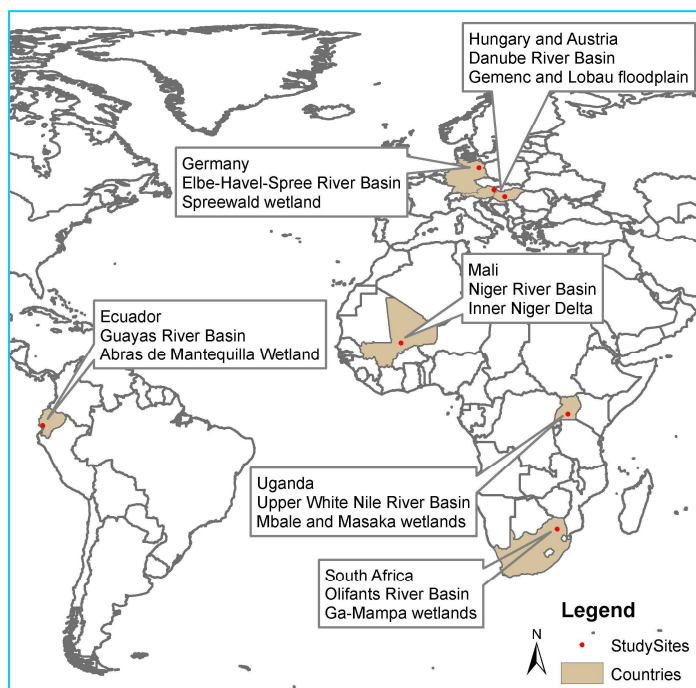


INTRODUCTION

Wetlands are considered essential for biodiversity conservation. Less known are the multiple functions and livelihood services that wetlands provide to local communities in many parts of the world: e.g. the provisioning of food, drinking water, building materials, etc. In addition, wetlands play an important role in water regulation, purification and sanitation. Wetlands in good condition furthermore reduce the risk for transmission of water-related diseases.

Wetlands therefore need to be considered as a powerful natural 'infrastructure' to achieve the UN Millennium Development Goals, especially on achieving adequate sanitation and drinking water (MDG7). Yet, at the current pace, MDG7 will be missed with half a billion people worldwide. A higher incidence of droughts, increased water consumption and waste water production are expected to further increase the distance-to-target.

Wetlands can be considered as the kidneys of a river basin. Their functioning is essential for the well-being of the river basin. Vice versa, wetlands are sensitive to changes in the entire river basin. Sustainable wetland management hence asks for an integration of wetland and river basin management. Win the wetland and you win the river basin (WETwin).



ABOUT THE WETWIN CONSORTIUM

WETwin is a collaborative project funded under the European Commission's Seventh Framework Programme and is implemented by

- VITUKI (Hungary)
- SORESMA (Belgium)
- Potsdam Institute for Climate Impact Research (Germany)
- WasserKluster Lunz (Austria)
- UNESCO-IHE (The Netherlands)
- Wetlands International (Mali)
- NWSC (Uganda)
- IWMI (South Africa)
- ESPOL (Ecuador)
- InterSus (Germany)
- Wetlands Management Department (Uganda)
- Cemagref (France)

TWINNING OF WETLANDS & RIVER BASINS

Seven case study wetlands in three continents are 'twinned' under the WETwin project. This means that knowledge and expertise on wetland and river basin management is exchanged, and joint research activities are carried out.

In practice, the Twinning is implemented: (i) by following a common research agenda, (ii) by means of staff exchange between partners and (iii) through the participation of case study basin operational decision-makers in project workshops. At the wetland and river basin level, stakeholders are actively involved through a series of training and dissemination activities. At a more global level, networking with international wetland and river basin platforms and organizations further contributes to a more widespread exchange of lessons learnt.

“WIN THE WETLAND, AND YOU WIN THE RIVER BASIN!”

WETWIN AIMS to enhance the role of wetlands in basin scale integrated water resource management, with the aim of improving the community service functions while conserving good ecological status. WETwin sets forward the following goals:

- Improve drinking water and sanitation services of wetlands;
- Improve the community services while conserving or improving good ecological health;
- Adapt wetland management to changing environmental conditions;
- Integrate wetlands into river basin management

INTEGRATING WETLANDS IN RIVER BASIN MANAGEMENT

Local-scale measures to protect wetlands and their functions and services are in vain if these efforts stand isolated from land and water management options in the wider river basin (and vice versa).

