

Pricing water services: economic efficiency, revenue efficiency and affordability

Affordability : Principles and practice

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Overview of access and affordability issues in urban areas

- In Developing countries, urban poor dwellers still have **limited access to the water network** :

	Total	40 % poorest
Buenos Aires (Argentina) 2002 ¹	85 %	76 %
Manaus (Brazil) 2002 ²	80 %	66 %
Casablanca (Morocco) 2001 ²	79 %	62 % (55% of the 20% poorest)
Niamey (Niger) 1998 ¹	44 %	15 %

1: source : Komives et al. (2005)

2: author calculations

Overview of access and affordability issues in urban areas

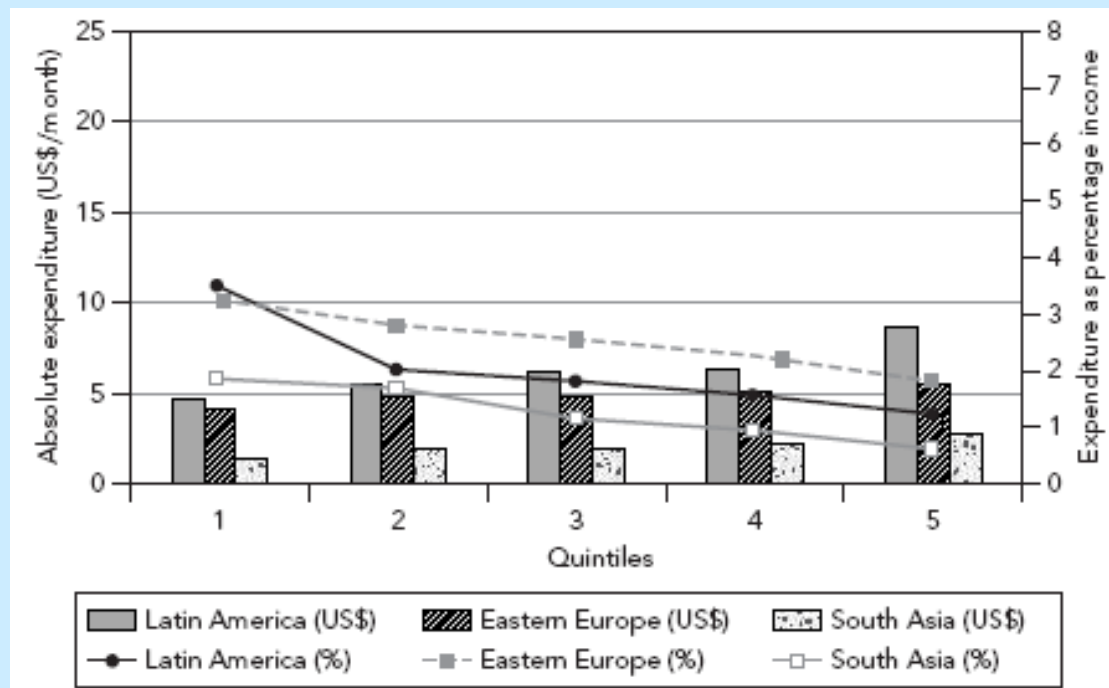
- **Widespread under-pricing** maintains the vicious circle of **low maintenance** and **limited access to water network** (GWI 2004: 39 % of the 132 cities analysed do not recover operation and maintenance costs and 100% of SE Asian and Maghreb cities).

	Average water tariffs (US\$/m ³)				Percentage of utilities whose average tariffs appear to be...		
	Mean	Med	Min	Max	Too low to cover basic O&M <US\$0.20/m ³	Enough to cover most O&M US\$0.20-0.40/m ³	Enough for O&M and partial capital
Global	0.53	0.35	0.00	1.97	39 %	30 %	30 %
HIC	1.00	0.96	0.00	1.97	8%	42%	50%
UMIC	0.34	0.35	0.03	0.81	39%	22%	39%
LMIC	0.31	0.22	0.04	0.85	37%	41%	22%
LIC	0.11	0.09	0.01	0.45	89%	9%	3%

Source : Komives et al. (2005) and GWI (2004)

Overview of access and affordability issues in urban areas

- **Rising prices to Full Cost Recovery** leads to **significant tariff increase**: Tariff increase (x2 to x10) would highly impact households, **increasing water monthly bill to more than 5% of income** in most parts of Asia and Africa (Komives et al., 2005).



