Regional and national research programmes network on iwrm-net Integrated Water Resource Management

ERAC-CT-2005-0260025

IWRM-NET

Towards a European-wide exchange Network for integrating research efforts on Integrated Water Resources Management

Thematic priority: Integrated water resource management

DELIVERABLE N°27C

Proceedings of Stockholm Workshop

Due date of deliverable: M36+
Actual submission date: M35- November 2008

Start of the project: 1 January 2006 ***Duration***: 5 years
Organisation name of lead contractor for this deliverable: WP2- Sniffer

Final version

Project co-funded by the European Commission with the Sixth Framework Programme (2002-2006)		
Dissemination level		
PU	Public	**X**
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services).	
CO	Confidential, only for members of the consortium (including the Commission Services).	

Regional Workshop for collaborating on IWRM Research: Northern Europe and Baltic region

THE IWRM ERA-NET PROJECT

The strategic objective addressed by the project is developing long-term coordination among national / regional Integrated Water Resources Management (IWRM) related research programmes in Europe.

The members of IWRM-net are a network of national/regional programme managers, wishing to enhance good practices, both by transfer of knowledge, and by developing new tools and expertise in IWRM and research management. The workshop was one of a series of four to identify short-term research needs for water management.

AIMS

The aim of the Stockholm workshop is to invite research managers and senior scientists and water managers to discuss the future research needs for the region and to investigate new partnerships for collaborative funding.

IWRM.net investigated a number of issues in Stockholm to find areas where collaborative funding of research programmes could provide mutual benefit.

Including the following topics:

- Lakes and wetland management
- Forestry and Water Management
- Integrating river basin and coastal management

Stephen Midgley presented the latest information within the Knowledge Management Tool and the process for identifying research needs for IWRM-net. There followed presentations on the chosen subjects for the workshop.

WATER MANAGEMENT & TRANSNATIONAL FOREST MANAGEMENT STRATEGIES IN RESPONSE TO REGIONAL CLIMATE CHANGE IMPACTS (FORESTCLIM).	*Richard Johnson, Mountain Environments*
LAKES AND WETLAND MANAGEMENT	*Johan Schutten – Scottish Environment Protection Agency*
DRAINAGE BASIN ISSUES IN THE BONUS+ CALL AND BONUS-169 STRATEGIC RESEARCH AGENDA	*Bonus Portal, Programme Manager, Mr Andris Andrusaitis*
HYDROPOWER AND WATER MANAGEMENT	*David Crookall, Scottish and Southern Energy.(tbc)*

The presentations can be downloaded from the IWRM-net website.

GROUP A		GROUP B	
Allen-Williams	Peter	Johansson	Catarina
Scharin	Henrik	Kriauciuniene	Jurate
Joborn	Anna	Johnson	Richard
Gooch	Geoffrey	Nisbet	Tom
Svensson	Jonas	Midgley	Stephen
Broberg	Ola	David	Crookall
Reisner	Mr. René	Andrusaitis	Andris
Schutten	Johan		

Discussions for group 1.

Table created using the headline themes from the Research agenda for IWRM-net

1. Ecological Processes • Science of Wetlands • Develop easy WQ assessments with indicators *HS1, JH1+2, OB4, RR1.*	9. Water Resources and Demand Management *OB2, HS3.*	5. Social and Political • Use of wetlands *(JH3)* *AJ1+3, GG2, RR4, HS3.*	11. Policy Assessment *GG2, HS3.*
2. Physical Processes *HS1, OB2, JS1, JS2, OS3, OB3.*	6. Groundwater Management	6. Economy *JS1+3, HS1+2, OB4.*	12. Prospective Models and Scenarios
3. Impact Assessment • Peat Mining • Climate Change *RR2, OB4,*	7. Monitoring and Surveillance • Data on priority substances	13. Communication and Participation *GG3, AJ1, HS1, HS2.*	
4. Measure Assessment *OB3, HS4.*	8. Data Management		

Impact Assessments

- Sustainability of maximizing production from woody residues (stumps etc) in forests. Where is it sustainable to remove these from forests after harvesting, what is the impact on the environment.

