Reducing hunger vulnerability through sustainable development

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The food-price inflation protests that captured the world’s attention in the spring of 2008 (1) showed that the hunger problem is bigger than we think (2). Between 75 and 133 million additional people fell into hunger that year, raising the number of hungry people in the world to over 1 billion (2, 3). The events showed that hunger is a problem for those who are both hungry and vulnerable to hunger (4).

Reducing hunger vulnerability through sustainable development is the question that The Gambia, in which urban Africa and rural life are intertwined, and other countries compete with rice that was made cheap by state-supported development programs (4). Rice is a staple food for many nations, and its price has a significant impact on food security. The narrowing of the rice market by multinational companies and the rise of free trade agreements have made rice prices more volatile and have contributed to the vulnerability of rice-dependent households.

Emaciated Rice Sectors
The comparative study of domestic rice production in West Africa by Moseley et al. (1) paints a somber picture of “emaciated rice sectors” in the part of the world where African rice (“Oryza glaberrima”) was domesticated. The dependency of The Gambia and Côte d’Ivoire on imports for 85% and 60%, respectively, of national rice consumption is a recent underdevelopment. When African farmers received subsidies and price supports and governments created credit programs, built roads, and constructed rice mills, they intensified rice production like most farmers in the world. However, when these state-supported development programs were dismantled in the context of World Bank structural adjustment programs, African farmers found themselves on an uneven playing field. They could no longer compete with rice that was made cheap by other countries’ farmer-friendly agricultural policies. The disarticulated rice sector of The Gambia, in which urban populations depend on imported rice and rural households consume locally produced rice, reveals the failure of development to foster rural economic growth and national food security.

A New Rurality
The papers also complicate our understanding of the rural farm household, which is often portrayed as a homogeneous category (8). Chowdhury’s (5) discussion of land use and land cover in the buffer zone of the Calakmul Biosphere Reserve of Mexico points to groups of farmers differentiated by their engagement with agricultural and labor markets, land-rights systems, and off-farm incomes. Differential access to resources results in diverse landscapes characterized by different mixes of agricultural systems (extensive or intensive) and farm sizes. Perfecto and Vandermeer (6) argue that the landscape mosaics fashioned from these complex land-use and land-cover patterns can sustain high levels of biodiversity if the agroecologic matrix is of sufficient quality. Even if “agriculture is not the enemy of conservation” (6), that does not mean that just any farming system can produce a high-quality matrix. Small-scale agricultural systems that use natural farming techniques hold more promise than large-scale industrial agricultural systems for strengthening rural livelihoods, improving food security, and preserving biodiversity in the long run (9). But this new rurality is not going to spontaneously spring from the soil (10).

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Rethinking Conservation and Development
From gender politics at the household level to the politics of structural adjustment at the national and global scales, livelihoods and landscapes are influenced by multiscale processes that now include billions of US dollars in remittances sent each year to developing countries by migrants living abroad (15, 16). International migration and remittances buffer the poor against low agricultural prices and improve food security. Remittances also figure importantly in the dynamics of forest recovery in Latin America. As the economic viability of farming declines, rural households increasingly depend on off-farm income to sustain their livelihoods (17). Forests regenerate on abandoned agricultural land and form the interstices of complex landscape mosaics composed of forest fragments, hedgerows, dooryard gardens, small farms, and scrubland (10, 17).

Matrix ecology emphasizes the biologic and economic importance of such diverse landscapes (6). Although undervalued by mainstream conservationists (10, 18), sustainably used environments are now included in a panoply of protected area schemes (19).

The coexistence of human poverty and landscape diversity does not add up to sustainably used environments. For this to be achieved, a high-quality agroecologic matrix must be complemented by a high-quality socioeconomic matrix that promotes human development (7, 20). This integrated approach to environment and development is inherently political.
because resource access, control, and management issues always have distributional effects. The resurgence of the protectionist paradigm and the back-to-the-barriers movement that advocate fortress-style conservation represent anti-sustainable development politics (7, 21).

Alternative Development Paths

The food-price protests of 2008 revealed that hunger is linked to multiscale processes that make poor people vulnerable to exacerbating conditions like price shocks, disasters, and violent conflicts (4). Media typically emphasize these exacerbating conditions rather than the political economies that produce vulnerability in the first place. The papers in this issue illuminate the terrain of hunger vulnerability with emphasis on alternative development paths that can lead to more sustainable farming systems. These include agroecologic technologies, road networks, credit systems, and price support that will nurture small-scale and environment-friendly agroecosystems. In light of this research, the Green Revolution for Africa, with its emphasis on expensive seeds and chemical fertilizers and pesticides, needs to shift its research and development focus from industrial to natural farming techniques (9). Taken together, these alternative development paths will help to reduce world hunger by improving farmer incomes, social equity, and crop diversity in high-quality socioecologic systems.