

ECONOMIC INCENTIVES TOWARDS SUSTAINABLE WATER MANAGEMENT

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Introduction

By creating incentives, raising revenues and increasing cost efficiency in meeting policy objectives, *economic instruments* can help ensure that river basin management programmes are environmentally effective, economically efficient and managed in accordance with sound financing principles.

Appropriate resource pricing

With increasing water scarcity and degrading water quality, *water pricing* is increasingly seen as a necessary instrument of public policy, with the dual aim of expanding infrastructure and encouraging more responsible use.

In 1989 the OECD Council recommended that Member countries develop and implement effective water demand policies through making greater use of “*appropriate resource pricing for water services*”. The concept provides the basis of charging for all types of uses. The price of water services should at least cover their opportunity costs, that is the capital, operation and maintenance (O&M), as well as environmental costs, which in turn should reflect the long-run incremental costs to the community of satisfying marginal demand. Such “appropriate resource pricing” is usually known as long-run marginal social cost pricing.

The Recommendation is meant to supplement and strengthen and not in any way to weaken the “*Polluter-Pays Principle*”, as adopted by the OECD Council in 1972. The PPP is usually interpreted as both a principle of cost allocation and a principle of cost internalisation. As a principle of cost allocation, the PPP addresses the question of ‘who pays’ for pollution prevention and control. The PPP instructs that those responsible for causing pollution are required to bear the costs of pollution prevention and control measures. As a general rule, governments should not give the polluter assistance of any kind for pollution prevention and control. In this way, the Principle seeks to avoid potential international trade and investment distortions from environmental subsidies to polluting sectors. As a principle of cost internalisation, the PPP seeks to improve economic efficiency by internalising external environmental costs of production and consumption into market prices. This raises the question of what environmental costs and ‘how much’ should be paid.

In practice only a third of OECD countries cover O&M costs and all/part of capital costs through *user charges* for public water supply and for sewerage and waste water treatment, and environmental costs are generally not reflected in water prices (though there are cases of seasonal pricing in arid areas).

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Direct water abstractions represent 75% of total water consumption by industry in the OECD area. Half of OECD countries have implemented *resource charges* for direct pollution and/or withdrawal by industry. In most cases abstraction charges were created to raise revenues for administration and management costs, so that their level is generally low. In contrast, pollution charges for discharging effluents to natural waters are often quite high, creating incentives for in-house water recycling or treatment in large industries.

OECD countries are at very different stages in developing *water pricing systems in agriculture*. However, most of the costs of investment in irrigation still fall on the taxpayer and on other water users (through cross-subsidies). And it is, in the main, national treasuries that have financed dams, reservoirs and delivery networks, as well as a large part of the cost of installing local and farm infrastructure. Governments generally attempt to recover some of these costs through user charges on irrigation water supply, but revenues are rarely enough to cover even O&M costs. As regards resource charges, as a rule, farmers have free access to (or are charged only a nominal fee for) water that they pump themselves. And several OECD countries continue to offer preferential tariffs for electricity used to pump water for irrigation.

The economic distortions caused by the underpricing of water used in agriculture have been compounded in many instances by *agricultural policies*, particularly those linked to the production of particular commodities. Such linked support draws resources, including water, into the activity being supported, thereby driving up both the price of water to other users and the volume of agricultural subsidies. Little efforts have been done to address diffuse pollution from agriculture. Here again agricultural support misaligns farmer incentives and aggravates pollution of water.

Affordability issues

Economic efficiency tend be environmentally effective as higher prices tend to reduce wastage, but it is sometimes regarded as conflicting with social equity goals, as in cases where water metering is not compulsory because of concerns about the regressive impact on poorer households. There is also the argument that social objectives related to water could be more efficiently achieved via other policy approaches besides changing either price structures or price levels (e.g. via changes in income tax policies). A balance must be struck between economic/environmental efficiency and equity objectives, which would entail either budgetary support or cross-subsidisation (from rich to poor) by water utilities. Available evidence suggests that, in half the OECD countries, affordability of water charges for low-income households is either a significant issue now or might become one in the near future. OECD countries apply a wide range of practices, such as *targeted support to low-income groups* (e.g. additional direct income support, increasing block water tariffs where those who only use a small amount of water pay very little for it, subsidised connection fees), rather than providing across-the-board subsidies through low water prices.

Now when looking at the situation in areas where poverty is widespread and affordability of water prices a key issue, it has become clear since 2000 and adoption of the Millennium Development Goals that the (health) benefits of water supply for all outweigh the (infrastructure development) costs. While the long-term objective of “full-cost recovery” from user charges remains valid in *non-OECD countries*, this is probably unrealistic in most of them in the short-term. In countries where more than 60% of the population lives on less than two USD per day, affordability constraints will require that public budgets and external finance play an important role in covering capital costs, that is high (low pay-back) initial investments. Furthermore, as non-payment of water bills is widespread in many developing countries, often due to the poor quality of water services, tariff increases should ideally correspond to improvements in service quality that can be felt by consumers in order to avoid a deterioration of their willingness-to-pay.

Good water governance and the whole-basin approach

Further to applying sound pricing principles to users and polluters and reducing distortions from agricultural policies, a number of OECD countries aim at managing water resources and pollutant discharges in a common, consistent framework at the river-basin level. An important development in this area is the European Union water framework directive which calls for the implementation of integrated water management in all EU member countries. Because such *integrated policies* allow for taking proper account of the link between water use and water pollution, they can be expected to bring more efficient results than can be obtained in the absence of co-ordination. For example, they lead to comparing the costs of cleaning water downstream before it is supplied with the costs of discouraging pollution upstream. Integrated policies also facilitate cost recovery. For instance, supervising water supply operators provides the river-basin authority with a wealth of information on the costs of upstream pollution, which they can use to estimate the rates at which pollutant releases should be charged. Moreover, integrated management makes it easier to add pollution-based charges to water bills.

Land-use planning at the basin level can help ensure coherent policy approach towards nature and water management, including the need to extend water policy to risk management to address the trend of increasing flood/drought damage in the long term. But a lot remains to be done to foster establishment of “green corridors” along rivers and streams, reinstatement of flood control plains, or better control of deforestation and preservation of wetlands.

Any policy intervention to further enhance the role of forests in regulating water flows (“*ecosystem services*”) should not necessarily imply giving more subsidies to forest owners (to improve forest management) or to farmers (to convert farmland to forest). That would run the risk of repeating in the forestry sector the mistakes that policy reforms are now seeking to address in the agricultural sector. The reform of agricultural policy underway in OECD countries has in itself important implications for farmland conversion into forests: where price support to commodities is reduced, there is less incentive to expand agricultural production on marginal land. Instead of seeking compensation for any foregone revenues (from timber sales) or income loss (from farming), forestry payments should reward the provision of well-targeted (e.g. water-related) environmental services.