Source : Komives et al. (2005)

Ensuring affordability using the water tariff structure

- **Cross subsidization** might ensure **affordable prices** for low income users:

- **Increasing Blocks Tariffs** are expected to achieve affordability objectives

but they are often **poorly designed** (wide «subsistence» block, insufficient «net subsidizers», and low income consumers might share meters or have large families thus consume in upper blocks.

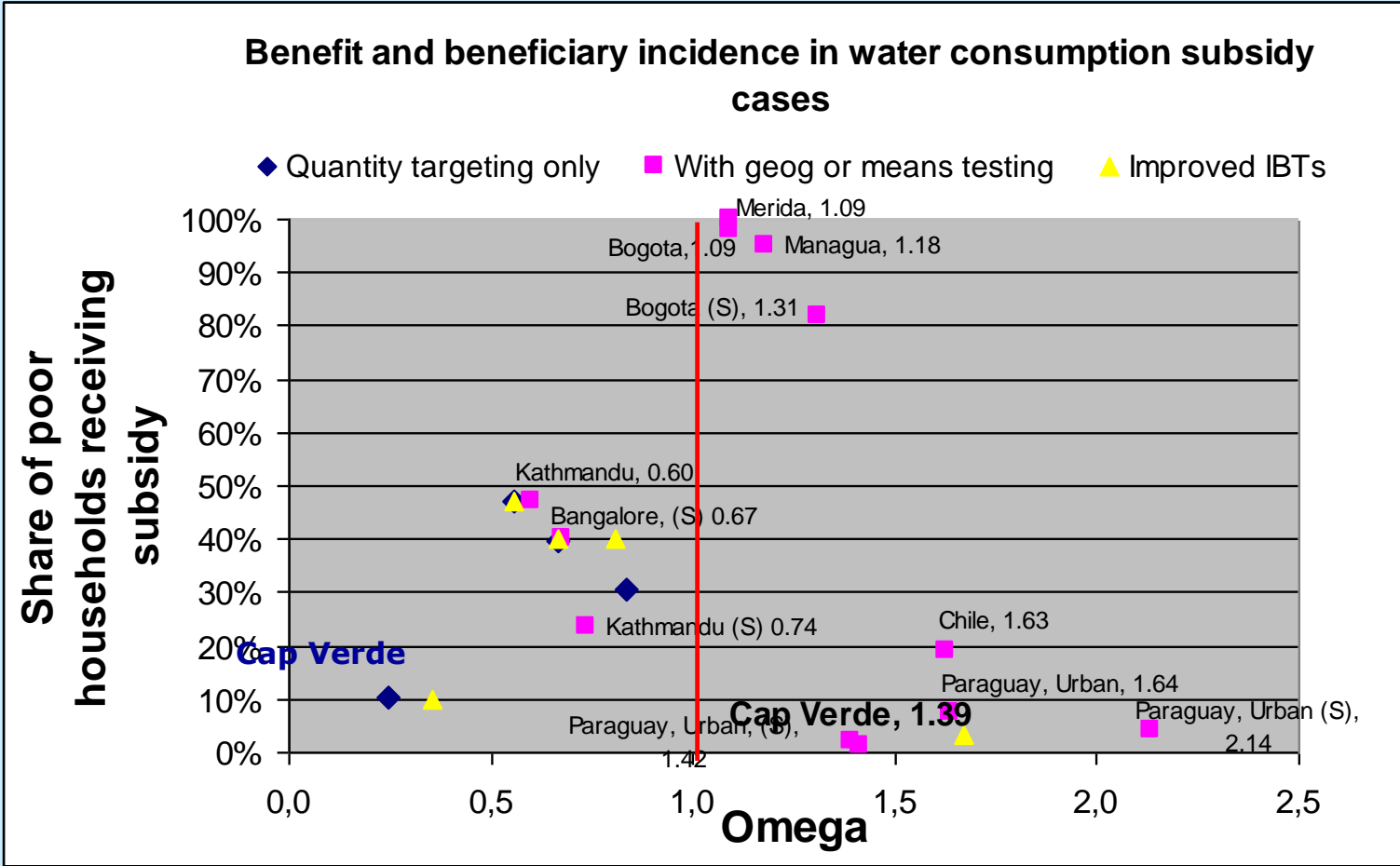
- **IBTs (weak) performance might be improved** with :
 - Limited subsistence block : 6 m³/month
 - 3 blocks : Subsistence block highly subsidized
Second block at cost recovery level
Third block as net subsidizer
 - **Expansion of the network** and elimination of the sharing pattern (**specific connection split programs** and low fixed charges)

Ensuring affordability using the water tariff structure

- **Cross subsidization** might ensure **affordable prices** for low income users (cont'):
 - **Uniform Tariffs with targeted subsidies** (geographical or means tested) avoid conflict between affordability and fairness but require good quality administrative data.

