IWRM Action Hub

IWRM TOOL - C4.05

Subsidies

Summary

Subsidies can be used to reward actions that promote water security and mitigate the impacts of policies that are unfavorable for poor and other underprivileged groups. This Tool introduces the basic principles related to subsidies for water, showcases the differentiated use of subsidy mechanisms in the irrigation and WASH sub-sectors, provides an analytical framework for classifying subsidies, and discusses contested issues related to introducing new subsidies in the water sector.

What are Water Subsidies?

A subsidy refers to “when a user/customer pays less for a product or service than the service provider’s cost, leaving a third party (e.g., government, other users, future generations) responsible for covering the difference” (World Bank 2019, 3). Subsidies and positive economic incentives in the water sector typically arise in the following circumstances:

- To cover debts and deficits incurred by a public water service provider that is in default
- To depress the general level of tariffs or charges for political motives
- To favour certain groups of consumers over others, through the tariff structure, or by paying water bills through social security schemes, or providing farmers with free water or subsidised power
- To encourage the take-up of socially desirable services (e.g., providing household water connections or toilet facilities free or at reduced rates)
- To promote water efficiency by households, farmers, companies etc. by subsidised loans or product prices for conversion to improved practices such as drip irrigation, or water-efficient production processes or household appliances.

Subsidies in Agriculture

For the agriculture sector, the discussion about subsidies is closely related to water allocation and pricing mechanisms. There are water pricing structures that are specific to this sector, such as per area prices (where charges are related to the area irrigated, often at either a flat rate or contingent on the specific crops grown) or combined water quotas with a price (either fixed or marginal, based on volume, which may also vary by crop) (Tool C4.01). Subsidies in agriculture can come different forms, each of them having a differentiated impact on water resource management:

- **Subsidies for irrigation infrastructure:** To cover the capital and/or the operation and maintenance costs. Lower prices for irrigation technologies can may enhance uptake of irrigation in the short run but, in the long run, can have an adverse bearing on the effectiveness of irrigation systems and water use (SIWI, 2016). They have proven to result in poor maintenance and consequent inefficient operation of existing irrigation systems, limited capacity for improvements or investment in new infrastructure, and waste of water at the farm level (UN, 2021).
- **Subsidies for input use or production:** Including for seeds, fertilisers, machinery, etc.. This can impact water quality/quantity and the environment (e.g., use of fertilisers without constraints increasing diffuse pollution; growing of water-intensive crops that depletes surface or groundwater sources) (OECD, 2021).
- **Cross-sectoral subsidies:** They are tariffs applied for one service that are funding the costs of another. An example is subsiding energy for groundwater pumping for agriculture. Research on this issue in India hast found out that electricity subsidies have contributed to groundwater over-exploitation, increased groundwater extraction, and shifted cropping patterns towards more water intensive agricultural production (e.g., a 10 percent reduction in the average subsidy generates a 6.7 percent decrease in groundwater extraction) (Badiani and Jessoe, 2013).

Subsidies for WASH Provisions

Subsidies are widely used around the world for WASH service provision (OECD, 2021; UN, 2021). On the one hand, there are demand-side subsidies, which involve a direct transfer from the fund provider to the subsidised user (government transfers money directly to the user, who then uses it to pay the service provider). They are considered the best option as they are targeted to the most needed. On the other hand, there are supply-side subsidies whereby funds are channelled through the service provider or another third party, which, passes the funds on to the consumer in the form of lower prices. Social, economic, and environmental justifications that support subsidies in the WASH sub-sector include:

- **Expanding equitable access to affordable WASH services:** To help poor or marginalised segments of a population get connection and afford water bills (e.g., subsidies for connections, paid only once).
- **Ensuring a minimum level of consumption:** For example., securing a minimum quantity of water for human needs, paid on a regular basis).
- **Harnessing the positive externalities associated with WASH services:** Such as positive environmental impacts and improvements in health (e.g., curbing water-borne diseases among children) and education (e.g., sanitation services for girls to reduce absenteeism during menstruation).
- **Improving efficiency and effectiveness of capital expenditure:** Achieving (1) economies of scale (reduction in average costs as a system expands and incorporates more users); (2)

economies of scope (lowering costs of providing water and sanitation services together as compared with providing each service separately) and; (3) operational efficiency (lowering long-run costs to render services more affordable to all customers).

