funding from the 15 proposals submitted.

A specific problem in connection with the “virtual common pot” (joint projects with national funding of the sub-projects) occurred when a project was selected as a candidate for funding, but the budget of one CRUE partner was insufficient to finance its national part. Essentially, two mechanisms were applied to cope with this problem:

1. Partners were flexible in raising their pre-calculated budgets.
2. Partners decided to fund an applicant from another country which otherwise could not have been financed.

3 Research projects initiated by the 1st Funding Initiative

3.1 Survey

Information on the seven research projects selected for funding can be downloaded from the following table on the CRUE website (http://www.crue-eranet.net/project_list.asp?Call_ID=1):

1st ERA-Net CRUE Funding Initiative: 'Risk assessment and risk management: Effectiveness and efficiency of non-structural flood risk management measures'
Closing Date: 03/01/2006

List of selected projects

Project Title	Coordinator and web link
<p>Efficiency of non-structural flood mitigation measures</p> <ol style="list-style-type: none"> 1. Extended Abstract 2. Final Report 3. Project Description Document 4. Project Presentation Document 	<p>Universidad Politecnica de Valencia</p> <p>Project Website: www.iiama.upv.es/roomfortheriver/home.html</p>
<p>Development of flood risk in mountain catchments and related perception - RISKATCH</p> <ol style="list-style-type: none"> 1. Extended Abstract 2. Final Report 3. Project Description Document 4. Project Presentation Document 	<p>University of Natural Resources and Applied Sciences (BOKU)</p> <p>Project Website: www.riskcatch.info</p>
<p>Effectiveness and efficiency of Early Warning Systems for Flash Floods EWASE</p> <ol style="list-style-type: none"> 1. Extended Abstract 2. Final Report 3. Project Description Document 4. Project Presentation Document 	<p>Technische Universität Darmstadt</p> <p>Project Website: www.ewase.net</p>
<p>Risk Assessment and Risk Management in Small Urban Catchments</p> <ol style="list-style-type: none"> 1. Extended Abstract 2. Project Description Document 3. Project Presentation Document 	<p>Technische Universität Hamburg-Harburg</p> <p>Project Website: suca.wb.tu-harburg.de/</p>
<p>Flood risk management strategies in European Member States (FLOOD-ERA) - A methodology to evaluate the effectiveness and efficiency of mitigation measures with</p>	<p>Leibniz Institute of Ecological and Regional Development (IOER)</p> <p>Project Website: www.FLOOD-ERA.ioer.de</p>

<p>regard to different risk perceptions</p> <ol style="list-style-type: none"> 1. Extended Abstract 2. Project Description Document 3. Project Presentation Document 	
<p>Flood risk reduction by Preserving and RestOring river FLOODPLAINS</p> <ol style="list-style-type: none"> 1. Extended Abstract 2. Project Description Document 3. Project Presentation Document 	<p>University of Natural Resources and Applied Sciences (BOKU)</p> <p>Project Website: www.pro-floodplain.eu</p>
<p>Simulation of Flood Risk and Non-structural Risk Management</p> <ol style="list-style-type: none"> 1. Extended Abstract 2. Final Report 3. Project Description Document 4. Project Presentation Document 	<p>Institut für Wasserwirtschaft, Siedlungswasserbau und Ökologie GmbH (IWSÖ)</p> <p>Project Website: www.floodrisk.info/</p>

3.2 Project abstracts

The following section contains short outlines of the research projects' objectives and basic results. Further details can be found in the Final Reports of the projects (cf. links in 3.1).

Efficiency of non-structural flood mitigation measures (“Room for the river”)

The aspect of “land use”, which is considered on a theoretical level in “Simulation of Flood Risk and Non-structural Risk Management” was dealt with in a more concrete way by the joint project “Room for the river”. *Room for the river*, coordinated by the Spanish Technical University of Valencia and including partners from Austria and Germany, looked at specific measures suitable for increasing the retention capacity in catchment areas, like micro ponds and small dams. Investigations were based on the “Retain the water in the catchment” and “Room for the river” concept (a concept originally developed in the Netherlands). Added value was drawn from the inclusion of experiences and the inter comparison of data from three European test sites, the semi-arid Rambla del Poyo in Spain, the humid / midland Kamp in Austria and the alpine / pre-alpine Iller in Germany. The results from “Room for the river” will help inform decisions on whether the non-structural measures investigated are

suitable elements for integrated Flood Risk Management (FRM) plans in European catchment areas.