Pollution (and health)

- Biogeochemical processes and nutrient retention in wetlands
- Measuring and understanding the internal nutrient loading of lakes and reservoirs.
- Assess nutrient retention and (natural) baseline leaching from forests and impact of climate change.
- Measuring and demonstrating the role of targeted woodland creation in managing diffuse pollution within agricultural dominated catchments. Planting woodland on sensitive soils and along pollutant pathways as a means of reducing transfer of pollutants into water bodies.
- What is the impact of energy forests and other biomass crops on water resources? What are the implications for managing future water resources under a changed climate?

Water supply and demand

- Demonstration of how to integrate all water resource demands in the basin in relation to the available supply. Related – what is the scope for varying the baseline water resource by managing its vegetation?
- Climate change
  - ? Changes of HMWB state in the context of climate change and the impact on GES. Hydro-morphological changes in relation to climate change????
- Improve our understanding of the relationship between the protection of water resources and land use planning. Can we quantify the impacts of land use and the value? Develop the understanding on a basin scale.

Hydro-morphology and ecology

- Develop methodology for bio-indication of h-m pressures.
- Apply interdisciplinary approaches to comprehensive integrated assessments to complex projects. (hydropower as an example)
- Contribution of forestry to flood risk management and better integration/improved subsidies to secure land use change for ecosystem services.
- Integrating FRM with WFD. Will it happen?
- Links between h-m and ecology
- How to evaluate biological diversity contra water use (hydropower)
- How to define ecological flows
- What is GES, how to define it. GEP.
- Linking GES with water resources.
- GES for wetlands within 2nd gen RBMP.

Social and political issues

- What is the balance between social use (ie. Recreation) and environmental status. How do decisions on water flow based on social use impact on the environmental status. (e.g. changing water flows at a hydropower dam – timing of flows may not be optimal for environment)
- Trans-boundary management
- Improving relation between EU states and non-EU states – need for harmonizing approaches and achieving consensus on RBP.
- Good Ecological Status
  - What is the theory between GES and GEP? Comparison of definitions, policy level discussion

POLICY

- Balance and synergies of water and environment policy and other policy objectives. Different member states policy objectives are not harmonised and finding methods of balancing decisions based on the different policy objectives within member states.
- Look into integrated WRM as a technique to optimize poverty/health risk reduction from project investment.

- Compare the pillars of sustainability development as frames for decisions, comparing economic frame with environment etc. what are the constraints from each perspective to manage conflict.
- Assess the consequences of the global env. Policy conventions for hydropower (as an example) design and implementation.

Data Management

- How do we deal with Uncertainty concerning statistical information (links to climate change)

Communication and participation

- Develop methods for stakeholder participation in large scale basins integrating natural and social sciences.

ECONOMICS

- Developing a method to value ecosystem services - need to develop an agreed methodology
- How do we evaluate the environment? e.g. the fish, the algae (the components of the system)

Combined Discussion group research questions

Research questions	Voting
Impact Assessments	
• Sustainability of maximizing production from woody residues (stumps etc) in forests. Where is it sustainable to remove these from forests after harvesting, what is the impact on the environment.	TN
• Impact assessment of key activities – eg peat mining	
• General effects of intensive forest management on water ecosystems – eg ditching, fertilization, introducing new species	JS
• What is the impact of energy forests and other crops on water resources? What will be the implications on water resources in the future?	
Pollution (and health)	JH, RR
• Biogeochemical process and nutrient retention in Wetlands	
• Measuring and understanding the internal nutrient loading lakes and reservoirs.	
• Assess the nutrient retention and (natural) baseline leaching from forests (relating to climate change?)	
• The need for evidence based demonstrations on the role of woodland creation in managing different pollution sensitivity of soils and pollutant pathways in soils. Using forest as a means of reducing transfer of pollutants into water bodies.	OB, RJ, TN
• Assessment of P (phosphorous) leakage – sources and transport –> risk-map –> cost-effective measures	
• Mercury – measures to deal with high levels	
Water supply and demand	
• Demonstration of how to integrate all water resource demands in the basin. In relation to the available supply. Related – what is the scope for varying the baseline water resource by managing its vegetation?	BH, JK, RJ, AH, KS, TN, AJ,

