

# *Developing an international strategy for water supply and sanitation*



Jason H. Beury  
Dept of Civil, Architectural and Environmental Engineering  
University of Kansas  
beury@ku.edu



# *Millennium Development Goal 7: Ensure Environmental Sustainability*

**Target 10: Reduce by half the proportion of people without sustainable access to safe drinking water... and improved sanitation (Johannesburg Earth Summit)**

## Indicators (WHO/UNICEF):

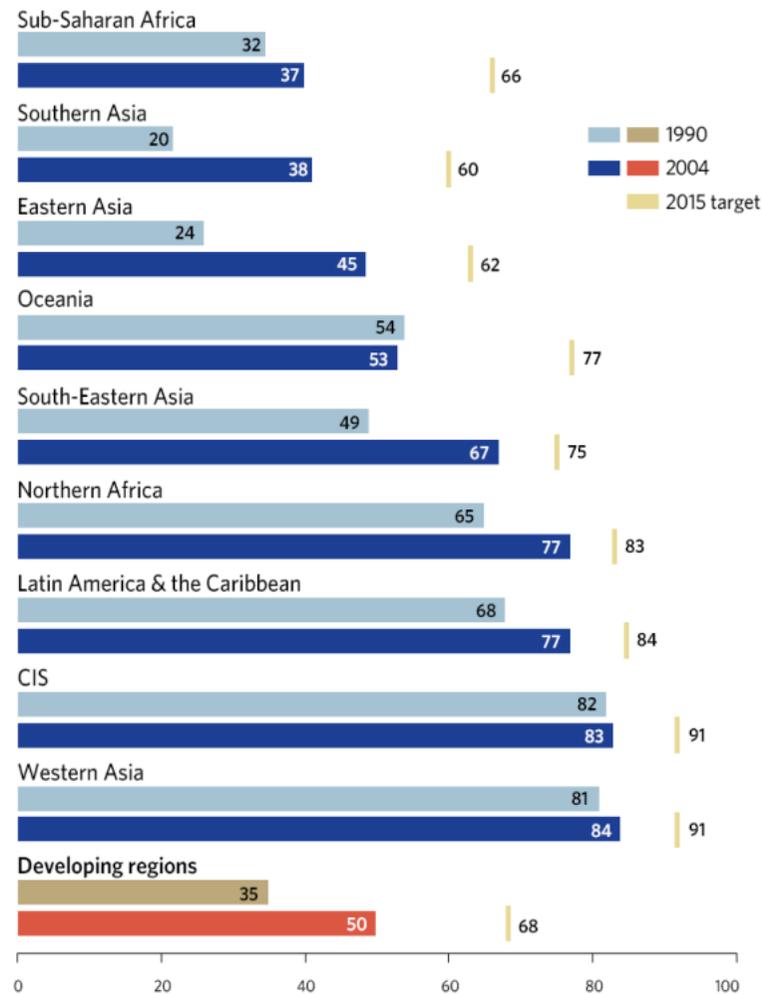
- 30. Proportion of population with sustainable Access to an Improved Water Source
- 31. Proportion of population with Access to Improved Sanitation

## Definitions:

- **Improved drinking water sources:** Household connection, public standpipes, borehole, protected spring, rainwater collection
- **Unimproved drinking water sources:** Unprotected well, unprotected spring, rivers or ponds, vendor-provided water, bottled water (due to limitations on quantity), tanker truck water
- **Improved sanitation facilities:** Connection to a public sewer, connection to a septic system, pour-flush latrine, simple pit latrine, ventilated improved pit latrine
- **Unimproved Sanitation Facilities:** Public or shared latrine, open pit latrine, bucket latrine

With half the developing world without basic sanitation, meeting the MDG target will require extraordinary efforts

Proportion of population using improved sanitation, 1990 and 2004 (Percentage)



“Investment without reform will be ineffectual in reaching the MDGs”  
-World Bank

### The facts and figures

- Over the past 20 years more than 2.4 billion people have gained access to water supply and 600 million to sanitation.
- 1.1 billion people still lack access to improved water services.
- 2.4 billion people still live without improved sanitation.
- 4.0 billion people live without sound wastewater disposal.
- 3.5 million children die from waterborne diseases every year.

