As you know, we've been gone for a while. We offer our sincere apologies to our subscribers for not writing sooner to explain the lapse in publication. We now have two issues in route to you, this one on Food Security and another at the printers on Brownfields, Urban Land and Justice. With this, we make a commitment to fulfill everyone's subscription and RPE's mission to serve the movement for environmental justice.

We hope that soon we will be able to reinstate our quarterly publishing schedule. Several things have had an impact on RPE's publication - shortages of staff, funding, and resources. These shortages have also meant an almost snail's pace in delivering each RPE to your mailbox. In spite of these limitations, we have put together some breakthrough issues, and contributed to the growing perspectives on environmental justice. We hope that you will not lose faith in RPE.

Additionally, in 1998 we suffered a deep loss - the death of Hannah Creighton, Managing Editor. Her editorial skills and strategic thinking were central to developing each issue. To honor her, we renew our commitment to RPE's vision, and work to make the journal even more effective in the struggle for environmental justice.

To do this, we ask for your support, and hope that you consider subscribing at any rate - $5/year for low income/fixed income; $15/regular subscription; and $40 institutions and organizations. We send WE free of charge to any grassroots group that requests it. Subscriptions and contributions will ensure that we continue sending RPE to everyone who requests a copy.

Our journal will continue bringing the voices and dreams of our communities who struggle for environmental justice for all.

Sincerely,

Carl

Girl selects tomatoes at the Carrboro Farmers market in North Carolina.
ABOUT THIS ISSUE

by Michael Ableman

Food is something many of us take for granted. Supermarkets are open 24 hours a day, 365 days a year, stocked with foods shipped in from all over the world, providing us with the illusion of health and abundance. We do not often stop to consider where that food came from, whose hands harvested it, how it was grown, and whether it is safe, equally available to all, and produced in a manner that does not degrade and destroy resources and communities.

As an organic farmer for twenty years, I have been painfully aware that the majority of the high quality food that I produce is only available to a narrow segment of the society: those who can afford it. Our survival as a small farm is staked on being paid enough to grow our food responsibly. In contrast, most Americans have been under the spell of an unwritten "cheap" food policy. We pay less for food than any country in the world. But the costs of that system are enormous. When we buy "cheap" food we pay for it many times after we leave the checkout counter; in our taxes to the tune of 46 million dollars per day in subsidies to large scale industrial farms, in our personal health, through the degradation of soil and water, and by harm to those whose hands are producing that food.

We pay for it as a society in other ways as well. For many poor people "cheap" food is not cheap enough. The economic system that has artificially held down the price of food has also held down low income communities. While a renaissance of interest in high quality fresh food, free of poisons, is taking place in America, not everyone is able to take part. Low income urban neighborhoods have fewer places to shop and the quality of food available to them is poor.

This country was founded in part on the principle that every family should have their own agricultural holding, with food security, self sufficiency, and an agrarian society the basis of a sound democracy. As we scurry about in a mad race for more, we forget that the most basic components of a good life, pure food and water, are the birthright of every individual.

In this issue of *Race, Poverty, & the Environment* we learn how black farmers in the South are being squeezed from their land, how farm workers are poisoned and underpaid for their work, and how low income people are distanced from safe, nutritious, and culturally appropriate food. We find out the results of corporate control of our food system, about the threat to the future of the world's food supply through the loss of genetic diversity, and about the "green revolution" with its high tech, Frankenstein approach to food production.

There is a pervasive paralysis associated with social and environmental reportage – the result of too much focus on the problem and too little attention to the solutions – so we have offered you a section called "Grassroots Models for Change," examples that can give us all some sense that, even under the most challenging odds, low income communities can gather together and create positive change.

It is my hope that through these diverse perspectives we will discover that a healthy society cannot be separated from a healthy food system, and that a healthy food system must not only sustain human, natural, and biological systems, but must also be equally available to all.

I extend my special thanks to Andy Fisher, Dona Haber and Enrique Gallardo for their work and support in making this issue happen.

Most of the articles for this issue of *Race, Poverty and the Environment* were compiled in 1997 and 1998. We have done our best to update the original issue with current information. As expressed earlier, the publishers of this magazine were delayed due to staff and funding limitations. We hope you will recognize, as we have, that the concerns relating to food and social justice are as critical today as they were when we first began this project.

Michael Ableman has farmed 12 acres of land near Santa Barbara, California for the last 20 years. He is the founder/director of the Center for Urban Agriculture at Fairview Gardens, a non-profit community education center and national model for urban agriculture. Ableman is the author of *From the Good Earth* (Abrams 1993) and *On Good Land: The Autobiography of an Urban Farm* (Chronicle Books 1998).
Land and Water

Land ownership and the control of water resources is increasingly concentrated in the hands of a few. Many low income people and people of color have been economically forced off the land. The industrialization of agriculture and the narrowing of its control not only challenge our ecological and social well-being but put into question one of the founding principles of this country: that a healthy democracy is dependent on a healthy agriculture. The following articles by E.G. Vallianatos, Jerry Pennick, and Santos Gomez offer insight into these core issues.

RECONNECTING PEOPLE TO THE LAND

The Need for Agrarian Reform

by E.G. Vallianatos

During my travels in Colombia, I learned that the peasant and the land are inseparable. In fact the peasant is the most efficient and productive farmer on Earth. It is the greed and outright violence of the land-owning oligarchy that undermines the ability of the peasants to end hunger throughout the world. To the degree, therefore, that North American and European development assistance strengthens the ruling landed class of the Third World at the expense of the peasant majority and nature, violence and hunger will continue to dominate the political economy of huge swaths of planet Earth: it is agribusiness for the white, affluent North, but "green revolution" for the non-white, poor South. Yet whatever the name, industrial agriculture is the most aggressive and colonizing impulse of Western culture. It is a global system of power for the control of the world by the white corporate elite of North America and Europe. Dispossessing the peasant is a policy of that system.

In the United States and other industrial countries, the peasants have been replaced by farmers and agribusiness managers who use synthetic fertilizers, pesticides, machines, and factory technologies for the production, processing, and marketing of food. In other words, industrial societies destroyed their peasants and in their place they put farmers, ranchers, and agribusiness men. These new agriculturalists are, above all, the antithesis of traditional peasants: their class consciousness and allegiance are with predatory capitalism. They strive continuously to expand their land and other resources. They focus their technical expertise in the production of one crop at a time. They clearly reject the
A very small number of mega-farmers and agribusiness companies produce most of the country’s food. The remaining farmers are slowly becoming extinct.

A very small number of mega-farmers and agribusiness companies produce most of the country’s food. The remaining farmers are slowly becoming extinct – disappearing at a rate of some 32,000 per year. The violence of that process of extinction is the polarizing, dividing line between rural and urban America, the irresponsible transfer of political and economic power to a landed corporate oligarchy with grave consequences for both agriculture and democracy in the United States.

It has taken me almost 20 years to sift through the ruins of American agriculture. I worked for non-governmental organizations, Congress, the federal government and universities. Slowly, I could sense the violence of land concentration and agribusiness monopoly in in comprehensible government regulations, billions of dollars of public subsidies for mega-farmers, throwing of migrant farm workers into poisoned crop fields to harvest contaminated food, the corruption of American science and land grant universities which legitimize such an atrocious social policy, an astonishing ecological illiteracy pervading American politics and agricultural policymaking – an endless tragedy for the family farmers who cannot possibly compete with agribusiness giants. My reaction to this massive American self-inflicted wound has always been the same: industrial agriculture is a child of the Cold War in the United States. It is the food system of an empire, the strategic asset of a state with global hegemonic policies, the science linchpin of a vast corporate development bureaucracy out to convert the "underdeveloped" regions of the globe into plantations of profitable cash crops and docile people. The United States needs a good dose of agrarian reform as an antidote to both imperial state dreams and violence, and the ceaseless aggrandizement of agribusiness.

In 1986, about 317,000 farmers/agribusiness firms earned 85.7 percent of net farm income. Each of these large farmers produced food on farms averaging 1,873 acres, which took up 49.5 percent of all agricultural land. In the 1990s, four agribusiness companies (Kellogg’s, General Mills, Post and Quaker Oats) control 84 percent of the ready-to-eat cereal. In California’s southern and western San Joaquin Valley, eight corporate farmers own 60 percent of the land. Southern California agribusiness has so much political power, it starves the wildlife in the northern part of the state of water. Even during California’s worst drought of 1986 to 1991, the mega-farmers drained the state of its public water for their private gain. They also are trying to sell that public water back to the public.

Agrarian reform provides the policy instrument to correct this gross inequity and distortion of human and ecological values: break up large agribusiness firms and huge farms and in their place let thousands of family farms bloom. Create a federal department of agrarian reform and sustainable rural development. Decide that as a matter of national policy no farm or other private property will be larger than 160 acres. And tax the very rich – the 0.5 percent of the wealthiest American families – to pay for at least a 20-year effort of recreating a vibrant rural America for both sustainable agriculture and human development that is pro-family farmer, pro-indigenous people, pro-black, pro-woman, pro-environment, pro-poor.

A rural America, for instance, of 10.5 million 40-acre farms (from dividing the nation’s 420 million crop acres by 40) or 2.6 million 160-acre farms is clearly a society on the road to reconstruction and sustainable human development. Of course, capitalist America is not about to become a utopia with or without agrarian reform. No one expects to see an Arcadia cultivated by 10.5 million organic farmers each having a mule and raising food on 40 acres. But a national agrarian reform policy of redistributing land and power in rural America has to, in fact, resettle rural America with millions of people willing, determined, and able to make farming a way of life.

The New Deal administration of Franklin Roosevelt successfully settled 10,000 landless families with enough land and other support for sustainable agriculture. The 2,267 Black landless farmers who benefited from this small but daring agrarian reform experiment of the 1930s were critical in opening the racist doors of the American South to the civil and human rights struggles of the ’60s.

A sustainable agrarian reform in the United States in the 1990s promises to remake the image and substance of this country for itself and for the rest of the world. With the Cold War out of the way, such a massive social and economic development in the restructuring of political power and ecological relationships in the countryside might just be what America must have to rebuild its democracy and economy for sustainable human development in the 21st century.
There are those, however, who refuse to see the importance of Black land ownership. Their view is that because Black farmers and landowners own relatively small acreages, they cannot effectively compete. Research indicates that this is simply not a reality. The fact is that the net return on investment by Black farmers is equal to or exceeds that for all farmers.

**Why Blacks Lose Land**

Blacks, therefore, are good farmers, but continue to lose land due to a lack of technical and management assistance, as well as reliable and fair markets. Other contributing factors include legal, financial and discrimination problems involving public and private lending institutions, courts, unscrupulous attorneys and land speculators. In addition, certain provisions in the 1995-1996 Farm Bill will have an adverse impact on Black farmers and accelerate the decline in Black land ownership.

Blacks who are still farming today can thank the 1987 Credit Act. With the Credit Act it appeared that, for once, the government would be fair. In 1987, farmers who had struggled since the 1970s due to drought conditions, along with rising interest rates and embargoes, finally had the opportunity to develop a plan to save their farms and operate profitably. Many Black farmers took advantage of the opportunity and were, once again, farming and paying their debts.

From 1977 to 1992, Blacks lost 55% of their rural land base, and dropped from 57,000 to 18,816 farms.

**Blacks Losing Land at a Tragic Rate**

Blacks are losing this vital resource at a rate two and one half times that of other Americans. Over the fifteen year period ending in 1992, Blacks lost 55 percent of their rural land base — down from 57,000 farms and 4.2 million acres of land in 1978 to 18,816 farms and 2.3 million acres in 1992. The two million acres lost have a conservative value of one billion dollars and tens of billions in economic development activity.

These figures, moreover, represent only those farms and land counted by the U.S. Census of Agriculture. The Federation of Southern Cooperatives/Land Assistance Fund (LAF) estimates that there could be as many as 250,000 Blacks who own an additional two to three million acres of land. This "unaccounted for land" does not meet the criteria, which includes a minimum gross farm income, set forth by the U.S. Department of Agriculture to be considered a farm. Often idle, this land is more likely to be occupied by elderly individuals, is often heir property or subject to absentee ownership, and, as prey to land speculators, is more often lost through tax and partition sales.

**Land Lost Means Lost Economic Development Assets**

This hidden asset owned by Blacks represents tremendous economic development potential including forestry, recreation and mineral extraction. What's needed is proper attention and assistance. Unfortunately, these landowners receive little or no assistance from farm-related government agencies and agricultural institutions.
matter that Black farmers have traditionally not had the same access to credit as other farmers and that for them the Farm Service Agency is truly the lender of last resort.

Another mandate in the Bill which will adversely affect Black farmers is the seven year transitional payments provision. The government will provide subsidies for the next seven years, and after that, farmers are on their own. Any farmer growing crops will have to be able to sell his product on the world market.

Without the subsidies, he/she will be at the mercy of a market controlled by large corporate farms and the consequences will be staggering.

If credit is not available, the question remains: How can Black farmers compete with large corporate farms? Does the government plan to take Black farmers back to sharecropping? What will happen to thousands of other Black farmland owners, such as Black women who own land and rent to Black farmers? By making farm land available to Blacks, these women and others are receiving much needed income. If Blacks are not able to farm that land, it too will fall prey to land speculators because it is likely to become a burden to the owner.

As Blacks Are Forced Off Land an Urban Migration Occurs

There is also a direct relationship between Black land loss and the migration of Blacks to the cities. It is painfully obvious that most cities are not able to absorb the massive number of unskilled, resourceless people who continue to migrate from rural areas. Our policies in rural areas have a demonstrable impact on urban areas, too.

Urban America might be radically different today had resources been devoted to land-based rural economic development projects encouraging and assisting Blacks to stay on the land. This economic development, planning and implementation would have cost a fraction of the money that has and continues to be spent on welfare, crime prevention and other social services.

With the new Welfare Reform Bill, the issue of Black land loss becomes even more critical. Where will rural welfare recipients find the jobs required under this legislation? With a rural-urban migration no longer a viable option, the jobs - whatever they might be - have to be created where the people reside.

There are now Enterprise Communities and other government-sponsored rural development initiatives that encourage economic growth, including cooperatives, credit unions, non-farm business development programs and others. Blacks in rural America, with assistance from organizations like the Federation/LAF, want to be and should be an integral part of these initiatives. However, their participation and benefits will be severely limited if they are not land owners.

A Collaboration Is Called For

The following reasons point to why it is necessary to help save Black-owned land. The current effort spearheaded by the Federation/LAF should continue. However, there needs to be a collaboration between government, non-governmental organizations and educational institutions that will effectively address all aspects of the Black land loss problem.

Such a collaboration could create a network of economically independent landowners which, in turn, would mean less welfare, more jobs and a future for young Blacks. Thomas Jefferson equated land ownership to citizenship. The more land Black people own, the more they will feel part of the "American Dream," and become even more active participants in the social, political and economic development of this country.

Saving and developing Black America's greatest natural resource - land - require a national commitment because Black land based economic development not only contributes to the well being of Blacks, but to the well being of the nation.

Jerry Pennick is the Director of the Land Assistance Fund (LAF) of the Federation of Southern Cooperatives. The Federation of Southern Cooperatives/Land Assistance Fund is a regional community based organization serving African American farmers throughout the southeast United States. The organization provides assistance in farm management, debt restructuring, land retention, marketing and advice on alternative crops while encouraging the sustainability of communities through the development of cooperatives.
For most Californians, water is an invisible issue too often taken for granted. Yet, anything that threatens water quality, supply or reliability threatens our livelihood. To maintain water supply, reliability and quality, California has invested billions of public dollars to build, operate and maintain the world’s most sophisticated water infrastructure and to reallocate water from north to south and east to west with little regard for communities and the environment.

Notwithstanding these investments, we continue to struggle to meet growing, and frequently competing, demands. Outdated laws and regulations, along with increasing construction costs, the damming of the most cost-effective water storage sites, declining water subsidies, and growing environmental concerns have virtually halted the construction of new water supply projects. Continued urban and industrial development, along with agricultural expansion, is placing additional strains on the quantity and quality of California’s waters. Competition, already acute during periods of drought, is increasing due to the inability of limited water supplies to satisfy all legal obligations and user demands. In response to the changing waterscape, water planners are turning to private water sales. In less than two decades, water sales have evolved from a solution to critical short-term environmental and human water needs, to a central component of statewide water policy.

Water Sales Do Not Correct Historical Community Participation and Protection Problems

Supported by a large coalition of special interests, California has enacted legislation to encourage the voluntary sale of water and to treat water as an economic resource rather than as a public good. So called "reforms" try to secure private property rights in water, develop water markets, and facilitate the movement of water from what are regarded as lower to higher value uses in urban and suburban areas.

Before we continue our statewide drive to facilitate long-term, inter-regional water sales some cautionary words are in order. There has been relatively little democratic discussion of the public and community interests and values in water. While proponents of water sales argue that their policies are in the public interest, they fail to acknowledge that changing the guiding ethic of water allocation fundamentally changes the way water resources are managed – a change that further undermines community participation and has broad public implications. The drive to create a market for water has so far done little to cor-
rect the system that has proven itself insufficient, undemocratic, inequitable, and unresponsive to public and community concerns. Water policy remains highly insulated from public debate despite being essential to everyone's social, economic, and environmental well-being. The concerns of the general public, farm workers, inner-city residents, rural communities, subsistence fishers, and Native Americans have yet to pierce the complex and fragmented web of federal, state, and local agencies. A policy that allows current users of this precious resource to benefit by selling it for private gain will further concentrate economic and political power in the hands of urban and agricultural water agencies, and potentially undermine the state's long-term well-being.

Rural Communities Have Been Adversely Impacted by Water Sales

Evidence on the impacts of water sales indicates that rural communities, and in particular farm workers and poor people, will bear the adverse impact of these sales. When water is sold, the land where it was previously used can go fallow and result in job loss and reduction in income, diminution of local taxes and social services, and greater disarray in social and cultural institutions. Unemployment and poverty, already chronic problems in many agricultural communities, can be exacerbated, contributing further to the blight of the community. Water sales amount to the redistribution of wealth that is "especially adverse to poorer people," to "people with salaried jobs that depend on the presence of water [and thus] who are likely to be the first to lose work if economic activity is reduced," and generally to those who "are unlikely to move and find equivalent work or amenities elsewhere." (Joseph L. Sax, Understanding Transfers: Community Rights and the Privatization of Water, 1 West-Northwest 13 (1994)).

