



# Newsletter on the Human Dimension in Water Management



October 2007

Supported by the European Commission & Harmoni-CA ([www.harmoni-ca.info](http://www.harmoni-ca.info))

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## **1** Welcome to the final edition of our Newsletter!

*Being part of the activities on bridging the gap between science and water management in Harmoni-CA, the newsletter ends with the closing of the European Concerted Action*

After five years and 10 issues, this is the final release of the Newsletter on Human Dimensions in Water Management!

With the aim to strengthen the social aspects in water management, the newsletter provided a platform to discuss and present insights on questions such as how to deal

with economic issues, how to involve organised stakeholders or the public, or how to improve sustainable and integrated water resources management. We would like to take the opportunity to thank our readers for their interest in our work, and of course we

would like to thank all contributors for making this newsletter so interesting.

If you want to stay informed on issues concerning the human dimensions we would like to draw your attention to especially two publications:

- the newsletter of the NeWater project (New Approaches to Adaptive Water Management under Uncertainty) and

- the newsletters from TIAS see [www.tias-web.info](http://www.tias-web.info) addressing issues from the Integrated Assessment community.

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## 2 Actors' involvement in the BRAHMATWINN project

*Institutional and stakeholder groups' profiles and their interactions in the Upper Danube (Europe) and the Upper Brahmaputra (SE-Asia) river basins, by Yaella Depietri and Alessandra Sgobbi, Fondazione Eni Enrico Mattei*

In 2006 the BRAHMATWINN EU project has been launched with the overall objective of enhancing capacity to carry out an adaptive integrated water resources management (IWRM) approach in the Upper Danube (Europe) and the Upper Brahmaputra (SE-Asia) river basins with headwater catchments in glaciated alpine mountain massifs. Specific attention is given to the impacts from likely climate change, and to the transfer of professional expertise, approaches and tools based on case studies. The final product of this activity will be a user-friendly, web based IWRM System (IWRMS). One of its components is the NetSyMod methodological framework. This approach has been developed within FEEM1's Natural Resource Management research team and represents an attempt to facilitate the integration of actors' concerns and preferences in problem structuring and

analysis, culminating in the development models and policy alternatives which result from the transparent aggregation of actors' valued and objectives. During the first year of the BRAHMATWINN project implementation the first phase of the NetSyMod approach, the "Actor Analysis", has been carried out by local partners through structured interviews. Within the DL 4 ("Assessment of the human dimension"), the report "Institutional and stakeholder groups' profiles and their interactions" relates on the progress with this first phase of actors' involvement activities in three test site areas. Even though interviews were carried out within limited time and resource conditions, several interesting remarks can be derived from the analysis. For instance, there is wide agreement among stakeholders in the Lhasa (Tibet) area that technologies and tools which may help local authorities and stakeholders to deal with water scarcity problems could be a useful focus for the project. While in the Salzach Catchment (Austria) stakeholders appreciate being contacted and being informed about the

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<sup>1</sup> Fondazione Eni Enrico Mattei (FEEM)  
[www.feem.it](http://www.feem.it)

activities of the project, there is a reluctance to be actively involved, highlighting “stakeholders’ fatigue” among European actors.

For further information on this project:  
<http://www.brahmatwinn.uni-jena.de>

For further information on NetSyMoD:  
<http://www.netsymod.eu>

## 3 News from the European Network of Municipalities and Rivers

*Handbook for water managers on local planning*

The key aim of the Handbook “Water: local planning and management” is to share good practice concerning water management. The Handbook therefore addresses two audiences. Firstly, the main target group of the ENMaR project, namely municipalities and stakeholders at the local level can compare their circumstances with other river basins and can learn from what others are doing. Secondly, decision-makers will be able to gain an overall impression of the current situation concerning water management and its related fields.

A chapter is given to each of the project’s key themes (spatial planning, tourism, water management, agriculture and forestry) which highlight differences and similarities among the regions. Due to the high importance

placed on public participation, a chapter on stakeholder engagement has also been included. Further on, the handbook contains 60 case studies, selected from good examples of projects on-the-ground in the ENMaR regions. These local case studies are ongoing or planned to contribute the aims of the WFD. Although there are many good examples relevant to the ENMaR themes, only two case studies per theme from each ENMaR region introduced signposting to where more detailed information can be found including contact details. The aim is to provide a snapshot of progress in this field and to highlight a range of good examples from across Europe.

The handbook will be available on [www.enmar.org](http://www.enmar.org) by the end of October 07.