## *Other MDGs*

- ❖ Eradicate extreme poverty and hunger
- ❖ Achieve universal primary education
- ❖ Improve health
- ❖ Develop global partnerships

# *What are the MDGs, really?*

- ❖ An international agreement  
on what *should* be done  
  
...nothing more, nothing less

# *Investment returns, US\$1*

*i.e. economic justification for strategy*

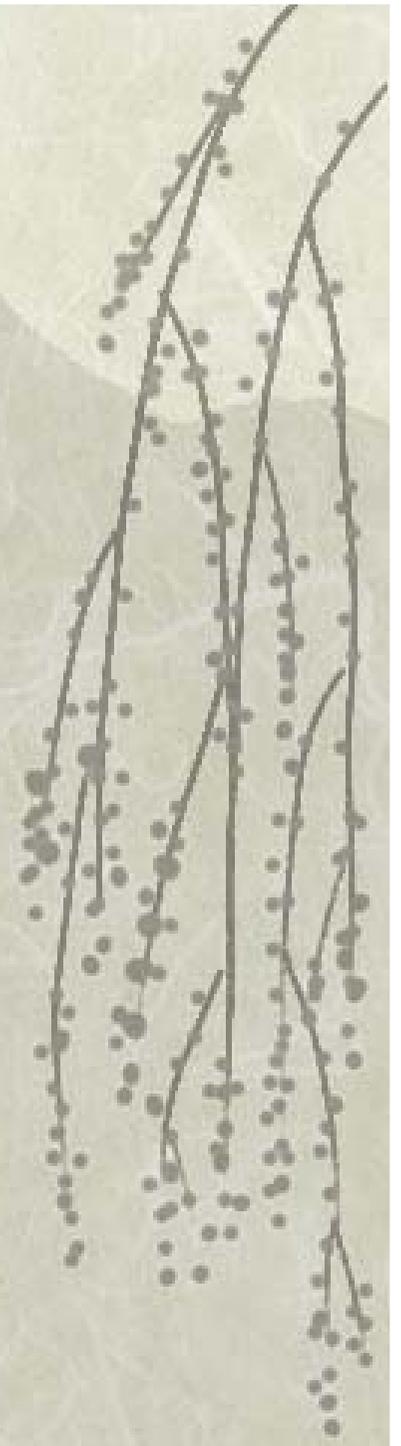
- ❖ Basic water and sanitation:  
between US\$3 and US\$34
- ❖ Additional improvement:  
between US\$5 and US\$60

## *From an ethical standpoint...*

- ❖ Returns are there, they just manifest themselves in *every* sector of the economy so they are difficult to quantify
- ❖ Capacities of international institutions are far behind the realities of our world
  - *Especially in responding to global crises and meeting demands for distributive justice*

*Problem?!*

**We still have to figure out  
HOW to achieve the MDGs  
(and go beyond them)**



## *The humanitarian aid crisis*

- ❖ “The new humanitarianism foreshadows a future world society of equal concern for every individual while being unable to contribute to its emergence in an effective and lasting way”

Heins 2005

# *Why “development” has failed*

- ❖ **Unregulated institutions** pursue operational imperatives (to move money, insulate projects from uncertainty, expand, create markets, survive)
- ❖ **Blue-print models** from donor countries are insufficient for institutional capacity building in developing countries
- ❖ **Overlapping mandates** cause confusion
- ❖ **Inter-institutional competition** wastes resources

## *Strategies should include:*

- ❖ Legal measures
- ❖ Economic incentives
- ❖ Education
- ❖ Rights
- ❖ Responsibilities

*Obstacles faced by developing countries in meeting water, sanitation*

UN Commission on Sustainable Development 21-APR-2004 ENV/DEV/767

## *Emphasizing needs for:*

- ❖ More cohesion
- ❖ Decentralization to local government
- ❖ Subsidy policies for construction
- ❖ Enforcement of environmental by-laws
- ❖ **Innovative financial mechanisms**
- ❖ School sanitation improvement

