

## **Food, Water, Energy: Old Problems, New Opportunities**

### **Vaclav Smil**

Today's specific circumstances that have combined to create high food and energy prices and an increasing anxiety about the future availability of oil and water are unprecedented — but human affairs are cyclical and none of these concerns is new. And all of them share an important common denominator: enormous inefficiencies of production and/or use of these essential resources. Not only have been these irrational production practices and uses ignored or tolerated for decades, new forms of highly inefficient resource use and new wasteful consuming habits are constantly introduced and encouraged in affluent economies even as basic systemic inefficiencies affect energy and water use in agricultures of low-income countries. An indefensible choice of using food crops for production of automotive ethanol and continued gross food overproduction are perfect examples in the first category, Africa's continent-sized insufficiencies and imbalances in fertilizer applications and very low efficiencies of nitrogen use throughout Asia are unfortunate examples of the second class of common wasteful phenomena. At the same time, our research, management and efforts have been overwhelmingly aimed at further increases of supply and consumption. I will address all of these problems by focusing on key irrationalities of today's food production and associated challenges in water and energy uses and suggest some long-overdue remedies.