



Factors for success and failure in Integrated Water Resources Management

Mariele Evers (Ph.D., Professor)

Leonie Lange

University of Wuppertal, Germany

Definition IWRM

- *Integrated water resources management (IWRM) is the process of coordinating conservation, management and development of water, land and related resources across sectors within a given river basin, in order to maximise the economic and social benefits derived from water resources in an equitable manner while preserving and, where necessary, restoring freshwater ecosystems.” (GWP 2000)*

- *IWRM ≠ WRRL*

“... the EU WFD is tailored to EU priorities and could be considered as “IWRM ‘in the North’ – the North of the EU – for countries where water is abundant and water infrastructure in place” (Larsen 2006: 3)

The problem (?) with IWRM

- Vagueness of the concept
- Not clear: Implementation into practise
- What shall be integrated
- Practicability
- ...

Our approach

- **Hypotheses:** „Factors for successful Integrated Water Resources Management can be identified”
- **Objective:** Identification of factors for success (and failure)
 - Development of an assessment sheet (guidance)
 - Identification of supporting factors
 - Catalogues of good practise examples
- **Methodology:**
 - Literature study
 - Developing a category system and an assessment sheet
 - Document analysis of case studies along the assessment criteria
 - Refining the assessment sheet

Basis of the category system

■ Dublin Principles

- Fresh water is a finite and vulnerable resource
- Water management should be based on a participatory approach
- Women play a central part in provision, management and safeguarding
- Water has an economic value in all its competing uses/ economic good

■ 4 Basis principles of IWRM [Neubert/Theesfeld 2000]

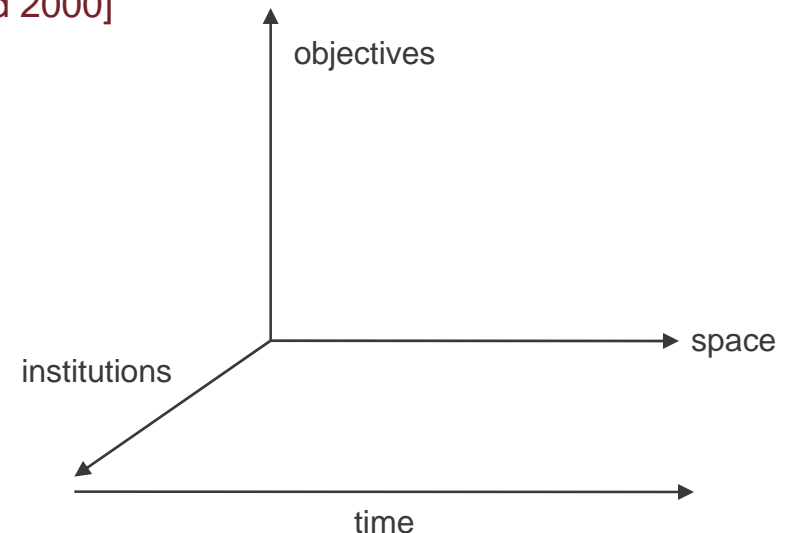
- Orientation along river basins
- Integration of the natural and social system
- Cross-sectoral water management
- Support of participative and cooperative structures

■ 3 Implementation elements [GWP 2004]