*Obstacles faced by developing countries in meeting water, sanitation*

UN Commission on Sustainable Development 21-APR-2004 ENV/DEV/767

## *The strategy...*

- ❖ Use innovative financing, institutional reform and technical expertise to go beyond MDG 7:10
- ❖ **Realize the social and economic benefits of improved water and sanitation for the entire world**
- ❖ Maintain/promote human dignity
- ❖ Empower local communities

## *Risks...*

- ❖ Government corruption
- ❖ Institutional instability
- ❖ Fluctuating monetary units
- ❖ Low literacy levels

# *Financing Water for All:*

## *Report of the World Panel on Financing Water Infrastructure*

March 2003

- 1) A prerequisite for the realization of human rights
- 2) Vital to concerns in all areas of development
- 3) Has been underemphasized and neglected
- 4) Benefits to public health
- 5) Catalyst for broad-based sustainable infrastructure growth

WORLD WATER  
COUNCIL



World Water Council  
3rd World Water Forum

3RD WORLD  
WATER FORUM

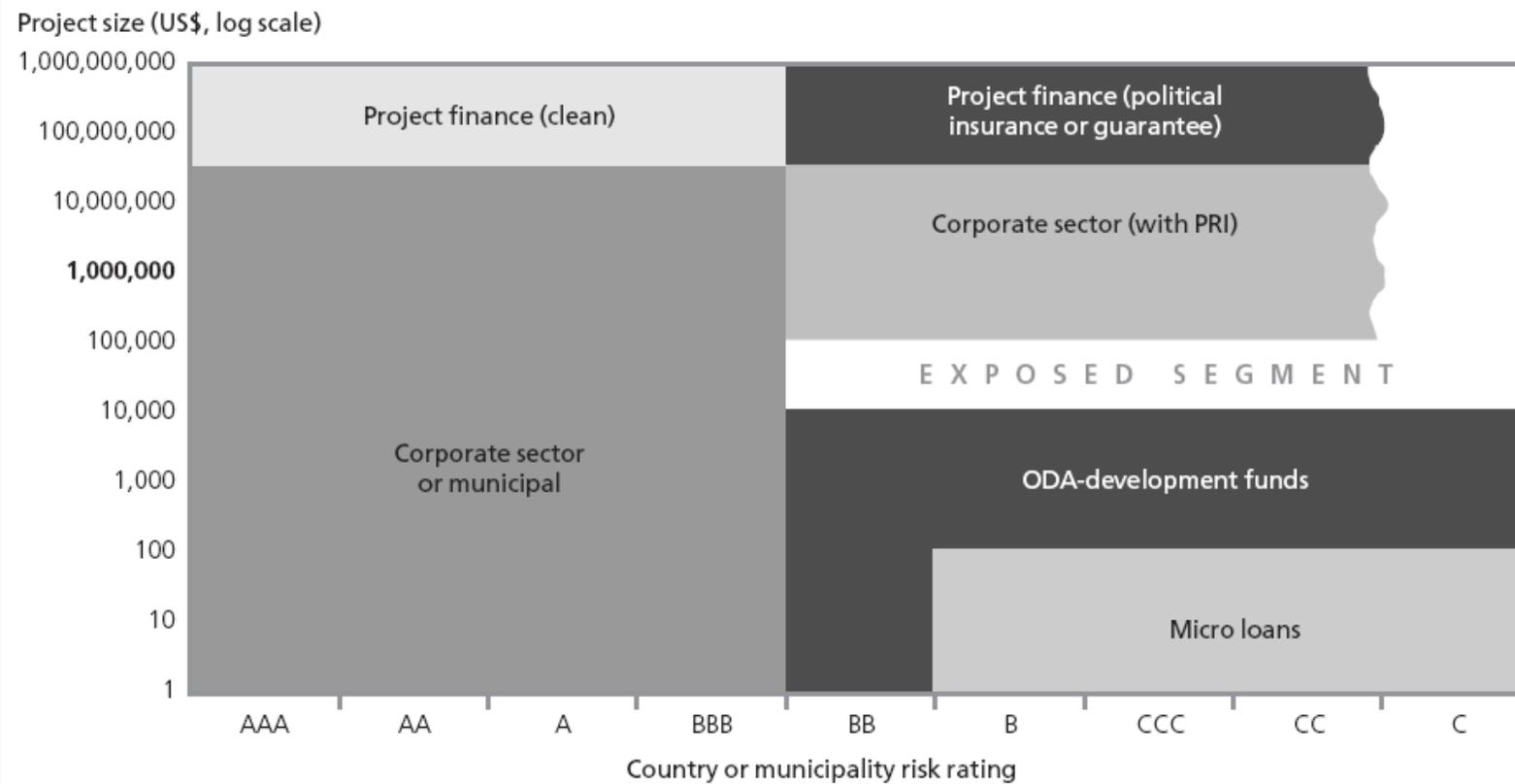


Global Water  
Partnership

GLOBAL WATER  
PARTNERSHIP

# Financing...

**Figure 3.1 Water projects segmentation, financing options**



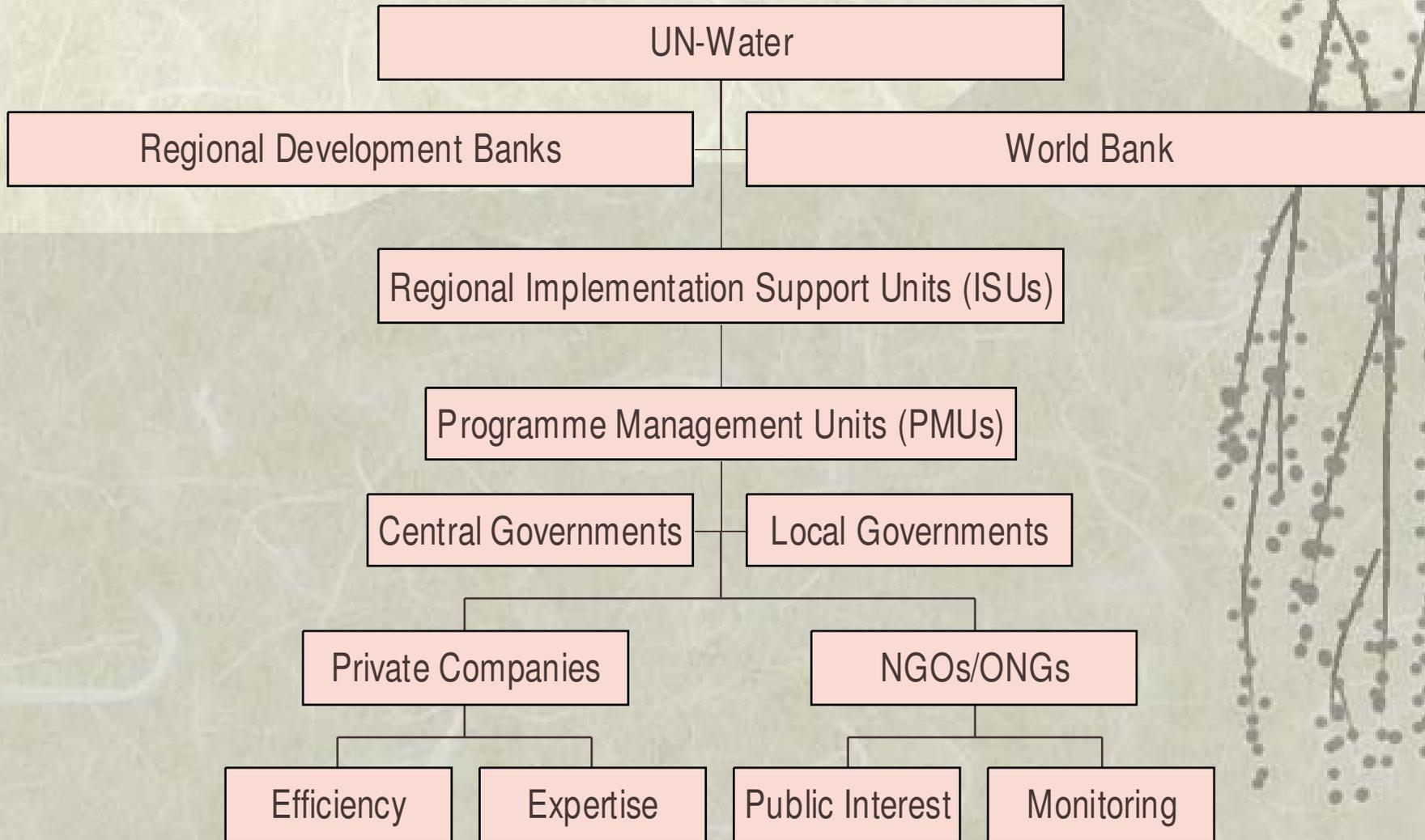
# *Priorities*

- ❖ Host government cooperation
