IWRM Action Hub

IWRM TOOL - D2.03

Generating Basic Revenues for Water

Summary

Providing water services involves great capital and operation and maintenance costs. Achieving full cost recovery is often easier said than done as water services is a highly contentious and politicised topic. This Tool defines the basics related to cost recovery, explores the 3Ts funding mechanisms for water resources (tariffs, taxes, and transfers), highlights new innovative instruments built around water and climate adaptation, and introduces some contested issues on revenue generation in water service delivery provision.

Defining Cost Recovery

“Cost recovery” is the ability of a service provider to take in sufficient revenues from customers to cover their current and some of their future costs. These include operations and maintenance costs (to deliver the service) as well as capital costs (including recuperation of asset depreciation over time and savings to pay for future capital investment needs (World Bank, 2012). There are three types of cost recovery relevant to this analysis: (i) operational cost recovery means that the revenues are at least equal to the operating expenses of providing a service; (ii) full-service cost recovery means that capital maintenance expenditure and costs of capital are also recovered: and (iii) full environmental cost includes the external costs of a service, including any environmental damage (World Bank, 2011). On the other hand, “sustainable cost recovery” aims to achieve cost recovery from a combination of financial sources, including user charges, public budgets, and Official Development Aid (ODA), rather than from tariffs alone.

Funding Source for the Water Sector: 3Ts Model

Water is paid for by tariffs from water users, subsidies (from taxes) from national taxpayers, and/or grants (transfers) from external sources or philanthropists. These three sources, better knowns as the 3Ts, make up the basic revenues which can be used to attract financing through repayable sources of finance (Figure 1).

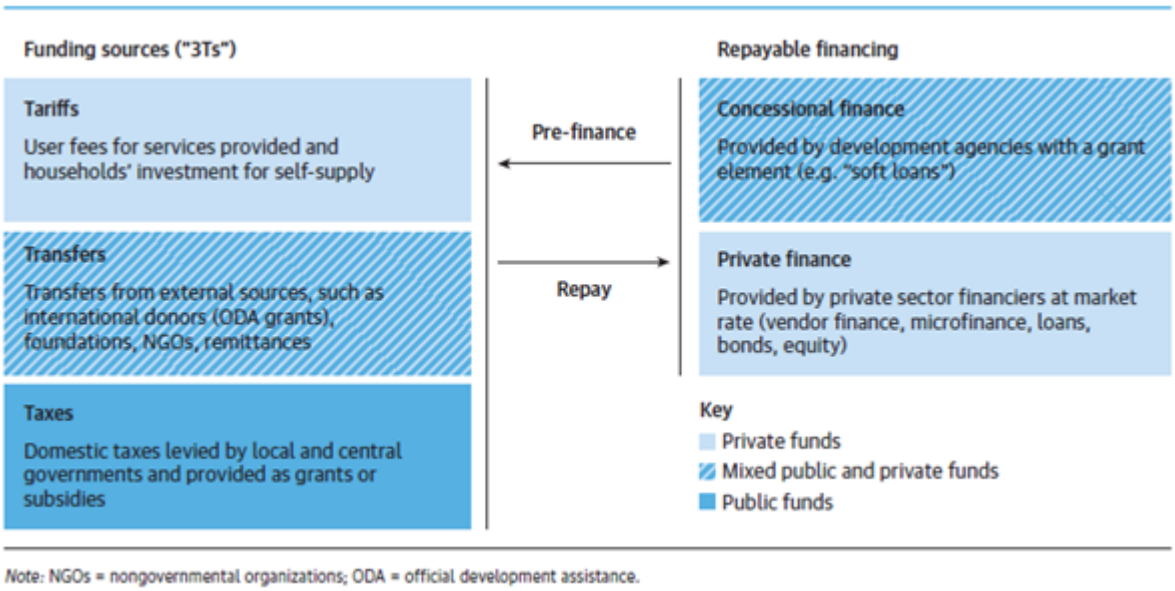

Figure 1. Traditional Revenue Sources for the Water Sector. Source: World Bank (2017).