Examples abound of such impacts in and outside of California. One purchase of irrigated farmland by a municipality in need of water to support its growth resulted in a 10 percent loss in taxes in La Paz County, Arizona. In Yolo County, California, the creation of a state-controlled "water bank" during the 1987-92 drought, which shipped over half of its water south to the Los Angeles region, meant the loss of at least 450 farm worker jobs, a decrease in tax revenue and a sharp increase in demand on county-funded social service programs. Yolo County estimated its net cost at $129,000. The August 1992 to July 1994 transfer of water from Palo Verde Irrigation District to Metropolitan Water District of Southern California resulted in 20,215 acres of farmland being fallowed. An analysis of the transfer conducted by Loh and Steding found that farm workers and the selling community were adversely affected through the loss of on-farm jobs and employment (Penn Loh...
and Anna Steding, *The Palo Verde Test Land Fallowing Program: A Model for Future California Water Transfers?*, Pacific Institute for Studies in Development, Environment, and Security, 1996). While the impacts of water sales on food security have not been explicitly studied, water sales that lead to permanent agricultural land fallowing or the urbanization of agricultural land will adversely impact food security.

**Water Sales Will have a Disproportionate Impact on Poor People and People of Color**

As is the case with air emission trading initiatives, water sales are likely to cause substantial and unjustified disparate adverse environmental, social, and economic hardships predominantly on communities of color, in violation of federal law. An economic analysis of a 25 percent reduction in surface irrigation water in the Sacramento Valley, for example, suggests that revenue losses would be about $46 million and employment losses would exceed 300 jobs (Hyunok Lee, Daniel A. Sumner, and Richard E. Howitt, *Economic Impacts of Irrigation Water Cuts in the Sacramento Valley*, University of California Agricultural Issues Center, June 1997). The study further concluded that water reductions (e.g., water sales) have greater economic impacts in counties more dependent on agriculture.

Despite the potential for unlawful impacts, regulators are frantically working to facilitate water sales, including the sale of up to 500,000 acre-feet of Imperial Irrigation District Colorado River water (nearly 20 percent of its annual average supply) to the San Diego County Water Authority. If prior experience is any indication, such a sale would have significant employment, economic, environmental, and social impacts on already distressed Imperial Valley communities.

Our ongoing work in this area reveals that many of California’s most agriculturally-dependent and poorest rural counties are likely to be the targets for large, long-term, inter-basin water sales. These cash-strapped, agriculturally-dependent counties are the least able to cope with increased unemployment and loss of tax revenues from land fallowing to sell water. Many people depend on the farming economy’s demand for secondary activities: suppliers, truckers, laborers, contract harvesters, and others. Nearly all Arizona rural community leaders surveyed by Oggins and Ingram agree that rural areas face significant losses from water transfers (Cy R. Oggins and Helen M. Ingram, *Does Anybody Win? The Community Consequences of Rural-to-Urban Water Transfers: An Arizona Perspective*, Udall Center for Studies in Public Policy, 1990). As water is sold, wealth leaves the community.

**Relevance of Title VI and the Environmental Justice Executive Order to Water Policy**

Two legal tools specifically speak to this failure to address concerns of these ignored communities – Title VI of the Civil Rights Act of 1964 (Title VI) and President Clinton’s Environmental Justice Executive Order (Executive Order). Water agencies have yet to comply with these legal requirements. Title VI prohibits federal agencies and departments from funding programs that discriminate or have a disparate impact on the basis of race or national origin. It directs each federal agency to promulgate regulations to ensure that the recipients of federal funding do not use that assistance in a racially discriminatory manner. Recipients determined to be in violation of Title VI can lose their federal funding. While the Executive Order is more symbolic, it requires all federal agencies and federal projects to consider the impacts on communities of color and low-income communities.

Since most water projects are heavily underwritten by federal funds, require federal approval, or involve federal action, including the Central Valley Project and the Colorado River Project, communities of color and low-income communities should explore the applicability of Title VI and the Executive Order in the water policy context.

**Community Response to Water Sales**

Rural communities are slowly beginning to organize in opposition to water sales. In the fall of 1991, the California Action Network and the Community Alliance with Family Farmers brought together people who were directly affected by water sales. Rural elected officials are beginning to raise concerns regarding the potential impacts of water sales. Farm worker and rural community advocates – including the California Rural Legal Assistance Foundation, the Mexican American Political Association, and the Center on Race, Poverty and the Environment – are starting to view water policy and water sales as issues that they need to be working on. These efforts are beginning to focus attention on the water concerns of people of color and low-income communities. While we have a long way to go before their concerns are meaningfully integrated into the complex legal and institutional framework of water policy and law, we are working to lay the foundation for an ongoing dialogue. In 1997, the Pacific Institute supplemented our water transfers work with a report on water and environmental justice. In *Our Water, Our Future: The Need for New Voices in California Water Policy*, we examined the roles and values of water, the evolution of water development and policy, how water policy affects poor communities and communities of color, and the uphill challenge these communities face in making water policy more democratic, inclusive and responsive. We are working with Imperial Valley community leaders to better understand the potential impacts of the proposed transfer to San Diego County Water Authority.

As concerned activists, we need to connect water policy to the well-being of our communities and to work with environmental and community allies in support of community struggles. That is why we are launching a series of regional community meetings to discuss water and environmental justice issues with local community leaders and activists from throughout California.

**Santos Gomez** is the Directing Attorney of the Oxnard Office of the California Rural Legal Assistance, Inc. (CRLA). CRLA has 15 field offices throughout rural California and provides free legal representation to farmworker, minority and other low-income populations. Prior to joining CRLA, Mr. Gomez was a Senior Research Associate with the Pacific Institute for Studies in Development, Environment and Security where he wrote extensively on rural water and environmental justice issues.
The future of this world’s food supply is rapidly being challenged by the loss and reduction of genetic diversity in our seeds, and in the plants and animals available to us. While industrial agriculture requires genetic uniformity, traditional cultures have, for thousands of years, preserved the biodiversity on their land and in their food crops.

With the advent of genetic engineering, transnational companies are staking far-reaching claims of ownership over a growing variety of living organisms and biological processes, while the traditional farmers who have protected and maintained the seeds and germplasm lose economic rights to them. The following articles examine the importance of biological diversity and how it is maintained.

**BIOLOGICAL MELTDOWN**

The Loss of Agricultural Biodiversity

by Hope Shand

Soon after peasant farmers first led plant explorers to wild stands of *Zea diploperennis* (perennial maize) in Mexico’s Sierra de Manantlan in the late 1970s, plant breeders hailed the discovery as one of the botanical finds of the century. The rare perennial maize proved to be resistant to seven viral diseases that plague domesticated maize, and scientists predicted that *Zea diploperennis* could be worth as much as $4.4 billion to the commercial maize (corn) industry. Conservationists called for the establishment of a nature preserve to protect the rare maize in its natural habitat because they feared that poor farmers living nearby, in constant need of grazing land for their cattle, would soon wipe out the few remaining patches of wild maize by grazing cattle in the area. A nature preserve was eventually established, and peasant farmers no longer threatened the rare *diploperennis*. But within a few years, the forest began to invade the fields of wild maize. The plants were crowded out and began to disappear. Scientists soon realized that the local farmers had been intentionally conserving the wild maize by using a traditional practice of grazing their animals on dry fodder during the dormant season. Local farmers controlled the growth of the surrounding forest without harming the rare perennial maize plants. Retired vice-president for research at Pioneer Hi-Bred (the world’s largest seed company), Donald Duvick, respectfully observes, “It seems that the farmers knew exactly what they were doing, and had more wisdom than the well-meaning environmental scientists.”

This story illustrates not only the tremendous value of rapidly disappearing crop genetic diversity, but also the fact that it is impossible to talk about the conservation of species and ecosystems separate from farm communities and indigenous peoples. The world’s main food and livestock species have their centers of genetic diversity in the South. Generations of farmers in the tropics and sub-tropics have consciously selected and improved plants and animals that are uniquely adapted to thousands of micro-environments. Today, farming communities in Africa, Asia and Latin America are the primary custodians of most of the earth’s remaining...
agricultural biodiversity. They are also carriers of unique knowledge about genetic resources and entire ecosystems.

Agricultural biodiversity refers to that part of biodiversity that feeds and nurtures people—whether it is derived from the genetic resources of plants, animals, fish or forests. We are losing genetic resources for food and agriculture at an unprecedented rate. It can best be described as a biological meltdown. The statistics are numbing:

- Crop genetic resources are being wiped out at the rate of 1-2% every year. Since the beginning of this century, about 75% of the genetic diversity of agricultural crops has been lost.
- Livestock breeds are disappearing at an annual rate of 5%, or 6 breeds per month. In Europe, half of all breeds of domestic animals that existed at the turn of the century have become extinct, and 43% of the remaining breeds are endangered.
- Tropical forests are falling at a rate of just under 1% per annum, or 29 hectares per minute. From 1980-1990, this is equivalent to an area the size of Ecuador and Peru combined.
- Marine fisheries are collapsing. About 70% of the world’s conventional marine species are fully exploited, overexploited, depleted or in the process of recovering from overfishing. One-fifth of all freshwater fish are already extinct or endangered.

Whether in farmers’ fields, forests, or fisheries, the genetic variation needed to meet human food needs is slipping into oblivion. Equally alarming, genetic resources are being privatized and their natural habitats plundered. We are losing the biological options we need to strengthen food security and to survive global climate change. The consequences, warns the United Nations, are “serious, irreversible and global.”

Erosion of crop and animal diversity threatens the existence and stability of our global food supply because genetic diversity (found primarily in the South) is vital for the maintenance and improvement of agriculture. To maintain pest and disease resistance in our major food crops, for instance, or to develop other needed traits like drought tolerance or improved flavor, plant breeders constantly require fresh infusions of genes from the farms, fields and forests of the South. But agricultural biodiversity is not just a raw material for industrial agriculture; it is also the key to food security and sustainable agriculture because it enables poor farmers to adapt crops and animals to their own ecological needs and cultural traditions. Without this diversity, options for long-term sustainability and agricultural self-reliance are lost.

Why Are We Losing Agricultural Biodiversity?

The greatest factor contributing to the loss of crop and livestock genetic diversity is the spread of industrial agriculture and the displacement of more diverse, traditional agricultural systems. Beginning in the 1960s and 1970s, the Green Revolution introduced high-yielding varieties of rice and wheat to the developing world, replacing thousands of farmers’ traditional crop varieties and their wild relatives on a massive scale. The same process continues today. New, uniform plant varieties are replacing farmer’s traditional varieties—and the traditional ones are becoming extinct.

In the United States, more than 7000 apple varieties were grown in the last century. Today, over 85 percent of those varieties—more than 6000—are extinct. Just two apple varieties account for more than 50% of the entire US crop. In the Philippines, where small farmers once cultivated thousands of traditional rice varieties, just two Green Revolution varieties occupied 98% of the entire rice growing area in the mid-1980s.

Industrial agriculture requires genetic uniformity. Vast areas are typically planted to a single, high-yielding variety or a handful of genetically similar cultivars using capital intensive inputs like irrigation, fertilizer and pesticides to maximize production. A uniform crop is a breeding ground for disaster because it is more vulnerable to epidemics of pests and diseases.

The same is true with livestock genetic resources. The introduction of "modern" breeds that are selected solely for maximizing industrial production has displaced or diluted indigenous livestock breeds worldwide.

The commercial white turkey that is mass-produced on factory farms in Europe and North America has been bred for such a meaty breast that it is no longer able to breed on its own! This broad-breasted breed—which accounts for 99% of all turkeys in the United States today—would become extinct in one generation without human assistance in the form of artificial insemination.

The spread of industrial agriculture in the South places thousands of native breeds at risk. In India, just 3 decades after the introduction of so-called "modern" livestock breeds, an estimated 50% of indigenous goat breeds, 20% of indigenous cattle breeds, and 30% of indigenous sheep breeds are in danger of disappearing.

Though frequently characterized as "resource poor,” many of the South’s farming communities are extraordinarily rich in plant and animal genetic diversity and in traditional knowledge. But these are endangered resources. With the drive for export monoculture and the spread of Green Revolution technology in the South, the dominant model for agricultural production has been based on external inputs—imported genetic stock, technology and the ideas of outside “experts.” Ironically, the Green Revolution approach (high-input, high-tech, and high-yielding crop and livestock breeds) has proved so “successful” that it has very nearly extinguished the farming communities’ most vital “internal” resources—farmers' traditional knowledge and the rich reservoirs of plant and animal genetic diversity that they have selected and improved for generations. The erosion of traditional knowledge and agricultural diversity not only marginalizes the South’s food producers and farming communities, it jeopardizes world food security for all.

The "Gene" Revolution

At the United Nations’ World Food Summit in November 1996, governments of the world underscored the importance of trade liberalization to food security and implicitly endorsed a growing reliance
on capital-intensive, high-technology agricultural production. Export agriculture was held up as the answer to food security, while food self-reliance was ignored. Side-stepping the more important issues of structural reforms (such as access to food and redistribution of land and resources), the familiar response of international agricultural research institutions is to recycle the Green Revolution and boost it with a heavy dose of biotechnology.

Not surprisingly, commercial biotechnology does not address the needs of peasant farmers in marginal farming areas of the South, and has little to do with feeding hungry people. Globally, agricultural biotechnology is controlled by a handful of seed, agrochemical and pharmaceutical corporations whose proprietary products are designed primarily to meet the needs of Northern industry. It's a high-stakes game, and few enterprises can afford to compete. Consider, for example, that Monsanto spent no less than $100 million developing its herbicide tolerant soybean (a soybean that can withstand spraying of Monsanto’s best-selling weed killer). DNA Plant Technology spent over $6.3 million defending its biotech patents on longer shelf-life tomatoes. Pioneer Hi-Bred daunts that one of its new, genetically-engineered maize varieties requires access to 38 different patent claims involving 16 separate patent holders.

Proprietary technologies are seldom accessible or affordable to customers in the South. In India, for example, where 70% of pesticides are used on cotton and rice, researchers were anxious to develop genetically engineered crop varieties containing genetic resistance to the insects that harm them. US-based Monsanto corporation reportedly offered to sell its patented, insect-resistant gene to the Indian government for $7.74 million. The cost was too high, and the Indian government was forced to reject the deal.

Have we learned from the mistakes of the Green Revolution? It appears not. There is little doubt that the 21st century’s "gene revolution" can and will be used to promote industrial monocultures and genetic uniformity on a massive scale. A new tree cloning venture in Indonesia (owned by a US and Australian firm) illustrates how biodiversity could be diminished and job opportunities restricted by a high-tech forestry initiative. The company claims that it has the capacity to produce 10 million genetically uniform teak and eucalyptus seedlings per year using a robotic assembly line that operates around the dock with a single human attendant. Historically, when industrial tree plantations are based on uniform, introduced species, the native biodiversity is inevitably lost. Similarly, new breakthroughs in the cloning of mammals will someday allow researchers to manipulate a test tube full of embryonic cells to produce scores of genetically identical livestock.

**Farmer-Led Food Security**

Ultimately, farming communities hold the key to conservation and use of agricultural biodiversity, and to food security for millions of the world’s poor. They are the innovators best suited to develop new technologies and management to their diverse ecosystems. If international aid and development institutions dismiss peasant farmers, exclude structural reforms, and ignore the indigenous crops and livestock breeds that poor farmers depend upon for survival, they fail to address actual hunger. At the Science Academies Summit held in India in July 1996, several African scientists expressed their frustration with foreign ideas for introducing high-tech agriculture in the South, noting that traditional African crops are ignored or undervalued in international agricultural research. "I don’t want a Green Revolution," said Iba Kone of the African Academy of Sciences, "I want a Black Revolution. I want to return to our indigenous crops."

Similarly, the common approach of importing industrial animal breeds to boost productivity of livestock in the South is now being rethought, in recognition of the fact that native breeds are far more likely to be productive under low-input conditions. "In 80% of the world’s rural areas the locally adapted genetic resources are superior to common modern breeds," concludes Keith Hammond, the U.N. Food and Agriculture’s expert on animal genetics. For poor farmers, an animal’s most essential quality is not its rate of growth or yield of milk, but its basic ability to survive and reproduce, which in turn ensures the family’s self-reliance and survival.

In the long run, the conservation of plant and animal genetic diversity depends not so much on the small number of institutional breeders in the formal sector (governments, university and industry), but on the vast number of traditional farmers who select, improve and use plant and livestock diversity, especially in marginal farming environments.

The challenge for the world community is to link conservation and development by enabling farm communities to assume a major role in managing and benefiting from the genetic resources on which their livelihoods depend.

Ultimately, we cannot save the world’s biological diversity unless we also nurture the human diversity that protects and develops it. If we undervalue or ignore the traditional knowledge of farmers and rural people who use and manage biodiversity as the basis for their livelihoods, we lose our last, best hope for salvaging and developing the living resources upon which we all depend.

Hope Shand is Research Director of the Rural Advancement Foundation International (RAFI). RAFI is an international non-governmental organization dedicated to the conservation and sustainable use of agricultural biodiversity, and concerned about the impact of intellectual property rights on agriculture, food security and rural communities. RAFI is headquartered in Ottawa, Canada, with affiliate offices in North Carolina, USA, and in South Africa. For more information: RAFI, P.O. Box 640, Pittsboro, NC 27312 USA, http://www RAFI.ca

This article is based on a RAFI publication written by Hope Shand, Human Nature: Agricultural Biodiversity and Farm-Based Food Security. Copies are available for $10.00 from RAFI.
There is growing recognition worldwide that the innovation of farmers and indigenous peoples is of utmost importance in utilizing and conserving biological diversity for agriculture, human health and the environment. Farming communities in Africa, Asia and Latin America are the primary custodians of most of the earth’s remaining biological diversity—especially for agriculture.

Unfortunately, international efforts to conserve biodiversity and to use it equitably and sustainably are jeopardized by conflicting trends in intellectual property. "Intellectual property rights" refers to a group of laws (patents, plant breeders’ rights, copyright, trademarks and trade secrets) which grant legal protection to individuals who create ideas or knowledge. With the advent of genetic engineering, transnational enterprises in the industrialized world are staking far-reaching claims of ownership over a vast array of living organisms and biological processes that are used to make commercial products.

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people who have bred a multitude of quinoa varieties. One traditional quinoa variety, Apelawa, is the subject of US patent 5,304,718, held by two professors from Colorado State University who claim the variety’s male sterile cytoplasm is key to developing hybrid quinoa. The patent claims any quinoa crossed with male sterile Apelawa plants.

An Australian seed company has recently applied for plant breeders’ rights on two varieties of chickpeas released by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), an internationally-funded public research center based in India. If granted, the Australians will give themselves a 20-year monopoly on the Asian chickpeas. Both chickpea varieties originated in farmers’ fields (in India and Iran).

These examples illustrate the fundamental inequity of intellectual property systems that benefit people wearing white lab coats, but neither recognize nor reward the innovation, labor and knowledge of farmers and indigenous people. It is popularly known as "biopiracy." For farmers and consumers in the South, biopiracy means having to pay royalties on products that are based on their own biological resources and knowledge. It means losing control of seeds and germplasm that were developed and sustainably maintained by farmers and indigenous communities for generations.