- ❖ Utilize existent facilities
- ❖ Feasibility and implementation
- ❖ Decentralized fund for local initiatives
- ❖ Set policy changes and reforms to institutions in motion

## *Supranational governance?*

A “global control tower” should be established to monitor and report on the progress made towards achievement of the MDGs for water and sanitation, and the performance of the main parties involved in implementing and funding these activities.

# *“Global Control Tower”*



## *UN-Water*

- ❖ Encompasses all aspects of freshwater
- ❖ Covers sanitation (including access)
- ❖ Monitors status and trends of the world's freshwater resources
- ❖ Brings coherence and integration to separate UN agencies and programmes
- ❖ Facilitates external partnerships

## *UN-Water (extended)*

- ❖ Coordinate regional ISU accounts for large-scale borrowing on donor funds
- ❖ Redistribute borrowed funds based on regional needs
- ❖ Review reports from regional ISU
- ❖ Communicate international directives to regional ISU with respect to the overall implementation strategy

# *Regional Implementation Support Units (ISU)*

- ❖ Coordinate regional strategies for funding and project implementation (w/ regional MFI)
- ❖ Serve as a forum for discussion on the roles of central/local governments, NGOs, private companies, public authorities, community groups, individual citizens, etc.
- ❖ Provide oversight, organization and QA/QC through authorization of programme managers

# *Programme Management Units (PMUs)*

- ❖ Coordinate funding for projects
- ❖ Achieve community buy-in
- ❖ Secure resources for design, implementation and sustained O&M
- ❖ Designate roles for NGOs/ONGs
- ❖ Regulate/finance private companies
- ❖ Facilitate public-private partnerships

# *Programme Managers*

- ❖ Central to the success of projects at local, national, regional, international levels
- ❖ Along with authority and expertise, must possess skills to negotiate the project(s) through influenced and appreciated environments
- ❖ Simultaneously assume roles of chief executive, leader and diplomat
- ❖ Project management skills inevitably link individual and organizational development

# *Governments*

## ❖ Developing countries

- Report priorities to ISU
- Reform to accommodate public-private partnerships (over privatization or state-ownership)
- Expand/deepen local markets so they will be ready to support local entrepreneurial enterprise when water-sanitation infrastructure is in place

## ❖ Developed countries

- Reform international institutions
- Increase investment
- Avoid unilateral financing