Tariffs

Households and industries are probably the most important players in the water, sanitation, and hygiene (WASH) value chain. They are, as consumers, the main source of funding for WWS provision through "tariffs". Tariff revenue is the foundation of future cash flows to support recurrent operation and maintenance expenses (O&M). In well-managed services with a good revenue base (e.g., in sizeable urban areas) tariff revenues from user charges should contribute to recovering investment costs too. The situation is somewhat different for irrigation water for farmers, where there is a tradition in many countries for nil or very low charges, offset by a high degree of subsidy. Cost recovery in agriculture has made limited progress in many countries (Easter and Liu, 2007).

Consumers' behaviour is fundamental to determine the interest of private financiers to invest in water infrastructure. If there is a culture of payment that allows WASH providers "sustainable cost recovery", rather than from tariffs alone, there will be a high interest to invest in them (OECD, 2011; MGI, 2016). However, the political setting may influence households and industries not to value water and then not to pay for it. Politicians are prone to advocate for subsidising the costs of WASH (OECD, 2011). This discourse sets incentives for a culture of free water, non-payment, and informal connections that, in the end, affects the financial health of operators and the quality of WASH. An unreliable service induces households to search for informal alternatives of provision such as community-based solutions or informal small scale water supply businesses which, can be more expensive and are often unregulated in terms of quality standards. In the case of private

companies, the impact is even more negative because an unreliable supply of water gives an incentive to look for self-supply which may weakens the economies of scale argument that attracts the interest of private providers of WASH.

Taxes

The role of government is therefore also fundamental in understanding WASH provision. They are the most important source of capital through taxes. The (World Bank, 2012) estimates that at the beginning of this century, the public sector contributed 75% of water infrastructure costs. A recent estimate indicates that the US public sector bears 91% of infrastructure finance (MGI, 2016). National, regional, and local governments usually support infrastructure projects by transferring funds that come from general taxation. As (OECD, 2011) states, “the most widespread form of subsidy among OECD and developing countries alike is capital expenditure. In OECD countries, for example, most of the heavy initial investment that was made in the late 19th and early 20th century (for water supply and sanitation) and since the 1960s (for wastewater treatment) were financed through public funds”. Therefore, subsidising with taxes water infrastructure projects that demands costly upfront investments is a realistic approach, for full cost recovery through tariffs is not always financially feasible.

Moreover, some projects pursue both efficiency gains and redistribution benefits (Stokey and Zeckhauser, 1978). For example, extending piped water to slums where households would pay a subsidised tariff that only covers operating costs. Tax-funded subsidies can be targeted to specific purposes or to support specific groups of deserving consumers. They may also be included as part of a performance-related agreement between the government and the utility providers. Or else they can be used ex-post facto to cover operating deficits as they arise. Government grants and loans on concessional terms are also widely used to fund capital investment. Subsidies may be wrapped into “soft” loans from the government to the service provider, which have the merit of containing signals and incentives necessary to nudge utilities towards greater financial autonomy.

Transfers

Finally, through transfers development agencies, NGOs, and philanthropists play a significant role. Even though some development agencies have been also an important source of funding for infrastructure in the form of concessional loans (credits that are tied up to grants for development projects), the focus of their investments is giving technical assistance for governments and communities to improve water governance and local management capabilities (OECD, 2011). These agencies may be criticised as they may encourage aid recipients to adopt water technologies that are not suitable or financially feasible for the context. Choosing the right technology is cited as a determinant factor in the provision of water and sanitation services in developing countries, which may harm financial sustainability of utilities in the long-term (World Bank, 2012).

In developing and transition countries, international solidarity from non-governmental sources provides significant volumes of grant support for water supply and sanitation projects. A number of large foundations are active in the area, transferring annual sums that rival those of official aid agencies. There is also a multitude of NGOs working mainly at

the local project level, many with overseas links, but with others drawing on national charitable, religious, and community movements. Recently, several companies have also become active in providing water services as part of a corporate social responsibility agenda (Tool C5.05).

