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Conflict and cooperation in Spanish water governance: Some lessons learned

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Outline

1. Characterization of water governance in Spain

2. Water allocation mechanisms

3. Institutions for cooperation
I. Basic characterization of water governance in Spain
Spain – Indian basins basic comparison

<table>
<thead>
<tr>
<th>Country</th>
<th>Surface area (km²)</th>
<th>Population (million)</th>
<th>Total managed water (Mm³)</th>
<th>Number of states in the basin/Country</th>
</tr>
</thead>
</table>
| Spain     | 504.645            | 46                   | 55,000                    | 15 autonomous regions  
14 river basin districts  
8 shared river basins      |
| Godavari  | 312,812            | 61                   |                           | 8 states                                                                |
| Krishna   | 258,948            | 70                   |                           | 3 states                                                                |
| Mahanadi  | 141,600            | 41                   |                           | 2 states                                                                |
Spanish river basins and autonomous regions
Climatic variability and main water users

Precipitation

Main consumptive water uses

- **Irrigation**: 18,461 Mm$^3$/yr (82%)
- **Industrial uses**: 407 Mm$^3$/yr (2%)
- **Services**: 784 Mm$^3$/yr (4%)
- **Domestic water supply**: 2,574 Mm$^3$/yr (12%)

Hydroelectricity: 22,000 Mm$^3$ stored capacity (40% of all stored water)

Climatic variability with main water users

- **< 400 mm**
- **400-800 mm**
- **800-1200 mm**
- **> 1600 mm**
A hydraulically mature society

INTERBASIN WATER TRANSFERS

DAM CONSTRUCTION
Water resources under pressure: Status of surface water in Spain

Main pressures:

• Agricultural diffuse pollution

• Insufficient urban and industrial wastewater treatment

• Hydromorphological alterations

• Over-allocation of water rights
Jurisdiction for water legislation, policy making and watershed management in Spain

- **European Union**
  - Treaties, Regulations, Directives, Case law (European Court of Justice)
  - Environmental quality, agriculture, nature protection, water quality

- **Central government**
  - Spanish constitution, laws, regulations & decrees
  - Water planning and management of inter-regional river basins

- **Autonomous regions**
  - Agricultural policy, land use policy, environmental policy
  - Water legislation, planning and management in intra-regional river basins

- **Municipalities**
  - Urban supply and sanitation
  - Urban land use planning & waste management
II. Four interrelated water allocation mechanisms: water rights, water planning, interbasin water transfers, water markets
<table>
<thead>
<tr>
<th>Spatial scale</th>
<th>Characterization</th>
<th>Legal instrument</th>
<th>Year approved</th>
<th>Allocation criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>International</td>
<td>Spain-Portugal shared rivers</td>
<td>Albufera Convention</td>
<td>1998</td>
<td>Hydroelectricity, water supply, flood protection and environmental flows.</td>
</tr>
<tr>
<td>Country</td>
<td>Allocation among river basin districts</td>
<td>National Hydrologic Plan</td>
<td>2001</td>
<td>“National hydrological balance” for economic and territorial strategies</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2009-2015</td>
<td>(2)+(3) Environmental and socioeconomic considerations</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2015-2021</td>
<td></td>
</tr>
<tr>
<td>User</td>
<td>Holder of water use rights</td>
<td>Water use concessions, permits and private groundwater rights</td>
<td>1879, 1985, 2003</td>
<td>Existing rights Order of priority allocation</td>
</tr>
</tbody>
</table>
Improved governance, water markets and interbasin water transfers are alternative measures to deal with water scarcity. Governance is a pre-condition to all.
Drought hazard in Europe

Baseline (1961-90)

Source: Floerke at all (2011)

2050s (2041-2070)
Managing drought

- Risk management versus emergency responses
- Drought management plans on a river basin scale
  - Integrated with River basin management plans
  - Drought indicators and monthly drought maps
  - Four risk & management levels: normal, pre-alert, alert and emergency levels
    - Each level triggers different management measures
- Drought Management Commissions
- Emergency drought decrees
2004-2008 drought in the Ebro Basin
Interbasin water transfers in Spain

In Spain, on average 500 Mm$^3$ are transferred annually (1% of total volumes abstracted/used)