• Climate change	
o ? Changes of HMWB state in the context of climate change and the impact on GES. Hydro-morphological changes in relation to climate change????	OB, JK
• Improve our understanding of the relationship between the protection of water resources by land use planning. Can we quantify the impacts of land use and the value? Develop the understanding on a basin scale.	RJ,TN
Hydro-morphology and ecology	
• **Develop methodology for bio-indication of h-m pressures.**	DC
• Apply interdisciplinary approaches to comprehensive integrated assessments to complex projects. (hydropower as an example)	
• Contribution of forestry to flood risk management, better integration information on forestry to make decisions to consider use of forestry to tackle environmental issues.	RJ, OB, TN
• Integrating FRM with WFD. Will it happen?	
• Links between h-m and ecology	JK, DC, JS, BH, CJ.
• How to evaluate biological diversity contra water use (hydropower)	
• How to define ecological flows	RR
• What is GES, how to define it. GEP. o Linking GES with water resources. o GES for wetlands within 2nd gen RBMP. o Developing tools for assessments of ecological status	RR, DC
• Water quality assessment and operational methods – lack of relevant information	RR
• Tools for managing local hydrology (based on work in Africa etc)	
• Cold water species monitoring and understanding effects of climate change	
Science of Wetlands	
• Wetlands – where they are	JS
• What are the environmental conditions supporting wetlands? (water quality and quantity)	OB, JS
Social and political issues	
• What is the balance between social use (i.e. Recreation) and environmental status? How do decisions on water flow based on social use impact on the environmental status. (e.g. changing water flows at a hydropower dam – timing of flows may not be optimal for environment)	DC, AH
• Effects of Hydro-power/regulation on water ecology –> optimising industry/ecological requirements –> including pricing	TF?, JS
• Trans-boundary management issues o Improving relation between EU states and non-EU states – need for harmonizing approaches and achieving consensus on RBP.	CJ, JK
• Good Ecological Status	JK, CJ.
o What is the theory between GES and GEP? Comparison of definitions, policy level discussion	
• Institutional setup – multi-layer governance, power relations, conflict resolution/reduction mechanisms and dialogue methods	AH
• How to get the Integration into IWRM	GG,
• How to create institutional contexts that facilitate integration of water resource management	GG, AH, AA

POLICY	
• Balance and synergies of water and environment policy and other policy objectives. Different member states policy objectives are not harmonised and finding methods of balancing decisions based on the different policy objectives within member states.	DC
• Look into integrated WRM as a technique to optimize poverty/health risk reduction from project investment.	AH
• Compare the pillars of sustainability development as frames for decisions, comparing economic frame with environment etc. what are the constraints from each perspective to manage conflict.	
• Assess the consequences of the global env. Policy conventions for hydropower (as an example) design and implementation.	AH
• Linking implementation of the WFD with implementation of the Marine Strategy Directive	AA, HS
• How can wetlands be used to reduce the impact of climate change? (C-store, flood abatement, etc)	OB, JS, BH, RR XX?
Data Management (& Uncertainty?)	
• How do we deal with Uncertainty concerning statistical information (links to climate change)	CJ, JK, AA
• How we manage Uncertainty and Complexity	GG
Communication and participation	
• Develop methods for stakeholder participation in large scale basins integrating natural and social sciences.	
• How to develop methods to:	AH, GG, AA
a) define stakeholders	
b) develop communication strategies (as a two way process)	
• Communication tools to explain effects of changes on local streams – eg biological values, endangered species, environmental quality	
ECONOMICS	
• Developing a method to value ecosystem services - need to develop a agreed methodology	CJ, HS
• Identify the ecosystem services provided by water-bodies	HS
• Evaluate ecosystem services provided by water-bodies	HS, GG
• How do we evaluate the environment, e.g the fish, the algae. (the components of the system)	CJ
• Develop policy instruments to protect and manage ecosystem services provided by water bodies	OB, HS, GG, TN, RR, AA

