Economists classify water uses into four categories – private good, club good, common pool good or public good – depending on who has access to the water and how it’s consumed. These categories make it easier to understand how we should manage water, but we don’t always follow that recommendation. The resulting mismanagement, in economic jargon, leads to “opportunity costs” from managing water with the wrong allocation mechanism. A high opportunity cost means that water is not going to its highest and best use in the economy.

There are many common mismatches between water uses and allocation mechanisms. Perhaps the most common is when farmers use water for agricultural irrigation of “low value” crops in a region where cities are desperate for new water supplies. In these cases, it’s not unusual for a city to pay a steep price to meet its water needs. For example, it might spend hundreds of millions of dollars to build a desalination plant, even though nearby agricultural water – were it sold in a market – would cost a fraction of that. The key question, then, is not whether water has different values in different uses, but how to modify allocation mechanisms to make sure that water goes to the most valuable uses.

These questions lie at the heart of discussions on allocating water in an economy, because they bring up four critical factors: value, information, incentives and market power – factors that determine how we, as a society, turn our water into wealth.
The value of water varies among people and uses. I give more value to a drink of water when I am thirsty, but less value to a bucket of water when I wash my car. These different values don’t matter when water is plentiful, but they do matter when water is scarce. The relevant question then is how to allocate water among various uses. As a general rule, economists recommend using markets and prices to allocate private goods since buyers and sellers can agree to prices that are above the seller values and below buyer values for the good, making trades that benefit both parties without affecting people around them. It’s not as easy to allocate club goods, common pool goods and public goods with prices and markets, due to a combination of overlapping values and impacts from consumption. These spillover effects result when one person’s consumption of the good affects others, for better or worse.

Access to a club good – such as a health club swimming pool – is open to all members, but the pool can get crowded if everyone shows up. Rules to prevent congestion may not be as efficient as prices in rationing access to those with the highest values for swimming, but they may be more fair or easier to enforce. First, because some clubs prefer to allocate access to eager members over members with more money. Second, because some people don’t think of values or prices; they may just prefer to line up for a space. Third, because an allocation based on “values” that does not use prices can be manipulated by people who declare inflated values. Such “cheap talk” can lead to disputes among members, misallocation to those willing to stretch the truth, and headaches for management. Explicitly taking value of use into account, but someone who really wants to swim will be quick to line up if access is limited to the first people on a sign-up sheet.

This discussion is relevant because scarce water is so rarely rationed with prices. A community running low on water may, for example, tell some people to water their lawns on Monday and Thursday and tell others to water on Tuesday and Friday. They may prohibit restaurants from serving water to customers unless they request it, or require that businesses install high-efficiency appliances to reduce consumption. These actions may make sense in places where there are no water meters and where it’s hard to determine how much water customers are using. In those cases, water is a club good that must be shared among many users with different uses and values.

It’s curious, however, when policy makers treat water as a club good when they can ration water with meters and prices, letting users allocate water based on individual values. But the reality is that there are many reasons why they may do this.

First, it’s politically difficult to raise prices, even when water is scarce. Second, managers and politicians often prefer to “manage” water to their preferred users, rather than allow “markets” to decide. Consider, for example, what would happen if we tried to allocate gasoline on a political basis instead of allowing prices to fluctuate to balance supply and demand. Third, most users claim that prices will unfairly allocate water to the “wrong” values, rather than to their values. For instance, imagine a gasoline manager prohibiting you from driving on Tuesdays or Fridays or from driving to a bakery but allowing you to drive to a coffee shop.

None of these excuses make much sense in developed countries where people have the ability to pay for water that will be used for economic purposes, where water allocation mechanisms already exist, and where institutions managing other scarce resources already function quite well. So why don’t we allocate water in the same way as we allocate gasoline? Setting a price at the pump, and letting people buy as much as they want, based on their values?

That’s a good question. In my next essay, I’ll compare the value of water to the price we pay for it.

About David Zetland
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