



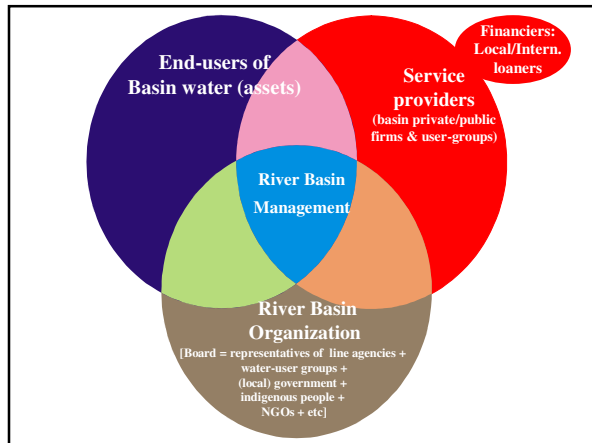
# Role of Water User Organizations in River Basin Management

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## *Top-down; bottom-up*

- Top down:
  - Laws, policies, institutions, bulk allocations
- Bottom up:
  - End-user water conservation, water rights, point-source discharge control (effluent permits/charges), **Water-User Organizations** (e.g., **WUAs; Basin Committees/Councils**), Community Driven Development, use local cultural practices (e.g., in micro watershed management)



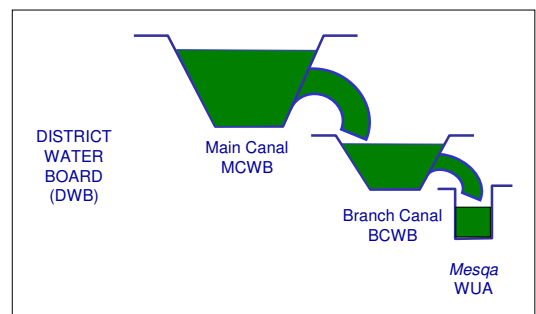
## *River Basin Management: why?*

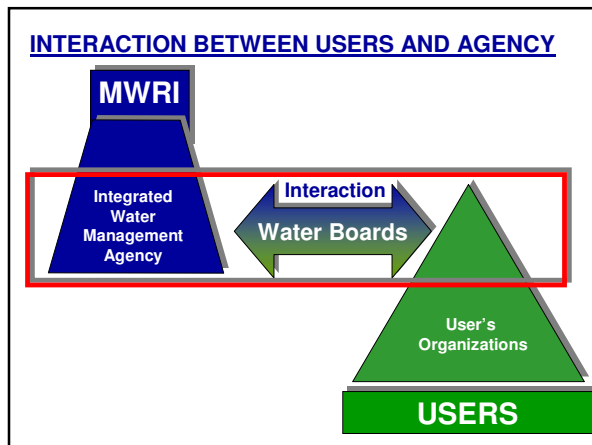
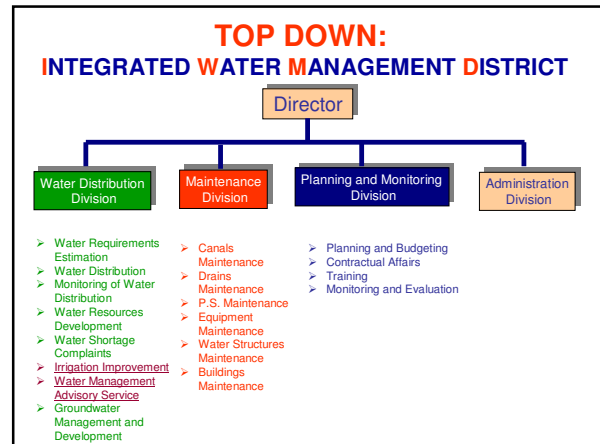
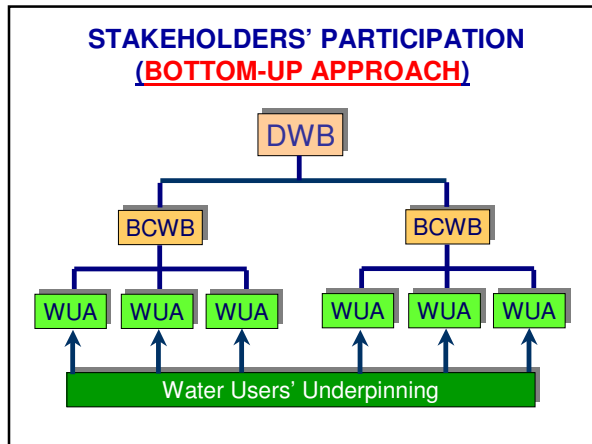
- Hydrological boundaries transcend inefficiencies of administrative boundaries (river basin is the basic management and development unit)
- Can internalise water-related negative externalities within the basin (pollution; shortage)
- Creates revolving funds to self-finance water-related investments, for sustainable development and management of the basin (collection and use of tariffs is within the basin: e.g. French model)
- Niche for corporate-like river basin organization (payers of water-related charges can potentially be shareholders), thus improving ownership

## *River Basin Management: how?*

- Two-leg: regulator and service-provider(s)
- Regulator: for environment, policy, advocacy, rights and bulk allocations, effluent permits
- Service-providers: for different end-user types (irrigation/WS&S/hydropower)
- Tariffs: not only for recovery of O&M, rehabilitation & modernization cost: but also for re-investing in water/non-water assets
- Two-part tariff: user-specific part and public part (to finance WRM services benefited by the basin's public)
- Upfront finance needed by national/basin government, private financiers and bilateral/multilateral loaners
- Water user participation

## *EGYPT: Bottom Up Irrigation Institutions*





**Yemen: Approach to PIM and community cost-sharing of off-farm improvement and rehab costs: Community Contracts**

- 10% farmer contribution in cash or in kind
- Each WUA would implement 1-2 small community contracts up to \$10,000
- Unit rates of contract awarded to WUAs is 30% cheaper than national contractors
- This 30% thereby represents the total contribution from end beneficiaries and, intrinsically, from the WUA contractors.

**Yemen: Revolving Funds to Finance Water-Saving Practices:**

- In GWSCP, cost sharing created a revolving fund of US\$2m to finance expansions
- Farmers invest \$250/hectare to achieve water savings of 2,300 m3/hectare/annum
- So investment cost \$0.11 per each m3 of water saved/annum
- Savings in pumping cost thus \$0.06 per m3/annum
- Investment cost recouped by farmers in just 2 years, without accounting for the opportunity value of the water saved in the aquifer

**Yemen: WUAs and ICs Lessons**

Key motivations for farmers to organize themselves in WUAs and ICs are threefold:

- To provide ex ante public awareness – before physical interventions – which ensures upfront transparency and notifies farmers of the forgone benefits of not opting into the PIM process
- To entrust farmers to participate in the design, implementation, supervision, and O&M of feeder-level irrigation contracts
- To provide ex post public awareness activities — postcompletion of physical interventions — so that farmers can witness the resultant increase in production and net revenue.

### **Yemen: WUAs and ICs Lessons**

Farmer participation created sense of ownership of irrigation schemes:

- (1) Farmers became more proactive in dealing with emerging problems and in resolving the long-lasting social and technical problems that the government failed to resolve; and
- (2) Farmers started to speak openly about issues that were controversial in the past, e.g., revisiting water rights that no longer maintain equity between upstream and downstream users.