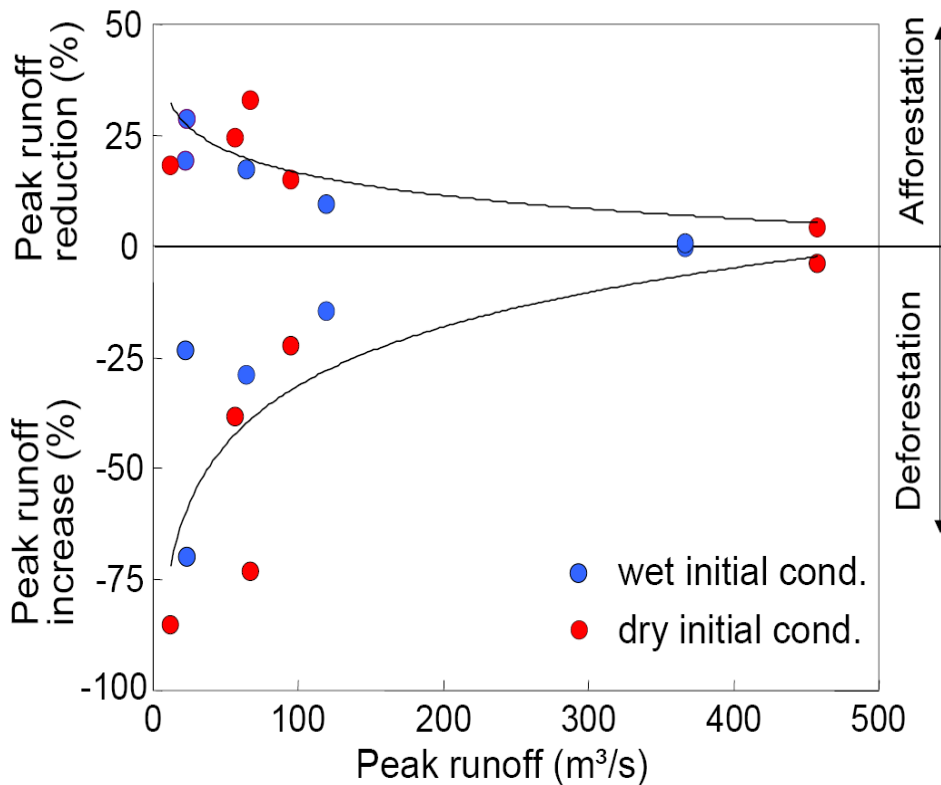


Figure 2 – Project “Room for the River”: Possible effects of deforestation / afforestation on peak runoff in the Kamp catchment, Austria (courtesy G. Blöschl, TU Wien)
Development of flood risk in mountain catchments and related perception –

RISKATCH

The *perception of risk* also formed the background for *RISKATCH*, a consortium coordinated by the University of Natural Resources and Applied Life Sciences, Austria, with partners from France and Germany. *RISKATCH* was based on an analysis of hazards in mountainous regions in the Austrian Alps and in the German alpine foreland. The hazard analysis conducted in this project was followed by an assessment of damage potentials, which provided the information for risk maps. These maps were generated on different scales and in different designs and shown to ‘test people’ from different stakeholder groups, including political decision makers, practitioners and the general public from different European countries. Their perception of the contained information was scientifically evaluated using a method called “graphic semiology”. As a result, the project delivered user

specific recommendations for the designs of risk maps which will help flood risk managers to meet the goals of the European Floods Directive².