Bringing wetlands and basin-scale water management closer together is however a difficult technical and political process for which the Ramsar Convention has been a driving force. Since 1996, a number of resolutions and guidance documents have been made under the 'wise use of wetlands' series for an improved integration of wetlands in river basin management.

During the Second WETWin Twinning Workshop held in May 2009 in Guayaquil, Ecuador, the current status of (guidance on) wetland integration in river basin management was analyzed. A series of keynote speakers threw a light on currently existing guidance materials originating from Ramsar, the European Water Framework Directive (WFD), UNESCO, etc. and on the bottlenecks associated with their practical implementation (see also further below).

It was noted that conceptually the Ramsar Critical Path Approach on integrating the wetlands into river basin management shows many similarities with the stepwise and goal-oriented approach used for Integrated Water Resources Management in European river basins under the WFD. Interviews with wetland and river basin managers in the European case studies also learn that wetlands in the current River Basin Management plans could have been targeted better.

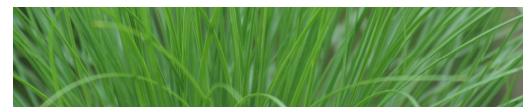
In the research efforts under the WETwin project, particular attention is given to explicitly link wetland and river basin management. Wetlands are thereby considered as an important elements of the "water body" or "mixed land-water body" type, with specific targets based on ecosystem services and trade-off analyses. As such, elements from both the Ramsar and WFD approach will be combined.

Findings from the experimental work conducted under the different WETwin work packages at each one of the case study sites will then be analyzed so that recommendations for a more generalized integration of wetland as distinct target elements in river basin resource management approaches, both in Europe as well as in other parts of the world can be formulated as an outcome of the project.

FOUR THINGS TO REMEMBER

1. "No wetlands, no water." Wetlands need to be recognized as essential elements of water resources management in a basin.
2. "No water, no wetlands." Water resources planning and allocation has to ensure delivery of sufficient water quantity & quality to maintain wetlands in the basin.
3. "Wetlands bridge land and water." Co-operative governance will always be required.
4. "Watersheds are dynamic social-ecological systems." There is no "end-point" or no fixed goal in river basin management, we will need to be doing river basin management forever.

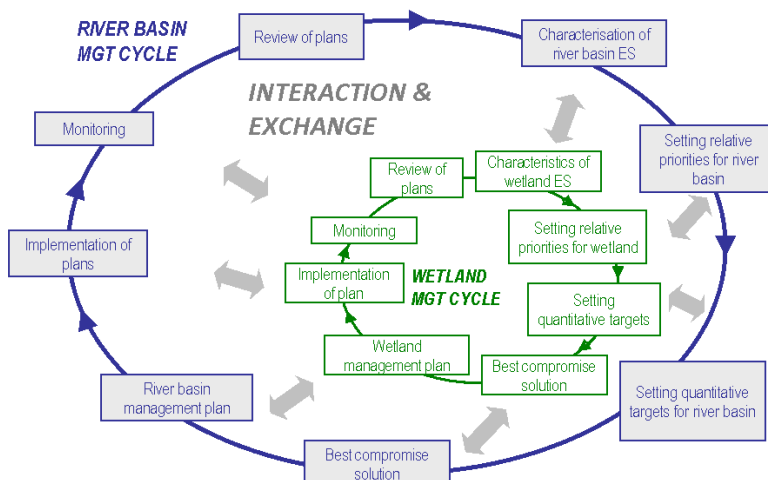
By Heather MacKay, Ramsar Convention Scientific and Technical Review Panel (23 May 2009, Guayaquil-Ecuador, WETwin Twinning Workshop on integrating wetlands in river basin management)



IDENTIFICATION AND EVALUATION OF MANAGEMENT OPTIONS FOR SUSTAINABLE WETLAND MANAGEMENT – USING THE DPSIR APPROACH

DPSIR reveals the cause-effect relationships between drivers, pressures, state and impact within the investigated systems in a qualitative manner. Thanks to its robustness, DPSIR is applicable for a wide range of environmental problems. In addition it is also capable to reveal cause-effect relationships across multiple sectors and spatial scales. For example: the basin scale driving force of agricultural activities puts wetland scale pressure on the water quality of the wetland (state on wetland scale) in the form of nutrient loads.

