

Law on Water Resource Management: Global Best Practice and Challenges for Implementation

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Outline

- Global practice on law relating to water resources management
- Factors affecting robustness of law
- Challenges for implementation
- Best practice and prerequisites

Global practice trends:

- In countries where water resource management law is updated / revised, application of IWRM principles evident (e.g. South Africa, Kenya, EU member states):
 - Conjunctive management of:
 - surface and groundwaters (and now greater awareness of need to properly regulate groundwater use);
 - quantity and quality
 - Basin management – i.e. following hydrological boundaries rather than administrative / political
 - incorporating land use management too, not just rivers/lakes
 - Importance of stakeholder involvement
 - Incorporation of flood management considerations as well as resource management (EU, but see also APFM initiative at WMP/GWP). Blend of soft and hard management responses also evident (e.g. natural flood management).

Institutional coordination

Consolidation of water resource management duties ideally within single agency, but reality in many countries is sectoral splits; quality, flow and quantity separated; ground and surface waters not connected.



Basin organisation is also ideal, though national application of this ideal often mixed. Political realities push against this, and local politics often more immediately influential than national goals

Institutional coordination

- Need for cross-sectoral management (e.g. across agriculture; drinking water; energy; pollution control etc) and institutional coordination where single body unfeasible or unrealistic in short term
- Idea that “apogee” bodies can initiate and direct inter-sectoral coordination. Need not have full allocation responsibilities, but provide policy drawstring that pulls water relevant agencies together

Institutional coordination

- Managing institutions (and planning) vertically is also critical – but potentially very difficult to coordinate in federal states (e.g. relationship between States and Centre in India)
- On transboundary waters, coordination between international basin organisations and national management authorities necessitates clear differentiation of responsibilities, reporting lines and appropriate legal frameworks.
 - Lateral data sharing agreements also possible (e.g. Indus)
 - Notification procedures for planned works set out in UN Watercourses Convention – now in force
- Cross border data sharing (e.g. for flood data) requires appropriate collection and nomenclature harmonisation

Stakeholder involvement

- Mechanisms for involving stakeholders in basin planning and environmental decision-making increasingly important – e.g.
 - EU RBMP process
 - Shadow River Basin Commissions (e.g. in Kazakhstan)
 - Political decision as to how much power is given to stakeholders (and which)
- Aarhus Convention seen as global standard (access to information, justice and decision-making with re. environment)

Stakeholder involvement

- Right to Information legislation can be critical – link to Human Rights legislation (especially procedural)
 - Heavily dependent on institutional reporting, capacity and awareness of rights among public
- With re. IWRM, feeds management effectiveness back to decision makers
- Also evident in devolution of management to users (e.g. WUAs and PIM – idea that users better understand resource and its tolerances)

Factors affecting robustness of law:

- Extent to which legal frameworks allows **adaptation** to changes in:
 - resource availability patterns (e.g. glacial melt patterns; monsoon timing and extent etc) and consumption patterns (e.g. more water used as people get richer; demographic changes and urbanisation)
 - Policy priorities and strategic direction – e.g.
 - Environmental protection
 - Energy production and GHG emissions.
 - Scientific understanding of resource availability / impacts of existing and new uses
- Need for policy coherence with legal frameworks – does latter facilitate or enable the achievement of the former?
- Need to balance competing needs (e.g. Energy production, flood alleviation, food security, ecosystem protection, drinking water quality)
 - Policy / law inconsistency and incoherence across sectors, and perverse subsidies

Adaptability

- Water law, determining who gets what water, and when, has always had to deal with shortages and the sharing of the burden, using historical records
- But this accommodation of inter-annual variability and consequent shortages is challenged by increasing importance of relatively new concepts :
 - Equity
 - Sustainability; and
 - Ecological protection
- Awareness of impending change in resource base has prompted greater need for future supply to be taken into account in allocation of water use rights.

Additional factors affecting adaptability of legal frameworks

- Non-stationarity resulting from climate change potentially rendering historical data unreliable;
- Tipping points / irreversibility
- Greater focus on development of hydropower as an energy source
- The realisation that ecological baselines are not static
- International obligations on transboundary waters
- Multiple layers of decision-making
- Changing the law:
 - takes a long time and a lot of effort;
 - the results take even longer to show themselves; and
 - Existing users are often wedded to the old principles

Challenges for implementation

- Conjunctive ground/surface water management
- Diffuse pollution control
- Institutional coordination
- monitoring and enforcement
- Cross-sectoral policy coordination (e.g. Agriculture, environment, climate change, drinking water supply)
- Expectation management...
- Resources:
 - Human
 - Financial
 - technological

Best practice:

- Create a legal framework that is flexible enough to adapt, but immutable enough to provide certainty over fundamental principles – dynamic where it needs to be
 - Review *and* variation functions imperative
- Conjunctive management of ground and surface waters is made more difficult by legal regimes that give groundwater use rights to landowners and difficulty in monitoring use.
- Matching legal (and enforcement) frameworks to capacity is critical:
 - use of self-monitoring
 - Light touch regulation (e.g. registration / GBRs for minor uses), but with data gathering

Best practice:

- Geographical:
 - **vertical** coordination is needed to bring coherence between national strategy and law, basin management and local implementation.
 - **Horizontal** coordination is also needed for consistency between administrative units on the same river. SEA processes can help.
- Legal:
 - New legislation must either supersede earlier relevant legislation / water use rights frameworks completely, or it must be fully consistent with remaining fragments of that legislation (this has been a problem in Spain and in Chile)
 - Primary and secondary legislation must be mutually consistent (and latter followed through if promised in former)
 - If a change in policy is needed, it must be supported by consistent legislation.
 - Importance of reporting – should be legally mandated.
 - Clear lessons on transfers to new systems from South Africa, Chile, Spain

Prerequisites:

- Implementation:
 - If legislation is enacted, it needs to be implemented (unlike e.g. Kyrgyzstan)
 - Capacity:
 - Administrative: permit systems are expensive to maintain, though they can be designed to minimise this burden (e.g. requiring permits for only the largest users)
 - Enforcement: if a user is exceeding his or her entitlement, can measures be legally taken, and will datasets be strong enough to withstand court rules on evidence?
- Policy:
 - Policy needs to be of a standard that can allow implementation through law where necessary (SMART?).
 - Decisions will need to be made at the political level as regards which uses will be protected above others. Legal frameworks must be able to support this.
- Setting Ecological baselines
 - can redundancy be incorporated? i.e. can the loss of particular elements of ecosystems be countenanced in the law?
- Balancing of short and long term needs is difficult, especially given uncertainty over climate change projections – governments need to avoid boxing themselves into a corner that prevents them adapting in the future

Prerequisites: Data, monitoring and interpretation:

- Decision-making will continue to take place in the absence of ideal datasets, but managing water resources under climate change will demand comprehensive understanding of
 - use rates compared to paper rights
 - Ecological quality of rivers
 - Resource availability
- Appropriate monitoring networks will therefore need to be in place, with strong legal standards in place that are enforceable.

Prerequisites: Data, monitoring and interpretation (2)

- If resource availability projections are to be incorporated in the management of water rights, modelling capacity (technical and human) must also be in place.
- Data exchange processes and provisions to permit communication of hydro-and meteorological data between states (e.g. Danube) – difficult worldwide, but imperative especially for flood alleviation and transparency with respect to compliance with international obligations.
- Access for the public – ensuring compliance is critical. Aarhus Convention is open for all states (not just UNECE). This includes flood hazard maps.
- Potential problems with ownership of data – e.g. inconsistency between EU INSPIRE and Data protection directives.