# *NGOs and Private Companies*

## ❖ NGOs

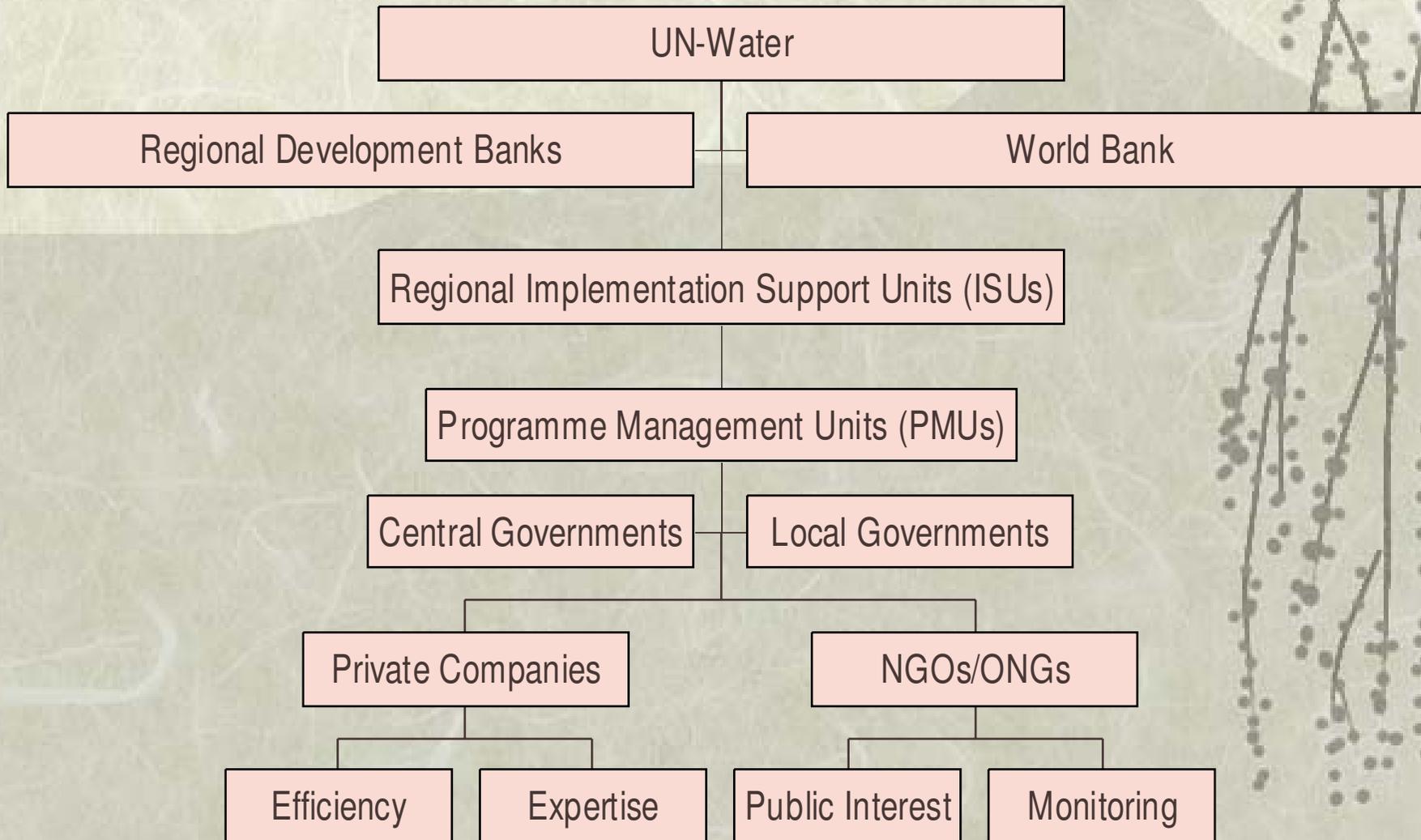
- Verify local government priorities
- Monitor progress/sentiments
- Coordinate cost-recovery efforts

## ❖ Private Companies

- Accept ISU funding requirements
- Collaborate with local PMUs
- Exhibit ethical conduct and transparency in affairs

*Financing the*

# *“Global Control Tower”*



## *Water Bonds (actually)*

- ❖ Issue internationally recognized and distributed (via ISUs and PMUs)
- ❖ Backed by actual World Bank bonds, but available as coins, in smaller denominations
- ❖ The bonds can be stored and put towards future community projects when they mature

## *Water Bonds (symbolically)*

- ❖ As a tangible manifestation of each individual's contribution to their own community's development
- ❖ Would bring the concept of 'banking' back to the local level
- ❖ Serve as a reminder of (professed) international solidarity in issues of social well-being