For the WETwin project the DPSIR framework has been coupled with the Ecosystem Services approach in such a way that 'Impact' has been defined as impact on ecosystem services. Indicators makes possible to link DPSIR to quantitative decision support tools such as models and multi-criteria decision analysis techniques. The mDSS4 software (Fondazione Eni Enrico Mattei, 2006) is an example for such a complex DSS.



(Based on Ramsar Critical Path in Ramsar Convention Secretariat, 2007. River basin management: Integrating wetland conservation and wise use into river basin management. Ramsar handbooks for the wise use of wetlands, 3rd edition, vol. 7. Ramsar Convention Secretariat, Gland, Switzerland.)

UNDERSTANDING HOW GUIDELINES ARE USED BY PRACTITIONERS

“VERY LIMITED UNDERSTANDING OF HOW GUIDELINES ARE ACTUALLY USED BY PRACTITIONERS IN THE DECISION MAKING PROCESS. IMPLEMENTATION OF GUIDELINES OFTEN SEEN AS A BLACK BOX.”

Despite the international protection of the Ramsar Convention (Global) and Natura2000 (European Union), many wetlands lack sustainable management and are being threatened. Various guidelines exist on wetland management and related fields and sectors. Yet, these are often insufficiently implemented. WETwin studies wetland guidelines and their role in wetland and river basin management to be able to give recommendations for better supporting decision makers to address the challenges and the causes of wetland degradation. Guidelines for this purpose are defined as ‘Any mechanism by way of which the discretionary powers of decision makers are framed. E.g. ‘policies’, ‘plans’, ‘acts’, ‘decrees’, ‘laws’, ‘regulations’, ‘directives’ or ‘recommendations’.

Guidelines alone are not sufficient. Also the context of implementation of the guidelines is important. In order to use a guideline efficiently various questions need to be addressed; What is the institutional framework? How is the acceptance of guidelines (national and by local authorities)? What is the applicability of the guidelines in local context? What is the capacity needed (institutional and in terms of human resources) to implement the guidelines? What is the data need? Is the data available or are the resources available to collect the data?

In WETwin the key international guidelines have been reviewed (e.g. Ramsar, IWRM Toolbox, GEF IWRM, Biodiversity convention), as well as country / region specific guidelines in the Southern regions (e.g. Wise use guidelines South Africa, Wetland sector strategic plan Uganda) and European guidelines (e.g. Water Framework Directive, Water Initiative, Habitat Directive). Main conclusions are:

- International and national guidance addressing wetland management specifically is growing, and also to an increasing extent addressing the role of wetlands in river basins.
- At national levels there is a need for better fine-tuning guidance (different sectors, wetland-basin).
- Implementation guidelines at local level is an issue as the awareness about them is limited, and stakeholders have to use national regulations for their operations. Also the context of using guidelines is an issue, as e.g. capacity to implement is often limited.
- Very limited understanding of how guidelines are actually used by practitioners in the decision making process. Implementation of guidelines often seen as a black box.

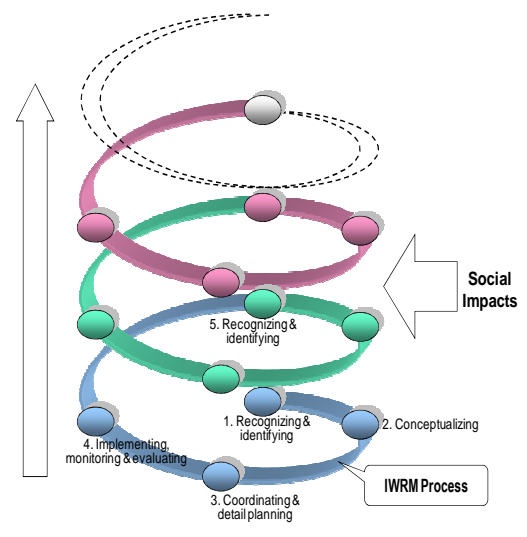
To address the last conclusion, each WETwin wetland site has made a study of the use of guidelines in wetland and river basin management practice. The results are being analyzed at the moment and a cross-wetland comparison made. Results will be reported during WETwin.