- Role of Institutions
- Management instruments
- Enabling Environment

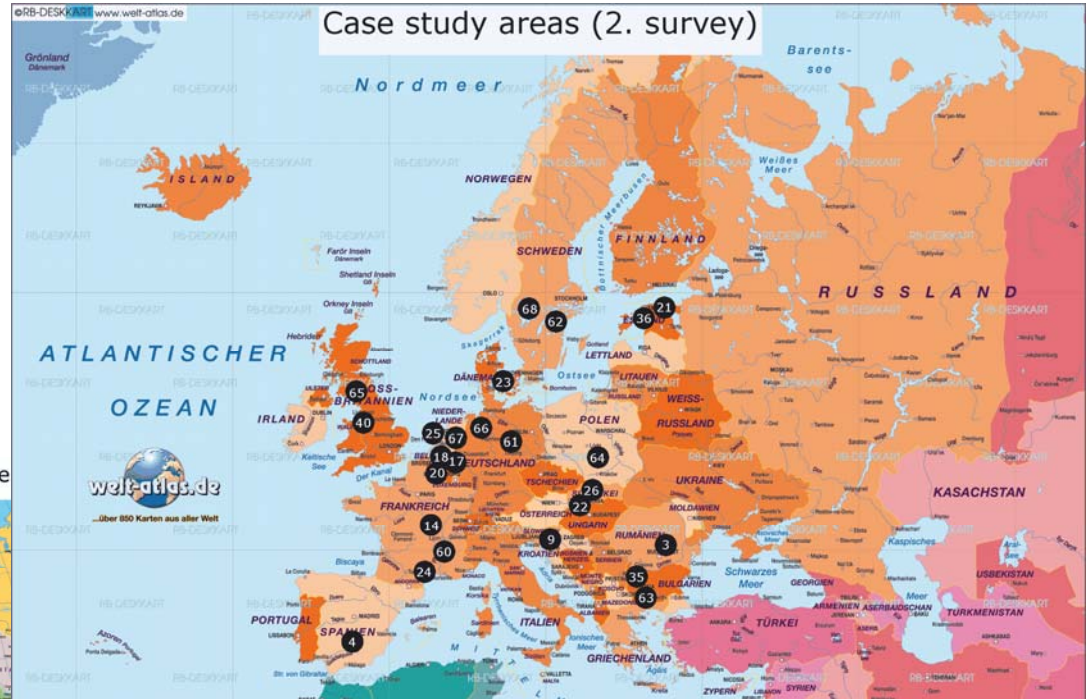
■ 4 Integration axes [Cardwell et al. 2006]

- Time, Objectives, Institutions, Space



The 4 Integration axes (Cardwell et al. 2006)

The case studies



Criteria for selection

- EU Research projects, GWP-Toolbox, HELP
- Representativeness
- Quality of documents / language
- 33 case studies, 24 countries

7 Assessment categories

- 4 Integration axes
- Culture/Gender
- Enabling Environment
- Management instruments
- Management processes
- Participation/Cooperation
- Knowledge management and Capacity Development

Example Enabling Environment / Management

■ Enabling environment

- Resources and financial structures
- Legal conditions, boundary conditions
- Political and government structures (government as an „enabler“)
- Data (availability)

■ Management structures

- Structures
 - Integration
 - Cross-sectoral cooperation
- Processes
 - Trigger
 - Flexibility
 - Power relation
- Institutions
 - Competences
 - Resources
 - Cooperation ability
- Instruments
 - Socio-technical I.
 - Planning I.
 - other I.

VI Management

1) Structures

- a) Cross-sectoral cooperation

2) Institutions

- a) Competences

- b) Resources

- c) Ability to cooperate

3) Processes

- a) Trigger

- b) Flexibility

- c) Power relationships

4) Instruments

- a) socio-technical instruments

- b) Spatial instruments

- c) Other instruments (e.g. incentives, Insurance concepts etc.)

VII Participation/Cooperation

- 1) Why?

- 2) How?

- 3) Who?

- 4) Which result?

- 5) Gender and diversity mainstreaming

- 6) Transparency and reflection of the participation process and the process results

VIII Knowledge management and capacity building

- 1) Individuals, groups, institutions

- 2) Involvement of scientific institutions

- 3) Knowledge transfer

- 4) Transdisciplinarity

- 5) Data and Information Management

IX Unanswered questions

Additional comments:

Lessons learnt:

Some (general) results

- Importance of legal structures and frameworks
- Cross-sectoral cooperation (horizontal und vertical)
- Readiness /ability for cooperation of the political leadership and other involved parties
- IWRM-Processes are mostly „top-down“ initiated; „bottom-up“ Ex. Loire (F), Varbitsa (BG)
- Responsible process coordinator with decision competences; however: cooperation is crucial
- Integration of scientific institutions is beneficial
- Programmes are supportive (Room for rivers, Miljömål, etc.) → flexible, long-term perspectives, more public integration