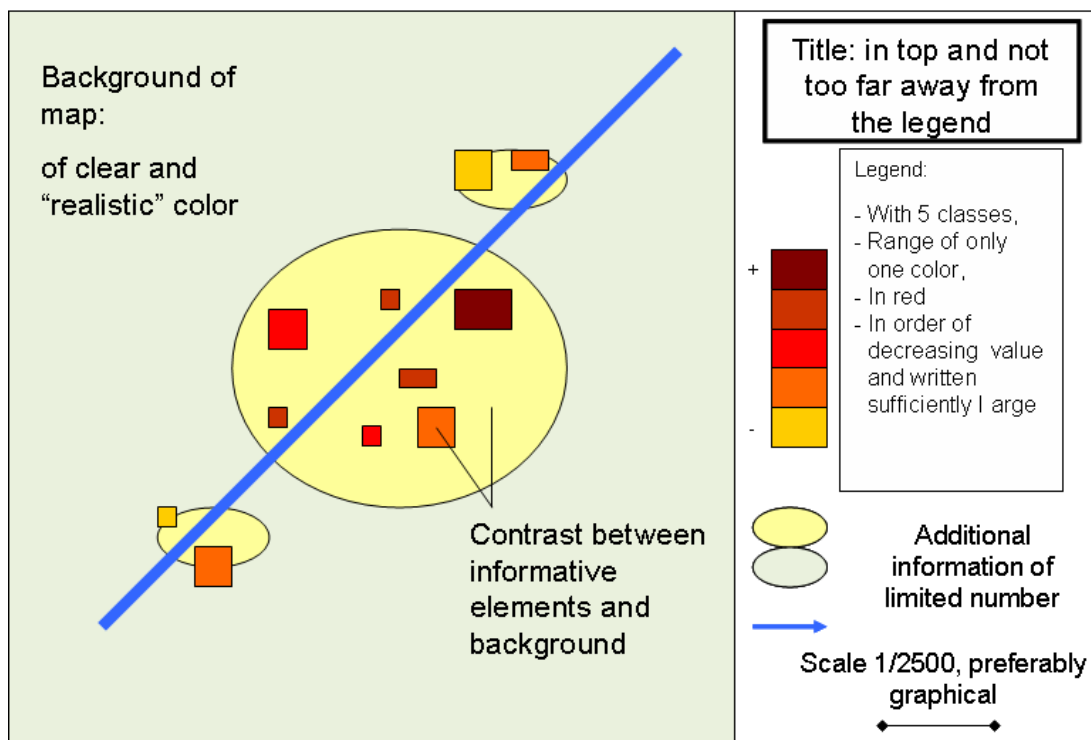


Figure 3 – Project “RISKCATCH”: Recommendations for risk map design derived by the method of “graphic semiology” (Courtesy S. Fuchs, W. Dorner, K. Spachinger, J. Rochman, K. Serrhini)

Effectiveness and efficiency of Early Warning Systems for Flash Floods (EWASE)

Similar to *RISKCATCH*, the joint project *EWASE* focused on small catchment areas prone to the occurrence of flash floods. The *EWASE* consortium, lead by the German University of Darmstadt and including further partners from Spain and Austria, concentrated on the important and difficult question of how to operate early warning systems in small catchments that have an inherently short lead time. An optimum has to be found between a potential increase of lead time, which may increase the benefit of the alert, and the simultaneous decrease of warning reliability. It has been found that a successful early warning will lead to a (socio-) economic benefit; a false alarm means economic loss, as areas will have to be evacuated and economic activities are limited or cease for a certain time. Based on pilot sites

² <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:288:0027:0034:EN:PDF>

in different European countries, *EWASE* synthesised data and experiences to help flood managers evaluate and design better solutions for the operation of “their” early warning systems.

Risk Assessment and Risk Management in Small Urban Catchments (SUCA)

Undoubtedly, urban areas have a very particular set of conditions driving the occurrence of floods. They are unique in their accumulation of damage potentials and their complex setting. Small catchments in urban areas are often neglected but can display very high damages in case of flooding. The joint project “Flood risk management in small urban catchments” (*SUCA*), coordinated by the University of Hamburg with partners from the UK and France, collected and compared examples from different European countries and provided a transnational synopsis of urban FRM strategies, together with recommendations for flood managers on how to improve preparedness in urban FRM concepts. In line with the aims of the funding initiative, there was a focus on non-structural measures throughout the research.

Flood risk management strategies in European Member States (FLOOD-ERA)

How does decision making in flood risk management work? What kinds of political and cultural factors affecting the *perception of risk* have developed which influence planning procedures, the allocation of large amounts of public money and operational flood management? These questions were investigated by the joint research project *FLOOD-ERA*, a consortium lead by IOER in Dresden, Germany, with partners from England and Austria. Based on case studies in the partner countries, *potential* measures were evaluated by a set of indicators and compared to the measures which have actually been realised (e.g., dykes). By the causal analysis of decision processes on the one hand, and an analysis of the unused potential of non-structural measures on the other hand, *FLOOD-ERA* sought to contribute to optimising the allocation of resources in FRM.

