



Newsletter on the Human Dimension in Water Management



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1 Socio-economics in water management

In each of the wide range of water management domains, such as water supply or flood control, social and economic issues play an important role in practice.

Up to now there are only a few scientific investigations, in which hydrology has been combined with institutional settings and socio-economic assessments. The key features of an interdisciplinary approach can be highlighted by referring to the research project 'Co-operative Agreements in Agriculture as an Instrument to Improve the Economic Efficiency and Environmental Effectiveness of the European Union Water Policy', which deals with policy instruments to solve the agriculture-related water problems.

The interactions between farmers, water suppliers and authorities are based either on compulsory rules or on voluntary agreements. Moreover, the interrelationships between the various stakeholders can be characterized by co-operation or by competition. Although there is a need for a legal framework, voluntary arrangements can increase considerably the cost-effectiveness of measures to reduce nitrate and pesticide pollution. One of the reasons for that is that the expertise both of farmers and water

suppliers is used on the basis of mutual trust.

In order to implement water management in a most cost-effective way, hydrologic and socio-economic assessments must be combined. It is important to consider the costs and benefits of each of the different stakeholders. Such an approach allows to focusing on the *total net benefits* of measures to change farming practices. Despite the fact that uncertainties exist in assessing non-monetary outcomes of those measures, case studies have shown, that the willingness to pay for a high-quality drinking water exceeds often the costs of co-operative agreements.

Integrated water management models become increasingly an important tool in water policy. The advantage of those models is

that they provide a comprehensive framework to consider different domains and stakeholders. Thus they can contribute essentially to develop guidelines for enhancing the environmental and socio-economic efficiency of measures to reduce the water pollution caused by agriculture.

This article was written by Dr. Ingo Heinz, University of Dortmund, Germany

References:

Floor M. Brouwer; Ingo Heinz , Thomas Zabel : Governance of Water-Related Conflicts in Agriculture New Directions in Agri-Environmental and Water Policies in the EU. <http://www.wkap.nl/prod/b/1-4020-1553-4>

<http://www.HarmoniQuA.org>

<http://www.harmonit.org>

2 News from Intermediaries

Case studies exploring the role of new intermediaries in the water sector.

The F5 Intermediaries project (www.irs-net.de/intermediaries) has recently completed a review of the status of water sector restructuring in the Accession states. The work involved producing working papers on the individual accession states (available on the project website) and a comparative review that explores first, the trajectories of restructuring in relation to processes of liberalisation, commercialisation and private sector involvement, second, common challenges to restructuring and finally, key questions for the future direction of restructuring. The common challenges facing the current restructuring of the water sector are: the implications of multinational involvement in local water supplies; the implications of involvement by lending bodies; the difficulties of increasing water tariffs to cover costs; the capacity of municipal level organisation; the variations between geographical areas of municipal capacity; the difficulties of developing and ensuring effective regulation in an increasingly

fragmented context; and finally the role that donations might play. Three particular challenges important to the future processes of restructuring are: how an increasingly fragmented water sector can be coordinated to ensure alignment with relevant European policy objectives; how appropriate capacity and expertise within Accession States will be developed to ensure that local priorities and concerns are protected; how increased public debate will be achieved about whether private sector involvement will lead to more investment in aging infrastructure networks and what alternative methods for increasing investment there might be.

The Intermediaries project is now exploring the role of new intermediaries in the water sector through case studies in Germany, England, Denmark, Greece, Bulgaria and Hungary with a view to examining their role in enabling the development, uptake and continuation of sustainable technologies and social practices in the water sector.

For further information about the review please visit the project website or contact Dr. Will Medd w.medd@salford.ac.uk or,

for information about the Intermediaries project Dr. Tim Moss t.moss@irs-net.de

3 News from MULINO

Prototypes of DSS software have been applied

The MULINO project is in its concluding stages, the project activities close at the end December 2003. The primary results form the MULINO methodology, which includes the application of the mDSS software tool. Three prototypes, mDSS1, mDSS2 and mDSS3 are the formal deliverables that document the evolution of this software. The final result is a tool that has been developed as a stand-alone software, and an overall methodology within which the tool can be applied for an integrated approach to decision problems related to water management. The software incorporates integrated analysis modelling (IAM), multi-criteria analysis (MCA) and the European Environment Agency's DPSIR framework (Driving force-Pressure-State-Impact-Response), adopting state-of-the-art data formats to guarantee interoperability. The

system does not require additional software, which should improve the potential for its utilisation by water management administrations. Optional links with GIS software, hydrological models and/or meta-models are provided, and in the last version of the software a full coupling procedure links mDSS3 with the CRASH hydrologic model. The software can be coupled also with any hydrological model, which respects a standard input/output procedure.

