Governance in Water Resource Management: Example Germany

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Administrative Framework Conditions

16 Federal States responsible for water policy

4 international river basins

1 national river basin
India - EU Water Partnership
New Delhi, 2016

Stephan von Keitz

Water Resource Management

The Rhine Catchment

- 9 countries
- 58 million inhabitants
- Drinking water supply for 30 million people
- 50% of EU chemical industry
Upper Rhine, 1880

Chanalization of the Upper Rhine

1828

Graw und Borchardt 1998

today
Development of the Salmon Population in the Rhine

Quelle: Anton Lelek; Senckenberg Museum

India-EU Water Partnership New Delhi, 2016
International Commission for the Protection of the Rhine

- 1950 - Foundation
- 1963 - Treaty of Berne
- 1972 - 1st Rhine Ministers’ Conference
- 1986 - Accident at Sandoz
- 1987 - Rhine Action Program
- 1993 and 1995 - Flooding
- 2000 - Programme Rhine 2020
- 2000 - EU Water Framework Directive
1986: Fire at Chemical Company Sandoz, CH

10-30 tons of highly toxic pesticides flew into the river...

...causing the death of all aquatic life

eels 400 km downstream
UWWTP: Priority in the 1990 in Germany
Wastewater Treatment in Germany

- Population connected to biological treatment: 95 %
- Almost all UWWTP have a nutrient reduction
- Grade of reduction: 82 % nitrate, 91 % phosphate
- Investments: 4.6 Bill. € (56,40 €/person/year)
- Average price: 2.19 €/m³
- 115 € / person/year; 0.32 € / person/day
Water Framework Directive

- Many political sectors involved
- Different working levels
  - International level (OSPAR, HELCOM)
  - National/regional level
  - River basin district
- Stringent planning cycle with strict deadlines
- Public information and consultation
WFD Implementation

- **Strategic Steering Group “WFD and Hydromorphology”**
  Chair: DE, UK and Commission

- **Strategic Steering Group “WFD and Agriculture”**
  Chair: FR, UK and Commission

- **Strategic Co-ordination Group**
  Co-ordination of work programme
  Chair: Commission

- **Water Directors**
  Steering of implementation process
  Chair: Presidency, Co-chair: Commission

- **Stakeholder Forum “Water Scarcity and Droughts”**
  Chair: Commission

- **Expert Network WS&D**
  Chair: FR/ES/IT

- **Drafting Group “Objectives/Exemptions/Economics”**
  Chair: Commission and DK

- **Art. 21 Committee**

- **Working Group A “Ecological Status”**
  Chair: JRC, DE and UK

- **Working Group C “Groundwater”**
  Chair: Commission and AT
  "Chemical Monitoring”
  Chair: Commission/IT

- **Working Group D “Reporting”**
  Chair: Commission, EEA and FR
  "GIS” Expert Network

- **Working Group E “Priority Substances”**
  Chair: Commission
  "Chemical Monitoring”
  Chair: Commission/IT

- **Working Group F “Floods”**
  Chair: Commission

Stakeholders, NGO’s, Researchers, Experts, etc.
River Basins…

- Rhein
- Elbe
- Oder
- Donau
- Weser
- Ems

...and administrative Responsibilities

- Baden-Württemberg
- Bayern
- Berlin
- Brandenburg
- Bremen
- Hamburg
- Hessen
- Mecklenburg-Vorp.
- Niedersachsen
- Nordrhein-Westfalen
- Rheinland-Pfalz
- Saarland
- Sachsen
- Sachsen-Anhalt
- Schleswig-Holstein
- Thüringen
Different Historical Background

- each country has its own approach, tradition, administrative culture …
- France: Centralistic state
- Germany: Federal state
- Hungary: Separate water administration
EU refraining from detailed provisions about administration:
WFD: “…appropriate administrative arrangements, including the identification of the competent authority…”

- International (roof) RBMP Rhine elaborated by the ICPR
- National RBMP developed by the Federal States (competent authorities)
Cross-media Approach

- Problems should not be shifted from one sector to the other
- Administration should act integrated

Example: dealing with solid waste
Share of Tasks between different Organisation

National Level (LAWA)
- Nat. approaches and strategies

River Basin Organisation
- National/international coordination

Federal States
- Pressures and impact analysis
- Monitoring
- Objectives, exemptions
- Program of measures
Status Assessment

**Typ:** Lowland medium sized stream (reference)

**Ecological status:**
Macroinvertebrates: moderate
Fish: poor
Macrophytes: moderate
Phytobenthos: poor
Hydromorphology: poor

**Chemical status:** bad
**General chem. parameters:** poor (nutrients)
Status Assessment

**Typ:** Lowland large permanent coastal streams

**Ecological status:**
Macronvertebrates: good
Fish: good
Macrophytes: high-good
Phytobenthos: high-good
Hydromorphology: moderate

**Chemical status:** bad
**General chem. parameters:** good
Quality Status
Public Participation
Programe of Measures
Re-establishment of Salmon Population
Salmons returning to the Rhine

![Graph showing the number of salmons returning to the Rhine from 1990 to 2008.](image)

- Delta of the Rhine
- Lower Rhine
- Middle Rhine
- Upper Rhine

(number of salmons: 0-900)

(year: 1990-2008)
Water Management: a long way to Recreation

1950 No UWWT 1970 With UWWT and monitoring 2016