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**THE MATURING LAW OF
GROUNDWATER - A
COMPARATIVE
PERSPECTIVE**

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**SCOPE AND STRUCTURE OF
PRESENTATION**

TO MAP OUT AND ILLUSTRATE THE MATURING LAW OF GROUNDWATER IN RELATION TO SUCH CENTRAL THEMES TO THE GROUNDWATER/AGRICULTURE NEXUS AS:

- the surfacewater/groundwater connection
- the land/groundwater connection (at the aquifer recharge end of the spectrum)
- the development- and the ecosystem-support function of groundwater (baseflow of rivers, and at the aquifer discharge end of the spectrum)
- water rights trading
- groundwater users' participation and uptake of increasing public-interest responsibilities

TO HIGHLIGHT RELEVANT ISSUES, and
TO OFFER POINTERS FOR A LEGISLATIVE AGENDA

**THE SURFACEWATER-GROUNDWATER
CONNECTION**

- Conjunctive use as a matter of policy (China, India)
- Conjunctive use as a matter of domestic legislation (USA States, Jamaica)
- Inter-basin water transfers as a means to relieve groundwater stress (Spain)

**THE LAND-GROUNDWATER
CONNECTION**

- ▣ Regulation of land uses affecting groundwater quality – cultivation practices, location of landfills and dumpsites, protection of drinking water sources
- ▣ Regulation of land uses affecting groundwater recharge
- ▣ River Basin plans, and integration/coordination of diverse planning instruments

**BALANCING THE DEVELOPMENT- AND THE
ECOSYSTEM-SUPPORT FUNCTION OF GROUNDWATER**

- ▣ Priority ranking of the environment-support function of groundwater in the allocation of the resource
- ▣ EIA requirements of groundwater development projects
- ▣ The water reserve for environmental conservation purposes
- ▣ In the screening process of groundwater development applications
- ▣ In the administration of groundwater extraction licences and permits

**WATER RIGHTS TRADING: BALANCING EQUITY
AND EFFICIENCY OF GW ALLOCATION**

Controlled trading/leasing of groundwater extraction rights, within the agriculture sector, and from agriculture to other sectors of economic and social development (Mexico)

PARTICIPATION OF GROUNDWATER USERS

Self-regulation of groundwater under stress of depletion, of pollution, by legally-constituted users' groups (co-management of common-pool resource)

ISSUES - 1

Legislation tends to be surfacewater-centric

Perception of groundwater as an intensely private resource, limiting the regulatory reach of legislation and the effectiveness of government as a regulator of resource allocation and use

ISSUES - 2

Legal obstacles to bridging the disconnect between surfacewater management and regulation and groundwater management and regulation

Coordination/administration of planning instruments seeking to bridge the disconnect between land use management and regulation and groundwater management and regulation, particularly in relation to the recharge and discharge areas of aquifers, and legal effect of plans

ISSUES - 3

Inability of government to deliver on a range of regulatory services, particularly in connection with policing of wells and, in general, with monitoring of groundwater users' behaviour and with law enforcement

CONCLUSIONS - 1

The strategic importance of gw and its vulnerability to over-extraction and to irreversible pollution call for a mix of regulatory and non-regulatory responses, informing a legislative agenda across the agriculture-groundwater nexus.

The regulatory responses and agenda need to canvass:

- ▣ the legal status of gw as a State-held resource
- ▣ allowances for the intense, diffuse perception of gw as a private good, so as to shield regulatory legislation from claims of takings of constitutionally protected private property rights

CONCLUSIONS - 2

- ▣ facilitating the conjunctive use of surfacewater and gw (e.g., by dropping use-it-or-lose-it restrictions)
- ▣ opportunities to factor gw management exigencies in the regulation of land use
- ▣ avenues to factor the ecosystem-support function of gw in allocation decisions
- ▣ pursuing efficiency of allocation through trading, without losing sight of equity and the environment
- ▣ opportunities for legally-constituted gw users' groups to relieve government of some of its responsibilities

CONCLUSIONS - 3

The non-regulatory responses and relevant legislative agenda would include economic measures, notably:

- ▣ gw abstraction and wastewater disposal charges,
- ▣ PES, whereby gw users would share the costs of water conservation/infiltration measures adopted by land users in the upper watersheds.

ANNOUNCEMENT

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THANK YOU!

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