Flood risk reduction by Preserving and Restoring river FLOODPLAINS (PRO_Floodplain)

Land use changes was examined by the joint project *PRO_Floodplain*. It considered the hydromorphological contribution of water retention in preserved and restored flood plains, and the contribution of floodplain restoration to the achievement of a “good ecological status” as demanded by the Water Framework Directive. They also considered whether they would be the type of FRM measures accepted by society. *PRO_Floodplain*, a consortium of

Austrian, German and French partners coordinated by the University of Natural Resources and Applied Life Sciences, Vienna, sought to identify the benefits of floodplain enlargement using national case studies. The results were compared with each other and considered in comparison to the effects of technical measures. As an interdisciplinary outcome, *PRO_Floodplain* delivered an approach for a multi-criteria decision support tool for flood risk managers, combining technical, ecological and sociological aspects of floodplain restoration.

Simulation of Flood Risk and Non-structural Risk Management

Is there a way to predict the *long-term evolution of risk*, considering the complex interactions of non-structural instruments, such as laws and regulations, market instruments like insurances, changes in land-use on the one hand and future changes in flood risk on the other? The project “*Simulation of flood risk and non-structural risk management*”, with partners from Germany, Scotland and England, put the emphasis on changes in risk over extended time scales. It combined land use simulations with flood risk analysis techniques and models of risk perception under different insurance and planning conditions. Using a completely synthetic river basin model, the project contributed to the enhancement of fundamental knowledge and methodologies regarding the long-term effects of non-structural measures.

4 Monitoring and project evaluation

4.1 Kick-off meeting in Vienna

4.1.1 Background and project presentations

To establish a common starting point within the 1st CRUE Funding Initiative and to develop efficient communication between all parties involved, an initial meeting was held on **29-30 January, 2007** in **Vienna (Austria)**.

At the workshop each project prepared a 1 page “fact sheet” comprising the basic outline of the project. Posters were also displayed during the meeting to offer all participants an overview of the project concept. Full project descriptions can be found in the project list (cf. section 3).

The meeting was attended by more than 50 participants from research and funding institutions as well as some of the scientific evaluators. On the first day of the meeting, the project concepts were discussed collectively, following presentations by the project coordinators.

4.1.2 Workshop

On the second day, a workshop was held. The goals of the workshop were

- to identify potentials for *collaboration between projects*.
- to collect ideas for *networking* within the funding initiative.
- to collect ideas how to *improve the framework* of the funding initiative.

The participants were divided into three groups and asked to discuss specific guiding questions referring to these discussion topics. The answers and emerging suggestions were subsequently discussed in the plenary and were recorded to inform the further development of the funding initiative.

Some important items were

a) Collaboration between projects:

- Various suggestions to establish thematic links and sharing of data/ models between projects

b) Networking:

- CRUE website could be used as a communication platform
- Collection of models employed to facilitate comparison of results (e.g. there were 6 different hydrologic models used)
- Joint report on pilot areas
- Besides effectiveness and efficiency, further criteria to measure sustainability of measures are needed
- Uncertainty is an important methodological aspect
- How can different aspects of risk be compared / expressed by a common currency?
- Relations with climate change topic have to be discussed

c) Improving the framework:

- Some further directives for the projects are needed to ensure that common goals are pursued within the funding initiative

- Common definitions are required (e.g. terms 'non-structural measures', 'efficiency', ...)
- A harmonisation of reporting is required
- Institutional context of the projects should be described
- Harmonisation of WFD and FD on a European level has to be discussed

The full results of the breakout groups discussions can be downloaded from the CRUE homepage:

http://www.crue-eranet.net/call_meetings.asp?Call_ID=1

The results of the workshop were analysed and contributed to improvements within the 1st Funding Initiative. For instance, reporting was harmonised by providing instructions and templates for common final reports of the research projects. The results also helped to prepare the 2nd common call (for details, cf. D6-4/5, Report on the initiation of the second common call and background paper to the call text).

