International experience in sharing access to, charging for and managing water

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The Problem – Institutional lock-in

- Most water allocation and management systems were designed for and during conditions that no longer exist.
    - Abundant water supplies
    - Non-changing demand
    - Simple, labour-intensive technologies
- Core C21 issues include
    - Increasing water scarcity
    - Rapidly changing demand and supply
    - Improving quality and environmental service provision
    - Funding built infrastructure, service provision and management
    - Securing and maintaining trust

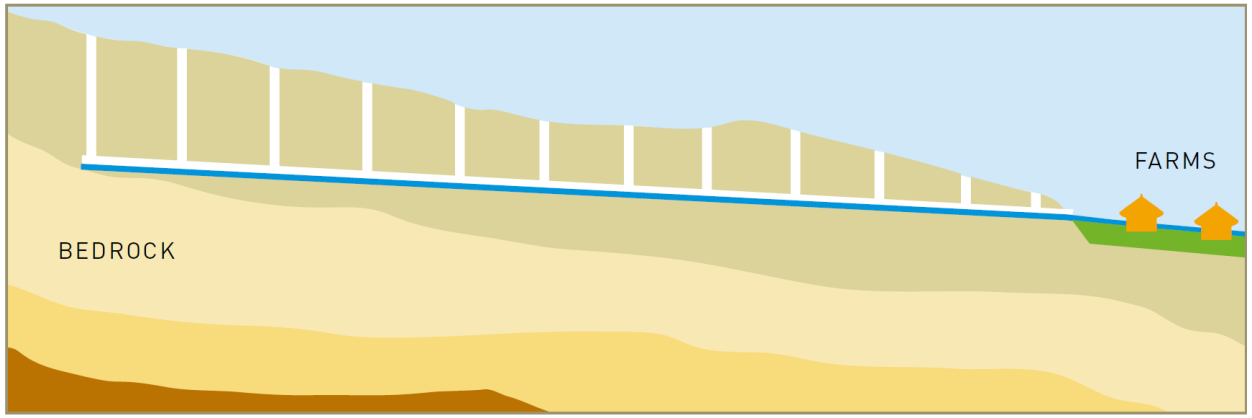
The systems we have are not good at sharing access

OECD 14 point “water-sharing” checklist

1. Is **water scarcity** (current & expected future) well-understood?
2. Are catchment and basin scale **governance mechanisms** effective?
3. Are individual and community ground & surface water **entitlements defined unambiguously and registered**?
4. Is there an **abstraction limit** (“cap”) on all sources?
5. Can the **supply risk management system** be expected to work under pressure?
6. Are **exceptional circumstance** arrangements in place for domestic users?
7. Can **new entrants** and existing users access more water without compromising the cap?
8. Are monitoring and **enforcement** arrangements effective and robust?
9. Is storage, treatment and delivery infrastructure **well maintained** and adequate?
10. Are **policies coherent** across sectors?
11. Do **abstraction** charges reflect supply costs?
12. Does the allocation regime guarantee **efficient environmental outcomes**
13. Are **return flow obligations** defined and enforced?
14. Can users quickly **reallocate water** among themselves?

Adapted from OECD, 2015 Water Resources Allocation: Sharing risks and opportunities

Qanat Systems (Also known as *kareez, foggara, Aflaj systems)*



Found in many Middle Eastern countries, Afghanistan, Eastern China, Spain, Mexico, Peru and Chile.

