



Newsletter on the Human Dimension in Water Management



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1 Building the Policy-Science Interface

After the first workshops, two reports were published by Harmoni-CA/WP5.

Harmoni-CA (www.harmoni-ca.info) is a Concerted Action funded within the 5th Framework Program of the EU. It provides a forum to harmonise river basin management tools and knowledge for the implementation of the water framework directive. Faced with the gap between efforts invested in models development and models actually used in water management, work package 5 of the European Concerted Action Harmoni-CA (www.harmoni-ca.info) initiated a series of workshops to improve

the understanding of the requirements of policy makers and to improve the quality and application of modelling tools used by policy makers.

The first workshop took place in October on “Setting requirements for models to aid policy makers involved in participatory river basin management”. 15 regional water managers from Finland to Hungary and from Portuguese to Estonia have discussed the role of models, the human dimension and stakeholder and public participation in

river basin management as well as the limitations of and prospects for participatory river basin management. The results of this workshop are presented in Section 2.

At the 2nd workshop, senior modelers have discussed 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. The results of this 2nd workshop can be found in Section 3.

To bring both communities together and to really find out about how models can support participatory river basin

management, the participants of the first two workshops are invited to a synthesis workshop in October 2004. You find the announcement also in this newsletter or at www.harmoni-ca.info.

For further information, please contact Prof Claudia Pahl-Wostl or Ilke Borowski at harmoni-ca.wp5@usf.uni-osnabrueck.de. You will find the complete reports under www.harmoni-ca.info under WP5. The workshops were designed and facilitated with support from Dr. Matt Hare, Seecon Deutschland GmbH (www.seecon.org).

2 Setting requirements for models used in participatory river basin management- results from the 1st Policy-Workshop

In October 2003, 15 policy makers from 9 EU and accession states came together in an intensive 2 day workshop to discuss and learn about the use of models to support the participatory elements of the WFD.

The following thematic discussions can be summarised thus:

In what ways is guidance for participation in river basin planning under the WFD different in comparison to current practices?

Many countries do not have the levels of participation that the WFD and guidance documents require. Plenty of resources will have to be taken up in planning such processes that connect the right stakeholders and the right scales. There will need to be a way of measuring the benefits of participation if proportional methods are to be selected. It has to be remembered that at the end of the day the responsibility for decisions lies with the policy makers.

How are models currently used in river basin planning and to what level of success?

Models are mostly used for management and enforcement, selecting problem areas for special attention and testing the outcomes of measures. The models used are mainly hydrological ones. Socio-economic models are rare but needed. However, there was

scepticism that models including social elements could ever be supported by enough reliable data to allow people to have confidence in them.

Issues of confidence are important since policy makers have a lack of confidence in models and are therefore reluctant to use them. More work needs to go into convincing people of the merits of particular models and increasing trust and confidence in them by doing more field work to get better data. Communication about models' limitations is important but so is having good supporting data.

How are models currently used to support participation in current planning practices and to what level of success?

Not a great deal as yet. Stakeholder acceptance of model-based management practices will be a difficult and a very important aspect of this work since new models are difficult to sell and to explain to people. They need to be transparent in how they work and be trusted. One also needs to agree on *one model*, because otherwise there is too large a variety of models and results. Additionally, it will be important to improve

access to models and visualisation and clarity of results.

Their use as tools to aid understanding between different stakeholders is important.

Requirements for models

After two days of discussion and tools design exercises, 119 requirements were elicited that were categorised according to 13 different thematic areas: tool types; goals; constraints; trust; integration; results presentation; communication; usability; data requirements; maintaining involvement; and meta-level, domain level and instance level descriptions of models needed.

Although, nine more requirements were added during the requirements prioritisation exercise after the workshop, the number of

requirements is not the important fact to be taken out of this report. What is important is that each requirement provides a suggestion as to how modellers can match and develop their models and tools to suit the needs of the policy making community. As such they should provide useful information for the scientific side as well as the funding bodies to understand where models and model-based tools need to be developed to support policy makers in carrying out the participatory elements of the water framework directive. Certainly, policy makers' confidence in models needs to be raised before either they use them a lot themselves or they use them with stakeholders.

3 Developing models for participatory river basin management – results of the Modellers' workshop

In February 2004, an intensive 2 day workshop was held with senior members of the environmental modelling community from across Europe. The role of models to support the participatory elements of the WFD were discussed and the participants' recommended research directions for future work in this area were elicited.

The participants' views on the major themes discussed during the workshop can be summarised thus:

How far does the state of the art in the integration of human dimensions meet the requirements of the participatory elements of the WFD ?