4.2 Mid-term meeting in Lyon

On **17 October, 2007**, a mid-term seminar was held in **Lyon** (France) half way through the 1st CRUE Funding Initiative. The seminar consisted of three main components:

4.2.1 Research Progress

The underlying intention of this component was to review the interim results of the research projects half way through their duration. In preparation for the seminar, researchers produced extended abstracts summarising main progress within their projects. During the meeting, the results were presented by the joint project coordinators. Both extended abstracts and presentations are available for download from the CRUE website:

http://www.crue-eranet.net/call_meetings.asp?Call_ID=1

4.2.2 Key issues arising in the thematic research area and links for Policy

The goal of the workshop was to discuss key issues of the call's thematic framework. To strengthen the link between policy needs and research and to maximise the usability of research results, the CRUE consortium designed a set of overarching questions to provide guidance to researchers. Some central aspects of this approach were picked up and further explored in the workshop. Important topics were, for example, how the transfer of research

results into practice could be improved and how acceptance of non-structural measures could be increased.

A synthesis of the workshop results is presented in Annex 1.

4.2.3 Future research questions for a second common call

The aim of this discussion was to give the workshop participants the opportunity to contribute to the preparation of the 2nd ERA-Net CRUE Funding Initiative. The discussion on potential themes for the 2nd common call was based on a selection of topics identified during the international ERA-Net CRUE workshop in Den Haag (The Netherlands) in April, 2007. The aim of the Den Haag workshop was to define an initial stage of a shared vision for European research on flood-related research needs over the coming 5 – 10 years; cf. the public report on this workshop:

http://www.crue-eranet.net/partner_area/documents/Den_Haag_WS_summary.pdf

The discussion was helpful to sharpen the focus and the scope of potential research and policy themes for the 2nd ERA-Net CRUE call. This was subsequently published in June 2008.

4.3 Final Symposium of the 1st CRUE Funding Initiative in Oxford

4.3.1 Presentations

The final results of the 7 joint research projects were presented as a series of technical papers within a separate session of the FLOODrisk 2008 conference in **Oxford (UK) on 30 September, 2008**. The conference was principally organised as a forum for presentation and discussion of the results of the EU Integrated Project “FLOODsite”.

Abstracts of the presentations have been published in the Conference Proceedings³.

Additionally, experiences from the CRUE project (including its Funding Initiatives) was presented in another FLOODrisk 2008 session named “International Programmes”.

³ P Samuels, S Huntington, W Allsop and J. Harrop (2008): Flood Risk Management. Research and Practice. CRC Press, Balkema.

4.4 Reporting by the research projects and dissemination of results

4.4.1 Reporting by the research projects

Reporting by the research projects was done in three ways:

(1) Presentations of project concepts and (interim) results in connection with the meetings organised by the 1st CRUE Funding Initiative

as described in sections 4.1-4.3,

(2) National reports of the sub-projects

National reports were necessary to satisfy the administrative needs of the national funders of the partial projects. According to the individually different rules, funding recipients joined in one common project reported at different times and at different frequencies. In order to inform project officers on the different dates and deadlines, a survey table was generated and circulated among all persons involved in the management and administration of the projects.

(3) Common Final Reports

To harmonise reporting by the joint projects, a corporate template was designed and circulated. To ensure that these reports were produced in a consistent manner, the CRUE team developed some overarching questions to guide the projects. All projects provided detailed answers to these questions wherever possible, and demonstrated how the research efforts were contributing to furthering knowledge and understanding in each of these areas.

Researchers were asked to take into account the following questions when writing their reports:

I CRITICAL METHODOLOGICAL ISSUES TO CONSIDER

1. Definitions

- How are the terms 'effectiveness' and 'efficiency' defined in your project?
- How are effectiveness and efficiency measured and compared in your project?

2. Methods

- How sensitive are the results to the methods used in your project?
- What role does the uncertainty of results play concerning the success or failure of the non-structural measures examined in your project?

II NON-STRUCTURAL MEASURES IN FLOOD RISK MANAGEMENT

3. Linking research to policy

- What recommendations concerning the application of non-structural measures can be given to policy makers on the basis of the (preliminary) results of the research projects?
- What are the main difficulties/obstacles in implementing non-structural measures according to the experiences made in your research project?
- How can policy-makers choose the ideal mix of non-structural and structural approaches?

4. Appropriateness and sustainability of non-structural measures in FRM

- Assess the sustainability of the measures examined in your project in the light of the following aspects:
 - protection of (natural, societal, etc.) resources
 - Are the non-structural measures examined in your project more sustainable in the long term, particularly in the light of climate change?
 - participation of stakeholders
 - ...
- On the basis of your research, are non-structural measures effective and efficient ways to manage flood risk? How do the costs and benefits compare with more traditional structural approaches?
- Do non-structural measures offer a wider range of social and environmental benefits? How could these be best taken into account by policy-makers?
- What physical, socio-economic and institutional factors could make non-structural measures easier to implement and more effective or efficient? What role does risk perception play?