Globalizing The Ownership of Life - The Biodiversity Convention and the WTO

The once-unthinkable idea that a gene—plant, animal, microorganism, and even human genetic material—could become subject to exclusive monopoly control is now standard practice in many industrialized nations, and is gaining ground in the rest of the world under the weight of...
Ayurvedic medicine since antiquity. Upon re-examination, the US Patent and Trademark Office rejected the turmeric patent on the basis of prior art.

In September, 1997 the European Patent Office announced a preliminary verdict against W.R. Grace's patent on neem oil, citing the existence of indigenous knowledge as prior art. The neem tree (Azadirachta indica) is widely known for both its medicinal and insecticidal uses in many parts of Asia, especially India. The W.R. Grace patent on neem was formally challenged by non-governmental organizations (NGO) in 1993 on the grounds of biopiracy—that the patent usurped the South's genetic resources and knowledge.

Indigenous peoples' organizations have vocally denounced patents which they believe threaten food security and human dignity, and are predatory on their resources and knowledge. In June 1997 representatives from Bolivia's National Association of Quinoa Producers (ANAPQUI) traveled to New York to protest a US patent on quinoa at the special session of the UN General Assembly. ANAPQUI representatives presented their case against the patent to government delegates, making clear that the livelihoods of thousands of small quinoa farmers were threatened by the encroachment of the patent system.

It was the controversy generated by scores of indigenous people's organizations, together with NGOs and governments, which eventually forced the US government to abandon its notorious patent (US Patent No. 5,397,696) on the human cell line of a Hagahai tribesman from Papua New Guinea in December, 1996. Alejandro Argumedo, Coordinator of the Indigenous Peoples Biodiversity Project, called it "the most offensive patent ever issued."

Many governments and NGOs are developing alternatives to Western-style intellectual property regimes. In the Philippines and Thailand, for example, NGOs and policymakers are exploring the development of sui generis (unique, or specially designed) systems that not only recognize and reward community innovation, but also safeguard genetic resources.

Most national patent laws provide for what is commonly known as "ordre public"—a feature that ensures the government's right to reject "immoral" patents. This well-established national right is also embedded in the GATT TRIPS agreement. In order to protect the sovereign right of nations to reject patent claims that offend national morality or security, the Rural Advancement Foundation International and other community supported organizations are actively campaigning to ensure that "ordre public" is both preserved and strengthened within the GATT TRIPS agreement. In 1999, the World Trade Organization will review its trade-related intellectual property provisions, thus providing an important target for educating and influencing global policymakers about the impacts of intellectual property on biological diversity and society.

Hope Shand is Research Director of RAFI. This article also appeared in the January, 1998 issue of EcoForum, the newsletter of the Environmental Liaison Center in Nairobi, Kenya.

RAFI is an international non-governmental organization based in Ottawa, Canada with an affiliate office in Pittsboro, North Carolina. RAFI works for the conservation and sustainable use of biodiversity, and the socially responsible development of technologies useful to rural societies. RAFI is concerned about the loss of agricultural genetic diversity, and the impact of intellectual property on agriculture and world food security. For more information, write: RAFI-USA, P.O. Box 640, Pittsboro, NC 27312. tel: 919 542-1396, or check RAFI’s website: (http://www.rafi.ca).
Most Americans do not think about those who plant and harvest their food. Food arrives on our tables completely disconnected from its source, via supermarket shelves, processed and packaged. The majority of those who work in agriculture travel to this country illegally, often at great personal risk. In the techno-industrial fields where they labor they are exposed to pesticides, and work long hours in a country far from their homes and families, in order to work in a food production system which has become wholly dependent on their labor.

REPRESENTING FARM WORKERS

by Arturo Rodriguez

Agribusiness has a 30-year history of opposing the United Farm Workers (UFW) through messengers who pretend to speak for farm workers. Such is the case with major strawberry growers who present the industry’s views in local newspapers through their Latino foremen and supervisors.

The strawberry workers tell a very different story. Americans are buying more strawberries than ever, but few know about the miserable conditions workers must endure. They labor stooped over, picking berries for eight to 10 hours a day. The work is so hard that many workers must quit by age 30. The average strawberry worker on California’s Central Coast earns $8,500 for a season that lasts from about April to October.

Workers are exposed to a host of dangerous pesticides, including methyl bromide, one of the most toxic chemicals used in agriculture today.

Housing conditions are often deplorable. I have visited cramped apartments and small units in farm labor camps where 11 people from two families live.

We have helped workers bring their own lawsuits against strawberry growers over widespread violations of state and federal laws, including minimum wage and hour, sexual discrimination and failing to notify farm workers when cancer- or birth defect-causing pesticides are used in the fields.

It doesn’t have to be this way.

Since a UFW organizing campaign began in 1994, our union has won 14 straight secret ballot elections, signed new contracts with 15 growers and renegotiated many other agreements.

Where farm workers have won UFW contracts at mushroom, rose, wine grape and vegetable companies, they earn decent pay and enjoy complete family medical care, job security, paid holidays.
and vacations, pensions and a host of other protections.

Strawberry workers have been asking the public's support as they seek the same basic rights through a national campaign led by the UFW and the AFL-CIO. The industry claims workers don't need such support because they can vote in union elections under California law.

Thousands of farm workers have voted for the UFW in state-supervised elections. While that balloting has produced many union contracts that improve working and living conditions, elections in the strawberry industry haven't mattered.

After workers voted for the UFW at three large strawberry companies in recent years, the strawberry industry fired pickers, plowed under crops and temporarily shut down operations rather than bargain for union contracts.

The public can help by urging strawberry corporations such as Driscoll to obey the law and allow workers to organize without fear of retaliation.

Momentum is building for change in the strawberry fields. Two years ago on April 13, 30,000 farm workers and supporters marched through Watsonville in what observers describe as the largest demonstration for a union organizing drive in recent history.

A major breakthrough came when the largest direct employer of strawberry workers pledged to remain neutral as workers organize for an election. (Agents for other growers are trying to sabotage this progress by entering the neutral grower's fields and threatening workers and UFW organizers.)

Last year, the United Farm Workers and Safeway Inc. - the nation's second largest food retailer - announced a joint pledge supporting basic organizing rights for berry pickers. It marks the first time in more than 30 years that Safeway and the UFW are working together for farm workers.

With this announcement, 27 retail food companies - including four of the nation's top seven supermarket firms - covering 4,630 stores in 41 states and four Canadian provinces have signed pledges backing strawberry workers' rights. Among them are Lucky's, Ralphs, Vons, A & P, Waldbaums, Sloans, Gristedes, Key Foods, Jewles, Dominick's, and many more.

In the years since Cesar Chavez's death, he has been honored in dozens of communities across America. Streets, parks, schools and libraries have been named for him. Yet the greatest monument to Cesar Chavez is not to be found on a street sign or a building. It is seen in the continuing work of the union he founded and the courage to work for change he instilled in his own people.

Arturo S. Rodriguez succeeded Cesar Chavez as president of the United Farm Workers of America, AFL-CIO.

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Workers on break in Wimauma, FL. Pesticide labels stipulate washing hands after contact, particularly before eating. In the field, there is no running water.
FOR THE SAKE OF OUR FOOD
A Farmworker's Story

When I first thought about coming north, I had no idea where I'd end up. But I wanted to get to Selma, California, where one of my sons lives and works. Talking it over with my family, they told me: "Five or six months away is O.K. - but no more than that." So that was our arrangement.

After I arrived in Tijuana, I called my son in Selma. "Look for a coyote who can get you to Los Angeles, and I'll meet you there," he said. I found a coyote and paid him $500, and so we began our attempts to cross. After 15 days and repeated tries, I was still in Tijuana - that's how difficult it was for us. At dusk we'd start out, but the immigration patrols chased us back. That's how it went, over and over, for 15 days. And then the coyote wanted more money. He told me "Your $500 are all used up, I need more money." Well, I didn't have enough to pay him what he wanted. So I told him that he'd get more once I got to my son.

We tried to cross again on the sixteenth day. This time, the immigration patrols caught us. They rounded up nine or so of us, and they hit us. I got hit on one of my legs pretty hard. By the time they brought us to the jail, I couldn't put weight on that leg. It felt like maybe it was broken. The next day we were turned loose, and two others I'd been in jail with helped me get to the coyote's house. This is now almost three weeks since I've had any contact with my family in southern Mexico or with my son, waiting for me in California.

Finally, after twenty days, we managed to cross. But I got separated from the rest of the group, and by sheer good luck, I made it to San Ysidro alone. My money was mostly gone, and I still had to get to Los Angeles. I started over again, looking for another coyote, offering the little bit of money I had left, and promising more when my son would meet me.

Now, the ride to Los Angeles was something else. The driver squeezed five of us in the trunk of the car. That's how we rode, two and a half hours to L.A. When we finally stopped, the driver hurried us out of the trunk and into a house - at least that's what I thought it was. It was really just a garage. There were 20, maybe 30 people inside. During the time I was there, other cars arrived. The car would pull up close, open its doors, and immediately they'd open the side door of the garage, and hustle more people in. There were several men who stood watch over us, and answered the phone. We had one bathroom for all of us.

Everybody would give the man in charge the telephone number of a friend or family member. Then you wait. None of us had any money left. Was I scared? Sure! See, each person in that garage is worth several hundred dollars to the coyotes. I said to myself, "Nobody knows where I am. What if nobody calls; what if they can't find my son; when am I going to get out of here?"

I was two days in that place - two days without anything to eat - when a friend of my son called. The coyote told him to meet us at a certain gas station nearby. That's all I knew. But the meeting went fine, and at last I was on my to Selma and my son.

It was mid-August, and grape picking was in full swing. My son got me on with a crew harvesting grapes for raisins. Our work day went like this: rise at 4:00 a.m., fix lunch, then catch an hour's ride to the ranch. By six, you're already at it. You get ten minute's rest around 9:30 a.m. and 3:00 p.m., seven days a week.

I liked the work. A good picker could make close to $100 a day, but you've got to move fast to do that well. You aren't paid by the hour, but by how much you can pick. I worked for three weeks there, and then decided to check out a farm near Santa Barbara; one of my sons had worked there a few years ago. And that's how I ended up here.

I began my journey from southern Mexico with the intention of working just a few months. Now look at me - I've been here for almost a year and half! From a financial standpoint, it's been worth staying longer. But you must understand that it is very, very difficult to cross the border now. Once you are here, you think hard and long about going home again. And of course, I want to go home - the rest of my family is there. Still, when you consider what it cost you, the pain and all the effort, to get here, then you say to yourself, "Maybe I'll stay through the winter after all."

If I could stay at home and earn enough from farming to support my family, then why would I come here? The place I come from is really beautiful, and we grow some of the same things there as here - squash, corn, and beans. But you can't grow anything during the rainy season, and we have only crude irrigation for crops during the dry months. So what can you do? You have to leave your land to find work. There is very little work to be found, and what you do find pays almost nothing.

No, it's necessity that brought me up here. I hope more people in the north can begin to understand this. It's easy for me - I just have to picture my family, and I remember why I came.

The author is a 59 year old undocumented farmworker. He recently returned home to visit his family in southern Mexico, and hopes to be back in California next spring.
Food Security

Food is a basic human right, yet millions go hungry. Access to fresh food is difficult in many inner city areas. Across the nation, farmland is being plowed under for expanding suburbs. Thousands of small farmers have been forced out of business. Americans have increasingly lost touch with seasonal and regional foods, eating Chilean cherries in January. The emerging food security movement has made connections among these issues, promoting solutions that help build local food systems as the basis for hunger-free and healthy communities. In this section, the reader will find out about the overlap between the food security and environmental justice movements.

COMMUNITY FOOD SECURITY AND ENVIRONMENTAL JUSTICE

Converging Paths Towards Social Justice and Sustainable Communities

by Robert Gottlieb and Andy Fisher

Off the 280 freeway, next to a housing project in San Francisco’s Alemany neighborhood, at-risk teenagers operate a small farm, learning about organic agriculture while gaining job skills. More than twenty graduates of the program have helped launch the Urban Herbals label, managing a jam and salsa processing business that includes both production and marketing. For the San Francisco League of Urban Gardeners (SLUG), the Alemany Youth Farm is part of an integrated environmental justice/social justice strategy. This strategy includes initiatives ranging from programs that address lead hazard reduction to a youth leadership training approach that seeks to build healthier and more empowered communities through an emphasis on food and gardening. According to Elizabeth Tan, (former SLUG staff member) SLUG, with its roots in community gardening, has sought to incorporate an environmental justice perspective into all of its work. To her, environmental justice is a natural extension of the community food security concept in its ability to identify “a holistic approach that enables you to envision and work toward building healthy communities.”

Conversely, some organizations that have been initially associated with an environmental justice approach have identified community food security as a natural extension of their activities. One example is the Los Angeles-based Concerned Citizens of South Central. In the mid-1980s, this organization was formed to fight a proposed municipal solid waste...
incinerator to be located in a predominantly African-American and Latino neighborhood. Concerned Citizens subsequently became increasingly rooted in the core issues of the community: jobs, housing, education, hunger. The group also embraced food security as a key arena for action, and has worked on the development of two community gardens and been involved in plans for a neighborhood supermarket organized as a joint venture between a major grocery chain and Concerned Citizens along with other community partners. Concerned Citizen’s Executive Director Juanita Tate was also recently appointed to the 18 member board of the Los Angeles Food Security and Hunger Partnership, a food policy council that advises the Mayor, the City Council, and city departments. For Tate, community food security, like environmental justice, is part of our agenda because it deals with the social fabric of our community. Like the air we breathe and the jobs we need, “food is what it’s all about.”

What these groups have in common is the significant overlap between the environmental justice and community food security strategies. Community food security (CFS), a relatively recent approach within the U.S., is derived from international development circles. It refers to a comprehensive, community-based approach to the nation’s food and farming problems. CFS projects, such as market gardens, farmers’ markets, community supported agriculture, and food-based micro-entreprises, share similar characteristics, such as a Multi-Class, Multi-Community Approach with a strong focus on the needs of low income communities.

Like the anti-hunger movement, CFS is strongly focused on meeting the food needs of low-income communities. These communities are the most food insecure in terms of community resources. CFS goals tend to go beyond this focus on food insecurity and hunger, and include such objectives as job training, business skill development, urban greening, farmland preservation, and community revitalization. Many of those issues are also crossover issues in terms of building a multi-class, multi-community approach.

Community Needs
A CFS approach seeks to identify community needs in order to build up a community’s food resources to meet those needs. These resources may include supermarkets, farmers’ markets, gardens, transportation, community-based food processing ventures, and urban farms, to name some key arenas for CFS action and project development.

Self-reliance/empowerment
Community food security projects emphasize the need to strengthen the ability of individuals, as potential community actors, to more effectively provide for their and their community’s food needs rather than to be fully dependent on outside sources, such as food banks or public assistance programs. CFS approaches do recognize the crucial contribution of food assistance and charitable programs in a period of enormous, intractable food insecurity. But by emphasizing community development and empowerment strategies for individuals as community participants, it seeks more systemic, structural change in the food system and at the community level to more effectively create the conditions of self-reliance.

Local Agriculture
Promoting local agriculture is key to building better links between farmers and consumers and gaining greater consumer knowledge and concern about their food source. Food system CFS projects typically are “inter-disciplinary,” that is, they cross many subject boundaries and involve issues associated with multiple agencies and a wide range of constituencies. Fundamental to this approach is an analysis of food systems and how they operate at both the global and community scale. By developing a food systems framework, one can more effectively design and plan for both a community-based, sustainable, and food security-focused approach.

Overall, CFS offers a vision based on the development of viable alternatives to the dominant global food system. That system currently marginalizes both urban consumers and low-income communities...
Community food security, like environmental justice, is part of our agenda because it deals with the social fabric of our community.

kinds of economic spaces for farmers and urban communities, while establishing alternative models to a food system that has become increasingly transnational and corporatist in how it functions. Not only do CFS projects identify these food system alternatives as a vehicle for community economic development, but they also strive to build community identities by encouraging neighborhood activities, such as co-ops, community gardens, and farmers’ markets. The ultimate goals of these projects are to foster communities with healthier, more empowered members and a healthier, more sustainable and community-based food system.

The similarities between environmental justice and community food security are numerous. They include:

**Place-Based Focus**
Both tend to focus on specific geographic communities or places, including a crucial, though not exclusive, focus on the needs of low-income communities. While both environmental justice and community food security activists struggle against negative land uses or system-related inequities, both are increasingly oriented towards new place-based relationships; that is, how to overcome the lack of positive land uses in a community (e.g., supermarket redlining resulting in poor food access or siting of facilities that increase the environmental burdens within an area). This geographic or place based focus gives both sets of struggles cohesion and a sense of identity. Community building becomes both a process and a goal.

**Health-related**
Both are concerned about the health of communities and community members. Environmental justice advocates identify and struggle around issues of community health that are associated with multiple environmental burdens. CFS activists focus on food and nutrition to address community health concerns. Many community health concerns, including such problems as anemia, obesity, cancer, and hypertension, are related to high rates of hunger and poor access to healthy foods.

**Focus on Corporate Dominance/System-Related Issues**
Both environmental justice and CFS activists act in opposition to, or at least make claims on, corporate interests and practices in the environmental and food system arenas. By shifting from justice and inequity concerns to a focus on the problems of a community and on economic development, both movements necessarily address and/or come in conflict with powerful system-related industrial forces. Both movements also encounter issues associated with the flow of capital as well as the role of government (for example, investment decisions, control and uses of technology, land uses, and so forth).

**Empowerment**
The bottom line for both these movements’ struggles is the desire for increased control over one’s daily life: where one lives, works, and plays and what we eat. These involve controlling decisions both about places and economic institutions in relation to disempowered communities and constituencies.

**Sustainability and Livable Communities**
Both of these approaches identify a vision of sustainable institutions and livable communities. This vision is linked to a search for alternative practices and modes of development. With environmental justice, it may mean implementing pollution prevention practices that identify the design of new types of products and processes, as well as institutional and community arrangements that address the root of an environmental justice problem or a set of linked problems. For community food security, it may mean such practices as Community Supported Agriculture (which attempts to create a non-market framework for economic activity), farmers’ markets, co-ops, and gardens which can form the nucleus of a sustainable food system, an alternative economic space for small producers and distributors to thrive.

The above similarities point to the need to further explore the common ground between environmental justice and community food security, both in terms of creating new coalitions, broadening agendas, and learning from each other’s experiences and analysis of system-based problems. For the CFS movement, environmental justice offers important lessons about the tactics of place-based organizing, the need to confront powerful urban and industrial forces in bringing about community changes, and the importance of political empowerment. For environmental justice advocates, community food security offers the kind of transformative politics that seeks to create healthier and more livable communities, the goal, as Juanita Tate, points out, which ought to be a natural extension of all environmental justice activity.
Food First – The Institute for Food and Development Policy, we believe that the time has come to return values to the center of our political debates, and to address the root causes of our problems, throwing off the blinders of pernicious myths that we often hold dearly and that serve to block real change.