Not enough. Four dimensions of human-environmental interaction were discussed and examples of their appearance in models presented. In general, only the first dimension (human activities as driving forces for environmental change) is properly represented in current models. More needs to be done to cover the other dimensions (human activities as being affected by environmental change and being dependent on services provided by natural resources, human perceptions and valuations of the world around them, human decision making). However greater integration will

bring higher levels of uncertainty to the models.

What implications does the participatory element of the WFD have on the role of models for use in WFD?

Their roles will broaden from information provision and prediction to representing stakeholders' knowledge, awareness raising, gaming and exploration of management issues, drawing people into participation in management; communicating hard facts about issues; communicating uncertainty of outcomes, supporting negotiation or even to breakdown existing power structures in decision making.

Integration of social, technological and environmental systems and different time scales into modelling tools might best be achieved through the use of multiple models, rather than a single model. The use of multiple models for decision making will thus become the norm and stakeholders will

have to be trained in how to make decisions supported by different models with possibly different results.

There was a difference of opinion within the workshop participants as to whether new models have to be developed specifically for participation (the “don’t use models designed for one purpose for the another” approach) or that no more models were needed since it is a question of improving their interfaces and setting them in a suitable participatory process.

What is the state of the art in terms of river basin models in terms of purpose, what they integrate, and how they are applied in management?

This was not able to be categorically answered by the participants since knowledge of the range of models was limited. However of the models they discussed, most concentrated on hydrological issues in which much data was needed and the users had to be experts. A lack of socio-economic models and the representation of human dimensions such as decision making was evident. Their application in management was also limited, with most tools discussed having scientific uses.

Modelling as a central part of planning

One of the most important insights into the modelling community that came out of the workshop, was that the process of modelling was seen by the participants as being central to water resource management planning. Hence to carry out participatory management there was agreement that one needs participatory modelling. It will be important to develop guidance as to how to combine the use of different tools and

methods for different types and stages of stakeholder participation in such processes.

Participatory research processes and research directions

In day two, the participants therefore produced four different processes demonstrating how participatory modelling can support different management elements of the WFD. From these process designs, 28 research directions were identified. In addition to those elicited during day 1, this made over 30 recommended directions suggested by the participants, which have now been categorised according to whether they are lie in the areas of human dimensions research, participatory research, or modelling design research. The research directions included

- improving the ergonomics and presentation capabilities of interfaces;
- research into up-scaling;
- research on tailoring of models for specific stakeholders and the implications of such work;
- research on improving the DPSIR framework;
- research on tools and techniques for stakeholder analysis and participatory process evaluation;
- research on coupling socio-economic systems models with hydrological ones and
- studying more about the impacts of changes in the environment, and its services, on human activities (HD II) which will need an integrated approach

These research directions will be introduced to the policy makers and form the inputs for discussion in the forthcoming synthesis workshop.

4 News from the project “Blocked Transition”

Conflicts between demands on environmental protection and water supply requirements are the initial points for the research in the work package “Environmental spaces: Distribution or Participation?”

The Overcoming of Dichotomies in Spatial Relationships as Elements for Socio-

Ecologic Transformation" funded by the

Federal Ministry of Education and Research (BMBF) Germany. In this work package the category of the “private household” is a central one and forms the basis for research on principles for a regional adapted combination of future-orientated infrastructure planning and regional strategies for participation and consensus finding in the water sector.

The overall objective of “Blocked Transition?” is to identify the blockages in spatial relationships in order to initiate and enhance processes of socio-ecological transformation. In six work packages the research project co-operates with partners in the region where the river Mulde meets the river Elbe. This area is part of the Unesco Biosphere Reservation “Mittlere Elbe” and a site of the World Cultural Heritage in Saxony-Anhalt.

The project is mainly based on the hypothesis, that processes of dichotomisation block the socio-ecological transformation of spaces. They extrude, exclude and devalue actors, patterns of behaviour and institutions, necessary for socio-ecological transformation. In this context the analytical category “gender” is taken to be appropriate to direct the view on the processes of dichotomisation because it explicitly addresses patterns of hierarchy, marginalisation and exclusion and therefore offer fruitful impulses for the analysis and synthesis in this project.

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5 "Institutional and Social Innovations in Irrigation Mediterranean Management" ISIIMM

In the current international policy debate in the Mediterranean region, water intended for irrigation purposes is becoming of increasing importance. Farmers are often encouraged, threatened or pressured in order to save water and allocate this precious resource to other uses, sometimes of non sustainable nature i.e. mass tourism. Irrigation, considered as a social practice of sharing water, is a very old activity strongly embedded in local societies and regional economy. Historically, the institutional arrangements of irrigation have undergone many changes in order to solve different kinds of water crisis.

