



Future

TOWARD A SUSTAINABLE

Feeding the world, creating more problems?

If we want peace, democracy and human rights, we must work to create the ecological condition essential for these things to exist: i.e., a stable human population at—or less than—the environment’s long-term carrying capacity. — Richard Heinberg

In 1798 Thomas Malthus published his infamous *Essay on Population* in which he warned the world that unchecked population growth inevitably will outstrip our ability to increase food production. For this unpopular assertion, Malthus has been berated as a “prophet of doom.” We in the industrial world have prided ourselves on the fact that we have “proven him wrong” by demonstrating our ingenious ability to dramatically increase the productive capacity of the plants and animals we have selected for our food. Consequently, we have been able to continue feeding a rapidly expanding human population. The massive, global famines that Malthus predicted never occurred—at least not yet.

But Malthus put his finger on a truth that we have since come to recognize as a fundamental law of ecology. The more energy (food) that any species has at its disposal, the more its population increases, creating a demand for still more food; all the while eroding the ecological capital that produces the food, thereby decreasing the potential to produce the food that the expanding population needs.

In nature, this sequence of inter-related events invariably leads to a collapse of one sort or another. The species in question returns to some kind of equilibrium with the rest of the species in the ecological system in which it lives, and on which it ultimately depends.

We humans seemingly have convinced ourselves that, by virtue of our superior cleverness, we are exempt from this law of ecology. But evidence seems to be mounting that we may *not* be exempt.

We have been able to feed expanding populations due to our clever technologies that exploit the storehouse of non-renewable resources—coal, oil and natural gas, which have accumulated on the planet over many millennia. In addition, we’ve been blessed with *abnormally* stable climates that serendipitously have coincided with our fossil fuel binge, making it possible for us to *consistently* produce unimaginable quantities of food.

Complicating the situation is the fact that our ingenuity has encour-

aged us to dramatically increase our consumption, which now places even more stress on the ecological health of the planet than does an expanding population.

In a January 2, 2008 opinion piece in the *New York Times*, Jared Diamond noted that if every person on the planet increased consumption to match that of U.S. citizens, it would be equivalent to having 72 billion people living on Earth. No one believes that our planet can sustain such an impact for long, yet we seem to be on the way. Developing countries understandably want to share our consumptive lifestyles and many are poised to do so.

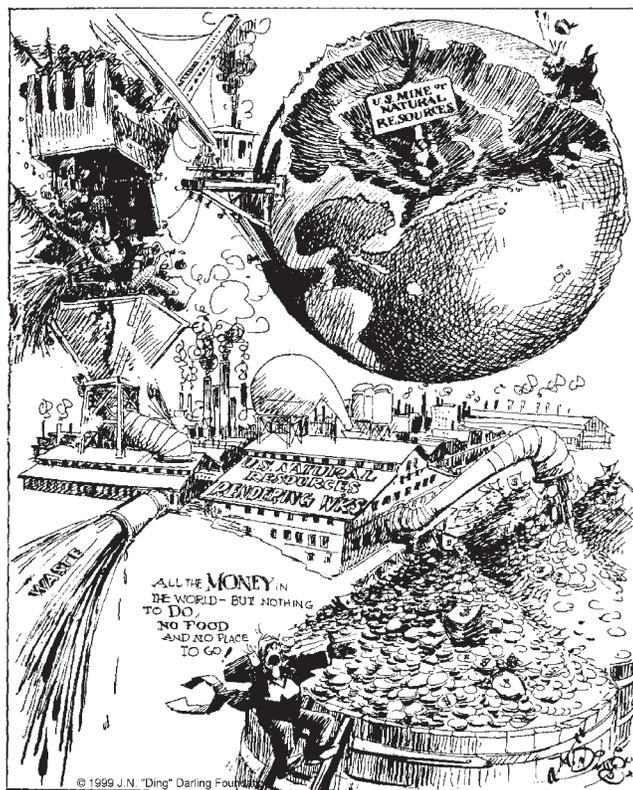
Hence, we are at an interesting crossroad. We managed to “solve” the Malthusian dilemma with the Green Revolution in technologies, which in turn increased population and consumption growth rates, while depleting natural resources (oil, natural gas, coal, fresh water, soil, stable climates) that made increased production possible.

A California farmer recently announced that he will leave his farmland fallow this year and sell his water rights; he can make

more money selling water than growing rice. The price of a barrel of oil has reached \$110 and probably headed toward \$200 within a decade, given our rate of consumption. As recently as 2003, oil was \$25 a barrel. Virtually every climatologist predicts that in the short term unstable climates—more droughts, floods and severe weather—will be the norm.

So we must ask ourselves, would it have been wiser to address the Malthusian dilemma by taking steps to keep human population growth in ecological harmony with the rest of the biotic community, rather than exploiting the planet’s resources to feed the world? It is too late to change history, but perhaps it is not too late to change our course if we act now. Continuing on our present track simply is not sustainable.