The MULINO web site and CDROM containing the software and all of its support materials will be available for free distribution in 2004. To contact the project participants and to download the prototypes, please visit: <http://linux.feem.it/web/loc/mulino/index.html>

4 News from HarmoniCOP

Nine Case Studies have started to test results on social learning and IC-tools

The increasing importance of stakeholder and public participation in river basin management puts increasing demands on the type and the role of IC-tools. On one hand information must be accessible for different non-expert groups. On the other hand IC-tools are not only a means for transferring information but are instrumental in shaping processes of social learning and communication in a network of stakeholders in a river basin.

In its first year, the HarmoniCOP project adopted a broad definition of IC-tools and developed a typology to characterise a wide range of tools. A base was established for investigating and evaluating the role of IC-tools in different phases of social learning during the development of a river basin management plan as well as to improve the understanding of social learning processes in RBM itself.

National reports from nine countries illustrate existing experiences in river basin management with respect to public participation, arising from differing administrative structures, cultural backgrounds and natural conditions of the different regions.

Now, nine case studies will be investigated how far an improved application of existing participatory tools and the development of a new generation of improved IC-tools (see figure 1) can support the process of implementing the WFD.

First results of the case studies are expected by September 2004.

You can find the reports for download at www.harmonicop.info. For further information, please contact Claudia Pahl-Wostl (pahl@usf.uni-osnabrueck.de) or Dr. Dagmar Ridder (dridder@usf.uni-osnabrueck.de).