The common final reports were submitted to the CRUE Steering Group. After approval by the funders the reports have been made available to the public for download in the official publications section of the CRUE homepage. Researchers have been invited to publish hard copy reports to further disseminate their final reports.

4.4.2 Synthesis Report

In addition, CRUE will provide a Synthesis Report for policy makers and decision makers from the executive summaries of the final reports. This report offers a short and concise summary of the main results of the seven projects, the practical implications and perspectives for implementation. The CRUE team will publish hard copies for wide dissemination. The Synthesis Report is also available on the CRUE homepage as the essence of research results from the 1st Funding Initiative.

4.4.3 Snapshot Newsletter

In August, 2008, the first edition of the CRUE newsletter, called CRUE Snapshot, was published. The newsletter offers latest results of cutting edge FRM science, information on relevant political developments and implementation practices. In this Snapshot edition, a review article on the research projects initiated under the 1st Funding Initiative was included.

5 Lessons learned – Drawing conclusions from experiences in the 1st ERA-Net CRUE Funding Initiative

At the FLOODrisk 2008 symposium, an ERA-Net CRUE workshop was organised with the aim of reflecting and evaluating the 1st CRUE Funding Initiative. The workshop was attended by 45 participants including researchers involved in the CRUE research projects, representatives of the funding bodies financing the projects, scientific evaluators and advisors. Discussions were structured by the following guiding questions:

- (1) Which areas of the Common Call were successful?**
- (2) Which areas of the Common Call could be improved upon?**
- (3) Practical recommendations for future Common Calls**

As a further background for the table-top discussions, participants were provided with additional questions:

- **Infrastructure of the Funding Initiative and cooperation**

How successful was cooperation between researchers and the funders? How helpful were CRUE arrangements in facilitating discussion, e.g. common meetings, frequency of reporting etc. ?

- **Added value from transnational joint research**

To what extent did research efforts benefit from the range of European perspectives, i.e. how well did researchers learn from each other and how has this enabled further understanding?

- **Implementation of research results**

What (if any) arrangements did researchers make when carrying out their work to ensure it remains targeted to their policy customer? Were there been difficulties to overcome? How confident are researchers that implementation of their work will be effective? Can policy makers make practical suggestions on how to improve on this for the future?

(1) Which areas of the Common Call were successful?

Call topic & policy steer

There was universal agreement that the selection of the call topic 'effectiveness and efficiency of a structural and non-structural measures in Flood Risk Management (FRM)' was excellent. As a challenging aspect in FRM, the opportunity to share experiences and understanding in this emerging research area across European level was welcomed.

Input from policy makers into the development of the research topic and through the steer provided to projects throughout the research term was found to be universally beneficial. In some cases, this 'pull through' of research to policy was clearly evident and in the UK for example, enabled CRUE researchers to support the government response to recent, widespread flooding⁴. In general, working closely with policy makers enabled researchers to ensure their research outputs were capable of delivering real outcomes for flood risk management.

⁴ The Pitt Review, Learning Lessons from the 2007 floods, UK

Knowledge exchange

Advocating integration of knowledge from different disciplines, such as natural and social sciences and engineering, alongside practical case studies was found to provide a rich research environment within the CRUE common call.

Collaboration through CRUE enabled researchers to work in a truly European environment and broadened opportunities for research networking and learning from a varied range of perspectives. Many researchers felt that this has opened opportunities for further collaboration in the future which will serve to strengthen the European research area longer term (in line with the CRUE network objectives).

Call process

On the whole, the CRUE network was found to provide support and guidance to researchers throughout the call process and the ensuing research experience. The transparency with which funding decisions were made was welcomed by researchers.

The co-operation of CRUE Partners and the greater accessibility of national funders was deemed valuable by researchers and policy leads alike. Channels of effective communication remained open between funders and researchers throughout the process and the organisation of meetings and workshops was thought to support and enhance collaboration as the research projects progressed. Regular opportunities to discuss and present interim and final research results supported an open learning environment within CRUE call projects.

Dissemination

Challenging researchers to consider timely and appropriate engagement with FRM stakeholders was valued across the research projects funded under the call.