In his prescient 1938 cartoon, Ding Darling tried to call our



“How rich will we be when we have converted all our forests, all our soil, all our water resources and all our minerals into cash?” Published June 1938. Reproduced courtesy of the “Ding” Darling Wildlife Society.

FUTURE (continued on page 7)

Looking for food facts? Check out this resource

Food Facts: Results from Marketing and Food Systems Research summarizes the findings of the Leopold Center's research, demonstrations, studies and surveys in the rapidly growing area where food culture, economics and environmental issues intersect.

The new resource is available as an interactive Web site and in a printed version, which features the photography of Leopold Center Director Jerry DeWitt.

"This resource makes the results of our marketing and food systems research more accessible and useful for a variety of target audiences," said Rich Pirog, leader of the Leopold Center's Marketing and Food Systems Initiative.

Users of the new resource will see key findings from initiative-funded work and related projects. The results are categorized by type of project, from food miles and place-based research to research on niche meat markets, transaction costs and various facets of the grape and wine industry. The resource is designed for use by farmers, food entrepreneurs, local food system practitioners and other researchers.

"In recent years, the Leopold Center has supported projects leading to the develop-

ment of new web-based tools for farmers who want to enter specialty markets," Pirog noted. "The section on tips and tools should be especially helpful when producers consider marketing specialty crops and livestock."

Pirog called the new resource a "work in progress. We'll be adding information as new project results are available." Future topics include consumer surveys, opportunities for minority farmers and financing new farm-based enterprises.



www.leopold.iastate.edu

Food Facts:
www.leopold.iastate.edu/research/marketing_files/food/food.htm

To request a printed copy,
e-mail leocenter@iastate.edu
or call (515) 294-3711.

Annual report celebrates 'Horizons'

The role of the Leopold Center, in my opinion, has been pivotal at a crucial time for sustainable agriculture. The Center has served to encourage (perhaps demand) interdisciplinary work—a critical element for agriculture to become truly sustainable. ... Perhaps most importantly, the Leopold Center has emphasized and supported getting results out to farmers and other land owners who can actually use it on the land so that important work doesn't just sit in some obscure academic journal.

- Jim Pease, Extension Wildlife Specialist, Iowa State University

Comments from Pease and other partners and investigators are sprinkled throughout the 20th anniversary annual report from the Leopold Center. Entitled "Horizons," the report takes note of the distance the Center has traveled since it was created under the auspices of the Iowa Groundwater Protection Act in 1987. A timeline of events in the Center's two-decade history anchors the narrative.

Considerable coverage is devoted to the year's work done by the Center's initiatives, through their competitive grants research and special projects in policy, ecology and marketing and food systems. Among the Center's FY2007 significant involvement and investments: grassland agriculture; regional and local food systems; a multi-

state collaboration, Green Lands, Blue Waters; micro-enterprise loans; Boone River Watershed research; food, energy and fuel use; and a survey of Iowa's organic food producers.

The 56-page publication also includes reports from the some of the "strategic investments" funded by the Center beyond its extensive competitive grants program: Iowa's Grape and Wine Industry Institute, Practical Farmers of Iowa on-farm demonstrations, promising students in the Graduate Program for Sustainable Agriculture at Iowa State, long-term organic crop research all over the state, and the Agricultural Systems Initiative in ISU's College of Agriculture and Life Sciences.

Also in 2007, Director Jerry DeWitt proposed six new core issues for the Center's

LAWS OF ECOLOGY CAN NOT BE SUSPENDED

FUTURE (continued from page 5)

attention to an important question (and title of his drawing): How rich will we be when we have converted all our forest, all our soil, all our water resources and minerals to cash?

There is simply no good reason to believe that the law of ecology can be suspended. Our insane preoccupation with maintaining growth, economic and human, ultimately will lead to our collapse as it does for all other species.

Instead of feeding the world regardless of the cost, we can begin bringing our population and consumption into equilibrium with the planet's capacity to maintain its ecological health. We can do this through programs to that give resource-poor people access to education, make family planning methods affordable and available worldwide, and develop policies to discourage energy and material-intensive consumption. The irony is that we actually could improve our quality of life by taking this second path. We are finally realizing that working ourselves to a frenzy to consume a lot of stuff that we don't need is not giving us the life we want.

www.leopold.iastate.edu

Horizons annual report:
www.leopold.iastate.edu/pubs/annual/annual.html

To request a printed copy,
e-mail leocenter@iastate.edu
or call (515) 294-3711.

advisory board and staff to evaluate, and took on leadership of the Iowa Learning Farms project. Distinguished Fellow Fred Kirschenmann continued his extensive speaking and writing career while maintaining connections with other sustainable agriculture groups (from Agriculture of the Middle to the Whiterock Conservancy) in Iowa and nationwide.

The annual report is edited by Mary Adams of the Leopold Center staff and designed by Julie Mangels of Juls Design in Ankeny.