According to the International Covenant on Economic, Social and Cultural Rights, the right to food or food producing resources is a basic human right. Unfortunately, the United States has failed to ratify the Covenant, perhaps because of the cold reality that the human rights of 30 million hungry Americans are being routinely violated. Yet we need to take the lens of human rights, which we so often focus on Bosnia, Central America or Indonesia, and bring it to bear on America as well. We need to denounce widespread humans rights violations at home; we must make hunger a simply unacceptable condition in our wealthy society.

We can change America, and we can change the world, but only if we place what is right first, and take on the myths of hunger head on. The most pernicious myth is that economic globalization with its attendant polarization between rich and poor is somehow inevitable, as are declining public budgets and, increas-ingly, individualism at the expense of concern for community. But none of this is truly inevitable.

The current swing of the pendulum toward free trade and capitalism red in tooth and claw is the product of many decisions, large and small, made by policymakers in national and international bodies. Yes, they have made those decisions because of pressure from the corporate sector. But that is always how policy is made. Decisionmakers weigh pressure from one side with pressure from the other, and ask, who am I more afraid of? Thus our task is to build national and international social movements that scare policymakers more than does corporate power.

That's how the war in Vietnam was ended, and that's how major social change always takes place. We also need to keep in mind that the pendulum has swung toward economic globalization in earlier periods of world history, only to swing back toward national economic sovereignty some time later. Each time continued movement in one direction may have seemed inevitable, but in the light of history it certainly wasn't. Nor is it this time.

A second myth that we need to address is that we always need "more" of something in order to alleviate poverty or feed the hungry. This takes the form of an "economic growth at any cost" or a "we need a new Green Revolution" mentality, thus justifying further unfettering of transnational corporations and agribusiness. But the facts do not bear this out.

The U.S. experienced substantial economic growth in the 1980s and early '90s, when average incomes rose by 11 percent. Yet during the same period the number of hungry Americans doubled. In fact 70 percent of the increase in income went to the wealthiest one percent, and 40 percent actually saw their incomes drop. Economic growth does not provide food security. In the world as a whole, we now have 15 percent more food available per person than we did in the mid-1970s, yet there are 100 to 200 million more hungry people. Simply producing more food does not end hunger – people go hungry in a world of plenty.

Clearly it is the distribution of food and wealth that is important for achieving food security and eliminating poverty. Exceptions that prove this rule are many. Kerala is one of the poorest states in India as measured by per capita income, yet because of its distributive policies it has the lowest infant mortality, longest life expectancy and highest literacy rate. Between 1994 and 1996, Cuba overcame the worst food crisis in its history, not by boosting fertilizer use, but by giving farmers better prices, by redistributing farm land, and through organic farming techniques.

Closer to home we see grassroots alternatives flowering across America. Struggling small farmers are finding new ways to reach urban consumers with healthy, locally grown produce, via farmers' markets and community-supported agriculture (CSA) agreements. Inner-city residents are responding to supermarket closure in poor neighborhoods by turning vacant lots into viable urban farms, creating jobs for unemployed teenagers, the homeless, and others, and providing poor residents and seniors with organic food.

We can make a difference. The key elements in achieving food security – guaranteeing the right to food – are putting values first, strong local participation, and building from the bottom up into powerful social movements.

Peter Rosset is Executive Director of Food First – The Institute for Food and Development Policy, based in Oakland, California. He is presently writing a revised edition-for-the-90s of the classic Food First book, World Hunger: 12 Myths. This article originally appeared in Why Magazine and is reprinted with permission.
Unlike more affluent Americans, people in low-income communities throughout the United States often do not have access to grocery stores. They have fewer places to shop, pay higher prices for lower quality food and may have to depend on inadequate public transit systems for their access to groceries.

NO PLACE TO SHOP

Food Access Lacking in the Inner City

by Zy Weinberg

Unlike other more affluent Americans, poor people in low-income urban communities throughout the United States have inadequate access to grocery stores. Not only do inner-city residents have fewer places to shop, the food stores that remain in their neighborhoods often have higher prices, limited quantities, and the food for sale is generally of lower quality as well.

While there may be numerous places in the inner city to buy food — such as small groceries and convenience stores — a serious shortage of supermarkets persists. Where supermarkets do exist in low-income, urban neighborhoods, they tend to be smaller and offer fewer products and services than those in suburban and middle- and upper-income areas. Health, economic security, and the quality of life are compromised by the lack of access to the wider variety of affordable foods available in supermarkets outside the inner city.

Supermarket Access

Within the past few years, researchers have confirmed what consumer advocates and urban residents have long known: In the poorest parts of town there are fewer supermarkets — 30 percent less than in the highest income areas, according to a 1995 study by the University of Connecticut (UConn).
Food Marketing Policy Center1 and a companion analysis by Public Voice for Food and Health Policy.2 

The UConn study examined industry information and census zip code data for 21 major metropolitan areas and found there were fewer supermarkets in low-income zip codes in 16 of the 21 urban areas. Differences ranged from 254.7 percent to 12.2 percent fewer stores.

Poor households on government aid and with limited resources, who most need supermarket access, were similarly disadvantaged by store location. Zip codes with the greatest percentage of families on public assistance also had fewer supermarkets in 16 of the 21 metropolitan areas. Public Voice estimated that as much as $1 billion in Food Stamp Program purchasing power is lost annually because participants lack access to competitively-priced stores where they can shop.

Even where supermarkets are available, the advantage for the poor may be reduced by lack of transportation. Poor households are less likely to own a vehicle to transport food or travel to other parts of a city where more stores are located to seek lower prices. In all 21 metropolitan areas, households with the lowest per capita income were the least likely to have a vehicle. In Philadelphia, Boston, and Hartford, only about half of the families in the poorest zip codes owned a vehicle; in New York City, it was just 30 percent. Walking to the store or using public transportation makes grocery shopping much more difficult.

Food Prices
Food prices are particularly important for those whose income is limited. Supermarkets, regardless of location, can offer lower prices to consumers because of greater sales volume and space to stock generic or store brand items. Even in inner cities, where the costs of doing business are generally higher, food prices in supermarkets are usually lower than in other food markets.

Store size and product selection significantly affect food prices. The price of a market basket of 42 core items was as much as 48 percent higher in small groceries and convenience stores than in supermarkets, according to a February 1997 U.S. Department of Agriculture (USDA) study3 of some 2,400 food stamp retailers. "The results confirm the common belief that supermarkets supply, on average, nearly all food items in a market basket and have the lowest cost of any store type’ the federal investigators determined. In other studies done during the early 1990s, grocery store prices in low-income urban areas were generally found to average seven to eight percent higher than in suburban stores, though some larger differences were also noted.

Food Quality and Product Selection
USDA confirmed that smaller stores were much less likely to carry the variety of products that composed the market basket. Supermarkets carried an average of 95 percent of the items and large groceries had 81 percent, but small groceries and convenience stores carried just half of the market basket foods. "Supermarkets in high-poverty urban areas offer 5 to 10 percent less variety in brands and package types than those in other areas’ USDA reported. "Moreover, supermarkets in high-poverty urban areas offer about a fourth fewer non-food product lines than supermarkets in other areas.” Limited product selection also means that ethnic shoppers often will not encounter the types of "specialty" foods that are dietary staples for them.

Anecdotal complaints over the years about wilted lettuce and withered apples in inner-city stores were also confirmed in the USDA study. 'The lowest average proportion of foods in the market basket of acceptable quality... is found in the 'other store' category located in high-poverty urban areas’ the report noted.

Lack of Ancillary Services
Other food and non-food services are significantly less likely to be available in supermarkets in low-income neighborhoods than elsewhere. USDA researchers, in checking for meat, seafood, and produce departments, noted that, ’Supermarkets in high-poverty urban areas have half the number of full-service departments as supermarkets in other urban areas.” Similarly, the UConn study found a much lower percentage of delis, bakeries, and restaurants in supermarkets in the poorer zip codes.

The UConn analysis also looked at the prevalence of scanners and automated teller machines (ATMs) in poor areas and found them generally absent. Because many low-income communities lack bank branches, they are often the last to receive the advantages of advances in financial technology. Government’s push to deliver benefits electronically is making inroads, but stores in low-income communities are still less likely to have ATMs and other electronic equipment to connect with government computers where a participant’s benefit information is stored.

Consumer Spending
One reason retailers are reluctant to do business in low-income neighborhoods is a perceived lack of buying power. But poor households also have to eat, and they spend a higher proportion of their income on food. Often, untapped local buying power exists for two reasons. First, consumers shop elsewhere when there are no low-price stores in the vicinity. In New York City’s East Harlem community, where there are no supermarkets, the neighborhood loses an estimated $65

Within the past few years, researchers have confirmed what consumer advocates and urban residents have long known: In the poorest parts of town there are fewer supermarkets.
Those who consider doing business in low-income urban neighborhoods face challenges, but there are also profits to be made.

Service data, and other official counts fail to measure underground economies, which involve billions of dollars annually and are estimated to run as high as 25 percent of the rated economy. Unreported income – from self-employment, income from rental properties, crafts production, consultant work, and illegal activities – contributes, sometimes significantly, to personal spending power in a neighborhood, but cannot be accurately measured.

Supermarket Development Trends

As suburban markets become increasingly saturated, supermarket operators are again looking to the inner-city for new business opportunities. Those who consider doing business in low-income urban neighborhoods face challenges, but there are also profits to be made. Unfortunately, though considerablelip service has been given to inner-city supermarket development, little has actually been accomplished to reverse the 1970's flight of supermarkets to the suburbs.

There are some rare exceptions. Cleveland was the only one of 21 cities in the UConn study where a greater number of stores was found in the lowest-income zip codes than in the highest. Cleveland was an exception because one chain – Finast – made a concerted effort to hire its employees from the neighborhood. Major chains throughout the country that serve the inner-city indicate that local hires constitute 50 to 80 percent of their employees. Though additional training may be required, employing local residents can offer a marketing advantage and help reduce security costs, especially if employee demographics reflect the neighborhood’s ethnic mix.

The Next Steps

Clearly, more needs to be done to accelerate supermarket development in low-income, inner city communities and to improve access to food for the poor. Federal initiatives for commercial revitalization, such as Empowerment Zones and Enterprise Communities, must be augmented. Local governments can take steps to improve supermarket access through actions such as offering tax incentives and simplifying zoning laws. Government agencies at all levels must collaborate to investigate inner city needs and fashion appropriate responses on housing, transportation, economic development, and food assistance needs.

More aggressive action by the food industry is also required. Innovative industry leaders have already proven there are profits to be made in inner-city supermarkets. In almost all cities, there are suitable buildings available for rehabilitation or vacant land appropriate for the construction of supermarket-anchored shopping centers. But there is a need for more chain and independent operators – in partnership with developers, community organizations, and local governments – to refurbish existing buildings or construct new stores.

Together, government, private industry, and the non-profit sector can make a difference and insure that, for the poor, there will be someplace – the right place – to shop.

Notes


The struggle to maintain healthy, nutritious, uncontaminated sources of food has been a challenge since World War II and the advent of the Green Revolution when the use of chemicals in food production became the norm. More recently we have been faced with a new Green Revolution as a new wave of high tech solutions to mass food production problems has emerged.

**NUCLEAR LUNCH**

The Dangers and Unknowns of Food Irradiation

by Jennifer Ferrara and Susan Meeker-Lowry

Beginning in 1986, the Food and Drug Administration (FDA) has given the green light to expose nearly our entire food supply to nuclear irradiation. Since then, staunch citizen opposition has kept the technology out of use. But the recent hamburger recall has led both the food and nuclear industries to push hard for beef irradiation's approval. Its use in the beef industry would open the door to irradiation as the "solution" to contamination crises in all food groups, from poultry to fruits and vegetables.

With beef irradiation on the fast-track through the FDA process, citizen opposition, not government regulation, remains the critical component in keeping irradiated food off store shelves. And from the hazards inherent in the technology to the FDA's own admission that the safety studies are flawed, the risks involved with food irradiation still far outweigh the presumed "benefits."

**Irradiation Basics**

Food is irradiated using radioactive gamma sources, usually cobalt 60 or cesium 137, or high energy electron beams. The gamma rays break up the molecular structure of the food, forming positively and negatively charged particles called free radicals. The free radicals react with the food to create new chemical substances called "radiolytic products." Those unique to the irradiation process are known as "unique radiolytic products" (URPs).

Some radiolytic products, such as formaldehyde, benzene, formic acid, and quinones are harmful to human health. Benzene, for example, is a known car-
cinogen. In one experiment, seven times more benzene was found in cooked, irradiated beef than in cooked, non-irradiated beef. Some URPs are completely new chemicals that have not even been identified, let alone tested for toxicity.

In addition, irradiation destroys essential vitamins and minerals, including vitamin A, thiamine, B2, B3, B6, B12, folic acid, C, E, and K; amino acids and essential polyunsaturated fatty acid content may also be affected. A 20 to 80 percent loss of any of these is not uncommon.

With the shaky assurance of just five studies, the FDA approved irradiation for the public food supply.

Safety Studies Flawed

The FDA reviewed 441 toxicity studies to determine the safety of irradiated foods. Dr. Marcia van Gemert, the team leader in charge of new food additives at the FDA and the chairperson of the committee in charge of investigating the studies, testified that all 441 studies were flawed.

The government considers food irradiation a food additive. In testing food additives for toxicity, laboratory animals are fed high levels (in comparison to a human diet) of potential toxins. The results must then be applied to humans with theoretical models. It is questionable whether the studies the FDA used to approve food irradiation followed this process. In fact, the FDA claimed only five of the 441 were “properly conducted, fully adequate by 1980 toxicological standards, and able to stand alone in support of safety.” With the shaky assurance of just five studies, the FDA approved irradiation for the public food supply.

To make matters worse, the Department of Preventative Medicine and Community Health of the New Jersey Medical School found two of the studies were methodologically flawed. In a third study, animals eating a diet of irradiated food experienced weight loss and miscarriage, almost certainly due to irradiation-induced vitamin E dietary deficiency. The remaining two studies investigated the effects of diets of foods irradiated at doses below the FDA-approved general level of 100,000 rads. Thus, they cannot be used to justify food irradiation at the levels approved by the FDA.

Yet other studies indicate serious health problems associated with eating irradiated food. A compilation of 12 studies carried out by Raltech Scientific Services, Inc., under contract with the U.S. government, examined the effect of feeding irradiated chicken to several different animal species. The studies indicated the possibility of chromosome damage, immunotoxicity, greater incidence of kidney disease, cardiac thrombus, and fibroplasia. In reviewing Raltech’s findings in 1984, USDA researcher Donald Thayer asserted, “A collective assessment of study results argues against a definitive conclusion that the gamma-irradiated test material was free of toxic properties.”

Studies of rats fed irradiated food also indicate possible kidney and testicular damage and a statistically significant increase in testicular tumors. One landmark study in India found four out of five children fed irradiated wheat developed polyplody, a chromosomal abnormality that is a good indication of future cancer development.

Irradiation proponents often claim that decades of research demonstrate the safety of food irradiation, but the studies they use to prove it are questionable. For instance, their “proof” includes studies completed by Industrial Bio-Test (IBT), a firm convicted in 1983 of conducting fraudulent research for government and industry. As a result of IBT’s violations, the government lost about $4 million and six years of animal feeding study data on food irradiation. Some of this discredited work is still used as part of the “scientific” basis for assurances of the safety of food irradiation.

Accidents Happen

Workers in irradiation plants risk exposure to large doses of radiation due to equipment failure, leaks, and the production, transportation, storage, installation, and replacement of radiation sources. The Nuclear Regulatory Commission (NRC) has recorded 54 accidents at 132 irradiation facilities worldwide since 1974. But this number is probably low since the NRC has no information about irradiation facilities in approximately 30 “agreement states” which have the authority to monitor facilities on their own.

New Jersey is home to the highest concentration of irradiation facilities, and virtually every New Jersey plant has a record of environmental contamination, worker overexposure, or regulatory failures. Accidents can be nearly fatal to workers and extremely dangerous to the surrounding companies. For instance:

In 1991, a worker at a Maryland facility suffered critical injuries when exposed to ionizing radiation from an electron-beam accelerator. The victim developed sores and blisters on his feet, face, and scalp, and lost fingers on both hands.

In 1988, Radiation Sterilizers, Inc. (RSI) in Decatur, GA, reported a leak of cesium 137 capsules into the water storage pool, endangering workers and contaminating the facility. Workers then carried the radioactivity into their homes and cars. Cleanup costs exceeded $30 million, and taxpayers footed the bill.

In 1986, the NRC revoked the license of a Radiation Technology, Inc. (RTI) facility in New Jersey for 32 worker-safety violations, including throwing radioactive garbage out with the trash and bypassing a key safety device. As a result of this negligence, one worker received a near lethal dose of radiation.

In 1982, an accident at International Nutronics in Dover, NJ, contaminated the plant and forced its closure. Radiation baths were used to purify gems, chemicals, food and medical supplies.

In 1974, an Isomedix facility in New Jersey flushed radioactive water down toilets and contaminated pipes leading to sewers. In the same year, a worker received a dose of radiation considered lethal for 70 percent of the population. Prompt hospital treatment saved his life.
The U.S. Department of Energy initially encouraged food irradiation as part of its Byproduct Utilization Program created in the 1970s to promote the commercial use of nuclear byproducts.

(WHO) considers aflatoxin to be a significant public health risk and a major contributor to liver cancer in the South. In addition, irradiation will likely have a mutagenic effect on bacteria and viruses that survive exposure. Mutated survivors could be resistant to antibiotics and could evolve into more virulent strains. Mutated bacteria could also become radiation-resistant, rendering the radiation process ineffective for food exposed to radiation-resistant strains.

Radiation-resistant strains of salmonella have already been developed under laboratory conditions, and scientists at Louisiana State University in Baton Rouge have found that one bacterium occurring in spoiled meat and animal feces can survive a radiation dose five times what the FDA will eventually approve for beef. Scientists exposed the bacteria, called D. radiodurans, to between 10 and 15 kilograys (kGy) of radiation for several hours — enough radiation to kill a person several times over. The bacteria, which scientists speculate evolved to survive extreme conditions of dehydration, survived the radiation exposure.

The Nuclear Connection

Hundreds of irradiation facilities would need to be built to irradiate beef and poultry in the U.S. on a mass scale. Currently, the radiation source for most irradiators is cobalt 60 supplied by the Canadian company Nordion International, Inc. But the only isotope available in sufficient quantities for large scale irradiation is cesium 137, which is also one of the deadliest. With a half-life of 30 years, cesium 137 remains dangerous for nearly 600 years.