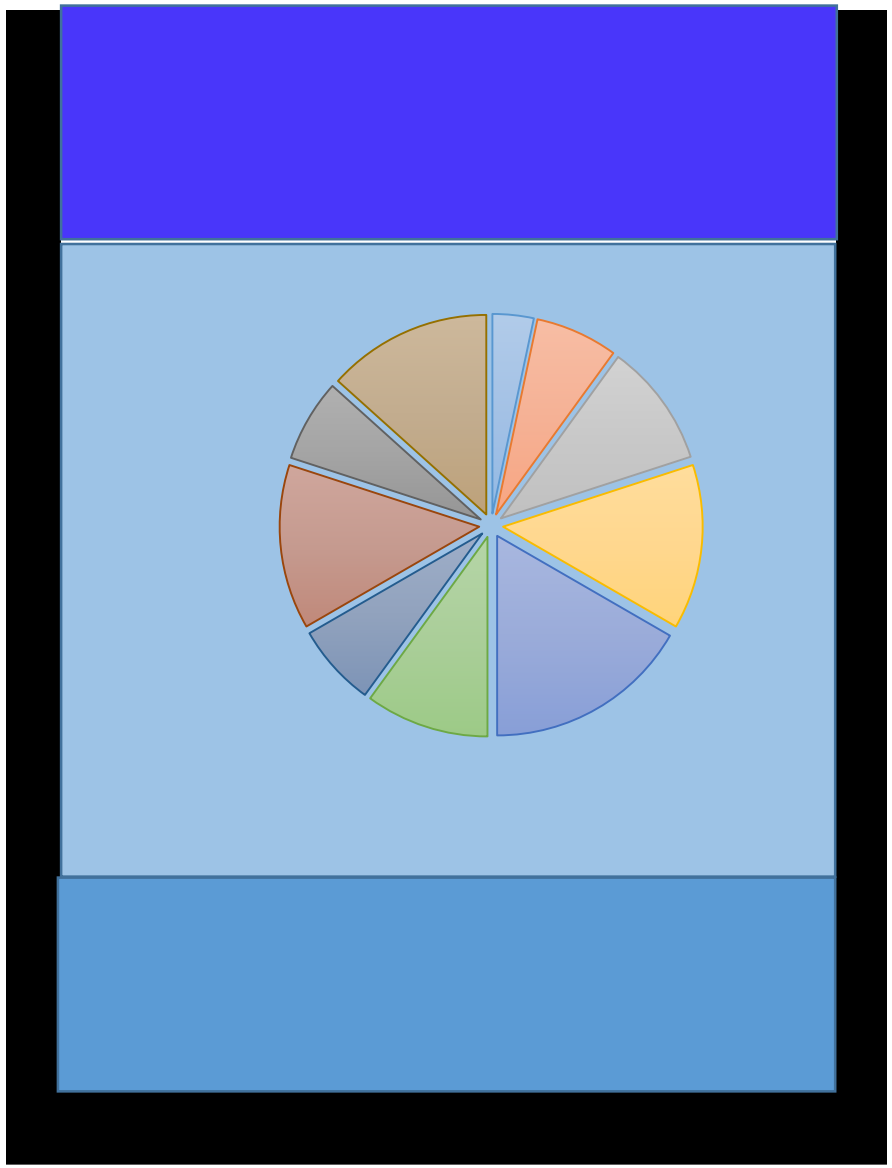
1. Access rights to a varying flow are shared.
2. Share ownership is defined by reference to a village book.
3. Shares are tradeable.
4. Flow allocations are tradable by the minute.
5. Maintenance is funded through the regular sale of allocations made to the "village's share."
6. The water master's decisions are final.

Adapted from Perry and Steduto , FAO 2017

Robust water sharing systems

- Begin by issuing shares
- When one nation, one province or one person wants more, someone else has to agree to have less!!!!
- In large systems, sharing systems have to be nested
  - Each country holds shares
  - Each province holds shares
  - Each district holds shares
  - Each individual holds shares
- Robust register, accounting and monitoring systems are essential

Adapted from Young, 2014



Flood Water

Water available for consumption

Conveyance, Navigation, Base Flow, ….

Adapted from Young and McColl, 2002

Six global water-sharing mistakes

1. Failure to account for **return flows** and surface groundwater connectivity – Australia
2. Lack of limit on use results in overuse – California, Bangkok
3. Lack of secure long-term entitlements discourages efficient investment – South Africa
4. “Prior right” or “seniority” systems discourage efficient use - Colorado
5. Bundled permitting systems have high management costs and become dysfunctional – Western USA
6. Lack of community trust and respect for the allocation system results in over-use – Most countries

Transitioning to a robust sharing regime

Secure early, local demonstrations of benefits of transitioning

1. Secure local ownership and commitment to a sharing system
2. Prepare a legally binding and locally enforceable plan
3. Build capacity to monitor and enforce
4. Establish accounting systems and technology
5. Issue shares and allocations
6. Once established and trusted, slowly bring system within sustainable limits

- At the basin level
  1. Design, discuss and define the “ideal” system
  2. Nurture the policy entrepreneurs needed to secure interest
  3. Keep the idea alive
  4. Be patient, wait for a crisis, an opportunity
  5. Be ready to act quickly