Searching for Other Innovative Sources of Funding: Adaptation Financing

With climate change in the top of the international agenda, GWP-WWC has championed for new sources of funding that make the water sector more financially resilient (GWP-WWC, 2018). These organisations propose some new mechanisms that do not constitute a recurrent flow of funding but might contribute to sustainable costs recovery to support investments in adaptation by capturing the value of savings when disasters are avoided. Some of these mechanisms are:

- **Results-Based Payments**: This a market-based instrument based on the idea of "reverse auctions" (Bingham et al., 2021; Lundberg et al., n.d.), by which suppliers of environmental services (e.g., farmers that can plant trees in their lands to reduce erosion and runoff) bid together or individually to supply climate resilient outcomes to paying beneficiaries (e.g., local governments, water authorities, utilities interested in reducing risk of flooding) in specific catchments.
- **Resilient Bonds**: In this type of insurance, in the event of an eligible disaster (e.g., floods related to a tropical storm), investors lose all or a portion of the capital value of their insurance-linked bond that is paid to the party insured. Part of the proceeds derived from the interest payments are used to support water investments for adaptation that would reduce the likelihood of eligible disaster events (Tool D2.06).
- **Land Value Capture**: Investment in adaptation can create local economic benefits due to a reduction in physical risk and/or an improvement in the provision of water services. This can result in increases in land value and in property prices. Capturing land value increases is usually done through additional property taxes or charges. Multilateral development banks and donors could explore underwriting or insuring these future revenues, enabling the upfront investments to take place.

Contested Issues in Financing Water Services

Here is a list of major issues of contention and bottlenecks with regards to funding WASH services:

- **Increasing tariffs to improve revenue**: As (WWC & OECD, 2015) points out, "uneconomically low tariffs, which reduce cash flows for efficient O&M as well as capital investment, have been identified as the basic problem of water in virtually every serious published analysis of WWS and irrigation. Water tariffs remain an intractable problem in many cases and concerns, however legitimate, about their "affordability" is a block on tariff reform". However, there are opportunities to increase revenue by improving the collection of fees without changing the tariff, reducing non-revenue water (comprising leaks, illegal diversions, and water not billed), and implementing innovative systems of charging for water such as pre-

payment for services.

- **Affordability of tariffs**: Affordability is an important issue in fixing water tariffs. Some societies frown on charging for water, while others interpret the human right to water to imply that it should be provided free (Tool A2.05). However, a pragmatic view is to charge users for the services – the costs of supplying their water, sanitation, and wastewater services, provided that these are at a level that does not cause hardship to poorer consumers, nor dissuade them from using services that are essential to public health. The negative impact of tariffs on the poor and less affluent consumers can be mitigated by using progressive tariffs (whose unit rate rise with larger volumes of consumption). Some countries also cover the water bills of low-income households from social security payments or through subsidies.
- **Efficiency is a key driver of financial sustainability**: As the (World Bank, 2017) advocates "when both capital and operational efficiency improvements are made, service providers are better able to move toward a more realistic tariff that is both reflective of the service quality and more affordable. Customers are more willing to pay for a better service, especially if they have been footing the bill for inefficient delivery in the past. This link between service quality and revenue makes providers more customer-oriented and better able to continue making improvements once they better understand their customer base".
- **Uncertainty of public funding**: For countries whose fiscal revenues are precarious and variable (e.g., due to low levels of tax collection, or dependence on the prices of commodity exports) the dependence of water services on subsidies from the national budget is a source of financial uncertainty, which can leave utilities in a hand-to-mouth operating position causing poor levels of service and neglect of essential maintenance. The concept of sustainable cost recovery in the Camdessus Report (Winpenny, 2003) recognises the continuing importance of public finance for water but stresses the need to make this a more predictable and reliable source.
- **Negative effects of subsidies**: Subsidies are widely used in household and irrigation water services. Although they may serve important social purposes, they are difficult to remove, create subsidy-dependency, lead to wasteful and inefficient use, and impose high and rising fiscal burdens in many cases. Subsidies are often based on political decisions rather than considering economic and financial feasibility. The worst costs and distortions from water subsidies can be avoided or minimised by making them smart – targeted, transparent and (ideally) tapering off over time. The best use of subsidies is to finance new connections, rather than to keep down water tariffs.
- **Dependence on transfers**: Excessive reliance on external ODA may also create financial uncertainty, due to shifts in aid fashions and budgets. Dealing with a multiplicity of donor agencies can also overwhelm small and overstretched local administrations. The benefits of ODA can be enhanced by making medium term (3-5 year) or even longer term commitments, and by the use of national channels and procedures.

Thematic Tagging
Urban , Water services