Priority Questions:

Demonstration of how to integrate all water resource demands in the basin in relation to the available supply. Related – what is the scope for varying the baseline water resource by managing its vegetation? (7 votes)

Develop policy instruments to protect and manage ecosystem services provided by water-bodies (6 Votes)

Improve our understanding of the links between hydro-morphology and ecology (5 votes)

How can wetlands be used to reduce the impact of climate change? (C-store, flood abatement, etc) (5 votes)

COMMENTS FROM THE PLENARY SESSION:

AA commented that the BONUS programme would be interested in maintaining links with IWRM-net. The partners agreed to maintain contact and investigate links and possible future development.

Some of the delegates wanted more time to consider the questions, and the process was discussed as not the ideal democratic solution. This was accepted as the case by the project, but the process is a quick and often very valuable method of getting headline ideas. It has been used before to get guidance and often when reviewed later on in any programme it stands up well to scrutiny.

Comments were made about the wide range of issues being considered. The process was perceived as being difficult to understand in terms of developing a focus. The range of subjects was too wide. It was suggested that a literature study and scoping study be performed for IWRM.

IT was proposed that IWRM-Net should aim to follow a two tier process, with the general questions covering high level strands and then below this a specific gap analysis, finding specific solutions to specific questions.

In the briefing session for organisers following the workshop it was suggested that once indication has been provided by the workshops on the headline issues then scoping studies are done on these issues. This would allow a smaller area to be covered and that may be more manageable. The development of the database and the KMT should facilitate this process.

In debating the BONUS inter-linking there were a number of issues that arose.

- BONUS is geographically specific but also could be considered geographically limited. For IWRM BONUS does not consider west Sweden, Norway and peripheral regions for BONUS programme.
- There would seem to be more value in working on the social, political and economic aspects that are trans-boundary and would apply to the whole region and get other areas involved. IWRM should aim to bring shared experiences

Suggested actions that develop from these discussions within the Partners was to progress with the interlinking of the databases to give access to a wide range of information. Perhaps a questionnaire will allow initial responses to be returned and then a more regional process undertaken to gather information on projects and programmes.

Information needs to be gathered on how people record the research needs but also on how they record projects, if they do.

Possible networking and research collaboration on the subject of hydropower. Aims to link Scottish and Southern Energy and Magnus Enell. Bilateral agreements?

Delegate List:

Allen-Williams	Peter	Environment Agency	peter.allen-williams@environment-agency.gov.uk
Scarin	Henrik	SEPA	henrik.scharin@naturvardsverket.se
Joborn	Anna	IVL	anna.joborn@ivl.se
Andrusaitis	Andris	BONUS portal	andris.andrusaitis@bonuseeig.fi
Midgley	Stephen	SNIFFER	stephen@sniffer.org.uk
Broberg	Ola	Regional water authority	ola.broberg@f.lst.se
Reisner	Mr. René	Ministry of the Environment	Rene.reisner@envir.ee
Svensson	Jonas	Regional Water Authority	jonas.svennson@n.lst.se
Johnson	Richard	Mountain Environments	richard.johnson@mountain-environments.co.uk
Nisbet	Tom	Forestry Commission	tom.nisbet@forestry.gsi.gov.uk
Gooch	Geoffrey	Linkopings University	geogo@eki.liu.se
Schutten	Johan	SEPA	johan.schutten@sepa.org.uk
Crookall	David	Scottish and Southern Energy	David.Crookall@scottish-southern.co.uk
Johansson	Catarina	SEPA	catarina.johansson@naturvardsverket.se
Kriauciuniene	Jurate	Lithuanian Energy Institute	hydro@mail.lei.lt