Presenting research results at FLOODrisk 2008 and to the European Commission's Working Group on Floods (WG F) provided valuable opportunities for both scientific and applied peer review of research efforts funded under CRUE. Assistance from the CRUE team with the production of final reports was valued by researchers, as was the development of a final research synthesis report for wide distribution across Europe.

Evaluating the benefits of the research work in the longer term was felt to be important by researchers, funders and policy makers alike.

(2) Which areas of the Common Call could be improved upon?

Cumulative feedback from researchers throughout the first CRUE joint funding initiative led to a number of improvements in the second common call arrangements (as advertised in June 2008⁵). The record of additional suggestions is included below to accurately represent views from workshop attendees.

Call organisation

In general, arrangements for the common call were welcomed by researchers. A couple of issues would benefit future calls under the CRUE network, including:

- Varying start dates for research projects funded under the common call caused particular difficulty to researchers, due in part, to the time taken to establish consortia agreements amongst researchers.
- Occasional confusion with respect to reporting timescales and expectations was experienced by some research consortia.
- Clarity over copyright and dissemination requirements required.
- Lack of flexibility over project extensions, even where added value clearly articulated. Limited retained funding could helpfully enable this in future CRUE calls.

Project co-ordination

It was agreed that the time taken for the Lead Co-ordinator to effectively integrate and facilitate communication and exchange between each 'sub projects' was often insufficient. This introduced a risk that the research integration required within a collaborative project was lacking in delivering a coherent, collective output to the CRUE network. Researchers agreed that more time should be allocated to this activity and that the CRUE network could help to facilitate interaction through workshops throughout the funding period.

⁵ www.crue-eranet.net/calls

Opportunities to glean feedback from funders and/or policy makers on a European basis was difficult in some cases. Collating a national viewpoint on the development of the research was mostly successful but the collective view difficult to achieve without face to face interaction.

Funding arrangements for future common calls

The variation in funding across researchers within each project (and associated sub-projects) led to tensions and difficulties in some incidences under the first common call. The complexities of national funding rules added to these difficulties and it was felt that a more transparent funding model could be helpful in overcoming this.

It was felt that the availability of funds for some projects was insufficient and constrained the amount of joint working and productive content. Learning from the first call, researchers felt they would need to allow more time for the collaboration activity than envisaged in the first common call.

There was considerable debate on available funding models for future collaborations. To date the CRUE network has operated under the 'virtual common pot', grant funding model. As advertised in June 2008, the second common call will continue to use this funding model. However, in recognising the needs of each Partner and the needs of researchers going forward, the network has been considering a range of possible improvements for funding research under the CRUE network in the future. More details can be found in the regulations of the second ERA-Net CRUE funding initiative (cf. call page on the CRUE website, <http://www.crue-eranet.net/calls.asp>).

(3) Practical recommendations for future common calls

A series of practical recommendations for future common calls under CRUE were suggested, debated and agreed by the group. Those already taken forward by arrangements for the second common call 'Flood Resilient Communities – Managing the Consequences of Flooding' are asterisked below. Further consideration will be given to additional recommendations for future joint funding initiatives by the CRUE team.

- Harmonise contract start and end dates and provide clear terms for Intellectual Property and copyright. The project term should be 24 months as a minimum*

- National research teams were shown to interact well throughout the first common call. Opportunities for collaboration with European Partners (e.g. meetings/workshops) must be afforded a high priority in future research projects.*⁶
- The Scientific Advisory Board should be encouraged to provide feedback and steer to researchers during the research term.*
- Provide opportunities for engagement with key stakeholders throughout the research term. This is particularly important to ensure an appropriate policy/practitioner steer to the researchers.*
- CRUE has to ensure buy in from national policy makers (or practitioners as appropriate) as researchers commence research. This relies on funders providing the appropriate steer in many cases and will be dependent on research funding arrangements in each country participating in a call.
- Proposals should be evaluated against clear criteria, including a comment on whether the research output will lead to a direct FRM policy or practitioner outcome.* The attention to measuring the benefits of the CRUE network activities will help us to deliver this.
- Allocate sufficient time and budget to facilitate effective dissemination. This is a project task but will be supported by the CRUE team through our work on dissemination and engagement.
- Keep the number of consortium partners to a manageable and appropriately funded level.* This is a task for the research consortium itself when considering how to establish and deliver against the call topic.