## 4 New publication on institutional dimensions to floodplain restoration in Europe

*Timothy Moss and Jochem Monstadt (eds.) (2007): Restoring Floodplains in Europe: Policy Contexts and Project Experiences. IWA Publishing, London.*

This new book addresses the complex institutional dimensions to restoring floodplains. Despite the recent surge of interest in restoring floodplains among policy and research circles, as well as in the public domain, very few schemes for

restoring functional floodplains have been put into practice in Europe to date. This book explores the reasons behind this discrepancy between interest and applications with an original, comparative analysis of the institutional drivers and

constraints of floodplain restoration in Europe.

It explains why so few projects have been successfully implemented, how recent policy shifts are creating new opportunities for floodplain restoration and what lessons for policy development and project management can be drawn from in-depth analysis of past and present schemes. At a time of rapidly growing interest in restoring floodplains as an important component of efforts to improve flood protection, enhance riparian habitats, strengthen catchment management, raise water quality and pursue integrated rural development, the book critically appraises the relationship between macro-level policy development and enforcement and micro-level project design and implementation.

The book begins with two chapters setting out the case for floodplain restoration and assessing the relevant drivers and constraints of EU policy. The next three chapters

analyse the policy contexts of floodplain restoration in France, Germany and Britain, addressing the principal drivers and constraints in the fields of water management, flood protection, nature conservation, spatial planning and agriculture. This is followed by six case studies of schemes to restore floodplains (two from each country studied), divided between early schemes of the mid-1990s and ongoing schemes of today. The early generation schemes are: Rheinvorland-Süd (Germany), Bourret (France) and the Long Eau (England). The later generation schemes are: Lenzen (Germany), La Bassée (France) and the Parrett Catchment Project (England). The book concludes by drawing lessons from the principal findings and providing recommendations for ways of developing policy and designing projects for restoring floodplains in the future.

For further information: Contact IWA Publishing on [www.iwapublishing.com](http://www.iwapublishing.com)

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## 5 Report 4th & Final Harmoni-CA Forum & Conference

*Results of European research projects can be linked to through [www.harmoni-ca.info](http://www.harmoni-ca.info) or [www.wise-rtd.info](http://www.wise-rtd.info).*

A major step has been made in narrowing the gap between research developments and their application in water management. The Final Harmoni-CA conference on 'European Research Input to River Basin Management' held on September 25-27 in Brussels marked the completion of a major EU research programme (FP5 on catchment modelling). The conference provided a platform for meeting offers and demands of policy makers, water managers, consultants and researchers from 24 European countries.

Water managers and researchers received overviews on existing knowledge networks

and discussed on near future issues of European research with EC representatives.

A wide range of new technologies, software tools, synthesis reports and practical guidance documents was presented. These products cover a variety of topics such as: the response of lakes to climate change, experiences with decision support systems in river basin management, experiences in knowledge exchange and management of transboundary catchment areas; economic assessments, how to assess and deal with uncertainty and biological variability and how to improve participatory processes in water management (see also next section).

All these results of European research are now easily available through product reports, synthesised overview documents, a series of leaflets with client-focussed summaries and web-based information exchange systems (see [www.harmoni-ca-info](http://www.harmoni-ca-info)). Furthermore, the available European knowledge and

technologies have been linked to the actual phases in the Water Framework and Flood directives in the new WISE-RTD web portal ([www.wise-rtd.info](http://www.wise-rtd.info)).

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## **6 Human Perceptions and valuations in model supported water management**

*Harmoni-CA Guiding document on human dimensions aims making the human dimensions of water management more transparent*

Water resources management has a strong and successful engineering tradition based on controlling environmental problems with technical solutions. In this context, belief systems, human attitudes and collective behaviours have been treated as external boundary conditions but not as integral part of management objectives and strategies. However, the situation has started to change dramatically. The importance of water governance and stakeholder and public participation in water management is now widely recognized.

The European Water Framework Directive shows clear signs of a change in governance style. Integrated management plans at basin scale must be developed and implemented in a participatory fashion.

How should we manage our water resources? How should we seek to balance economic and demographic pressures, human water needs, environmental water needs, and a changing climate?

Such problems manifest themselves through differences rooted fundamentally in human values and beliefs and have been termed wicked for they admit no single formulation or solution.

Computer-based modelling tools are considered useful sources of support in the process of tackling complex, wicked problems. But how do human perceptions and values influence the development and use of such tools?