The U.S. Department of Energy (DOE) initially encouraged food irradiation as part of its Byproduct Utilization Program (BUP) created in the 1970s to promote the commercial use of nuclear byproducts. The DOE claimed nuclear food irradiation promotion. But to be successful, irradiation proponents must convince retailers that consumers want the technology. The irradiation industry sees education or "consumer training" as the key to citizen acceptance.

In response, scientists at major land-grant universities, with the full support of the USDA, are developing "educational" materials. Iowa State University (ISU), home of one of two publicly held food irradiation facilities in the U.S., developed a pro-irradiation educational video with a $39,000 grant from the

Creating a Vision for Change

by Wendall Chin

In 1992, a multi-ethnic group of people fishing at local San Francisco Bay piers came together in response to poor and unsafe fishing conditions. SAFER!, or San Francisco Bay Advocates For Environmental Rights, was formed at the community level seven years ago in the San Francisco Bay by conducting outreach at the fishing piers to those bearing the most direct impacts of the Bay toxic pollution threat.

"The PUC tells us that they are in 'compliance.' These are moral fights, not necessarily legal ones."

Poisoned Food, People of Color and Environmental Racism

A community survey of 500 anglers at various Bay Area piers revealed that, of those who regularly consume their catch, the majority – 65 percent – are people of color and/or immigrants with limited English language skills who often supplement their protein intake by catching and eating local fish. A study found that, on average, people of color fishermen and their families consume 21 percent more fish per person per day than white fishermen and their families. To add to the problem, state agencies had issued a fish health warning for the San Francisco Bay over 20 years ago for only one fish and one chemical – striped bass and mercury. SAFER! Members catch kingfish, jacksmelt, and perch, among other fish. The striped bass warning was in English only, and further, was in what many community members call "technobabble," or heavily scientific language.

"Health effects associated with higher consumption of contaminated fish are often further exacerbated by poverty, which is correlated with poor nutrition, stress, and less access to quality health care," states Pamela Chiang, SAFER! Board Member and staff person for the Asian Pacific Environmental Network (APEN). "The consumption of fish contaminated by toxics is a major environmental justice issue."

Winning the First Step – Accountability to the Community

To address the environmental injustice of toxic fish consumption, SAFER! began organizing. SAFER!’s organizing cam-
The environmental movement has been criticized as having lost touch with its grassroots constituency and becoming more concerned with its professionalization, as battles are fought in the legal and regulatory arena without a grassroots base.

Fighting for Accountability and Long Term Change

The environmental movement has been criticized as having lost touch with its grassroots constituency and becoming more concerned with its professionalization, as battles are fought in the legal and regulatory arena without a grassroots base. It has also been criticized for being predominantly white, male, and senior. This situation set the stage for what is now known as the Environmental Justice Movement – with people of color and women at the forefront, mixed generations, and people from predominately low-income areas.

At CBE, staff and members are convinced that in order to win, build power, and develop the capacity for long term change, environmental groups must move out of the exclusive domains of the legislature, the research lab, the regulatory arena, and the courts, and be accountable to a grassroots base, those bearing the direct impact of pollution. Without a broad base of membership that is willing to defend and preserve victories, we will always be in a reactionary position. By raising individual awareness pointed toward collective action, organizing, and developing a new generation of community leaders, we set the conditions for future action. With a larger, broader base of activism, groups can develop power and move forward an active agenda.

For example, in 1995, CBE's SAFER! Project won changes from the East Bay Municipal Utilities District (EBMUD) in Oakland, a major contributor to the Bay pollution emitting 75 million gallons of wastewater per day. Currently, SAFER!'s Healthy Bay and Beaches Campaign is targeting the San Francisco Public Utilities Commission (PUC), one of the Bay's largest sewage facilities, which has been leaking bacteria onto beaches and toxics into the Bay. The PUC dumps anywhere from 90 to 415 million gallons of wastewater per day into the Bay and ocean. CBE-SAFER! members are demanding an inspection of the plant and upgraded industrial and bacterial pollution source reduction from its system. However, we are finding out that the City PUC is attempting to hide behind regulations and limits.

"The PUC tells us that they are in 'compliance.' These are moral fights, not necessarily legal ones. We've got predominantly poor communities of color eating toxic fish from the Bay, pregnant women of color most at risk, and major governmental agencies disregarding our concerns," asserts Michael Thomas, community organizer with CBE's SAFER! project. "We've registered the concerns of over 25,000 people in churches, high schools, immigrant service groups, unions, as well as environmental groups. People want change and we are ready!"

To find out more about CBE/SAFER! and get involved with a SAFER! campaign, contact SAFER! at (415)243-8373 ext. 213, 214, or 215. Wendall Chin is the Lead Organizer for Communities for a Better Environment’s SAFER! Project.

TOXIC FISH

A study performed at the University of Michigan by Patrick C. West, J. Mark Fly, Frances Larkin, and Robert W. Marans found that the state regulations controlling the discharge of toxic chemicals into Michigan surface waters do not account for the higher average consumption of fish by people of color, especially Native Americans and African Americans. The regulation is based on the assumption that the statewide average of daily fish consumption is 6.5 grams per day.

However, a survey indicated that generally, African American and Native American sport fishers and their families consumed far more fish per day. For example, the study showed that Black anglers who had lived in Michigan over 30 years consumed an average of 30 grams/person/day. Likewise, Native Americans in lower income brackets were found to consume 33.7 grams/person/day, the highest amount of any group. These findings imply that the state regulation should be revised to cover these groups who consume well above average amounts of fish. As well, fish consumption advisories should be re-targeted toward these groups of anglers.
Corporate Agriculture

We are living in a time when individual, community and environmental rights are being subjugated by national and transnational corporations; corporations who have all of the legal rights of an individual without any of the associated responsibilities. Corporations whose annual budgets are larger than some world nations and who operate outside the control of many world governments. Nowhere is this more prevalent than in the food production and distribution system with corporations like ConAgra, Monsanto, ADM Cargill, and Dupont controlling the entire flow of the world's food supply in an incestuous government-supported system. Farm loans are now tied to chemical use, plants and genetic materials allowed to be patented, seeds owned and where individual corporations dominate and vertically control every aspect of food production from ownership of land, to the processing, distribution, and sales of the food. The following articles examine the impacts of corporate agriculture on individuals, communities and the society as a whole.

WARNING:

Corporate Meat and Poultry May be Hazardous to Workers, Farmers, the Environment and Your Health

The people had come in hordes. (The meatpacker was) speeding them up and grinding them to pieces, and sending for new ones.

—Upton Sinclair, The Jungle, 1906

by Marc Cooper, Peter Rosset, and Julia Bryson

With many of the over 150,000 workers in the poultry processing plants thwarted in their efforts to organize, their workplaces remain ever so dangerous. Assembly lines that are constantly accelerated, abnormal temperatures and rapid, repetitive hand motions all contribute greatly to worker skin diseases, crippling hand and arm illnesses, called cumulative trauma disorders, ammonia exposure, infections from toxins in the air, stress and back problems.¹

Storm Lake, Iowa. On his one day off from work this week, 45-year-old Heriberto Solís sits in his uninsulated trailer in a dilapidated mobile home park that the residents of this town of 10,000 in northwestern Iowa call "Little Mexico." While staring out at the piles of snow outside, he laments where destiny has dropped him.

Six days a week, eight hours a day, Heriberto stands on his feet in the noisy, refrigerated pork slaughterhouse run by the IBP Corporation, the world's fourth largest food manufacturing firm with an estimated $10 billion in sales per year.² For take home pay of less than $300 a week, he tediously slices meat off of hog backbones. The work is dangerous and arduous, but he feels he has few other opportunities.³

"The company loves to work with illegals," Heriberto says. "When you are illegal you can't talk back. You keep your
head down and follow orders. We say you can't do nothing." The workers in the plant are not alone in their concerns about the large corporate packers. Most independent farmers who raise animals are now close to ruin, in part because a wave of mergers and take-overs in the meat industry have driven livestock prices down.4

The U.S. Department of Agriculture recently held hearings and asked for testimony from the farmers who produce animals for slaughter. "The powerlessness of the producers in their dealings with concentrated buyers was heard about again and again," the Minority Report by six commissioners stated.5 "As the number of buyers steadily declines, with only one bidder for cattle in most circumstances, those who incur the dislike of a buyer face economic ruin," it continued. "The fear of the overwhelming power of the packers was raised by beef producers and echoed by testimony from poultry producers. Retaliation for organizing activities can quickly lead to a producer's bankruptcy." 

Corporate Concentration and Falling Wages

Over the past few decades the meat-packing industry has come to be more concentrated than any other in the U.S., as large integrated conglomerates have bought out and squeezed out the independents, and increasingly extended their control over farmers through draconian contract arrangements. In 1973 the top four beef packing companies slaughtered 29 percent of steers and heifers. Today that figure has risen to over 80 percent, and the industry is dominated by three transnational corporations (ConAgra, Cargill and IBP).6

Four companies now control 45 percent of pork production (IBP, ConAgra, Cargill, and Sara Lee) and four control 44 percent of boiler production in the poultry industry (Tyson, ConAgra, Gold Kist, and Perdue Farms).7

The IBP factory in Storm Lake both dominates and depends upon the work of the 600 or more Mexican and Central American workers and their families who have come to live here in Storm Lake. Alongside 1,500 Laotians, these immigrant workers are now the majority of the workforce at IBP's massive pork-processing plant.

And not only here in Storm Lake. In a sweeping regional arc that slashes through America's heartland north from the Dakotas, through Minnesota, Nebraska and Iowa, and then down through Kansas into Northern Texas and Missouri, and now south and east even into the Carolinas and Virginia, scores of meatpacking communities have become the new homes to tens of thousands of impoverished Third World workers. "The entire debate over whether or not immigrants are of economic benefit is disingenuous," says University of Northern Iowa anthropologist Mark Grey, an expert on the restructured packing industry. "No one wants to state the truth -- that food processing in America today would collapse were it not for immigrant labor."

Beef, pork and poultry packers have been aggressively recruiting the most vulnerable of foreign workers to relocate to the American plains in exchange for $6 an hour jobs in one of the country's most dangerous industries. On the Midwestern prairie, these workers now occupy jobs that once went to unionized meatpackers earning three to four times the current wage.

Staggering injury rates -- 27% in poultry and 42% in meat -- and on-the-job stress caused by difficult, repetitive work, often means employment for just a few months before a worker quits or the company forces him or her off the job. It's a human chain grease by the gruel-work regimen which generates an astonishing worker turnover rate of 80-100% a year -- a rate common to the entire industry. "Perfect for the company," says Heriberto, "most workers just leave before six months is up and the company health insurance begins." As that were not enough, these new immigrants are left even more vulnerable by the Clinton administration's welfare and immigration "reforms," which have a direct and devastating impact on their already fragile existence.

Corporate Megaprofits and Contract Farming

Meanwhile, IBP made a juicy $257 million in profits in 1995, with Chairman Robert Patterson receiving a $5.2 million bonus to go with his $1 million annual salary. It's that sort of attractive bottom-line that has over the last 15 years fueled a revolution -- nay, a counter-revolution -- that has convulsed and redrawn the face of American meat-packing. And if one could boil that counter-revolution down into one slogan it would be: Death to Independent Farmers and Meatpackers! In 1973 there were 795 federally-inspected packing plants, and only two were classified as very large, and they only handled 7.5% percent of the market. Twenty-two years later 18 mega-plants accounted for 80 percent of the market; the independents having largely been driven out.8

The immense corporate control of the industry forces farmers into a peonage system over which they have little control. The intensifying vertical integration of the poultry industry, for example, means that broiler and egg production are controlled by a handful of processing companies that contract with individual farmers. Under the contract, the companies supply the birds, feed, and the management scheme (some companies, like Cargill, even hold monopolies on the seeds used to grow the feed.)9 Farmers are allowed to own their own buildings but are paid by piece rate at levels that often don't cover their costs, let alone a return on investment.10 The integrity of a farmer as an independent decision-making individual has been lost along with his or her economic viability. As journalist Susan Meeker-Lowry put it, "whole communities' way of life is forever changed as their farms are transformed into meat factories and farmers into production workers."11

Dangerous to Your Health?

Concentration and integration are part and parcel of the industrialization of the meat and poultry industries, with significant downsides for consumer health and the environment. Perhaps the most striking has been the much publicized outbreak of "Mad Cow Disease" in Great Britain, probably associated with Creutzfeldt-Jakob degenerative brain disease in humans. Cattle are thought to acquire the disease by eating commercial feed containing ground-up dead animal...
parts. It is feared that the disease can be transmitted to humans who consume beef contaminated with Mad Cow Disease. It seems quite a perversion of industrial agriculture to feed ground-up dead animals to cattle, which are herbivores. Fifteen human deaths have thus far been linked to this syndrome, and a recent report in the highly respected scientific journal Nature predicts that future deaths in the U.K. could range anywhere from the low hundreds to the tens of thousands.

In March 1996, the U.S. livestock industry announced a voluntary, partial ban on using certain dead animal parts in feed. The Food and Drug Administration proposed making it a mandatory ban, and is now awaiting feedback on the proposed regulation. As if confirming our concern, the industry was just rocked by a scandal in which the USDA found banned spinal cord fragments (the tissue most implicated in Mad Cow Disease) in ground beef.

According to Richard F. Marsh, a veterinarian at the University of Wisconsin at Madison, "there are reasons to believe that mad cow disease has already risen spontaneously in American cattle, but it apparently has not jumped into the animal feed supply at this point." Yet proposed FDA regulations will still allow cow protein to be fed to fish, chicken and pigs in hope that if Mad Cow Disease were to appear, a species barrier would stop it from spreading.

On the level of more common sicknesses, data suggests a link between industry concentration and outbreaks of illnesses linked to beef. The median size of E. coli and other disease outbreaks has increased from 16 to 31 people per outbreak between 1973 and 1987, the same period during which intense packing concentration occurred. While major meat packing companies make billions each year, 500 people die and at least 20,000 people become ill from E. coli contamination. Another two million cases of salmonella poisoning occur with up to 2,000 deaths each year. The meat industry disclaims responsibility, calling these slaughterhouse contaminants "natural" occurrences that can best be cleaned up during food preparation by the consumer. New federal meat regulations simply keep contamination from exceeding current average levels. For chickens that is one in five, and turkeys one in two, contaminated with salmonella.

As we move increasingly toward factory farming, the chemicals, hormones and antibiotics given to animals to speed up growth and prevent diseases may pose health risks to humans, as does pesticide contamination. Since the introduction of the use of hormones in livestock production after W.W. II, there have been a number of claims for an increase of premature sexual development in children, enlarged breasts in men, weight gain, impotence and infertility. The European Union has banned imports of U.S. beef, fearing human health effects of the hormones used in America. However, the U.S. government disputes the risks and has asked the World Trade Organization in Geneva to overturn the import ban as a barrier to free trade as guaranteed under GATT.

The consolidation of meat packing plants has been made possible in part by the increased use of large feedlots. When animals are concentrated in an area, manure becomes a waste disposal problem and an environmental hazard instead of the source of nutrients for the soil that it once was on diversified family farms. For example, the excessive manure produced on hog farms in North Carolina recently caused numerous spills and runaway algal growth in rivers, killing fish and affecting the health of people who came in contact with remaining live fish. These large hog operations have also caused the contamination of groundwater with nitrates.

In 1973 the top four beef packing companies slaughtered 29 percent of steers and heifers. Today that figure has risen to over 80 percent.

Our Tax Dollars at Work

The radical restructuring of American food processing could only be carried out with the acquiescence of local and state governments, which have showered the meat-packing giants with millions of dollars in tax rebates and subsidies. For example, the space now occupied by IBP in Storm Lake was the old Hy-Grade plant. Prior to the Reagan revolution the local, unionized work force was averaging $30,000 a year or more — some $51,000 in today's dollars. Refusing to reach agreement with its unions, Hy-Grade closed down in 1981.

After $10 million in local tax subsidies as enticements, IBP re-opened the plant a year later, offering $6 an hour, or about $12,000 a year. This pattern of de-unionization and rualization can be seen across the region. One after another, meatpacking plants have moved from the big cities where they were close to labor, into the countryside where they were close to the animals and could save on costly transport. As supermarkets took on more specialty butchers, the processing plants needed more workers with fewer skills. Unions became anathema. The industry's hourly wage rate peaked at $19 in 1980. By 1992 it was down below 1960's levels at $12 an hour and has continued to fall. By 1996 unionization was half of what it was in 1963.

Where the new plants opened labor was in relatively short supply. And even in Storm Lake where hundreds of former Hy-Grade workers re-applied for the new jobs, IBP hired back only 30. "The company wanted to bar union-experienced workers from the shop floor," says Mark Grey. With just three companies (IBP, Cargill, ConAgra) dominating the field, competition among them was, no pun intended, cut-throat. Production lines were sped up. Injury rates climbed. What was once a stable work force became frenetically mobile.

Over the last five to eight years American meatpacking companies have aggressively sought out and brought in the cheapest and most docile labor force they could find. Along the way they smashed one union after another, sparked wholesale migration and exploited differences in ethnicity, gender,
regional and legal status to company advantage, employing methods of labor control and farmer contracts that one group of researchers say "recall systems of peonage."

There is Another Way

Food First co-founder Frances Moore Lappé argued in *Diet for a Small Planet* that a food system in which quality farmland is devoted to raising cattle feed instead of crops is a good way to waste resources, impoverish farmers and maintain hunger.23 Yet that doesn't mean there is no place for farm animals in ecologically-managed farming. In fact, the rotation of animals with crops, practiced by the world's small farmers since time immemorial, is a highly productive sustainable practice in which the waste products of each component are key inputs for the other. Thus manure fertilizes crops and animals eat crop residues. Leading agroecologists believe that ecologically optimal farming systems should indeed incorporate animals.24 Furthermore, there are grassland regions which are suitable for grazing though not for crops, where it makes ecological sense to raise range-fed livestock.

The U.S. Humane Society has created guidelines for humane, sustainable agriculture, in which meat and poultry can be produced in ways which are humane to the animals, ecologically sound, free of hormones and antibiotics, and certainly don't contain ground-up dead animal parts.25 There is an incipient movement of farmers who offer range-fed or agroecological meat and poultry products, and for those consumers who are not vegetarians, it makes sense to support them.