Soome results management instruments

- Manifold management instruments
 - Voluntary agreement (e.g. Denmark)
 - Water User Association (e.g. Rumania, Olifants/SA)
 - Le Plan Loire Grandeur Nature (e.g. Loire/F)
- Use of socio-technical Instruments often supportive, diversity of tools is used [Ex: Nile: Nile Regional DSS, Mesta-Nestos: TRANSCAT, Olifans: WEAP, Upper Guadina: DSS, Motala: ICECREAM]
- important: appropriate model, adapted systems and processes
- Integration of different areas (z.B. health, economy)
- Cooperative development together with end users is crucial
 - transparency of tools and processes

PLAN
LOIRE
GRANDEUR NATURE

CONTRAT DE PROJETS INTERRÉGIONAL LOIRE
2007-2013



Entre l'Etat, les Régions Auvergne, Basse-Normandie, Bourgogne, Centre, Languedoc-Roussillon, Limousin, Pays de la Loire, Poitou-Charentes, Rhône-Alpes, l'Etablissement Public Loire, et l'Agence de l'Eau Loire-Bretagne

Some results participation / culture

■ Participation plays a big role – divers participation models and elements

- Committees (cooperative); working groups (Murray-Darling Basin/AUS, Loire/F, Eden/UK)
- Stakeholder Meetings; „Varbitsa Council“ (Varbitsa/BG)
- Regional cooperation, expert groups, advisory board, regional conferences, regional Fora (Weser/D)
- Workshops (Chaguana/EQD, Brabantse/NL, Davao/PHI, Pilica/PI)
- Public discussion (Virus-Pepsi/Est)
- Participative Planning (Hertogenbosch/NL)
- WUA (ongoing Form of Participation) (ROM, Olifants (SA)
- Seminars (Vänern/SWE)
- Focus Groups and Citizen Juries ((Maas/NL, River Dialogue Project) (Motala/SWE)
- Communication plan, shared decision making, discussions with Key-Stakeholder, Workshop series „Ribble Vision“ (Ribble/UK)

■ Culture- und Gender-Aspects are not regarded or not documented

Concluding remarks

- Assessment sheet worked well to analyse case studies
- Some important factors could be identified (confirm & new aspects)
- New questions evolved → analysis of more case studies and detailed studies (esp. expert interviews)
- Identification of regional factors for success and failure of IWRM projects
- Test the assessment structure as guidance in real for conceptualisation, realisation and evaluation





Thanks for your attention!

Contact: mariele.evers@uni-wuppertal.de

Literature

- Cardwell, Hal E.; Cole, Richard A.; Cartwright, Lauren A.; Martin Lynn A. (2006): “Integrated Water Resources Management: Definitions and Conceptual Musings”. In: Journal of contemporary water research & education issue 135. Available under: http://www.ucowr.siu.edu/updates/135/JCWRE_135_Entire.pdf
- Global Water Partnership TAC 4 (2000): “Integrated Water Resources Management”. Available under: <http://www.gwpforum.org/gwp/library/Tacno4.pdf>
- ICWE (International Conference on Water and the Environment) (1992) The Dublin Statement on water and sustainable development: Dublin, Ireland, January 31, 1992, 6 p.
- Larsen, Henrik (2006): “EU Water Framework Directive as ‘IWRM in the North’?”. Available under: [http://www.waterforum.jp/eng/NoWNET/files/WFD%20as%20IWRM%20in%20the%20North\(3\).pdf](http://www.waterforum.jp/eng/NoWNET/files/WFD%20as%20IWRM%20in%20the%20North(3).pdf)
- Neubert, Susanne; Theesfeld, Insa: “IWRM und das Zusammendenken natürlicher und sozialer Systeme. EZ trifft Wissenschaft: Grundwasserressourcen und Wassermanagement“. Available under: http://www.bgr.bund.de/nn_459028/DE/Themen/TZ/Politikberatung_GW/Downloads/Theesfeld,templateId=raw,property=publicationFile.pdf/Theesfeld.pdf