Model developers and users need to address the issue of human dimensions of modelling by making transparent the choices of variables, indicators etc. that are included in the models, and the reasons why others have been excluded. While no model can include all possible factors, it is important to raise awareness of the ways that models selectively influence our perceptions of water problems and possible solutions.

The Harmoni-CA Guiding document wants to raise awareness of the impact of the different human perceptions and valuations on the development of computer-based modelling tools, and on the use of those tools for decision making. In addition it gives an introduction on methods to integrate human perceptions and valuations in the development and use of modelling tools, e.g. by presenting examples on participatory modelling and on scenario modelling.

P. Bots, G. Gooch, B. S. McIntosh, C. Pahl-Wostl: "Harmoni-CA Guiding document on Integration of the Human Dimension in Model supported Water

Management"

The report can be looked into at [www.harmoni-CA.info/products](http://www.harmoni-CA.info/products) by the end of November.

## 7 Online Teaching Curriculum on Adaptive River Basin Management

*Modules available for downloading in Autumn 2007*

An academic curriculum on adaptive river basin management is under development for teaching at universities at the Master's and PhD levels. The teaching materials will be published in late 2007 as downloadable modules on the internet for interested instructors of Environmental and Resources Management, Hydrology, Public Policy, and other fields that may include studies in water resources management.

The broader learning goals of this curriculum are to teach students about:

Water issues in the context of global change

Concepts of adaptive water resources management

The role of adaptive management in IWRM Methods and tools for adaptive river basin management

contact [workshop@usf.uni-osnabrueck.de](mailto:workshop@usf.uni-osnabrueck.de).

Making the transition to adaptive river basin management

Although all teaching materials will be available in English only, the curriculum will be geared as much as possible to an international audience, with examples drawn from cases in variety of countries.

An orientation of the teaching curriculum and will take place on Monday November 12 at the CAIWA 2007 International Conference on Adaptive and Integrated Water Management in Basil: <http://www.newater.uos.de/caiwa/>

Further information about the curriculum and specific topics included can be found at: <http://www.newater.info/everyone/2654> or contact Caroline van Bers ([cvbers@usf.uos.de](mailto:cvbers@usf.uos.de))

## 8 Social Learning: an alternative policy instrument for managing in the context of Europe's water

*SLIM project published a special edition in Environmental Science & Policy*

Water management in Europe is in a state of flux as the implications of the European Water Framework Directive (WFD) unfold in practice. The research of SLIM (Social Learning for the Integrated Management and sustainable use of water at catchment scale) project ran in parallel with the introduction of the WFD, but adopted

throughout a broader perspective than just the WFD.

The content of this special issue is organised following a simple logic. In the first paper the historical rationale for the project and the project's design aims and realisations are described; this paper deals with 'why' questions (Ison, Röling and Watson, 2007).

The focus is on the nature of complex natural resource situations, called 'resource dilemmas' and the methodological challenge this presents for researchers. Particular attention is paid to whether and how science can make sense of, and contribute to the management of complex situations such as water catchments.

The second paper considers the 'why?' of social learning, considering what kinds of learning are needed in the situations described in paper 1. It explores the history of social learning in theoretical terms, contextualises the SLIM project's overall use of learning and social learning theories and draws out some of the implications for environmental policy and practice (Blackmore 2007). Scientific traditions are very much a part of this history because understanding and assumptions about why, what and how people learn have changed over time. Whilst conceptions of social learning are contested, most perspectives raise significant questions about the nature of knowledge and the processes of knowing; these are discussed.

The next four papers, from the different countries involved in the project, are the

'what?' - descriptions of the situations, what was done and so on. Two heuristic diagrams are used to organise the papers from the Netherlands (Jiggins et al. 2007), France (Steyaert et al. 2007), Italy (Toderi et al. 2007) and the UK (Collins et al. 2007).

The final paper (Steyaert and Jiggins, 2007) is essentially about 'so what?' at the level of the whole project. The main research findings are reified in a set of heuristics that can be used to explore the interplay between understandings and practices in situations such as water catchments when social learning is to be facilitated. The findings raise significant methodological questions and capacity building issues and highlight political concerns about the nature of socio-technical democracy particularly in terms of the relationship between science and policy.

Blackmore, C.P., Ison, R.L. & Jiggins, J. (2007) Social learning: an alternative policy instrument for managing in the context of Europe's water. Editorial, Special Edition, *Environmental Science & Policy* 10 (6) 493-498.