While these hormone-free products cost more, that can be offset by reducing meat and poultry products in the diet proportionally, which in any event is a healthy choice. Unfortunately we do not as yet have any independent information on labor practices in alternative livestock production, but we can hope they are superior to those described in this piece. ■

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Notes

3 Unattributed quotes and background information were obtained by Marc Cooper while researching his story "The heartland's raw deal: how meatpacking is creating a new immigrant underclass," which appeared in the Feb. 3, 1997, issue of The Nation.
6 Strange & Higby, supra, note 4.
9 Strange & Higby, supra, note 4.
10 Meeker-Lowry, supra, note 7.
12 Meeker-Lowry, supra, note 7.
22 Strange & Higby, supra, note 4.

To find a local source of ecologically rational meat and poultry, ask your health food store or farmers at the farmer's market. To contact your state organic grower's association, call the Organic Trade Association at 413-774-7511.
"Guess Who's Coming to Dinner? 10 Billion By 2030" proclaims the headline on Monsanto's home page. The company warns of the "growing pressures on the Earth's natural resources to feed more people." The agribusiness giant then cautions that low technology agriculture "will not produce sufficient crop yield increases and improvements to feed the world's burgeoning population."

However, there is no need to despair. According to Monsanto, "Today's high yield agriculture is a stunning success..." Further, the company asserts that "biotechnology innovations will triple crop yields without requiring any additional farmland, saving valuable rain forests and animal habitats." Even better, the biotechnology revolution will mean "less chemical use in farming." The conclusion is obvious and one that will be trumpeted in an upcoming Monsanto ad campaign: "Biotechnology can feed the world...let the harvest begin."

Monsanto’s current commercial propaganda is steeped in numerous dangerous modern agricultural myths about hunger, food production and agriculture. Unfortunately, these myths have been, and are being, repeated so often that they are taken as true. These myths provide convenient cover for Monsanto and the other agribusiness and biotechnology transnationals who are themselves a major culprit in increasing world hunger. Unmasking these myths needs to be an ongoing task for those advocating sustainable agriculture. So, let us begin by examining the four primary and interrelated myths used by Monsanto in its current ads and public information campaign:

1) The Myth
World Hunger is caused primarily by a lack of food with which to feed a growing population.

The Myth’s Assumption
World Hunger can be solved by extracting the maximum food output from land in the shortest time.

The Myth’s Refutation
The primary cause of hunger is not the lack of food. There is currently a sufficient quantity of food. However, if you do not have sufficient money to buy food, or sufficient land to grow it, you go hungry.

The Myth’s Dangers
Government and private efforts to reduce world hunger are based on the technological quest to produce ever higher yields on agricultural land. This is causing environmental and social catastrophe. Additionally, this myth diverts attention from the urgent need for economic and land redistribution essential for food and economic security.

There is no myth about hunger. It is estimated that 786 million people go hungry each day. And hunger is increasing. From 1970 to 1990, with the exception of China, the number of hungry people in the world increased by more than 11 percent.

The myth is not about hunger but rather its primary cause. Monsanto would have us believe that as the world population increases, food production just cannot keep up. The result is that hundreds of millions are hungry. Yet numerous studies and statistics refute this claim. In fact, even as world hunger has increased since 1970, so has the food production per capita. In South America the number of those hungry went up by 19 percent. Yet per capita food supplies rose almost 8 percent. In South Asia hunger and food per capita both increased by 9%.
These statistics and numerous others indicate that population growth was not the primary cause of the increase in hunger since 1970. Total food theoretically available for each person actually increased significantly. What then is the primary cause of world hunger? The basic cause is food dependence. The industrial system has, over centuries, in virtually every area of the globe, "enclosed" peasants off the land so that the land can be used for export crops. The profits gained from these exports is the essential "primitive accumulation of capital" required for industrial development in any society. The result of enclosure was, and continues to be, that untold millions of peasants lose their land, community, traditions and most directly their food independence. Removed from their land, they then flock to the newly industrialized cities where they quickly become a class of urban poor competing for low-paying jobs in the urban industrial setting. Those that stay on the land generally attempt to survive by low-paying farm work on the large newly industrialized farms. Currently, more than half a billion rural people in the Third World are landless, or do not have sufficient land to grow their own food.

After enclosure, both the urban and rural poor are completely food dependent. Their access to food is by solely by purchase and should they lose that purchasing power they starve. Increasing agricultural output has little effect on the hungry because it fails to address the key issues of access to land and purchasing power which are at the root of hunger. As summarized in a recent Food First report, "If you don't have land on which to grow food or the money to buy it, you go hungry no matter how dramatically technology pushes up food production."

The Myth's Dangers

The phrase "bigger, more efficient farm" has become routine, causing a public policy assumption that larger farms should become a priority. Farm size increases environmental and biodiversity damage, displaces farmers and farm workers, causes the destruction of farm-related businesses and communities, and increases the urban poor and related poverty and hunger.

The myth that bigger, technology oriented farms are better is a corollary of the myth that food output is the solution to hunger. To address world hunger, we need more output therefore we need larger farms and more advanced technology.

The most immediate effect of this drive towards larger, more technology-intensive farms is that it accelerates the tragic enclosure trend. Since World War II, the size of the average farm has more than doubled in the United States. At the same time the number of farms has dropped by two-thirds and the number of farmers by twice that percentage. The pattern is familiar, the destruction of rural communities and the consequent exodus to the cities of thousands of uprooted and impoverished farmers and others in the rural communities. The result: increases in unemployment, crime, food dependency and hunger. As large-scale farms and technologies continue to proliferate in the Third World even more dire consequences are predicted.

It is not only the size of farms which obliterates farm communities and food independence, but also technology. New technological advances replace workers in agriculture, and represent economic disaster for all but the largest farms. As one researcher investigating biotechnology notes, "The majority of farmers do not benefit from technological change; the farmer beneficiaries are largely limited to the early adopters – usually larger operators. They are able to expend quickly the capital to invest in the new technology. They reap the benefits of an aggregate supply increase and can still make a profit even as the price per unit drops. At the same time, the price drop hampers the efforts of late adopters to remain in the changing market."

Monsanto and others have acknowledged the price that technology and size exacts from the farm community but insist it is the price that has to be paid for

2) The Myth

Larger, technology-intensive farms are more efficient for food production.

The Myth's Assumptions

• The more land and technology the larger the output of food.

• Assessment of farm efficiency should be based solely on the volume of the food it produces.

• Environmental and social costs involved in food production are not relevant to efficiency because they are "external" to the farm.

"If you don't have land on which to grow food or the money to buy it, you go hungry no matter how dramatically technology pushes up food production."
Well managed alternative farming systems nearly always use less synthetic chemical pesticides, fertilizers, and antibiotics per unit of production than conventional farms.

studies have shown that large farms have far greater environmental impacts than smaller farms, including up to 40% more erosion.

The efficiency analysis also ignores the human health costs of consuming foods contaminated with pesticides, hormones and other poisons. The dislocation, over the decades, of million of farmers and thousand of farm communities also does not appear in the efficiency calculation. All of these costs are viewed as external to farm production and termed "externalities."

With these costs excluded, the public never is informed of the "real" price of the food produced on large industrialized farms.

The efficiency analysis also does not take into consideration the unique character of small farms. In that it is measuring only outputs, the economy of size view ignores significant advantages that small farms have in reducing input. For example, diversification increases efficiency because it allows the more complete use of inputs, such as a variety of crops grown in different seasons. As Strange summarizes, "In agricultural economics, a bias against diversification persists, reflecting the conviction that doing one thing well on a large scale is more important that doing many things well on a small scale. It is a function of our fixation with maximums, and our indifference to optimaums."

In 1989, United States National Research Council was asked to assess the true efficiency of large industrial farms versus alternatives. Their conclusion went exactly contrary to the "bigger is better" myth:

"Well managed alternative farming systems nearly always use less synthetic chemical pesticides, fertilizers, and antibiotics per unit of production than conventional farms. Reduced use of these inputs lowers production costs and lessens agriculture’s potential for adverse environmental and health effects without decreasing – and in some cases increasing – per acre crop yields and the productivity of livestock management systems."

3) The Myth

"Low tech" alternatives to high yield industrial crop production require more land to produce the same output thus threatening wetlands, forests and other unique ecosystems.

The Myth's Assumptions

- Technology intensive farming is the only way to boost yields.
- Limiting land used for food production outweighs the environmental costs of industrial food production.
- High tech industrial farms are as compatible with local environments as alternative methods.

The Myth’s Refutation

- Alternative farming methods have shown to increase yields as efficiently as industrial methods.
- There is mounting evidence of declining yields associated with "Green Revolution" farming practices.

- Industrial crop production has devastated agricultural lands, itself forcing the use of marginal lands.
- Industrial agriculture is destroying aquatic and marine systems, themselves increasingly important sources of food and biodiversity.

The Myth's Dangers

Along with the dangers described in myths one and two, acceptance of this myth can discourage government and private support for research and development into low-tech alternatives to the industrial model. This myth is used by Monsanto and others as a permanent block to the growing trend of organic local production which can feed the world and protect the environment.

Monsanto and other agribusiness conglomerates are seeing the birth of a powerful new competitor for consumers in the United States and Europe, organic food production. No longer a "niche" market the organic food market soared to $4 billion in the United States in the mid 1990s and is increasing 20% each year. Over 2 million American families now buy organic, with more than 14 million searching out "natural" foods. Of even greater concern to Monsanto is the growing resistance to its corporate tactics and message in India and other Third World nations. Public outcry has forced the corporation to back down on numerous enterprises. The bigger is better myth is beginning to lose its power.

Monsanto’s response has been to launch media attacks on "low-tech" agricultural alternatives. The company does so under the guise of being environmentally conscious. Given the corporation’s record on environmental issues this stance is not credible yet Monsanto persists. Their primary claim (which they are attempting to transform into a new myth) is that in order to "feed the world" low tech agriculture (with its purportedly low yields) will need to massively expand the amount of land being used to grow food, which will destroy important wildlife habitat and other vital ecosystems.

As described above, however, numerous studies continue to indicate that alternatives to industrial, high tech agriculture are when properly calculated, at
least as efficient in producing output as their industrial-chemical-based counterparts. Additionally, the Monsanto argument fails to account for the declining yields now associated with the technology-and chemical-intensive "Green Revolution" foisted on the Third World. In the Philippines, India, and Nepal, research is indicating significant loss in yields after they peaked in the 1980s. Soil degradation and a proliferation of pests, typical of large scale monoculture farming, are suspected as the culprits in the decline.

Researchers at the Henry Wallace Institute also note that just as the industrial agriculture destroys the productivity of farm land it also compromises other food sources. Chemical contamination and eutrophication (primarily from runoff of nitrogen and phosphorous from cropland) threaten the productivity of the marine and aquatic systems responsible for much of the world's food supplies. Sixty percent of the world's population receive more than 40% of their yearly protein from fish and seafood. Chemical contamination has also devastated wildlife and the biodiversity that Monsanto now claims to want to protect.

4) The Myth

Biotechnology will feed the world with less chemical use, less pollution and fewer resources.

The Myth's Assumptions

- Biotechnology has shown that it is effective.
- Biotechnology has developed products that protect the environment

The Myth's Refutation

- Agricultural biotechnology has a long history of failure
- Genetically-engineered crops, such as herbicide-resistant crops, directly increase the use of chemicals.
- Biotech crops, such as those engineered with B.t., undermine the effectiveness of natural pesticides leading to the use of more pesticides.
- Many biotech advances, including the creation of sterile seeds, could prevent farmers from saving seeds, thereby increasing cost dependency and ultimately hunger.
- The patenting of genetically engineered crops and animals increases the cost of farming and the price of food, thereby leading to an increase in hunger.
- Releasing genetically-engineered organisms into the environment can cause "biological pollution" which can equal chemical pollution in its destruction of the environment.

The Myth's Dangers

Acceptance of this newest of agricultural myths will lead to greater, not less, use of pesticides and herbicides. Additionally, it will involve the release of untold numbers of genetically engineered microbes, plants and animals into the environment with potentially catastrophic results. Further, it will result in increased dependency of farmers on technology which disempowers them and makes them into a new class of "tenant" farmers paying patent fees to grow crops and raise livestock. This myth is also being used by Monsanto and others to discourage national and international regulation of biotechnology, especially its environmental impacts.

Monsanto's recent ad campaigns have been almost entirely devoted to purveying the myth that biotechnology can feed future generations and can replace chemical agriculture. Though Monsanto built its financial success selling the world's leading herbicide Roundup and other agricultural poisons, it now purports to reject the chemical industrial model. "More Biotechnology Plants Mean Less Industrial Ones," proclaims the headline of one ad. "The world grows its food at great cost to the environment," it continues. The ad then bemoans the environmental impacts of "insecticides, fertilizers and herbicides." It concludes, "At Monsanto, we believe plant biotechnology can limit industrial and chemical impact on the earth. For instance, we have developed crops that are insect resistant, in some cases elimin-
concerned about chemical pollution from agriculture and industry. Chemical pollution is a contamination model of pollution. Chemicals contaminate water, air or food making it toxic. By attempting to sell the myth that agricultural biotechnology is a “green,” environmentally-benign technology Monsanto is avoiding the whole problem of biological pollution.

Monsanto and other transnationals are now patenting the genes, plants and animals essential for agricultural production.

Biological pollution is a disease model of pollution. Most familiar with the bacteria or viruses which affect human health, biological pollution is evident when exotic plants, animals or other organisms are released into the environment. In the United States this type of biological pollution, including the invasion of the Gypsy Moth, Kudzu vine and organisms responsible for Chestnut Blight and Dutch Elm Disease, has wreaked environmental havoc. Now Monsanto and others are releasing thousands of new genetically-engineered microbes, plants and animals into the environment. Each of these genetically altered organisms is a potential “exotic” which could harm the environment. The long term impact of thousands upon thousands of genetically-modified organisms could well eclipse the damage that has resulted from the wholesale release of petro-chemical products.

In chemical pollution, a chemical that is found to be hazardous does not reproduce itself, and though it might spread, its concentrations will become increasingly dilute. Thus the damage caused by chemical pollution is most often localized and dissipates with time. With biological pollution, and with biotechnological organisms, the disturbance to the ecosystem increases and intensifies as the organisms multiply, disseminate and mutate. The problem will not remain localized, but will expand in a potentially irreversible manner. For example, if pest resistance spreads from crops to weeds, the disease-resistant weeds will multiply and be virtually impossible to isolate and control (even with massive and indiscriminate use of herbicides). Each release of a genetically-modified organism is a form of ecological roulette which Monsanto and others are playing. The ecosystem can only be the loser. Biological pollution may well be the most urgent pollution problem of the 21st century.

Beyond the problems of biological pollution, biotechnology completes the enclosure process in agriculture. Monsanto and other transnationals are now patenting the genes, plants and animals essential for agricultural production. Monsanto has developed the ability to sterilize seeds genetically so they cannot be saved. These companies are enclosing the genetic commons of all agricultural life making all farmers and consumers even more dependent on corporate entities for their very survival.

Andrew Kimbrell is a public interest attorney, activist and author. He has been involved in public interest legal activity in numerous areas of technology, human health and the environment. After working eight years as the Policy Director at the Foundation for Economic Trends, Kimbrell established the International Center for Technology Assessment (CTA) in 1994 and the Center for Food Safety (CFS) in 1997. Kimbrell has written several books and given numerous public lectures on a variety of issues. He has been featured on radio and television programs across the country, including The Today Show, the CBS Morning Show, Crossfire, Headlines on Trial, and Good Morning America. He has lectured at dozens of universities throughout the country and has testified before congressional and regulatory hearings. In 1994, the Utne Reader named Kimbrell as one of the world’s 100 leading visionaries.

Notes
THE INDUSTRIALIZATION OF AGRICULTURE AND ENVIRONMENTAL RACISM
A Deadly combination Affecting Neighborhoods and the Dinner Table

By David H. Harris, Jr.

Environmental racism manifests itself in rural communities in three primary ways: the construction and operation of intensive livestock operations in or near people of color communities; labor practices dangerous to workers (including factory workers and farmworkers); and the placement of landfills, incinerators, and other noxious production and waste facilities in or near people of color communities and low-income communities. This article focuses on the placement of industrial-sized livestock operations in people of color communities and low wealth communities. Much of the discussion will focus on North Carolina as an example, but the same facts are true in several states. The same economic neglect that makes people of color communities and low-income communities prime targets of the usual polluting industrial activities also makes them prime targets of the environmental harm caused by agribusiness' efforts to monopolize our food supply through unsustainable production methods.

"Concentrated Animal Feeding Operations"
It may be a 700,000 hen operation that produces millions of eggs per day. It may be a dairy operation of 5,000 or more cows located in California or New Mexico. It may be a hog operation of 70,000 full grown hogs in North Carolina or Missouri. The trend is the same – the industrialization of agriculture by a few corporations, building monopolies and controlling all aspects of production and marketing, from egg to grocer shelf, displacing hundreds of thousands of farmers, mistreating farmworkers and processing plant workers, and using methods of production that often make the food unsafe to eat.

However, are factory farms and the industrialization of agriculture an environmental justice issue? It depends on the placement and who is impacted. The placement of mega-beef operations in a remote, uninhabited part of Texas, where the only neighbors are rattlesnakes, is not an environmental justice question (except to the rattlesnakes). However, the placement of factory hog operations short distances from African American churches, day care centers, and whole communities is clearly an environmental justice question.

Growth In Hog Operations in North Carolina
The bulk of the growth in hog inventory nationally since 1991 has been in North Carolina. The number of hogs on North Carolina farms has multiplied from 3.7 million at the end of 1991 to over 9.5 million in 1997 – moving the state from sixth to second in the nation in hog production. This growth has all occurred in very large concentrated animal feeding operations.
operations (CAFOs)\(^1\) – housing 1,000 to 60,000 or more hogs in confined feedlots - in North Carolina, CAFOs marketing 2,000 or more hogs annually accounted for only 9.3% of all producers, but owned 90% of the total inventory in the state.

The bulk of these operations are located in rural Eastern North Carolina communities. The greatest concentration of people of color in the state is also in rural Eastern North Carolina.

Driven by production economics,\(^3\) state and federal agricultural and tax policies that favor industrial farming operations to the economic detriment of family farms, and ineffective environmental protection activities by the Environmental Protection Agency (EPA), this mushrooming growth endangers the future of family hog farming in North Carolina and several other states, and poses a grave threat to the economic well-being of rural communities. While North Carolina's hog inventory has grown 304% since 1984, the number of hog farmers has declined 71%. Smaller hog operators who do not use confined feeding lots, independent hog operators that are not under contract to vertical integrators, and people of color hog operators are now almost extinct in the state. Exacerbating the situation are violations of the Packers and Stockyards Act\(^4\) and other unfair trade practices that go unchallenged. Lax enforcement of environmental and antitrust laws has allowed integrators (meat processing companies) to force independent operators out of business, and to treat their own contract farmers (who also absorb a large portion of the risk of the operation) like serfs.

