SUSTAINABLE WATER INTEGRATED MANAGEMENT (SWIM)

CAPACITY DEVELOPMENT FOR WATER AND ENVIRONMENTAL PROSECUTORS AND INVESTIGATORS

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THE MANAGEMENT OF WATER RESOURCES AND THE FRESHWATER ENVIRONMENT Salient features, trends and issues

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SCOPE OF LEGISLATION

Increasing pressure on available freshwater stocks

- quantity- and quality-wise has resulted in:
- Elaborate legislation replacing landed propertybased appropriation rules with regulation of:
 - abstraction from rivers, lakes, aquifers
 - wastewater disposal
- Complex institutional arrangements for its administration by government through:
 - general-purpose administration
 - special-purpose water administration

SCOPE OF LEGISLATION

This evolution has resulted in:

- a shift of water allocation authority from landowners and from the courts of law to the government, and
- a shift of purpose and approach in the laws from reacting to, to preventing conflict

- Attraction of all water resources in the public domain of the State, by asserting state water ownership (France, Spain, Italy), trusteeship (USA) or control (USA, UK) – but exceptions persist (Texas, Finland, Portugal)
- Regulation of the abstraction of water resources, surface and underground, through the grant of government licences/concessions and attendant water (abstraction) rights this is a trend generalized throughout civil law and common law jurisdictions

- Qualification of abstraction licences/concessions and of water rights through terms and conditions, including, in particular:
- a term of duration (up to 75 years in Spain)
- loss for non-use of the right
- review of licensed abstractions

- Regulation of the discharge of wastewater into freshwater bodies (for water pollution control purposes) through government permits (UK, environmental permits)
- Qualification of discharge permits through terms and conditions, including, in particular:
- a term of duration
- standards of effluent quality and/or
- water quality objectives (for the receiving water body)

However, legislation may ban altogether

- all pollution of groundwater in general (Finland)
- the discharge of wastewater underground or into groundwater (Italy)
- the direct dicharge of pollutants to groundwater (EU WFD)

- Regulation of water pollution from "diffuse" (or "non-point") sources (runoff from irrigated cropland, urban stormwater runoff, leakage from the underground storage of liquids) through land use and cultivation restrictions (EU Nitrates Directive, US CWA), zoning (Spain)
- Charging for the use of water resources ("user-pays" and "polluter-pays" principles)

- Participation of water users in the management of water resources, as seen in:
- provisions for the formation and functioning of water users' groups/associations, with increasing management/policing/enforcement responsibilities (groundwater)
- the reservation of seats in the makeup of river basin organizations

- Acknowledging/accounting for customary rights and practices – this has been an issue also in Europe, the USA and Australia as customary riparian rights have been overhauled by administrative abstraction rights
- The standard approach in this regard is to make special allowances for them in the new water laws, and to thus minimize the potential for challenges on gounds of takings of private property

EMERGING FEATURES

Factoring the land/water interface (with particular regard to the protection of groundwater recharge areas)

Relevant legislative and policy measures include -

 zoning of aquifers and of the overlying areas for restrictions on land uses (Germany)

EMERGING FEATURES

- land use policy directions, land use and building restrictions (Canadian provinces)
- water development and land use regulation complementing each other towards the common purpose of minimizing the harmful effects of land use decisions on the water systems (Flanders region of Belgium)

The influence of land use activities on the natural recharge of aquifers is to be reckoned with in the survey and characterization of aquifers across the European Union (WFD)

FACTORING THE ENVIRONMENT IN WATER LEGISLATION

- Clearly discernible trend towards the "greening" of water resources legislation, evidenced by:
- Environmental Impact Assessment (EIA) of proposed new abstractions and wastewater discharges
- ecological flow requirements of rivers (France, Spain)
- reservation of water resources for priority freshwater environment conservation purpose (Spain)

FACTORING THE ENVIRONMENT IN WATER LEGISLATION

- ecosystem-support function of groundwater acknowledged in appraising requests for groundwater permits or licences (Canadian provinces, Finland), in restraining extraction (Texas, Edwards Aquifer) or as a matter of policy (European Union WFD)
- priority of environmental allocations in abstraction licensing (Australia)

FACTORING THE ENVIRONMENT IN WATER LEGISLATION

- review and downwards adjustment of licensed abstractions to reflect environmental protection goals (Spain)
- stretching the notion of "beneficial" use to leaving water in the stream for recreation & wildlife purposes (Colorado, USA)

ISSUES IN CONTEMPORARY WATER LEGISLATION

- 1. Reconciling security of tenure with risk and uncertainty of resource availability, and balancing security of legal title with the administrative flexibility required to re-allocate available water resources in response to changing circumstances
- 2. Pursuing opportunities for efficiency gains in resource allocation and re-allocation, without neglecting equity

ISSUES IN CONTEMPORARY WATER LEGISLATION

- 3. Raising the profile of the environment in the allocation and re-allocation of available water resources to competing uses
- 4. Recouping the elusive connection between water regulation (and administration) and land use regulation (and administration)

ISSUES IN CONTEMPORARY WATER LEGISLATION

- 5. Empowering users to shoulder greater responsibilities in managing water resources, in particular those under stress
- 6. Mapping out and sorting out the interplay between customary/ancestral water rights and practices and modern, formal water abstraction rights derived from statute

THANK YOU!

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