Water, to borrow a cliché, runs silent and deep in our economies, societies and lives. We need water to live, eat, work and play. These facts are obvious but sometimes we forget them. Statistics reinforce our collective myopia, since the value we derive from water services far exceeds the price we pay. An economist views water use in a certain way, and in this three-part essay, I will give an economic perspective of how water flows pervade our economy, how we manage those flows in bureaucratic and market mechanisms, how those mechanisms are sometimes efficient and sometimes not, and how we can use policies to make sure that water uses match our values.

Let’s start by looking at the four categories into which economists divide all the “goods” that we value. Water uses also fall into these categories, since water can be used as a private good, a club good, a common pool good, or a public good. Each use suggests which mechanism will be most effective for managing water.

The simplest water use treats water as a pure commodity, or what economists call a private good. A bottle of water, for example, is a private good in the sense that you can own it as property – a possession that others cannot touch – as well as consume it, leaving nothing for others. Water in this private good form should be managed with prices and markets because consumption by one person largely does not affect others, and allocation to those willing to pay is equivalent to allocation to those with the highest values for that water.

But what about tap water? Can that be allocated according to willingness to pay? Isn’t such an allocation unfair, from a human rights perspective? There are two answers to that question.

The first answer considers ability to pay. The cost of urban water service in the US and other rich countries is relatively low, usually less than one percent of average income. Such a low price means that customers are not really burdened by paying the full cost of water service, but that doesn’t keep people from objecting to higher prices or pressuring for lower ones. (Who wants to pay more for anything?)

The second answer recognizes that there is trouble with any policy that keeps prices below the cost of operating and maintaining a system. Urban water service, unlike bottled water, is not a private good or commodity. It is what economists call a club good – a good to which everyone in the “club” (anyone with water service) can consume without limit, once they pay the price of entry. If the price is too low to cover the cost of maintaining the system, or if the low price makes it easy to waste water, then the actions of some members of the club will have adverse impacts on others. The result is rivalry over limited water or leak repair that pits neighbors against each other.

When this happens, water has gone from a club good (everyone in the club happily consumes as much as he wants) to an open access good, in which the negative spillovers from one person’s actions leave someone else worse off. It’s in these cases – also known as a “tragedy of the commons” – that each person’s action leaves everyone else worse off. That’s also true if, borrowing from our example above, a bottled water plant takes too much water from a natural source that others use.

But not all bottling plants need to operate that way when they use water that’s shared with others. This common pool good is exhaustible, but it can also be managed sustainably, so that withdrawals are less than natural recharge flows to the water source. A bottling plant that depletes the common pool resource, on the other hand, will be unpopular. The outcome – sustainability or not – will depend on how people manage their communal resource.

Taking these examples in hand, you can see how economists first define a common pool good by its exhaustibility and lack of separate ownership rights and then look at how it’s managed: as an open access good that will be depleted or as a communal good that’s sustainably managed.

The fourth economic category for water classifies it as a public good, a term that may remind one of “for the public good” but actually refers to the way that everyone can enjoy a public good without fear that one person’s enjoyment denies pleasure to someone else. Most water in the environment – waterfalls, rainbows, glaciers and the ocean – falls into this category. We can play in it or look at it without end, all of us.
As you can see from this description, we use water in many ways — ways that change as water falls from the sky, runs down a river, flows through a water system, fills bottles, quenches our thirst, and flushes — cleaned, we hope — back into the system.

These changing uses mean it’s important to clarify the kind of water use we’re talking about before we proclaim a goal of “efficient water use” or “maximizing the social value of water.” Misclassification can lead to mismanagement — managing a common pool aquifer as a private good without restrictions on individual extractions, for example. That kind of error is not just avoidable, it’s costly. We don’t have enough water to waste.

In my next essay, I’ll look at how we can manage water and the value we assign to water.

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