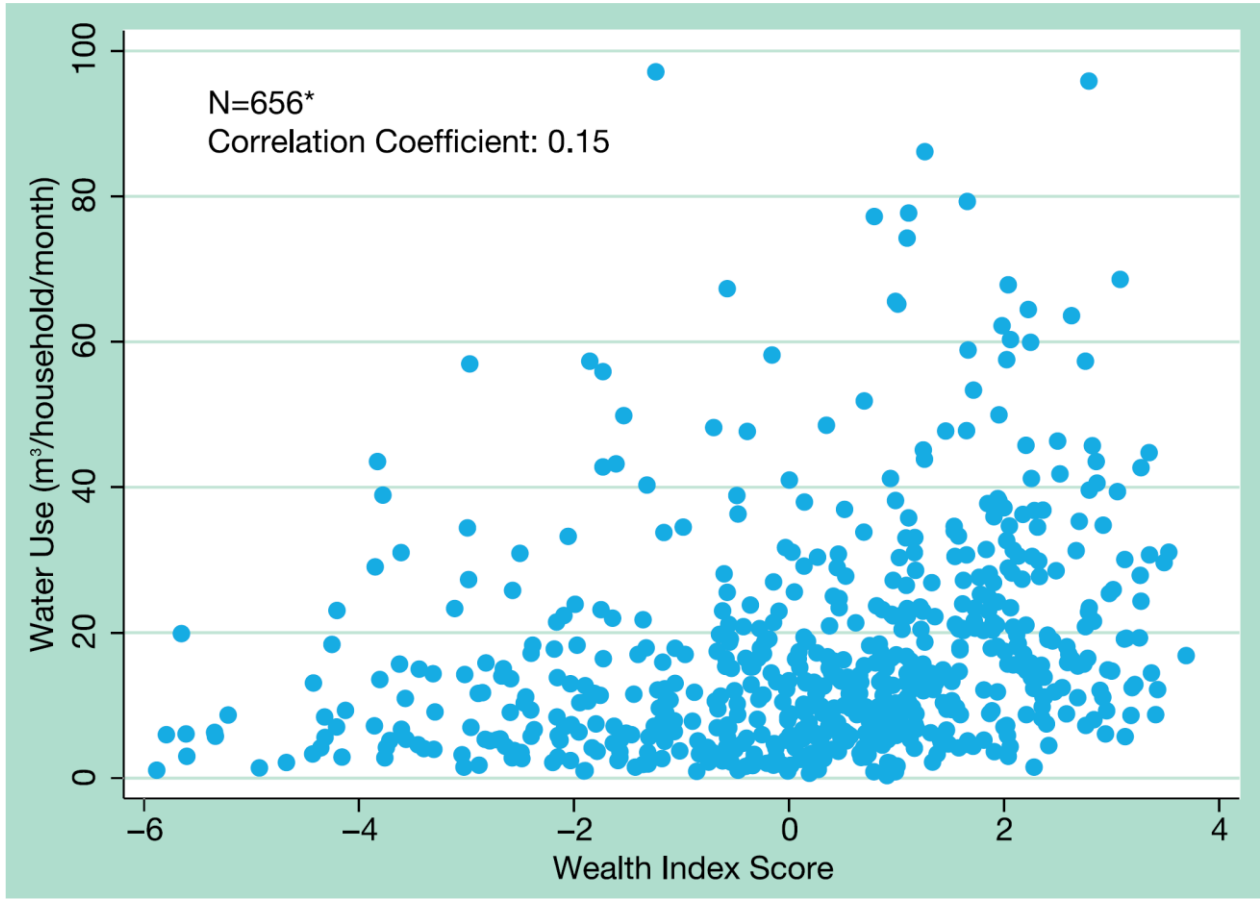
- Above all else, keep the public narrative simple

Young, 2017; Young and McAteer, 2017; Young and Esau (2016)