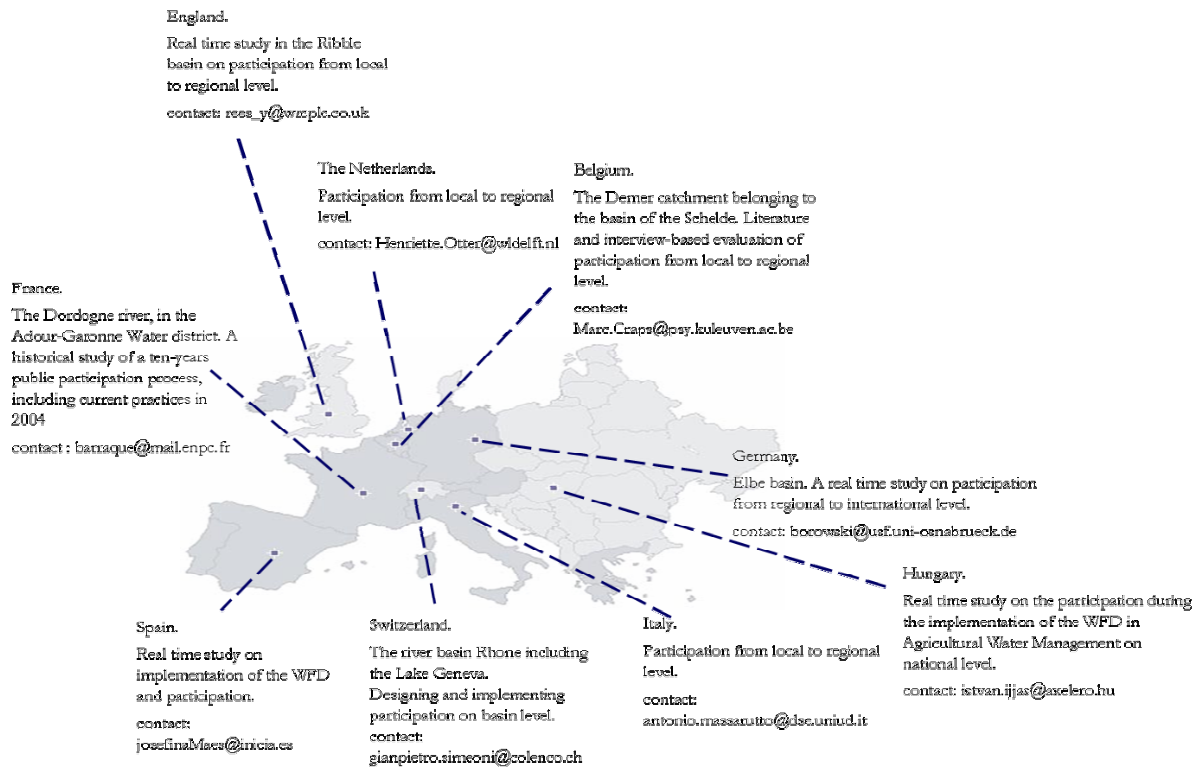


Figure 1: *HarmoniCOP Case Studies*

5 News from **Harmoni-CA/WP5** *Bridging the gap between scientists and water managers*

Faced with a perceived gap between the scientific efforts invested in model development and the degree to which models are actually used in water management, WP 5 of the European Concerted Action, **Harmoni-CA** (www.harmoni-ca.info) has initiated a series of workshops to bridge the science-policy-interface in the field of water management by improving communication between scientists, involved in integrated assessment and modelling, and water managers.

The first workshop took place in October, 2003, on “Setting requirements for models to aid policy makers involved in participatory river basin management”. During this workshop, fifteen European water managers, from Ireland in the west to Hungary in the east and from Portugal in the south to Estonia in the north, worked together to develop a preliminary “wish” list of what they expect from models to support their work in participatory river basin

management. This list will be further prioritized and evaluated by water managers during the coming year. In another workshop in February 2004, scientists from the European research community will discuss the state of the art in models for participatory river basin management. The results of the two workshops will be synthesized at the end of 2004 during a combined meeting of water managers and scientists. From this workshop will come joint recommendations from both communities as to how models should be developed and used to support participatory river basin management.

For more information, please feel free to contact Prof. Claudia Pahl-Wostl or Ilke Borowski harmoni-ca.wp5@usf.uni-osnabrueck.de, Institute of Environmental Systems Research, University of Osnabrueck, D-49076 Osnabrueck Germany, phone: +49/(0)541-969-3328, fax: +49/(0)541-969-2770

6 News from GOUVERNe

Project results have been presented in China

In the framework of the EC programme ASIA IT&C, one of the partners of GOUVERNe, the company FUTUREtec GmbH (<http://www.futuretec-gmbh.de>), was selected among innovative IT SME companies to attend a 2 weeks mission to China.

One of the objectives of the ASIA IT&C programme was to support European IT SMEs to find access to the Chinese market and precisely to build up cooperation partnerships between European and Chinese research institutes and companies. During this mission we took the opportunity to present the results of GOUVERNe and carefully analyse the reaction of Chinese industries and institutes to the DST (Deliberation Support Tools) and TIDDD (Tools to Inform, Debates, Dialogues &

Deliberations).

As main results of the mission, we could count the establishment of very high level contacts with regional and local governments, as well as to regional industries, which invite European environmental technology and solutions, to contribute to satisfy their big needs for innovative IT solutions with the goal to improve environmental quality and also environmental performance in economic sectors.

For more information, please contact Caterina Rehm crehm@futuretec-gmbh.de
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7 Announcements

Workshop for Models for participatory River Basin Management
16/17th February, 2004, Brussels, Belgium
1st Methods-Workshop of Harmoni-CA/WP5

At this workshop, originally planned for December 2003, scientists will discuss the state of the art of models for use in

participatory river basin management as well as the inclusion of the human dimension into catchment modelling. A specific focus will be put on improving the use of models in participatory processes within river basin management. The project is part of WP5 of Harmoni-CA (see Project News). For further information, please contact Ilke Borowski
borowski@usf.uni-osnabrueck.de

Harmoni-CA Forum and Conference
18 & 19 February 2004, Brussels

Harmoni-CA is organising a first conference in order to facilitate the dialogue and help bridging the gap between researchers, technology providers, policy-makers and operational managers, helping the demand and support to be matched. The demand, for instance, will be based on the

experiences in the WFD pilots and in the actual implementation. Support will come from EC supported research projects, national initiatives and other sources. The focus of the conference is on the Water Frame Directive (WFD) implementation phases 2004-2006 and 2006-2009. For further information, please contact Beata Sikorska,
harmoni-ca.wp1@riza.rws.minvenw.nl