## *In sum, a strategy that:*

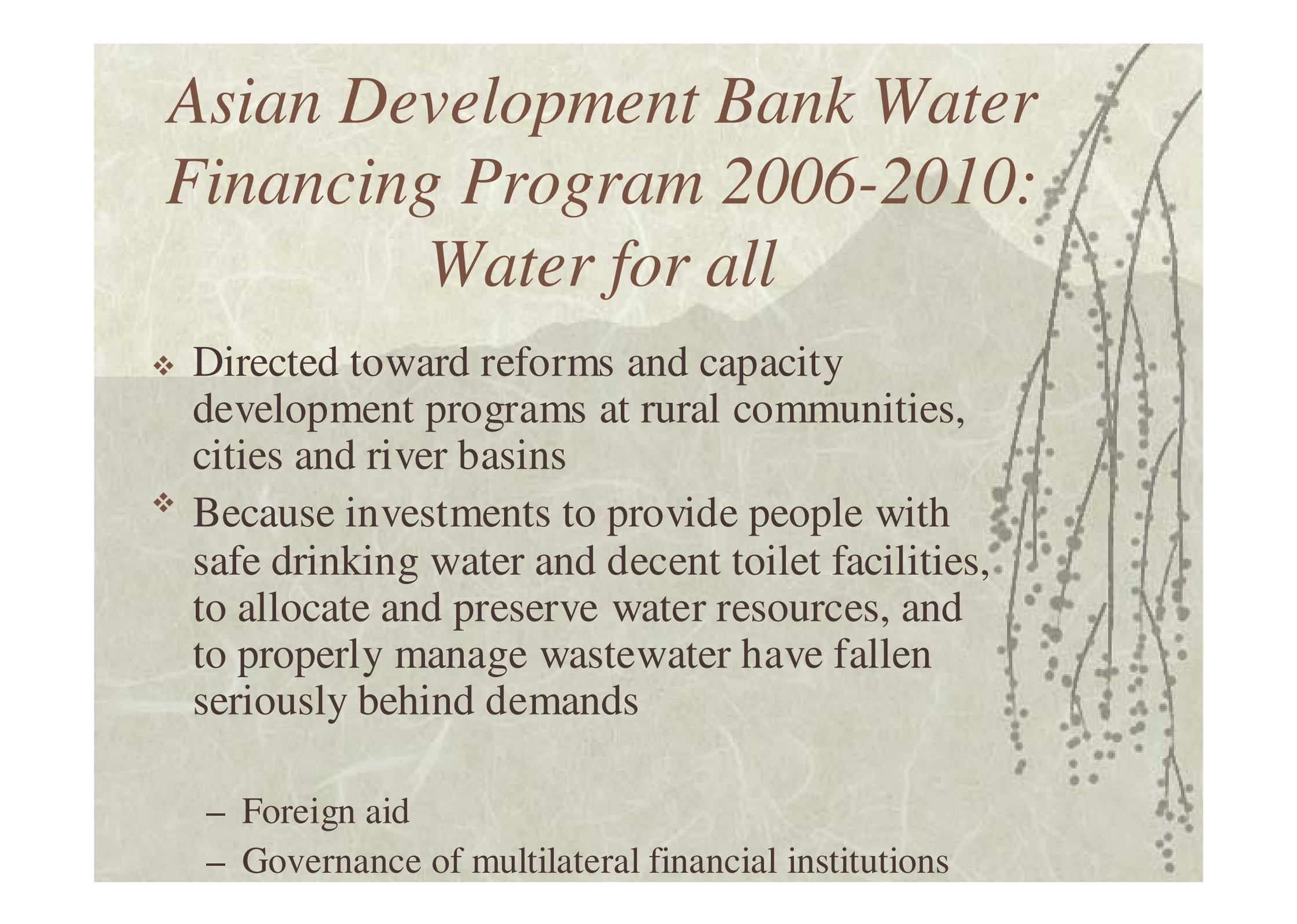
- ❖ Links individual and organizational development
  - For programme managers
  - For community members
- ❖ Builds local capacities for innovation and enriches perspectives of developed and developing peoples alike
- ❖ Creates conditions in which dominant notions of “development” can be questioned and debated in the interest of enhancing the quality of life for all human beings

