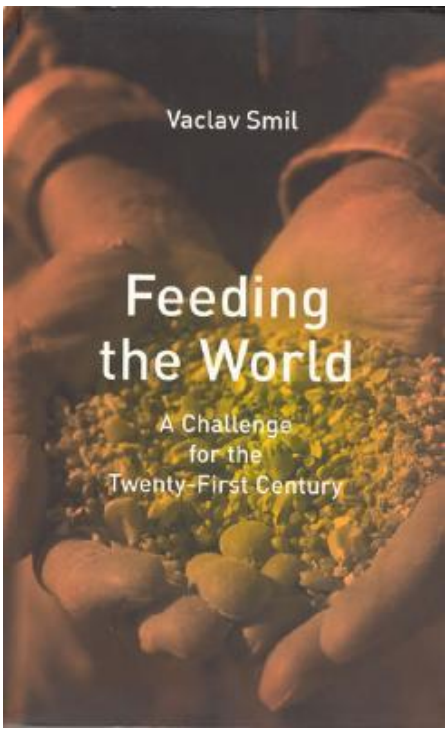

Feeding the World

Vaclav Smil

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A realistic yet encouraging look at how society can change in ways that will allow us to feed an expanding global population. This book addresses the question of how we can best feed the ten billion or so people who will likely inhabit the Earth by the middle of the twenty-first century. He asks whether human ingenuity can produce enough food to support healthy and vigorous lives for all these people without irreparably damaging the integrity of the biosphere.

What makes this book different from other books on the world food situation is its consideration of the complete food cycle, from agriculture to post-harvest losses and processing to eating and discarding. Taking a scientific approach, Smil espouses neither the catastrophic view that widespread starvation is imminent nor the cornucopian view that welcomes large population increases as the source of endless human inventiveness. He shows how we can make more effective use of current resources and suggests that if we increase farming efficiency, reduce waste, and transform our diets, future needs may not be as great as we anticipate.

Smil's message is that the prospects may not be as bright as we would like, but the outlook is hardly disheartening. Although inaction, late action, or misplaced emphasis may bring future troubles, we have the tools to steer a more efficient course. There are no insurmountable biophysical reasons we cannot feed humanity in the decades to come while easing the burden that modern agriculture puts on the biosphere.

Feeding the World Details

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From Reader Review Feeding the World for online ebook

Austin says

By the year 2050, the population of our planet will level off at about 10 billion people. Smil argues that without resorting to radical innovations such as GMOs, but rather through a combination of proven pre- and post-harvest efficiency gains in food production globally, we are fully capable of feeding the world in this maximum population scenario.

This is a dense and at times pedantic read, but it's also extremely well researched and filled with educational data ranging from dietary changes, demographic changes, crop productivity, soil productivity, biodiversity and agroecosystems, environmental pollution, water usage, fertilization practices, feeding efficiency, and the relative nutritional merits between foods given human 'energetics.' There's also a fascinating chapter at the end on how China has fed itself (mostly).

Here are a few of my favorite bits:

--"A surprisingly simple American device makes an almost perfect scheduling available to to any farmer willing to invest only a very modest amount in an auger, a couple of dozen gypsum blocks, and an AC resistance meter. Cheap gypsum blocks containing two electrodes are buried at several locations and depths in root zones. Because several of the blocks absorb and lose moisture at a rate very similar to to that of the surrounding soil, regular measurements of changing current flow with a pocket-size impedance meter give reliable indications of soil's moisture status. Proven benefits have included considerable savings for reduced water purchase and pumping and higher crop yields." pg. 131

--"Resource competition is also absent, or minimal, in the case of animals grazing on crop residues, on grasses or leguminous cover crops . . . The evolutionary argument in favor of omnivory is even stronger. We now know that hunting for meat has an important place--nutritionally and socially--in the lives of both chimpanzee species . . . and hence also in the evolution of Pliocene hominids. Diet made up primarily of plant foods but supplemented, especially seasonally, by meat is our evolutionary heritage, and strict herbivory is a culturally induced adaptation. The expensive-tissue hypothesis and considerations of practical satisfaction of protein requirements strengthen this conclusion." pg. 142

--"The current pattern of malnutrition and hunger is unrelated to food availability, but is instead a function of global entitlements to food." pg. 238

--"Homo Sapiens is a flexible convertor of food energy responding with altered metabolic efficiencies to different diets, environmental conditions, specific tasks, and health states." pg. 245

James Hemby says

Skillfully researched with his characteristic 'full of facts' approach to world hunger, but as I find in many of Smil's numerous reviews, little new here.

Nora says

Fascinating even if Smil was a little too meticulous going on and on ad nauseum. This is an eye opening read about how we are screwed in the next 50 years or so if things about our food production and consumption don't change. Did you know that 40% of all food bought at a US grocery store ends up in the trash? Or how much water and feed that a dairy cow requires (and the resulting fossil fuels to get them to the dairy). Shocking and appalling.

Malte says

I have not finished this book and probably will not, for several reasons. As all of Smil's works, this puts a lot of emphasis on the numbers, that is, proportions and orders of magnitudes. It's a twenty year old book though and this severely limits the use of it as the world has continued to move and the data with it. The historical passages and the general bio-agricultural overview was fairly covering and interesting. At one point, Smil makes an assessment on the likely effects global warming might have on agriculture, which I believe would be categorized as almost climate change denialism today, as he point to some study that does not find grounds to worry that agriculture will be negatively affected at all, and that it might in fact flourish under global warming. If I recall, the study tested how plants reacted to small increases in temperatures above the local average (and it was done in a lab setting). Today, we know this is not the case as global warming was never just about slow increases in temperature. Global warming, or climate change as some people insist on calling it for that reason, means more frequent extreme weather: drought, storm, flood etc. And agriculture is already suffering under it.

If you would want to write a book like this today, global warming would have to play a major and towering role in the review. This is why the above passage makes me suspicious of the rest of Smil's work here, and I have great respect for this scholar otherwise.

If I would recommend another book that deals with how to feed the world, while combating global warming at the same time, and does take proportions seriously (being heavily referenced and based on data for all the main macronutrients, yield and carbon sequestration potential of different crops) I would recommend Eric Toensmeier's magnificent tome "The Carbon Farming Solution". It wouldn't be bad with a new edition of Smil's work, but until then, Toensmeier's is the best I know.

Mariko Nakamura says

Read this book for a class. A good broad overview that is strangely meticulous at times. It has so many citations so looking a little further into something should be easy. But I have so many questions while reading this book. I liked the first half of the book much better than the second half, but you should at least pick up the important things in the second part.

Harper says

Technical but if you're an agriculture geek like me you'll like it. Talks about world hunger from a land use perspective. Technical in terms of things like soils, political in terms of things like misuse of resources.