ARID Workshop, February 2nd-4th 2004, La Palma

The first workshop of the ARID Cluster will take place in La Palma, February 2nd-4th 2004. The purpose of the cluster is to strengthen complementarity and exploitation of results of related RTD projects dealing with water resources uses and management in arid and semi-arid regions. The focus of

the La Palma workshop will be on social aspects, structural instruments, and economic issues. For more information, please contact Katia Karousakis k.karousakis@ucl.ac.uk
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CSERGE/Dept of Economics
University College London
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London WC1E 6BT, UK

Workshop for Participative Planning for Water Recycling Projects, September 19th-24th 2004, Marrakech

A special workshop on 'Participative Planning for Water Recycling Projects' will take place at the 4th IWA World Water Congress, September 19th – 24th 2004, Marrakech, Morocco. The session is supported by the EC SQUAREC project (<http://www.aquarec.org/>) and Veolia Water (<http://www.industries.veoliawater.com/>).

Two types of submission (full papers of between 3,000 and 5,000 words) are invited;

(a) *Research papers* should report on concepts, theories or empirical studies which inform the design, deployment or management of participative planning processes to support water recycling.

(b) *Case studies* should offer insights into a specific participative planning activity by

reporting on the experience of participation from more than one perspective. The organisers strongly encourage joint presentations by involved stakeholders (e.g. regulators, water suppliers, projects managers, researchers, consumers, NGOs etc.)

Successful submissions will be considered for publication via the IWA's Water Intelligence Online service.

Full papers should be sent electronically to:

Sue Baggett
School of Water Sciences,
Cranfield University
College Road
Cranfield, Beds.
UK
s.b.baggett@cranfield.ac.uk

The deadline for submissions is 6th February 2004

WORKSHOP Modelling and Control for Participatory Planning and Managing Water Systems; September 29th -1st Oct, 2004 ,Venice, Italy

The workshop will focus on the role played by modelling and control techniques as well as software engineering in designing Multi-Objective Decision Support Systems (MODSS) for planning and managing water resource systems with an integrated and participatory approach.

The unifying idea of the previous list of topics is clarified in the paper

To be informed about International and National Organising Committees, cosponsors, deadlines, abstract submission, fees, instructions to authors, suggestions for accommodation, etc. please visit the workshop web site

http://www.elet.polimi.it/IFAC_TC_Environment/Venice2004

**6th International Symposium on
SYSTEMS ANALYSIS and
INTEGRATED ASSESSMENT in
WATER MANAGEMENT
WATERMATEX 2004, , November 3-5,
2004, Beijing, China**

The goal of the Specialist Group on Systems Analysis and Integrated Assessment is to foster discussion in the inter-disciplinary issues cutting across the many topics of interest with the IWA, including considerations of the human dimension in managing the water environment.

The International Programme Committee for WATERMATEX 2004 wishes to encourage, in particular, the submission of benchmark review papers for all the above themes.

Please consult the webpage for further information:

<http://www.ensic.inpl-nancy.fr/iwa-saia/Watermatex/watermatex2004.htm>

**Become a member of TIAS – The
Integrated Assessment Society!!**

Recently TIAS, the international integrated assessment society was formally established. The Integrated Assessment Society is a not for profit entity created to promote the community of inter-disciplinary and disciplinary scientists, analysts and practitioners who develop and use integrated assessment. The goals of the society are to nurture this community, to promote the

development of IA and to encourage its wise application.

TIAS intends in particular to promote the importance of the human dimension and an interdisciplinary approach in the social sciences to deal with complex socio-environmental problems.

For further information please consult the webpage (www.tias-web.info) or contact Prof. Claudia Pahl-Wostl (pahl@usf.uni-osnabrueck.de).

8 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.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

EUROMARKET

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

The EUROMARKET project studies the likelihood, nature, and forms water liberalisation may take in Europe in the foreseeable future. This is done by

Management and Sustainable Use of Water at 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

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.

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.euwareness.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

Internet: www.euwareness.nl

ADVISOR

<http://ecoman.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

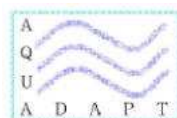
<http://www.geog.ox.ac.uk/~prinwass/>

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.



**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.

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