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°28A
Proposals for the 1st joint trans-national call

Due date of deliverable: M36 +
Actual submission date: M19 July 2007

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).	

General Principles for research;

- A comparison across IWRM-Net countries, looking at sites, methods and processes to develop science based guidelines and identify good practice in achieving integrated water resource management outcomes, the long-term aim being to develop a common framework for integrated water resource management with multiple tools that can be applied at the local level
- Involvement of the practitioners of water resource management in the research projects and transfer of knowledge to the relevant groups so that the information quickly becomes knowledge.

3. RESEARCH THEMES

IWRM-Net has developed the following two topic areas for its first joint call;

- Hydrological and morphological pressures and impacts on ecological status

- Water Governance

3.1 Hydrological and morphological pressures and impacts on ecological status

The Water Framework Directive requires water managers to have a sound knowledge of the interaction between physico-chemistry, morphology, hydrology and water-related ecology and to understand the key pressure-response relationships that affect the achievement of good ecological status and high water quality in river basins. In particular there are requirements to describe the quantity and dynamics of flow, level and residence time for hydrological regimes and the resultant connection to groundwaters that reflect totally or nearly totally undisturbed conditions. The boundary between the undisturbed conditions and those required to achieve the specified values for biological quality elements at the good status level rather than the 'high' undisturbed level must have a clear definition also. For morphological conditions the principles are the same, in that the channel patterns, width and depth variations, flow velocities, substrate conditions and structure and condition of the riparian/shore zones correspond totally or nearly totally to undisturbed conditions and the boundary with good status needs to link these conditions with the biological quality elements.

IWRM-Net is aware that there needs to be an improvement in understanding of how changes to the biological quality elements occur following hydrological and morphological pressures on water bodies. Some of these issues will be undertaken in the inter-calibration process and by other FP6/FP7 projects and these will need to be considered in any bids proposed.

Flow regimes and their impact on ecology also need to be understood at the extreme ends of the 'flow envelope', such as droughts and floods. *(Any projects would be expected to consider other work e.g. CRUE ERA-Net which is looking at flood risk management)* This also includes conditions within water bodies that have a non-permanent flow regime.

An important aspect of any part of assessing pressures and impacts on ecological status is the monitoring, which includes surveillance, operational and investigative methods. Analysis of the information from monitoring will have a certain element of uncertainty and there is a need to improve both the monitoring methods and to manage and minimise the uncertainty.

The final aspect for consideration is the long term implications that climate change may have upon the relationships identified. IWRM-Net would like researchers to consider how the work they are undertaking would help in planning or mitigating against potential climate changes.

Research bids are invited to deliver one or more of the following outputs

- Deliver better understanding of the links between morphological change and ecological status to enable river basin managers to assess, plan and mitigate for these changes.[1]
- Improved monitoring and data analysis techniques for assessing hydrological and morphological changes (both upstream and downstream of the pressure) and provide recommendations for standard methods.
- Deliver techniques to understand and manage the impacts of altered hydrology (flow rates and volumes) on biological elements.
- The development of tools/methodologies to assess the "ecological flow regime" of rivers, based on minimum, maximum and other critical seasonal flows – to allow the acceptable level of hydrological changes to be set by river basin managers.
- Deliver tools that support decision-making and policy development in extreme events (both floods and water scarcity) relating to water quality.

Applicants submitting proposals to this call are expected to make themselves familiar with the contents of the EU FP7 projects and previous framework programmes, projects and also the work undertaken by national programmes in this field – (see IWRM website) and other relevant work.

[1] BMW and Harmoni-CA EU projects have done some work on this subject and work should be a continuation of the work completed.

3.2 Water Governance.

Integrated Water Resource Management is a complex process involving a large number of issues that must be considered. The European Union has published the Directive setting out a framework for community action in the field of water policy as a means of implementing integrated water resource management across Europe. It sets out specific criteria such as the production of river basin management plans (article 13) and the recovery of costs for water services (article 9).

The difficulty in Europe as with many areas around the world is that the issues are not uniform across basins and management must be trans-boundary, which means that management must consider issues across local to international boundaries when dealing with effects. This occurs with both administrative boundaries and physical boundaries and consideration must be made for the interaction and interplay between these.

IWRM-Net is looking to promote research that facilitates delivery of an integrated management system, to help develop common approaches, to coordinate actions and harmonise methodologies. This should involve the participation of all stakeholders and ensure communication is effective between and within administrative bodies across the river basins. Fundamental to this aspect of water management is the idea of conflict minimisation and resolution.

Research bids are invited to deliver one or more of the following outputs

- Provide techniques for delivering a fair water price for different users that takes into account social, environmental and economic issues in a balanced manner, for example cost-benefit analysis and cost-effective analysis. Evaluation of environmental aspects and impacts of economic externalities. Associated with this must be the consideration of valuation methods that integrate monetary values with other value systems.
- Investigate the right territory for water management in terms inter-connecting the different administrative scales.
- Provide techniques for efficient setting of objectives in trans-boundary basins and methods to evaluate effectiveness in achieving the objectives using a comparison of approaches from a number of countries participating in IWRM-Net.
- Provide techniques to integrate expert judgement, multi-disciplinary scientific knowledge and stakeholders' involvement into the decision-making process and in particular ways to improve the incorporation of social sciences.
- Provide decision-support tools for integrated water resource management combining multi-disciplinary models.