Environmental Consequences of Swine CAFOs

Rural communities face more than the economic threat from the unregulated growth in factory hog farming. Factory hog farms also pose a lethal danger to the environment and public health, threatening air quality,\(^5\) threatening drinking water safety, threatening safety of consuming fish caught in rivers, increasing pest infestation, and creating noxious odor and solid waste problems. According to recent estimates, a single CAFO with 10,000 full grown hogs requires the same amount of waste treatment as a city of 17,000 people.\(^6\) Likewise, the waste produced by eight million full grown hogs requires as much waste treatment as that of 15 million people – more than the populations of Virginia, North Carolina, and Arkansas combined.\(^7\)

Because hog waste contains more concentrated organic matter than human waste (and antibiotics and other chemicals harmful to humans in large doses), and contains metals like copper and zinc, proper treatment and disposal are essential to safe production at these sites.\(^8\)

Despite the high level of dangerous waste produced by swine CAFOs, the prevailing method of waste treatment remains only as sophisticated as rural residential septic tanks. Storage in anaerobic lagoons containing tens of millions of gallons of waste is the primary method of waste treatment. The lagoons, lined with clay, often leach toxins into the groundwater. Up to half of the existing lagoons in North Carolina may leak badly enough to contaminate groundwater, according to research performed by North Carolina State University.\(^9\)

Considering the fact that 70 to 90 percent of rural residents drink well water (groundwater), the picture is not appealing. This contamination directly threatens the health of the rural residents who drink well water. The excess nitrates that seep into the groundwater have demonstrated health impacts and are cause for concern. Nitrate-contaminated drinking water can cause blue baby syndrome in infants, a sometimes fatal disease.

Hog waste lagoons, like earthen dams, do break at times. During the summer of 1995, there were seven major spills from waste lagoons in North Carolina, six of which were hog-related. As a result of these spills, more than 30 million gallons of hog waste poured into the waterways, resulting in massive fish-kills.\(^10\) The last count was over 15 million fish killed in the state's rivers that year. Subsequent inspections by the North Carolina Department of Environment, Health, and Natural Resources showed a large number of waste lagoons in poor condition. Because facilities and disposal methods are grossly inadequate to accommodate rapid expansion of the industry, and enforcement of existing laws is relatively lax, and because the full health impacts of this method of production have not been assessed, a major pollution time-bomb is set to explode.

Air pollution is a lesser known but very serious problem. The evaporation of large amounts of ammonia gas and hydrogen sulfide into the atmosphere creates severe air quality and pollution problems. The emission of dust and particles that contain biological contaminants is also significant. Both workers and community residents experience breathing problems, though long term effects are not yet documented. Further damage to the ecosystems of river basins may also occur as a result of nitrates that return to the system as nitrogen-rich rain.

The liquid portion of the waste is removed from the lagoons and sprayed upon spray fields as fertilizer.\(^11\) The spray fields are often over-saturated, leading to runoff into the surface water. Hog CAFOs have already caused considerable surface water pollution. At many sites, hog waste has been illegally discharged into nearby water bodies, through direct piping from lagoons and from field runoff, causing algal blooms, fish kills, and dying aquatic vegetation. Many of these water bodies drain into larger waterways, such as the Cape Fear River and the Pamlico Sound, where larger communities obtain their drinking water.

Many poor and working class individuals use these same streams and rivers to fish for food. Reports of damage to fish are increasing. Yet people who have not been adequately warned of the danger, or who have no economic alternative, continue to eat the fish that for many years has been an important protein source in their diet.

In addition to the breathing problems for workers and residents, the intense odor from intensive swine operations has other public health implications. Many people can no longer open their windows, work in their yards, wait for school buses or play outside due to the terrible smell. Concern over public health was sufficient to cause the North Carolina General Assembly to commission a report on swine odor and water contamination by North Carolina State...
University. The final report indicates that odor problems are indeed an issue that the hog industry needs to address. Other public health threats include the increase in the number and disease-carrying capacity of flies and other insects.

Neighboring farmers and landowners, who are most intensely exposed to these hazards, harbor grave concerns about the detrimental effect of these operations on their property values and quality of life. Recent studies indicate that these concerns are not without justification. Increasingly, rural communities are grappling with the negative effects this industry has on the economic and environmental health of their area. Poor and people of color communities who often have not had a role in the decisions that bring these facilities to their areas have been hit particularly hard by problems created by factory hog operations.

Because factory swine operations are considered agricultural operations, they have enjoyed many exemptions from environmental regulatory checks, including zoning laws that apply to industrial operations, towns, and even private homes. In addition, agribusiness remains a powerful economic force in North Carolina, holding out the promise of economic prosperity and jobs for rural communities. Before 1996, policy-makers in North Carolina and other states in the South had enacted few laws to regulate the industry, and the laws subsequently enacted in 1996 are insufficient to protect people in neighboring communities. Many other states, especially in the Midwest, are considering relaxing their current environmental and anti-corporate farming laws to allow them to keep up and compete with North Carolina's booming growth in the hog industry. This will endanger their own communities.

Although large, the CAFOs have managed to avoid the requirement to acquire an NPDES12 permit by staying below the size threshold or claiming that they do not discharge into the surface water. This fact and lax state compliance with EPA mandates have made EPA 20-year-old regulations ineffective.13

With few state and federal controls and a concentration of money and political power, the owners of CAFOs have become a powerful political force in Eastern North Carolina. They have located operations in counties that have very high percentages of people who have been traditionally disenfranchised, people of color and the poor, and who have virtually no say in how these operations are affecting their lives. The public health, environmental, and economic concerns of these populations remain largely unaddressed by state and county agencies.

In response to these threats, local communities are organizing to oppose the construction and operation of CAFOs, and to urge county and state governmental officials to enact more ordinances, regulations, and statutes. These communities have called for, and urgently need, the assistance of lawyers to respond with the type of regulatory advocacy, legislative advocacy, and litigation needed to address these problems.

Environmental Justice
Aspects of CAFOs
Be not deceived: CAFOs are not farms. They are industries, industries that produce hazardous waste. The non-regulation of the waste management systems used by CAFOs has a significant negative impact on communities. In the southeastern states, including North Carolina, the swine CAFOs and other types of CAFOs are largely sited in people of color communities and low income communities. One only has to place the operations on a census map: The 15 top hog producing counties in North Carolina are all located in Eastern North Carolina and have high concentrations of Blacks.

Conclusion
CAFOs are an environmental problem by themselves. The placement of CAFOs in people of color communities is an environmental justice problem – a problem that has the same types of remedies and require the same level of high quality committed legal representation as with other areas of environmental law and civil rights law. Nuisance and other common law theories also give rise to punitive damages claims. This fact and the attorney's fees provisions in the federal environmental and civil rights statutes allow attorneys to act as private attorneys general to protect communities. It is the hope of this author that more attorneys will take on these types of cases and do so without the intention of taking the money and running out on the client communities before helping them achieve the remedies they deserve. ■

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Notes
1 This author’s definition of a concentrated animal feeding operation (CAFO) is slightly different from that used by the Environmental Protection Agency. 40 C.F.R. § 122.23; 40 C.F.R. PART 122 Appendix B. From this author's perspective, EPA's definition is unrealistic in that EPA's definition attempts to pretend that large animal feeding operations could never spill into the waterways.
3 Per hog production costs tend to fall as hog operations become larger.
5 Dangers include human respiratory problems and a type of acid rain.
6 Cecelski & Kerr, supra note 2, at 13.
7 Id.
8 Id.
11 The heavy metals in the liquid usually kill the soil, making growth impossible in the future.
12 National Pollution Discharge System (NPDES) permit. See 40 C.F.R. § 122.25.
13 40 CFR § 122.23; 40 CFR PART 122 Appendix B.
Hamburger and French Fries
The Secret Lives of Everyday Things
by John C. Ryan and Alan Thien Durning

Editor's Note: The following article is an excerpt from Stuff: The Secret Lives of Everyday Things, published by Northwest Environment Watch. Stuff describes the impact of a typical North American consumer by examining the resources used to meet particular items of consumption. The excerpted chapters describe a fast food lunch.

Hamburger
I had to eat lunch in a hurry today, so I went to a fast-food joint. I ordered a cheeseburger, hold the pickles.

Beef
The quarter-pound patty of "USDA Choice" beef probably came from a steer that grazed for the first year of its life on private lands in the midwestern United States. But it's possible that the steer grazed on public lands in the West. There, cattle have left about 10 percent of arid lands desertified, barren and about two-thirds substantially degraded. Streamside habitats, cornerstones of arid landscapes, have especially suffered.

At one year of age, the steer rode a cattle car to a feedlot in Colorado. There, it spent six months eating corn plus some soybean meal, sorghum, and barley.

Grain
In the feedlot, workers driving heavy machinery spread the feed mixture in troughs as long as city blocks. The steer nuzzled into a trough and ate. Every 1.2 pounds of feed it ate turned into another quarter-pound patty of muscle tissue. Feedlots and other animal raisers feed more than 70 percent of the U.S. grain harvest to livestock each year; the largest share goes to cattle. U.S. livestock eat 60 percent of the nation's corn harvest, or about one-fourth of all corn grown in the world.

The pound of corn required to make my quarter-pound burger grew on six square feet of former prairie in Nebraska. Monoculture fields have replaced virtually all native grasslands on the American plains, which may be why I remember being so bored when I drove across them a few years ago; it all seemed the same. The cornfield, owned by a distant corporation and managed by local contractors, was sprayed with fertilizers, irrigation water, and pesticides including atrazine. Atrazine is the most heavily applied pesticide in U.S. agriculture; it was the second most commonly detected pesticide in a national survey of drinking-water wells. If ingested, atrazine promotes the formation of hormones that have been linked with breast cancer. Like 40 percent of all pesticides applied in the United States, atrazine mimics hormones in our bodies. Among other effects, hormone mimics can cause reproductive disorders in adults and interfere with fetal development.

To produce the quarter-pound hamburger required as much energy as one cup of gasoline would provide. Some of the energy was used in the feedlot or in transportation, but most of it went to fertilizing the feed. Nitrogen fertilizer is essentially congealed natural gas: a Texas chemical plant heated methane from natural gas to form hydrogen gas, compressed and superheated the hydrogen, added nitrogen distilled from air, and ended up with ammonia. The U.S. economy consumes nearly a pound of ammonia per person per day, mostly as fertilizer.

The ammonia was oxidized and then combined with more ammonia to form ammonium nitrate, the key ingredient of nitrogen fertilizer. (Ammonium nitrate is also an ingredient in explosives.) Finally, the factory formed the nitrate solution into pellets, which contractors injected into the soil of the Nebraska cornfield. Small amounts percolated into streams and groundwater supplies. In rivers and lakes, excess nitrogen causes algal blooms, which can suffocate fish and other aquatic life. One-fourth of all U.S. fertilizer is applied to corn eaten by livestock.

Producing the hamburger patty required more than 600 gallons of water. Because rainfall was low and unreliable, center-pivot sprayers (the kind that make the giant green circles I've seen when flying across the country) pumped irrigation water from underground aquifers. Forty percent of the U.S. beef cattle are fattened by mining ancient water from...
the dwindling Ogallala Aquifer of Colorado, Kansas, Nebraska, and Texas.

By eating the quarter-pound hamburger, I also caused the loss of five times the patty's weight in topsoil. Half of U.S. cropland is planted with hay, grains, and other crops to feed livestock. Hay is a soil-conserving groundcover, but row crops such as corn and soybeans are not. They leave the soil exposed and susceptible to erosion by wind and rain.

Wastes
My burger caused emissions of the greenhouse gases methane and carbon dioxide. The methane came both from the steer's flatulence and from manure as it decomposed in a feedlot sewage lagoon. The carbon dioxide came from the fossil fuels used to make fertilizers and to power the farm and feedlot. The greenhouse gases emitted in producing my burger were equivalent to those emitted in my six-mile commute by car. The manure lagoon also leaked nitrogen into nearby streams and groundwater.

The steer, once fattened to Choice grade, was slaughtered. A packing plant ground, portioned, and froze the burger patty between two squares of waxed paper inside a plastic-lined cardboard box. A tractor trailer hauled it to the Northwest. It went from the distributor's warehouse to the fast-food outlet near my office, where a teenaged cook (earning about $5 an hour) fried it for me on a stainless-steel grill.

Condiments
The cook slapped an orange square of cheese on my burger. The cheese came from dairy herds on the Oregon coast. Manure from these herds raises bacteria concentrations in some coastal waters to unsafe levels. Sometimes, when I hike on the coast, I see the signs warning against eating shellfish. Next time I'll wonder if my cheeseburger was partly to blame.

The cook garnished the burger with lettuce and tomatoes from the Central Valley of California. California grows more than 40 percent of U.S. fresh produce. This produce is irrigated with federally subsidized water pumped from what were once productive salmon rivers such as the Sacramento. The typical mouthful of American food travels 1,200 miles from farm to consumer.

Bun
The cook sandwiched the burger in a toasted wheat bun made in a commercial bakery at the north end of Seattle. The bakery used flour milled in Spokane. The mill used wheat grown on two square feet of soil in the Palouse region on the Idaho-Washington border. Among wheat-growing regions, the Palouse is unique in its loose soils and strong winds, which combine to make it one of North America's worst wind erosion spots.

Packaging
The cashier wrapped my finished hamburger in a three-ply package of paper and polyethylene and put it in a white paper sack with two paper napkins. It smelled good.

French Fries
I ordered french fries with my burger. Not the healthiest lunch, I admit – lots of grease and salt. But it's what I was raised on, and like I said, I was in a rush.

The fries arrived, 90 of them, in a paper box. The box was made of bleached pine pulp from an Arkansas mill. My fries weighed five ounces. They were made from a single 10-ounce potato, sliced into remarkably uniform four-inch-long strips.

Potato
The potato, a russet Burbank, was grown on one-half square foot of sandy soil in the upper Snake River Valley of Idaho. Ninety percent of Idaho potatoes are russet Burbanks. They were selected in the early sixties by McDonald's and other
fast-food chains because they make good fries. They stay stiff after cooking.

The growing season was 150 days; my potato was watered repeatedly. Seven and a half gallons of water were applied to the potato’s half-foot plot. If all of it had been applied at once, it would have submerged the soil to a depth of two feet. The water came from the Snake River, which drains a basin the size of Colorado. The Snake River Valley and its downstream neighbor, the Columbia Basin, produce 80 percent of U.S. frozen french fries. Along the Snake’s upper reaches, irrigators of potatoes and other crops take all the river’s water. Directly below Milner Dam, west of Pocatello, the riverbed is bone-dry much of the year.

Eighty percent of the Snake’s original streamside, or riparian, habitat is gone, most of it replaced by reservoirs and irrigation canals. Dams have stopped 99 percent of salmon from running up the Snake River, and sturgeon are gone from all but three stretches. Like salmon, sturgeon migrate between fresh water and the sea, but sturgeon live up to 100 years. They do not stop growing until they die and can weigh more than 1,000 pounds. There are undoubtedly sturgeon in the Snake River that remember the smell of the Pacific Ocean even though they have not been there for half a century.

My potato was treated with fertilizers and pesticides to ensure that its shape and quality were just like those of other potatoes. (My fries were so uniform that it was hard to believe they’d ever been potatoes.) These chemicals accounted for 38 percent of the farmer’s expenses. Much of the fertilizer’s nitrogen leached into groundwater; that, plus concentrated salts, made the water unfit even for irrigation.

Some of the fertilizers and pesticides washed into streams when rain fell. Among these were pesticides like Telone II (acutely toxic to mammals, and probably birds, through the skin or lungs) and Sevin XLR Plus (nontoxic to birds but highly toxic to fish). The Environmental Protection Agency’s tests of waters in the Columbia Basin found agricultural contaminants in every tributary, including the Snake.

**Processing**

A diesel-powered harvester dug up my potato, which was trucked to a processing plant nearby. Half the potato’s weight, mostly water, was lost in processing. The remainder was potato parts, which the processing plant sold as cattle feed. Processing my potato created two-thirds of a gallon of wastewater. This water contained dissolved organic matter and one-third gram of nitrogen. The wastewater was sprayed on a field outside the plant. The field was unplanted at the time, and the water sank underground.

**Freezing**

Freezing the potato slices required electrical energy, which came from a hydroelectric dam on the Snake River. Frozen foods often require 10 times more energy to produce than their fresh counterparts. In 1960, 92 percent of the potatoes Americans ate were fresh; by 1990, Americans ate more frozen potatoes, mostly french fries, than fresh ones.

My fries were frozen using hydro-fluorocarbon coolants, which have replaced the chlorofluorocarbons (CFCs) that harm the ozone layer. Some coolants escaped from the plant. They rose 10 miles up, into the stratosphere, where they depleted no ozone, but they did trap heat, contributing to the greenhouse effect. A refrigerated 18-wheeler brought my fries to Seattle. They were fried in corn oil from Nebraska, sprinkled with salt mined in Louisiana, and served with ketchup made in Pittsburgh of Florida tomatoes. My ketchup came in four aluminum and plastic pouches from Ohio.

**What to do?!**

- Simple: Eat less beef. Almost any kind of farm-raised meat is an ineffective use of resources, but red meat (pork and beef) is most wasteful of all. Have a veggie burrito next time.
- Push your elected officials to support sustainable agriculture and to stop subsidizing irrigation. The subsidies hurt the environment, taxpayers, and those who don’t receive the subsidies – such as growers of rain-fed potatoes.
- Instead of buying fried, overpackaged fast food, cook some organic produce for yourself. Eat it on a real plate.
- Buy local foods or, best of all, grow your own. Garden produce is fresher, uses almost no energy except the sun, and puts to use un(der)used land – your own.
Grassroots Models for Change

All over the world in both rural and urban communities, people are gathering together to tackle the environmental, social, and economic challenges that they face. Community gardens; programs to support better nutrition for women and children; horticultural therapy for homeless and marginalized people; and unified political actions to protect the rights of low-income communities to grow and catch safe food are all part of a growing movement proving that positive change can come from small steps and community grassroots actions.

WORKING TOWARDS A HEALTHY COMMUNITY

The Laotian organizing Project in Richmond

by Audrey Chiang and Pamela Chiang

Beginning with Standard Oil's (now Chevron) decision to locate its refineries in Richmond in the early 1900s, the city has become the industrial center of Contra Costa County and one of the most heavily industrialized cities in California. In a pattern consistent with established findings about the disproportionate impacts of environmental hazards on communities of color, it is mostly African Americans, Latinos, and a growing population of Asians and Pacific Islanders who live in this area. Among the most vulnerable are the newcomers from Laos, who are concentrated in the heart of these toxic sites. This refugee community, which emerged only in the past 10-15 years, is confronted with incredible poverty.