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## **9 Joint Day on scientific approaches towards water management in Adelphi, Maryland (USA)**

*In May, three associations, the International Water Association – Specialist Group on Systems Analysis and Integrated Assessment (IWA-SALA), The Integrated Assessment Society (TLAS) & the Global Water Systems Project (GWSP) met to share their respective experiences in scientific approaches specifically towards the issue of uncertainty analysis and models in decision making*

Through this activity the scientific communities involved attempted to strengthen the interconnections between the social and natural sciences within the field of modelling the social-environmental system.

The day of diverse and thought-provoking presentations and discussions concluded with a panel discussion to reflect on the role

of models and uncertainty in bridging of policy and science.

Several areas to be considered for future research and cooperation in order to support bridging the gap include:

- developing ensembles of different modelling approaches (see work being done at Stanford);

- analysis of the interactions between scientists and policy makers;
- a lexicon/glossary such as that being developed by GWSP to support communication between all sectors

Also, the researchers saw a need to develop their client base within their respective

associations and develop their ability to influence them. They felt also a need to get better at involving policy makers in these discussions.

# 10 List of Projects in the HDWM Cluster

## HarmoniCA – Harmonizing Modelling Tools at Catchment Scale

<http://www.harmoni-CA.info>

The concerted action HarmoniCA will provide guidance on management concepts and ICT tools for river basin management and the implementation of the WFD. Of specific interest for the HDWM cluster is the work package on “Integrated Assessment and the Science Policy Interface” that deals specifically with the involvement of stakeholders in the development of river basin management plans and the representation of socio-economic aspects in river basin management models.



## HarmoniCOP – Harmonizing Collaborative Planning

<http://www.harmoniCOP.info>

The project HarmoniCOP explores stakeholder and public participation and the role of ICT tools in river basin management planning using a social learning perspective. HarmoniCOP aims at improving the conceptual base for stakeholder and public participation and provide practical guidance for the implementation of the European Water Framework Directive.

## **GOUVERNe**

**GOUVERNe**

<http://www.c3ed.uvsq.fr/c3ed/Gouverne/PresGOa n.html>

The project responded to the requirement for integrated systems of information permitting coherent policy and resource management decisions covering water uses in Europe. The project developed and implemented in pilot studies a user-based and scientifically validated Decision Support System (DSS) for the improved management of underground water resources at the catchment and sub-catchment levels.



## SLIM - Social Learning for the Integrated Management and Sustainable Use of Water at EUROMARKET

<http://www.epfl.ch/mir/euromarket>

## Catchment Scale

<http://slim.open.ac.uk>

This project develops strategic planning methodologies and social tools for the integrated management of water at catchment or river-basin scale and other "bundles" of natural resources. It emphasizes the importance of processes of social learning for integrated resource management.

## AQUALIBRIUM

[www.aqualibrium.de](http://www.aqualibrium.de)

This project investigates the implications of the increasing deregulation of national water markets, and the fact that more and more private companies are involved in the water market. It aims at giving an overview on the current debates and analyses the various models of involvement and co-operation between the public and the private sector in the EU member states.



## FIRMA

<http://firma.cfpm.org/>

This project explored new approaches to improve water resource planning by developing and applying agent-based modelling to integrate physical, hydrological, social and economic aspects of water resource management. Specific emphasis was given to stakeholder participation and participatory model building and scenario development.



## INTERMEDIARIES - New intermediary services and the transformation of urban water supply and wastewater disposal systems in Europe

<http://www.irs-net.de/intermediaries>

This project maps the development of intermediary services and organisations in the water and wastewater sectors, examines how they facilitate the application of new resource-saving technologies and social practices and assesses their impact on the environment, economic efficiency and network management.

The EUROMARKET project studies the likelihood, nature, and forms water liberalisation may take in

Europe in the foreseeable future. This is done by analysing different liberalisation scenarios, depending upon the evolving water markets, the different enterprises' strategies, and the existing legislation/regulation both at the national and at the European levels.



#### MULINO

<http://www.feem.it/web/loc/mulino/index.html>

The MULINO project is developing a Decision Support System for the integrated management of water resources. The system includes a decision software based on multi criteria analysis procedures. This software is being developed in collaboration with representatives from water authorities in Italy, Romania, the UK, Belgium and Portugal, and through these relationships is exploring ways to include stakeholders' preferences in the assessment of a decision problem.