- ⚡ **Net subsidizers demand is assumed to be inelastic**
- ⚡ Better targeting might be **at the cost of exclusion of some eligible households.**
- ⚡ Affordability issues concerning **connection charges** should be taken into account

Ensuring affordability using the water tariff structure



Source : Komives et al. (2005)

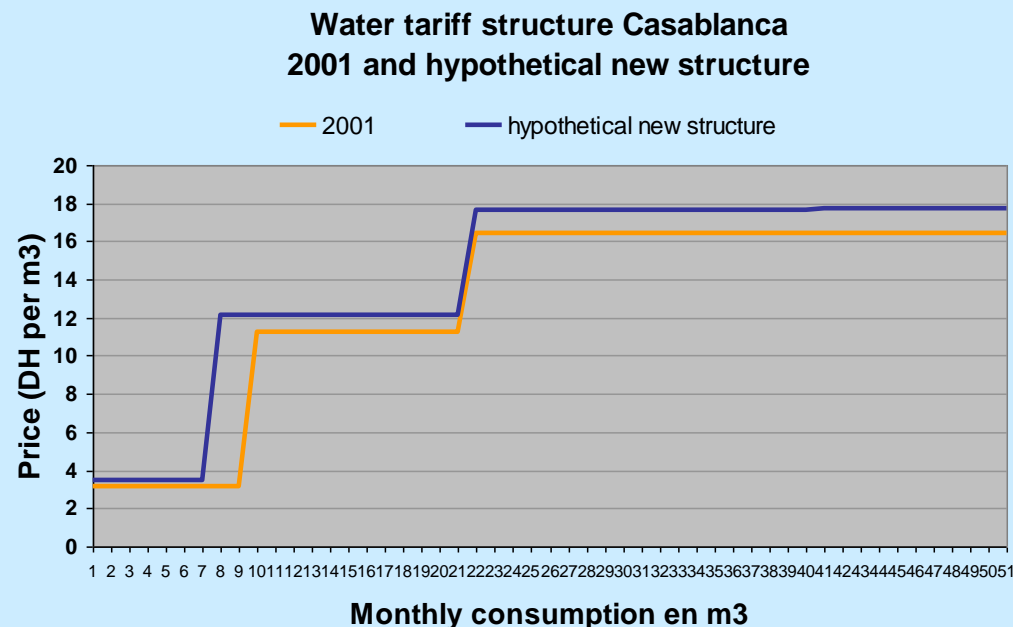
Improving IBTs: Casablanca Case study (Morocco)

Analysis of the distribution of consumption subsidies for several scenarios:

- **Present situation (2001) : Subsidy = Consumption cost – Bill**
- **Individualisation** of meters (Consumption of sharing households is predicted using their characteristics, and corresponding bill is computed).
- **Universal access** (Consumption of unconnected households is predicted using their characteristics).

- **New structure with reduced subsistence block:**

consumption is assumed to remain stable (elasticity zero), with present access conditions and with universal access



Improving IBTs: Casablanca Case study (Morocco)

Targeting performance of the subsidy under present and hypothetical scenarios using **Angel-Urdolina & Wodon analytical framework** :

	Beneficiary incidence	Targeting performance Ω
Present case	68.2%	72.5%
Individual access	68.6%	73.4%
New structure	70%	92.6%
Universal access	102.7%	106.6%
New structure with universal access	102.7%	131.6%

Ω = share of implicit subsidies in tariff structure received by the poor divided by the share of poor in population

- Expanding individual meters and universal access **does improve IBTs**, and **offsets its regressivity**.
- Decreasing the subsistence threshold to 6m³/mth **improves its targeting performance**

Targeting low income households

- **Targeting households** apart from their consumption level requires **costly administrative data** : Countries already providing social programs, such as Brazil, Chile, Mexico or Colombia might target households with limited costs and limited exclusion.
 - Lessons from Manaus (Brazil) where IBT fails to cross-subsidize poor customers and repeated price increase has led to significant water consumption drops (see appendix).

- **Targeting households might be achieved based on the service level** (self-selection) : public tap, limited volume supplies (South Africa), macro-metered communities (Latin America).

- ⚡ «lower» level of service might not be an option for poor urban dwellers claiming their access to city services as any dwellers (WTP for public tap close to zero in Manaus (2002) and Casablanca (2004)).