



Synthesis/Regeneration

A Magazine of Green Social Thought

Synthesis/Regeneration is a continuation of both *Green Synthesis* and *Regeneration*. Articles reflect the views of authors and do not necessarily represent the view of any local, state, national or international organization.

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We invite responses, submissions, letters, art work, comments, proposals for topic issues, and financial support. S/R can use help in electronic layout and proof-reading.

S/R gives preference to articles by environmentalists and social justice activists who support its publication and those providing invited material.

Synthesis/Regeneration is indexed in the *Alternative Press Index*, which is available from the Alternative Press Center, PO Box 47739 Chicago, IL 60647. S/R is also noted in *Enviroline*, *Environment Abstracts* (EA), *Public Affairs Information Services* (PAIS), *PAIS International in Print*, *Sociological Abstracts* (SA) and *National Information Service Corporation* (NISC) Left Index. Microfilm available from UMI Research Collection—The Alternative Press Collection (800-521-0600). Selected articles are available on CDROM and microfiche from Congressional Information Services, Inc. *Synthesis/Regeneration* is published three times per year (Winter, Spring, Fall) by the Gateway Green Education Foundation, 720 Harvard, University City, MO 63130 and is available by subscription for \$15 per year if mailed to a US zip code. ISSN: 1083-7639.

Limits to agriculture

Small Is Bountiful

by Henry Robertson

In 2008 the South Korean conglomerate Daewoo took a 99-year lease on 1.3 million hectares of Madagascar to grow corn for the South Korean market. It was the largest of a number of deals between countries with large populations or arid land and countries that are poor or land-rich. China got access to land in Russia and the Philippines, Libya did a deal with Ukraine, Saudi Arabia with Indonesia, and Qatar with Vietnam. At least six countries have bought land in Sudan. Water rights often go with the land, even in dry countries like Mali and Sudan.

This new land rush—or food rush—isn't always one-sided. Malaysia has palm oil plantations in Laos, where 15% of the country's territory has been signed over to foreign interests. Sweden has bought 120,000 hectares in Russia. Brazil, one of the top emerging economies, is open to business from China and Saudi Arabia. [1] Estimates of the extent of this traffic run as high as 50 million hectares, equal to half the arable land in China. [2]

This is the endgame in a process of agricultural expansion and imperialism that's as old as civilization. From the beginning of agriculture 10,000 years ago, farmers have exhausted their soil and moved on. Now that the world is full, the search for land has turned back on itself. There is nowhere left to go.

Testing the limits

David R. Montgomery tells the tale of land degradation and the quest for new soil in *Dirt: The Erosion of Civilizations*. [3]

Topsoil, a mixture of organic matter from above and minerals from weathered rock below, forms naturally at the geologically slow rate of inches per millennium. Bad farming can erode it at a rate of inches per decade. The global average erosion rate today is far lower (maybe a millimeter a year in developing countries, less in the US; it's hard to measure) but still many times the rate of soil formation. [4] Virgin soils in the temperate and tropical latitudes are 1–3 feet thick. This is the desperately thin "skin of the earth" on which terrestrial life depends.

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Increased agricultural production goes hand in hand with population growth. This dynamic forced early farmers out of the fertile river valleys and onto erodible slopes.

Ways to preserve topsoil were known in ancient times: Rotate cereal crops with plants like clover, alfalfa, peas and beans (they didn't know about nitrogen, but these (cont. p. 13)