# Works Cited

- ❖ Aragnuren-Baena, F. A. (2006). "Las Agencias de Desarrollo Regional (ADR) en el siglo XXI: hacia una reconfiguración de su marco de actuación operativa." *Revista de Fomento Social*, 61.
- ❖ Caney, S. (2006). "Cosmopolitan Justice and Institutional Design: An Egalitarian Liberal Conception of Global Governance." *Social Theory and Practice*, 32(4).
- ❖ Cusworth, J. W., and Franks, T. R. (1993). "Managing Projects in Developing Countries." Longman Scientific and Technical, John Wiley and Sons, Inc., New York.
- ❖ Heins, V. (2005). "Democratic States, Aid Agencies and World Society: What's the Name of the Game?" *Global Society*, 19(4).
- ❖ Hokanson, D. R., Zhang, Q., Cowden, J. R., Troschinetz, A. M., Mihelcic, J. R., and Johnson, D. M. (2007). "Challenges to Implementing Drinking Water Technologies in Developing World Countries." *Environmental Engineer: Applied Research and Practice*(Winter ).
- ❖ Hutton, G., and Haller, L. (2004). "Evaluation of the costs and benefits of water and sanitation improvements at the global level." World Health Organization, Geneva.
- ❖ Martin, N., and Sohail, M. "Regional Integration - a way forward for improved water and sanitation services in the Caribbean." Regional Governance for Sustainability Academic Forum, Australia.
- ❖ Schimdt, G. D. (1995). "Bridging the Donor-Decentralization Gap: Rethinking Incentives and Institutional Impacts in Control-Oriented Bureaucracies " *Studies in Comparative International Development*, 30(1), 24.
- ❖ UN-Water. (2008). "Status Report on Integrated Water Resources Management and Water Efficiency Plans: Prepared for the 16th Session of the Commission on Sustainable Development - May 2008."
- ❖ Weaver, C. (2008). *Hypocrisy Trap: The World Bank and the Poverty of Reform (copy-edit)*, Princeton University Press, Princeton and Oxford.
- ❖ Winpenny, J. (2003). "Financing Water for All: Report of the World Panel on Financing Water Infrastructure." Global Water Partnership; World Water Council; 3rd World Water Forum.

*Fin...*

[beury@ku.edu](mailto:beury@ku.edu)



# *Asian Development Bank Water Financing Program 2006-2010: Water for all*

- ❖ Directed toward reforms and capacity development programs at rural communities, cities and river basins
- ❖ Because investments to provide people with safe drinking water and decent toilet facilities, to allocate and preserve water resources, and to properly manage wastewater have fallen seriously behind demands
  - Foreign aid
  - Governance of multilateral financial institutions

## *Increased technical assistant through multidonor funds and facilities*

- ❖ Grant-and-guarantee fund for private investments that expand water services to poor communities
- ❖ Fund to catalyze water financing to cities without government guarantee
- ❖ Project preparation and monitoring facility for public sector water projects
- ❖ Water knowledge fund to finance knowledge, advocacy, innovation, capacity development and regional cooperation services

# *Multilateral financial institutions (MFI)*

- ❖ Expand use of guarantees and insurance
- ❖ Support/finance regional ISU
- ❖ Provide and set the exchange rate for water rations (which would have a return value guaranteed by MFI bonds)



**A survey of rural households in the Philippines elicited the following reasons for satisfaction with a new latrine:**

- 1) lack of flies;**
- 2) cleaner surroundings;**
- 3) privacy;**
- 4) less embarrassment when friends visit;**
- 5) reduced gastrointestinal disease.**

**This suggests that health is a less intense motivator than dignity, convenience and social status.**

**Source: WHO/EHG/97.8, 1997 (unpublished)**