Classification System for Subsidies

Subsidies in the water sector, particularly in the WASH sub-sector, are complex and thus need a close look at how they are classified (World Bank, 2017; 2019). Subsidies might be funded by governments (taxes), philanthropic organisations (concessional loans or grants), users (cross-subsidies, e.g., wealthier users paying more to compensate poorer users' consumption), and other sectors (cross-sectoral subsidies, e.g., subsidised energy for WASH providers). The World Bank (2019) proposes the a four-step classification of subsidies to enhance efficiency in targeting those who need the most (Figure 1):

1. **Untargeted vs Targeted**: If the intended beneficiaries are an entire population or a service provider's entire customer base, then subsidies may be considered "untargeted". If, on the other hand, the intended beneficiaries are a distinct subset of the population or customer base (e.g., poor households), then subsidies are "targeted". The latter can take two forms
2. **Implicit vs Explici**t: "Implicit" transfers refer to when products, services, or inputs are underpriced (e.g., nonpayment for electricity or deferred maintenance), while "explicit" subsidies entails for financial transfers between two entities (e.g., a utility and a customer).
3. **Self-selection vs administrative selection**: A "self-selection" scenario can entail, for instance, for a consumers' selection of a service category (e.g., choosing consumption levels under a block tariff) (Tool C4.01). The "administrative" selection, on the other hand, is based on a classification of consumers (e.g., consumers' income or wealth; social characteristics), so that subsidies flow to those segments of the population that need them the most.
4. **Direct vs indirect targeting**: If income/wealth is observable, "direct" targeting of the subsidy can be carried out and monitored to through the administrative system. Otherwise, "indirect" targeting should be chosen, relying on proxy variables, such as geographical location or housing quality (e.g., residence in a certain neighborhood; dwelling type identified as poor).

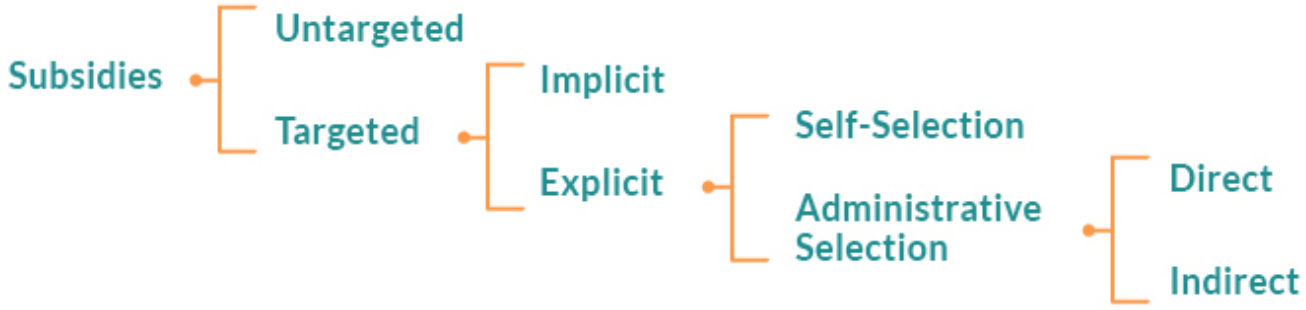

Figure 1: Categorisation of Subsidies in WASH provision (Adapted from World Bank, 2019)

The Affordability Criteria

As Davis (2020, 1) points out: "designing programs to deliver subsidised services requires balancing two inter-related objectives: (1) providing subsidy benefits to as many eligible households as possible;

and (2) preventing leakage of subsidy funds to ineligible households". These objectives are better achieved using an affordability analysis. Affordability is defined as "a bundle of WASH services with multiple attributes (such as quantity, quality, and timing) is available at a price that does not impose an unreasonable burden on the consumer" (Word Bank 2019, 48). The affordability criteria determines:

- Whether a subsidy is required to support one-time access costs or recurrent consumption charges;
- The service and/or population that should be targeted;
- The magnitude of the subsidy required which in turn constrains the available funding options;
- The subsidy design options that would be most effective and efficient.

Subsidise or Not?

Although subsidies may be introduced with the best of intentions, the introduction of new subsidies should be very carefully considered, since they tend to be difficult to remove and can become a fiscal burden. The quest for smart subsidies should be targeted (to specific users or practices), transparent (obvious and accountable, rather than occult), and tapering (reducing and phasing out over time). Subsidies and incentives should also be efficient – achieving their goals with least outlay and minimal unwanted side effects. As such, there are many pros and cons that should be taken into consideration in the decision-making process towards introducing new water-related subsidies:

- Subsidies and other (e.g., tax) incentives can encourage the uptake of unfamiliar technology (e.g., recycling and water-efficient irrigation methods) (Tools C3) or stimulate pilot schemes that might lead to wider acceptance of desirable practices.
- Subsidies (such as low-interest loans) might also be a way of tackling stubborn market failures, for instance those hindering the uptake of recycling or water-efficient appliances and processes.
- Subsidies for price may help those who already have water services, but do not benefit those without access to water. For urban household water distribution, it may be preferable to use subsidies to encourage new connections by poor households, rather than to keep the tariff down for everyone.
- Subsidies may have the ostensible purpose of protecting vulnerable and poor groups in society, but the weight of evidence is that, in practice, most of their benefits accrue to better off consumers.
- It is generally acknowledged that subsidies run contrary to the Polluter Pays Principle and are therefore popular among polluters. To overcome this challenge and to ensure compatibility with the Polluter Pays Principle, subsidies should be financed from charges on polluters.
- Subsidies often promote excessive consumption of water. Low water prices for industry and power companies encourage excessive use of water. Moreover, household bills may result in profligate domestic water use and neglect of leakage reduction.

Thematic Tagging
Ecosystems/Nature-based solutions