Recommendations for the harmonisation of funding arrangements will be considered as the CRUE network develops its Research Agenda and post EU funding project Co-operation Agreement.

⁶ It is acknowledged that this needs to be accurately represented in research proposals submitted to the CRUE team, i.e. in the appropriate planning of time and resource required to achieve effective collaboration.

Mid-term seminar of research projects in Lyon, 17 October, 2008 Synthesis of results from working groups

Key topic no. 1 – Implementation of research results

Guiding questions

1. How can the transfer into practice of research results on non-structural measures be improved?
2. How can the uncertainty of results be handled (*from a practical point of view*), especially when decisions on implementation of non-structural measures must be taken?
3. What other difficulties and obstacles are to be expected?
4. What can we learn from project results for national public policies? What can we learn from transnational cooperation?

1. How can the transfer into practice of research results on non-structural measures be improved?
 - It is important to provide **decision support** by **capacity building** across all stakeholders
 - Transdisciplinary research: Researchers need to build **links at the outset** of their activities integrating policy makers and stakeholders
 - It is necessary to improve communication among the different groups involved
 - Find a **common language**
 - Communication **customised to target groups** (policy makers, experts, property owners, people at risk)
 - For CRUE, user-specific dissemination is recommended (executive summary for policy makers, handbook or more comprehensive reports for experts)
 - There has to be a progress in integrating non-structural measures into **legislation** to enable their implementation
 - **Success stories** need to be found to make NSM more convincing
2. How can the uncertainty of results be handled (*from a practical point of view*), especially when decisions on implementation of non-structural measures must be taken?
 - It must be taken into account that NSM are usually implemented in combination with structural measures, **increasing resilience** of the system.
 - Uncertainty must be **integrated into risk and event management**
 - Uncertainty must be **integrated into rules and regulations**.

3. What other difficulties are to be expected?

- **Persistence of habitual and traditional planning** and decision making procedures (entrapment)
- **Division of competences / Lack of communication** between different planning institutions
- **Transaction costs** of implementing NSM have to be considered
- Harmonisation between **individual planning, insurance policy and state policy** is needed

4. What can we learn from project results for national public policies? What can we learn from transnational cooperation?

- What makes out (?doesn't make sense) the main added value of transnational cooperation is the possibility to learn from **good practise examples** in other European countries.
- Transnational cooperation may provide us with an enhanced understanding of the interdependence of (social, cultural, geographical) context conditions and (flood) risk management.

Key topic no. 2 – Appropriateness and acceptance of non-structural measures

Guiding questions

5. How do the costs and benefits of non-structural measures compare with more traditional structural approaches?
6. How can we improve the acceptance of non-structural measures ?

5. How do the costs and benefits of non-structural measures compare with more traditional structural approaches?

- Non-structural measures can **provide benefits incrementally** and are **more flexible to a changing environment**.

Non-structural measures		Structural measures	
Costs	Benefits	Costs	Benefits
High costs in some cases (per m ³ stored)	High adaptative capacity	High capital costs	Easily acceptable by the public (of direct benefits) Creates jobs

- Questions:
 - o Can an early warning system replace a dyke?
 - o Who bears the costs?
 - Structural measures: normally the government
 - Non-structural measures: Costs borne by individuals?
 - o How can the costs be measured? (Comparing costs needs life cycle approach)
 - o How can social issues be incorporated into the cost-benefit analysis?
- To assess the effectiveness and efficiency of non-structural measures, it is necessary to **increase data availability** from projects across Europe / to work on the development of networks
- When project proposals are to be evaluated by decision makers, **all options need to be available** and compared equally

6. How can we improve the acceptance of non-structural measures?

- **Factors influencing the acceptance of non-structural measures:**
 - o Information about the characteristics/reliability of an early warning system will increase **social confidence** and public acceptance
 - o It should be clear when structural measures are to be preferred because of their robustness
 - o **It should be clarified who pays** for structural / non-structural measures
 - o It is necessary to **highlight the limits of structural measures**, e.g. urban areas cannot accept large structures
 - o The introduction of non-structural measures is strongly influenced by the use of **political instruments**:
 - Limitation of public funding of structural measures
 - Activate people to think of alternatives
 - Transboundary coordination of costs
 - o Acceptance of non-structural measures changes with the transition from the former “protection” paradigm to the paradigm of “risk management” (e.g. in Germany)
 - o It may be an option to investigate non-governmental implementation relating to floods