POLITICAL & SOCIAL CONFLICT
The Tajo-Segura transfer
The need to deal with uncertainty and climatic variability
The need for a basin perspective: The collapse of the Mar Menor lagoon
Lessons learned on interbasin water transfers

• “Small is beautiful”:
  • **Small regional transfers can effectively** help solve regional water scarcity problems and help guarantee urban water supply
  • As the geographical scale increases, so do the social, environmental and political implications AND conflicts
• **Conflict** increases when administrative-political boundaries are crossed
• Economic and environmental considerations: **Who pays? Who benefits?**
• Risks of **overestimating available resources**, uncertainties associate with climate change processes (Colorado River basin allocation, Tajo-Segura transfer, etc.)
• Interbasin water **transfers often only transfer scarcity problems** (and associated sociopolitical conflicts) from one basin to another
• The existence of **transfer infrastructures can heavily condition present and future water management decisions** in both linked river basins
Water markets

• Highly regulating water trading mechanisms introduced in Spain in 1999

• The most significant volumes of formal water trading use interbasin transfer infrastructures in times of drought to avoid legal limits (and political outfall) of transfer decisions.

• Informal water trading continues in many water-stressed regions and serves to resolve local problems of scarcity. However, the lack of administrative supervision fails to defend the public interest.
Some pre-conditions for the introduction of water markets

- Clearly defined, solid and stable institutional context
- Clear goals (environmental improvements, reduced social conflict, prevent drought-related losses, reduce water scarcity...)
- Transparency with regard to market characteristics and operation (contracts, actors involved, characteristics of the permits traded, volumes traded, price, location, temporal scale, etc.)
- Clearly delineated "boundaries" for the market: clear water rights, existing permitted uses, volumes effectively used, geographic scale, etc.
- Incorporated into broader basin management plans.
- Constant evaluation of socioeconomic, environmental, territorial impacts, BUT not aggregated, instead geographically distributed
- Public scrutiny of its selection, design, implementation and evaluation.
III. Institutions for interagency, interstate and international cooperation
River Basin planning and management institutions

- **Dam release commissions & Water management boards (part of RBAs)**
  - Made up of water users and RBA’s staff
  - Mission: Allocate water within the basin among permitted users
  - Effective cooperation mechanisms for everyday management

- **Basin Water Councils**
  - Made up of representatives of: water users (±33%), central government (±25%), autonomous regions (±30%), local governments (±4%), social and economic interests (±2%),
  - Mission: Discuss and approve river basin management plans
  - End of the process – all the work done beforehand

- **Drought management boards**
  - Ad-hoc multi-stakeholder commissions
  - Mission: management of scarcity during droughts to minimize impacts
  - Very effective facilitating cooperation and consensus
Interregional and inter-sectoral coordinating institutions

- National Water Council (established by 1985 Water Act)
  - Similar composition to the Basin Water council but on a national scale & broader social-technical-expert participation
  - Approves basin plans and any water related rules and regulations
  - Documents negotiated beforehand. Opportunity to express dissent.

- Competent Authorities Committee (established in WFD context)
  - Aims to facilitate the effective coordination between different administrations for the achievement of WFD-related river basin management plans
  - Ineffective design resulted in failure to achieve goals
  - General frustration and lack of cooperation at a political level
Interregional and inter-sectoral coordinating institutions

- National Sectoral Conferences
  - Various topics, among them Environment (including water) and Agriculture & Rural Development
  - Made up of the national Minister and the corresponding regional ministers
  - Information exchange, debate on national & international sectoral legislation & policies, budgetary distribution
  - Meets 1-2 times per year.

- Regional sectoral conferences
  - Same as above but organized in the scale of the autonomous region
Lessons learned

- Multiple institutions, but cooperation and coordination still inadequate

- **Change in water policy goals** (from water resources development and quantity allocation to ecological restoration and ecosystem goals) has **brought more players** (and opportunities and challenges) to the table

- **Technical cooperation often effective and increasing**

- “Void” between technical work & collaboration and final political decision-making: “political meteorites”

- Need to improve effectiveness of mechanisms for **political cooperation**:
  - Strengthen and institutionalize interagency technical cooperation
  - Make management plans a co-responsibility of different competent authorities (not only water-related, but also agriculture, rural development, coastal management, land use planning, etc.)
Some additional references


Thank you for your attention

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