#### EUWARENESS - European Water Regimes and the Notion of a Sustainable Status

<http://www.euawareness.nl/>

focuses on the dynamic relationships between conflicting uses of water resources, the regimes under which these uses are managed, and conditions generating regime transitions towards sustainability. Water basin regimes have been studied in six European countries (Netherlands, Belgium, France, Spain, Italy, Switzerland).

More information:  
Project coordinator: Stefan Kuks  
Address: University of Twente, P.O. Box 217, 7500 AE Enschede, The Netherlands  
Email: [s.m.m.kuks@cstm.utwente.nl](mailto:s.m.m.kuks@cstm.utwente.nl)  
Internet: [www.euawareness.nl](http://www.euawareness.nl)

#### ADVISOR

<http://ecomana.dcea.fct.unl.pt/projects/advisor>

ADVISOR aims at the delivery of a set of guidelines to river basin authorities and related EU agencies for the execution of integrated evaluation of projects. The theoretical platform thereby established will support the development of new integrated evaluation methodologies and tools, which will incorporate the state of the art of the latest scientific thinking and assessment tools together with modern participatory, multi-stakeholder decision making

processes.



#### PRINWASS - Barriers and Conditions for the Involvement of Private Capital and Enterprise in Water Supply and Sanitation in Latin America and Africa: Seeking Economic, Social, and Environmental Sustainability

<http://www.geog.ox.ac.uk/~prinwass/>

The project develops an indicative framework of strategy and processes, expressed by relevant guidelines, for sustainable water supply and sanitation services in developing countries, taking into account the roles of the state (national, regional, and local government levels), civil society (users associations, citizen movements, etc.), market forces (privatized water utilities), and their interrelations (e.g. public-private partnerships, other forms of private sector involvement in WSS, etc.)

#### MERIT - Management of the Environment and Resources using Integrated Techniques

<http://merit-eu.net/>

The aim of MERIT is to develop a water resource management methodology to help engage the stakeholder in the decision making process. Bayesian networks are being used as tool to help the decision maker by using input from stakeholders to design and construct the networks. A range of participatory techniques are being developed to facilitate the engagement process.



#### AQUADAPT - Strategic Tools to Support Adaptive, Integrated Water Resource Management under Changing Utilisation Conditions at Catchment Level: A Coevolutionary Approach

<http://www.aquadapt.net/>

The overall aim of the Aquadapt project is to generate knowledge which supports the strategic planning and management of water resources in semi-arid environments at catchment level under changing supply/demand patterns.

#### TiGrESS - Time-Geographical Approaches to Emergence and Sustainable Societies

<http://www.riks.nl/projects/TiGrESS>

The aim of the TiGrESS project is to improve the methodology for understanding human-environmental interactions on the basis of three regional case studies.



**MANTRA East - The Integrated Strategies for the Management of Transboundary Waters on the Eastern European Fringe - the pilot study of Lake Peipsi and its drainage basin**

<http://www.mantraeast.org>

The aim of the MANTRA East Project is to analyze and develop strategic planning methodologies and scientific tools for integrated water management in transboundary water basins following the requirements of the EU Water Framework Directive. The project's special geographical focus is on transboundary water basins located on the existing and future borders of the European Union.



**NeWater- New Approaches to Adaptive Water Management under Uncertainty**

[www.newater.info](http://www.newater.info)

NeWater identifies key elements of current water management regimes and investigates their interdependence. Research is focused on transformation processes of these elements in the transition to adaptive integrated water resources management.



**River Dialogue - Empowerment and Awareness Building in River Basin Management Through**

**Focus Groups and Citizens Juries**

<http://www.riverdialogue.org>

River Dialogue is aimed at identifying the best approaches to increase public participation in implementation of the EU Water Framework Directive, including preparation and implementation of river basin management plans. The project will practically test two specific participatory methods of citizens' involvement – focus groups and citizens' juries.

**WASAMED – Water Saving in Mediterranean Agriculture**

<http://wasamed.iamb.it/>

WASAMED is to establish a platform for effective Mediterranean communication and debate on water saving in agriculture, contributing to improved management of limited water resources and sustainable development in the Mediterranean Region.



[www.aquastress.net](http://www.aquastress.net)

AquaStress is delivering interdisciplinary methodologies enabling actors at different levels of involvement and at different stages of the planning process to mitigate water stress problems. Aquastress adopts a Case Study - stakeholder driven approach and is organised in three phases; (i) characterisation of selected reference sites and relative water stress problems, (ii) collaborative identification of preferred solution options, (iii) testing of solutions according to stakeholder interests and expectations.

**Editors**

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