The aim of ISIIMM project is to analyse and fully understand the current contradictions in irrigation development in the Mediterranean area. Therefore, several collaborating R&D organisations from both shores of the Mediterranean (Egypt, Morocco, Lebanon, Italy, Spain, France and Palestine) together with R&D partners from both sides of the Mediterranean are working together to produce several inter-linked case

studies, testing institutional and social innovation. Each case study will be analysed from multidisciplinary¹ perspective with the aim of promoting adapted solutions for irrigator communities, improving irrigation management and developing innovative integrated water resource management strategies. After the completion of this phase, an exchange of experience and mutual learning will take place between the partners of the Consortium and the external local stakeholders., we will produce several inter-linked case studies, testing institutional and social innovation. Each case study will be analysed from interdisciplinary perspective. After the completion of this phase, an exchange of experience and mutual learning will take place between the formentioned partners.

Several collaborating organisations from the following countries: Egypt, Morocco, Lebanon, Italy, Spain, France and Palestine,

¹ Historical, Territorial, Agricultural, Hydrological, Social, Institutional, etc.

are working together to promote adapted solutions for irrigator communities, in order to improve irrigation management and develop integrated water resources management strategies. We hope to accomplish In order to depict an exhaustive comparative framework, this through the implementation of a coordination mechanism in different contexts (i.e. mountain or delta irrigation, peri-urban or rural, "traditional" or modernised, etc) is envisaged, giving a representative coverage of irrigation practices and schemes in the Mediterranean.

ISIIMM is funded by the European Commission under the Euro-Mediterranean Regional Programme for Local Water Management.

Contact : "Institutional and Social Innovations in Irrigation Mediterranean Management"

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6 Announcements

Social Learning: A new policy option for integrated management and sustainable use of water based on concerted action. Public Seminar from the project SLIM

SLIM (Social Learning for the Integrated Management and Sustainable Use of Water) Project (see: <http://slim.open.ac.uk>) invite you to a Public seminar in Brussels on Wednesday 26th May, 2004.

Our research has explored 'social learning' as an innovative, alternative policy instrument for use by policy makers in situations of complex natural resource dilemmas (e.g. the

EU water framework implementation).

It has been funded by the EU's Framework 5 Programme with Dutch, French, Italian and UK research teams.

For more information, please contact **Social Learning for the Integrated Management and Sustainable Use of Water at Catchment Scale**

**Coordinator: Prof. R.L. Ison
Systems Discipline**

The Open University, UK

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ADVISOR - Integrated Evaluation for Sustainable River Basin Governance

Final Workshop

5 July 2004, Seville, Spain

The ADVISOR Project (EVK1-CT-2000-00074) aims at the development of a theoretical framework, accompanied by practical methods for the integrated, participatory evaluation and assessment of projects and plans in the context of the Water Framework Directive.

The main workshop goal is to disseminate the final results from the ADVISOR project

and to promote a wider debate on policy issues concerning integrated water planning and management in Europe. The focus of the ADVISOR presentations will be put on the "Principles and Tools for Integrated Evaluation in River Basin Governance", including the topics: Monetary valuation methods; cost-effectiveness analysis; social multi-criteria analysis; scenario workshops; participatory modeling and quality assurance procedures.

Apart from presentations from the ADVISOR researchers, the workshop will include the participation of invited experts

and a round-table on water issues. This workshop is destined to an open audience of scientific experts, water policy-makers and all other relevant stakeholders.

*For further information please contact the project coordinators:

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Next Harmoni-CA/CatchMod-Meeting:
17/18th November 2004 in Copenhagen

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 AQUAREC 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:

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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

Announcement: How can models support participatory river basin management according to the WFD? Workshop 4-6th October, 2004, in Osnabrueck

How can models developed by the scientific community best be matched to the needs of the policy making community to the support them in carrying out the participatory elements of the WFD and participatory river basin management? It was to answer this question that two workshops in 2003/2004 were set up: one for the policy makers to elicit their model requirements

and the second for the modelling community to discuss their plans for the future development of such models. This workshop, the third in the series, will bring these two communities together to discuss differences and commonalities in their views on the role of models and to work towards a common vision for model development and use in participatory water management as prescribed by the WFD.

If you are interested in participating, please contact Ilke Borowski borowski@usf.uni-osnabrueck.de

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>

Expert Meeting on Economics in Water Management Models

On 15-16 November 2004 as part of Harmoni-CA/WP5 an international expert meeting on economics in modelling of water management systems will take place in Copenhagen – in connection with the 2nd

Harmoni-CA/Catchmod Technical Workshop (16-18 November). The purpose of the meeting is to find out the state-of-the-art and to determine the challenges for further research activities. Contact person: Ingo Heinz, University of Dortmund, iheinz@infu.uni-dortmund.de.

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)

7 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>

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.

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.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:

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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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