THE ‘SPIRAL’ CONCEPT IN IWRM

UNESCO introduced a spiral model of IWRM, which illustrates the evolving and dynamic nature of the IWRM process. It can be seen as an open-ended process that evolves in a spiral manner over time as one moves towards more coordinated water resources management. By responding to changing social, economic and environmental needs or impacts, one can gradually achieve better and sustainable water resources management as if moving up a spiral. The spiral can be entered from any sector at any given level, making it a helpful aid for integrating wetland and river basin management. The advantages of the spiral are:

- It can be started at any point of the process
- It builds capacity over time
- It permits seeking better solutions that adapt to changes
- It facilitates reaching agreements and increasing ownership at each ‘turn of the spiral’
- It is a step by step process, and provides a framework for looking ahead and planning for the next two or three ‘turns of the spiral’

*By Shahbaz Khan
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Ecohydrology and IWRM initiatives
Chief, Sustainable Water Resources
Development and Management
UNESCO, Paris*



WETWIN MEETS IN MALI

About 30 national water professionals and international participants gathered for the 3rd WETwin twinning workshop titled »Vulnerability and local scenarios for future development«, in Bamako, Mali, on 23 November 2009. Keynote speakers presented research results on the potential of wetlands to improve surface water quality in river catchments with intensive human use and on the links between water, food and poverty as studied in 10 river basins in the CGIAR Challenge Program for Water and Food. The effect of climate change and adaptation measures in the Niger basin was discussed by Mr. Dessouassi of the Niger Basin Authority.



DOWNSCALING CLIMATE CHANGE SCENARIO'S

Assessment of global change impacts on wetland's ecosystem functions and services is an important step in understanding human-nature interactions. Global change scenarios play an essential role in vulnerability assessment of the WETwin case studies in the context of uncertain future developments. They include socio-economy, climate change and variability, and determine boundary conditions for scenario downscaling to the regional and local scales. The involvement and participation of local experts is crucial in scenario downscaling. Three scenarios, derived from IPCC-SRES and Millennium Assessment scenarios, are being applied to the WETwin case study sites. Two scenarios assume a globally connected world (globalization) and one scenario considers regionalization.

Food production and food security for the one million people living in the Inner Niger Delta in Mali highly depends on extent and duration of the inundated area. Climate variability and change as well as upstream water and agricultural management threaten the wetland ecosystem and livelihood of the human population in the Delta. Observed climate trends show increasing temperatures (~0.15°C per decade) and decreasing rainfall (~86 mm per decade) for the period 1960 and 2007. Together with two dam projects planned on the upper Niger River, the probability of water scarcity problems in the wetlands is likely to increase in the future. Hence, adequate river basin management, integrating and emphasizing the importance of a functioning wetland ecosystem, is crucial to mitigate the impacts of projected climate and development trends.

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A WETLAND MANAGEMENT GAME

A prototype of the Wetland Management Game was developed under WETwin and played by the project meeting participants in Bamako, Mali (Nov, 09).

One of the main principles of WETwin is to foster stakeholder participation to the project to ensure ownership of project outcomes and impact on actual wetland management.

Games, and more specifically role-playing games, are increasingly used for educational purpose and negotiation-support in environmental management. As part of the project, Cemagref is in charge of developing a Wetland Management Game. The game is intended to be played by stakeholders / decision-makers at basin or national level to serve as an awareness-raising tool or training tool.



MEETING WITH STAKEHOLDERS

Konna is one of 3 sites studied in the Inner Niger Delta. Nineteen experts from WETwin exchanged with seventeen stakeholders representing various communities being interested in the use of services of the IND: fishermen, herders, farmers, women organisations and municipalities. Stakeholders informed the WETwin staff about the actual problems of the IND. Issues like decreasing incomes to herders, fishermen and farmers due to the changed hydrological regime have been identified. Also the problem of water-borne diseases have been discussed in more details. As a result of this meeting the staff of the WETwin project now has a better perception of the actual state of the IND and also of the issues to be dealt with within the project with regard to this wetland and its river basin.

