

HAS 222d Introduction to Energy and Environment: Life Under the Pale Sun

Water as Commons 28.v.09

- irrigation 64%, industry 25%, municipal (personal) 1-7%
 - how much do we need? $1000 \text{ m}^3/\text{year} = 2.7 \text{ m}^3/\text{day}$ (2740 liters), 100 liters for personal use (drinking, bathing, cooking) and 500 to 2000 liters/day for agriculture..irrigation. But don't neglect the impact of conservation and technology: Israel is highly developed and yet uses only 969 liters water daily per person. For 6.7B people, this much water is $6700 \text{ km}^3/\text{year}$.
- global water cycle ~ evaporation and precipitation = $0.5 \times 10^6 = 0.5 \text{ M km}^3/\text{yr} \sim 16$ Sverdrups (megtonnes/sec) ~ 160 Amazon rivers

It is projected that the proportion of people in water stressed nations will increase from 3.7% in 2000 to 8.6% in 2025 and 17.8% in 2050 (projections from WRI 1998)

•Why?

Bjorn Lomborg, (*The Skeptical Environmentalist, 1998*)

“The problem with water is that it is not well priced. The great majority of the world's irrigation systems are based on an annual flat rate, and not on charges according to the amount of water consumed. The obvious effect is that participants are not forced to consider whether all in all it pays to use the last liter of water, when you have first paid to be in, water is free.

This is a particular problem for poor countries. The poorest countries use 90 percent of their water for irrigation compared to just 37 percent in the rich countries.

“Much hype has surrounded the issue of water perhaps best summarized with the passionate title of a 1995 academic paper “Global water crisis: the major issue of the 21st Century, a growing and explosive problem”. However, the data do not support this view of a mammoth problem. Our wells are not drying up; we are not facing insurmountable shortages. rather, the water challenges emphasize that we need to manage water more carefully, price it realistically and accept a movement away from self-reliance in food production in the arid parts of the world”

Vandana Shiva (*Water Wars, 2002*)

Water is a commons because it is the ecological basis of all life and because its sustainability and equitable allocation depend on cooperation among community members. Although water has been managed as a commons throughout human history and across diverse cultures and although most communities manage water resources as common property or have access to water as a commonly shared public good even today, privatization of water resources is gaining momentum.

Prior to the arrival of the British in south India, communities manage water systems collectively through a system called kudimaramath (self-repair). Before the advent of corporate rule by the East India Company in the 18th Century, a peasant paid 300 out of 1000 units of grain he or she earned to a public fund, and 250 of those units stayed in the village for maintenance of commons and public works. By 1830 payments rose to 650 units out of which 590 units went straight to the East India Company. As a result of increased payments and lost maintenance revenue, the peasants and commons were destroyed. Some 300,000 water tanks built over centuries in pre-British India were destroyed, affecting agricultural productivity and earnings.

- Which of these two views of water management would you support?