Water pricing and sanitation services

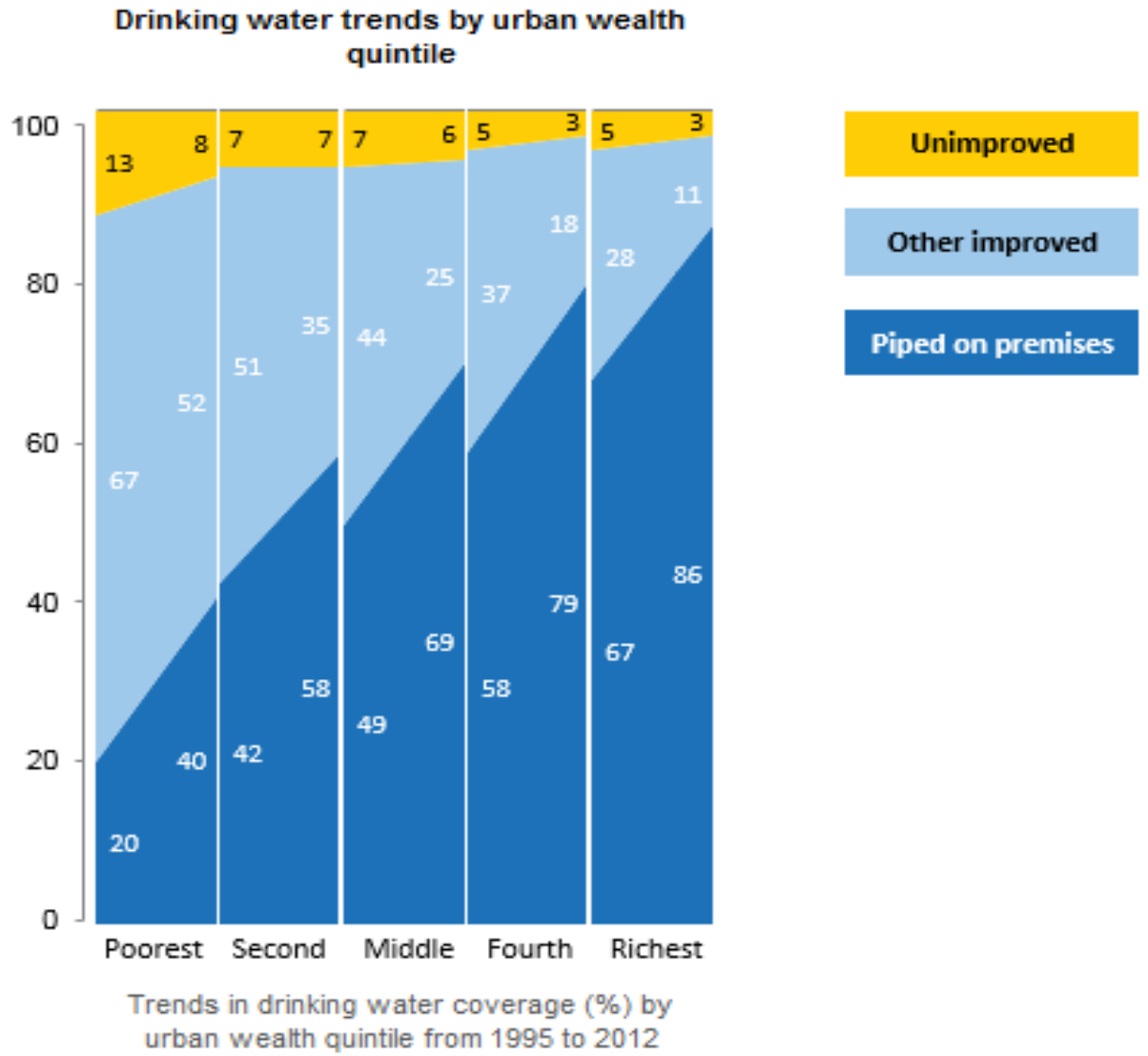
- Increasing block tariffs are the norm
  - First tranche – almost free (90 -100% subsidy)
  - Second tranche – nearly free (80 – 90% subsidy)
  - Third trance – pay a bit more (60 – 70% subsidy)
  - N^{th} tranche – still subsidized
- Utilities find it hard to secure the funds necessary to maintain existing systems
- Expanding coverage is politically challenging

But, water use is poorly correlated with wealth



Source: Fuente et al., 2016.

Drinking water source by wealth quintile, Phillipines, 1995 & 2012



IBTs favour wealthy people!

Source: WHO/UNICEF (2015b)

Global Water Pricing Advice

- Transition to a regime where there is a single volumetric charge per unit of water used and a fixed connection charge
- Use separate financial mechanisms to address affordability issues
- Remember **poor households** without access to clean, piped water pay the full marginal cost for every drop

Unbundling financial assistance from service delivery

Phase 1: Establish the capacity to implement a sound pricing and assistance policies

1. Collect and share information about who wins and losses from the existing IBT regime.
2. Reduce leakage.
3. Install meters on all private connections, fix broken meters and generally bring integrity to water service provision.
4. If necessary, make it economically attractive for households to move voluntarily to the use of metered connections.
5. Establish a program to finance household connection.

Phase 2: Establish transition pathway that focuses on cost recovery, economic efficiency, fairness and equity

1. Establish an independent regulator and build their capacity and reputation.
2. Build databases and systems that enable identification of poor households.
3. Begin offering direct financial assistance to poor households and raising charges in the most subsidised block.
4. Phase out differences between blocks and announce intention to move to a single tariff.
5. Begin charging industrial water users full cost of supply, wastewater collection and treatment.
6. Eliminate the discrepancy between industrial and residential water tariffs.
7. Reduce the difference between all blocks and, as soon as possible, discontinue the use of IBTs.
8. Set volumetric tariff equal to marginal cost.

Adapted from Young & Whittington, Global Water Partnership, 2016.

Concluding comments

International experience suggests a need to rethink the role of institutional arrangements

- Rethink and lock in the fundamentals
- Begin building the institutional systems designed for this century

In the Lower Mekong, water could be the place to start

The return on the investment could be very high

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