In a heavily industrialized part of North Richmond, a square plot of land lies next to a fenced-in area that has been covered over with concrete. The fence holds up a sign that can barely be read, stating something about "danger" and "toxics." A duplex used to stand in that square plot of land, where a Laotian family used to live, and where an African American family used to live before them. The Laotian family grew vegetables next to its house to feed the family, a practice inherited from generations of "living off the land" in Laos. What they were not aware of was that the land...
behind their house used to contain a scrap metal recycling company called Drew Sales which contaminated the soil with hazardous amounts of heavy metals such as copper, lead, nickel and zinc. Drew Sales occupied the lot until 1976, and the Laotian family moved into the neighboring house a few years later. But it was not until 1988 that the site was placed on the state's Superfund cleanup list. Unknown to the family, vegetables from their garden were found to contain high levels of the contaminants. The method of "cleanup" consisted of covering the contaminated soil with a "clay cap" and gravel. To this day, the site remains fenced-in, unused and un-clean.

At another Superfund Site in Richmond, a pesticide formulator operated from 1947 to 1966, contaminating the Lautritzen Channel in Richmond's Inner Harbor Channel. During this time, United Heckathorn released various pesticides, primarily DDT and dieldrin. DDT is a human carcinogen, which has long-lasting effects in the environment. It wasn't until 1990 that the site was put on the EPA's Superfund National Priorities List and scheduled to be cleaned up. According to an EPA project manager, the concentrations of DDT in this harbor were at levels higher than anywhere in the US. In the process of planning clean-up efforts, EPA interviewed four local Laotian fishermen, a bait shop owner and a United Anglers Association member, who confirmed that fishing was occurring in the area. The Laotians interviewed had been fishing in the area for up to 6 years, and the mostly African American, Latino, Laotian and Vietnamese folk from neighboring areas fish in the harbor as well. During Asian Pacific Environmental Network (APEN) "toxic tours" of the area, we frequently visit this site and are always amazed at the poor warning signs that were put up. They are unreadable from the shore and have not been translated into any Laotian language. A large portion of the Laotian community fish for food, for fun, and as part of traditional practices.

Although extreme, these two examples demonstrate how a healthy means of putting food on the table becomes unhealthy due to industrial pollution. The examples provide a clear scenario of environmental injustice that is all too common in low income communities and communities of color everywhere. No people should bear the burden of these environmental problems, and all people should have the right to garden safely in their backyards and to fish safely in nearby waters. At the very least, people have the right to know about the toxics that are affecting their lives through the food they eat. These rights should not exclude people on the basis of language, race or economics.

It seems ironic that in the heart of one of the United States's many "toxic hot spots" a tightly interconnected community is practicing, against overwhelming challenges, a model of living that many of today's most avid proponents of biodiversity and sustainability are advocating. The growing Laotian community in the Richmond area carries with it a way of life acquired from generations of "simple living" in the villages of their homeland. To translate to eco-speak: they are consuming less, re-using more, and producing food on a sustainable scale. Healthy lifestyles are being practiced in an unhealthy place.

Through APEN's Laotian Organizing Project, we hope to empower the Laotian community with the tools to seek those solutions which will make Richmond a healthier, safer place to live. APEN's Laotian Organizing Project (LOP) was created four years ago to build an independent membership organization led by and for Laotian residents in Richmond. LOP involves all of the many tribal groups which make up the Laotian community and views children, parents, seniors and all people as necessary and equal participants in building the healthy and empowered community which they envision.

Through our organizing work, we address a broad sector of community needs and concerns. The first group of girls to enter into our Youth Initiative program worked to identify a project that would address a need in the community and bring families together. They decided to work on a community garden where the girls would have a small plot and the majority of land would be divided and shared with 26 local families. For many Laotian families who live in apartment buildings with no place to garden, a community garden is a much-coveted space. LOP secured land and water at the North Richmond Family Service Center. The girls saw their project through, from start to finish, securing donations of plants and compost, planting, tending and harvesting their crops. The rest of the land was divided up for use by other African American, Latino, and Laotian families. This garden project was a way to address a community need for gardening space, to develop leadership skills among the girls in terms of planning and carrying out a project, and to develop relationships with a broad group of Laotian families.

We also carried out a community based survey focusing on fishing and fish consumption practices in the community. The goals of the survey were not only to gather important information on community practices, but also to develop skills within the community to carry out a survey, to reach a broad base of people about environmental health concerns, to familiarize folks with LOP as a local organization, and to begin to bridge the gap between generations by setting up teams of youth and community leaders to work together to conduct the survey. Reaching over 200 Laotian families through this survey, we found that many people were thankful to receive information about toxics in the bay. More importantly, 75 percent of those surveyed expressed desire to be a part of a grassroots organization to improve conditions in the community.

In paving the way for a healthy community for Laotians in Richmond, we find that the key ingredients are developing leadership among traditionally marginalized groups such as youth and women, mobilizing a broad base of community support, and exercising power to achieve solutions. Building the Laotian Organizing Project brings together these ingredients of people and organization for a sustainable vision of the future.

Audrey Chiang and Pamela Chiang are staff members of APEN. Audrey Chiang coordinated the community based survey project and Pamela Chiang works on strategic planning and organizational development within APEN. APEN's phone number is (510)834-8920 and its e-mail address is apen8igc.apc.org.
The cover story of the *New York Times Magazine* of October 20, 1996 was about affordable housing, and discussed the fact that high housing costs directly affect what families can afford to eat, and what that does to the health of their children.

A doctor at Boston Children's Hospital did three studies of health indicators of low-income Boston children over the course of three years. He found a direct correlation between whether families had affordable housing (meaning subsidized housing for poor families) and the health of their children. Kids in subsidized housing were overwhelmingly healthier than those whose families had to pay more for shelter: they had lower rates of anemia (19-30%) and fewer were underweight (3-22%).

These statistics dramatically demonstrate the point that advocates in the food security field have been making for years: one cannot "cure" hunger without understanding how the food system and larger economy works in at-risk communities. Hunger does not exist in a vacuum. Food pantries and gleaning projects do a job of filling empty stomachs for a few hours, but distributing free food does nothing to empower people to become more independent and self-sufficient.

Emergency food relief was a necessary and a generous response when Americans first became aware of the magnitude of hunger in our country. But now we must do better. People are hungry today because they are powerless against what appear to be inextricable economic forces: homes are expensive, supermarkets have fled the inner city, the new jobs that are being created are not in the cities and the minimum wage doesn't bring a family with a full-time wage-earner (or two) out of poverty. These realities mean that advocates must devise programs which help low-income families regain a modicum of control over their lives and their access to food, which is what the Sustainable Food Center (SFC) tries to do.

La Cocina Alegre classes are one of the SFC's programs designed to increase food security in Austin. The SFC is a non-profit organization which does not provide direct services to people, but rather begins programs that increase resources in a community so that its people can become more self-sufficient, especially for food. At our farmers' market, we discovered that many of our neighbors would not try vegetables because they did not know how to cook them. Many low-income families do not have the basic nutritional knowledge the middle class takes for granted. As a result, these folks are easy victims of food marketers' questionable claims about the healthfulness of their products.

SFC will teach 20 La Cocina sessions this year, and still not be close to meeting the demand for the classes. We teach them to adults, children and teenagers at schools, health clinics, churches and now at our new farm. People love the classes because they are fun, informal and interactive. They learn because the information is taught by people like them in a context which is real for their lives. By 9:30 a.m. all of the students have arrived...
at the clinic, and the group leaves for a local supermarket for an intensive lesson in comparative, cost-effective shopping.

While Epi is teaching La Cocina Alegre, Gerardo is checking on his two plots at El Jardín Alegre (The Happy Garden) on East 2nd street. "We say that el jardín es siempre verde (the garden is always green)."

El Jardín is across the street from the oldest public housing complex in the United States, Chalmers Courts. Built 50 years ago, it has not had a major renovation since then. There is a core group of families in Chalmers who work hard to raise their children well and exert some control over the gangs and drug dealers which seem to take over after dark. Many of them have plots at El Jardín. More than 34 families grow food at the community garden.

Community gardens are an excellent investment. They are inexpensive to build, they save families money on their food bills, and in many parts of the country can provide families with fresh produce 365 days of the year.

Community gardens are an excellent investment. They are inexpensive to build, they save families money on their food bills, and in many parts of the country can provide families with fresh produce 365 days of the year. Community gardens provide a place where neighbors can meet and get involved in community programs. They can also spark microenterprises which increase family income and create jobs.

El Jardín had its first harvest last summer. Gardeners had more than they could eat themselves, so they shared with family and neighbors, and some of them put up a year's supply of salsa and pickled jalapeños. Epi and her friends Frances and Maria may bottle and sell their salsa next year at the Capital City Farmers Market.

"My wife and I come from Mexico and we miss the food from home. Our sons like only hamburgers and fried chicken. It is expensive and I don't think it is good for them. That is one of the reasons we started to garden, to make our sons eat better. Sure, they still want McDonald's, but they also enjoy the dishes my wife makes with the vegetables we grow here. We are saving money on the grocery bills. And, the garden is a safe place for the kids to play - that's important in this barrio."

"The SFC helped us by finding the land, explaining how to design and build the garden, and getting the donations we needed to start out" explains Lourdes, a gardener at El Jardín and President of the Chalmers' Tenants' Association. "The SFC also got the City Council to pass an ordinance so that it would not be so expensive for gardens in neighborhoods like ours to get water."

"(Yet) even after the City passed the ordinance we could not get water," Lourdes continues. "They promised we would have a pipe in three days and two weeks later, still nothing. It was March and we needed water. We were talking to Kate and Eric (SFC staff) one day, and we all just got mad. We went down to City Hall and sat in the City Manager's office explaining the problem. We had done everything we were supposed to and the City was not doing its job. By 3:00 that afternoon the street was full of city trucks and we had our water by 5:00 p.m. It should not have been that hard, but that's the way it is when you are poor. I think it helped us to know that we had the SFC behind us, otherwise we would have been too intimidated to go downtown," Lourdes explained.

As Lourdes and Gerardo talk, the #208 East Austin Circulator bus passes the garden. The #208 is known in the neighborhood as the "grocery bus." The route is the first bus line in Austin specifically designed to provide easy access to supermarkets for inner city residents. The Circulator was the result of a study called Access Denied released by the SFC in 1995.

Access Denied analyzed the Eastside's food system, and explained for the first time that part of the reason people are hungry and poorly nourished in East Austin is that they have inadequate access to affordable, nutritious food. There are only two supermarkets in Central East Austin, an area of over six square miles. One of the supermarkets is adequate. At the other one, prices regularly average 20 percent higher than in other parts of the city. Since fewer people in East Austin own cars than in other neighborhoods, more residents took a cab, paid a neighbor or did an hour and a half commute to the supermarket to buy their groceries. Or, they shopped at one of the 38 convenience stores in the area. Access Denied showed that although all 38 of these stores sell alcohol and tobacco, only 19 sell milk and only five sell all the ingredients needed to make a balanced meal.

The SFC's study made it clear that there were serious failings in the Eastside's food system and that inadequate access to food and lack of nutritional knowledge were as important as poverty in explaining why children were going hungry. As a result of the study, the Austin City Council and Travis County Commissioners' Court created the Austin-Travis County Food Policy Council to propose policies and programs that would increase access to food security in the Austin Area.

An average of 300 people a day now ride the #208. In addition to providing a direct route to the supermarkets of choice for East Austinites, it also passes the major churches, health clinics, libraries and other commercial centers people in the neighborhood need to get to regularly. The Circulator has increased food security in the Eastside, and it has
made people more independent in many other ways. It is now easier to participate in community life.

Cooking and nutrition classes give people a way to eat better on their limited food dollars and to shop as educated customers. Better bus routes allow people to buy the food they want at the prices they can afford. These are important first steps. The community which is secure for food will also have better small, locally-owned grocery stores, farmers’ markets and food co-ops.

At noon on Monday Keith Jones leaves the SFC office for Del Valle High School. He will spend the next two hours with the 13 kids who have already committed enough offenses to be expelled from school, but who are being given a "last chance."

Keith is helping the teenagers build a garden, and teaching them math, science, English, history and entrepreneurship along the way. Most of these kids are in gangs, have never met an adult they respected, and see no connection between what they are learning in school and the future they imagine for themselves. Interestingly, they articulated some sophisticated goals for their garden: they want to make money but they also want to provide healthy food to people (so they will grow organically); they want to build a beautiful place where people will want to be; and they want to learn something in the garden that will "help them in life."

Del Valle was a rural community – the spinach capital of the world – until Bergstrom Air Force Base was built there during World War II. Over the years, the community evolved to serve the base, and it is suffering now that the base has closed. The town is mainly Latino, with some white and a few African American families, and is overwhelmingly low-income. Keith is teaching these kids because he sees in them the potential to discover the area’s agricultural heritage, as well as an opportunity to offer them fulfilling futures as self-employed farmers. Agricultural communities close to urban centers can play an important role in developing regional food security by growing food crops for their city. Locally-grown food is likely to be affordable and nutritious for consumers, and serving a close market allows farmers to reduce the amount of chemicals they apply to their crops, and market their goods directly, capturing more of the final sales dollar.

The opportunity to grow food for people and earn a decent living at it gives these kids a glimpse of a future that offers more promise.

By 5:30 p.m. the SFC’s new farm (two acres of cultivation in East Austin) is beginning to fill with the local organic farmers. The 20 farmers eat burgers and potato salad, watch a video on easy mechanization techniques for small farmers, and talk late into the night about farming techniques, new crops and successful marketing avenues they have discovered. Several offer to give the Del Valle kids tours of their farms. One of the SFC Boardmembers (who runs three Austin restaurants) meets a farmer who has radishes to sell, and he arranges to buy them. Another farmer will donate the produce we need for one of the next week’s La Cocina classes. We will see each other again at the farmers’ market.

This group of farmers understand their connections to the city – to the people who buy their produce at Whole Food Markets, and also to those who buy from them at the Farmers’ Market on the Eastside. In order to stay in farming they need to strengthen the market for locally-grown produce in the Austin area. There will need to be more farmers, and maybe some of them can come from East and South Austin. Farmers grow food and understand its life sustaining power. Hunger is hard for farmers to accept, which is why one of them stood shoulder-to-shoulder with a young mother on Food Stamps, to insist to the Texas Legislature that farmers’ markets must be able to continue to accept Food Stamps after the state made the transition to an electronic benefit card.

The SFC’s work is done for one day – maybe we are one step closer to ending the scourge of hunger in our community and finding solutions that will work elsewhere as well.

Kate Fitzgerald is Executive Director of the Sustainable Food Center in Austin, Texas. The preceding article was originally printed in Why Magazine, and is reprinted with permission.
"I didn't come here to be a gardener. I saw gardening as a tool to build community and help people."

Too often, organizations attempt to meet a community’s needs with outside resources. Rather than “living off the pathology of the community,” as economist Michael Porter calls it, we need to recognize local strengths, and develop home-grown skills and resources to address community challenges. Job training and creation is a positive first step towards building local self-reliance, one at the heart of the work of San Francisco League of Urban Gardeners’ (SLUG).

Terrell Smith is a Bayview native and the Director of SLUG’s Youth Department. When asked why he works for a gardening group, Terrell smiled. “I didn’t come here to be a gardener. I saw gardening as a tool to build community and help people.” This view stresses the importance of urban gardening and greening. We’re not just raising radishes and roses; we also promise a bumper crop of real job skills, and opportunity.

On a recent bi-annual retreat, SLUG staff were asked to define “environment.” The responses from our diverse group – “trees and plants” but also “home,” “family,” and “neighborhood” – reflect how we have grown over the years to include social issues in our gardening programs. “Environment” and “community” are interchangeable concepts at SLUG; we support each other as we work to green the urban landscape.

SLUG is committed to building community by meeting the needs from the inside. Gardening and greening workshops, jobs and job training, education, and emotional support, these are all integral elements in our mission. The road is long but the efforts are worth it. When people work together to gain control over a park or an empty lot, they learn to gain control over their own lives. Similarly, when we can inspire composting and gardening enthusiasts, we are proud of our purpose.

SLUG invests in people. We spend time helping employees get their driver’s licenses, graduate from high school, and fight evictions, knowing that a stronger person can make stronger contributions on the job, and to the community. We provide our members with information for masters’ theses, or directions to the nearest plants supply store, knowing that their positive experience with us will be passed on, word-of-mouth, to inspire more people to come out and support our community-building efforts. To us, this nourishing cycle is simply common sense.

With welfare reform’s effects on the horizon, our challenge to train and employ people is greater than ever. Nationwide, unemployment is at a record low (4.3%). However, some populations, especially those in cities with limited access to the new jobs, run a much higher risk of unemployment. 10% of African-American adults, and 33% of African-American teens in the U.S. cannot find jobs. In the public housing developments where SLUG works most extensively, unemployment tops 80%. Job opportunities must be created where the poorest people live. And SLUG challenges the belief that people need to “get out” in order to succeed. Instead, jobs which contribute to the community’s well-being are the most valuable, and the most meaningful.

Cultivating community in low-income neighborhoods means creating local economic opportunity, and developing local job skills to meet these opportunities. When we begin landscaping and garden projects in the Tenderloin, in the Mission, in Bayview-Hunter’s Point, we hire and train from those neighborhoods. Community-based work is more accessible to people with children and limited transportation, and work that benefits the community has an empowering effect on its workers.

SLUG’s St. Mary’s Urban Youth Farm, one of the only inner-city farms in the nation, was just a trashed-out, abandoned stretch of land four years ago. SLUG hired youth from the neighboring housing developments to help dear the land and start a farm, complete with an orchard, community garden, and food and flower production areas. The Youth Garden Interns are proud of their work, and they feel that working at SLUG gives them a sense of “family...if SLUG let me down, I really wouldn’t know where else I could turn.” The internship program, which combines garden work, a City College certificate program, violence prevention and health workshops, and mentorship elements; is a real, positive alternative to the streets for many youth.

Overwhelmed by the flood of applicants to the Youth Garden Internship Program, SLUG launched additional job training programs for low-income com-
community residents, young women and men with jail or juvenile records. For example, SLUG veterans Elmo Wright and Cardell Coleman work with juvenile offenders and at-risk teens to landscape the Youth Guidance Center. Older crews have been hired to landscape the Sunnydale Housing Development, and senior housing sites throughout the city. SLUG’s Environmental Justice Department trains teens to educate and organize others on environmental issues affecting their neighborhoods. Urban Herbals provides young people with marketing and management skills in an organic food products business. All of these programs are linked by one belief—that jobs can benefit the environment and the community.

"Government can't create jobs, but government can create conditions for other people to make job opportunities," First Lady Hillary Clinton said in a recent trip to the Bidwell Training Center in Pittsburgh, Pennsylvania. The Mayor of San Francisco, Willie Brown, and his administration have worked to create these conditions. The stadium projects, the redevelopment of Third Street and the shoreline, and the relocation of the UC Medical School to Bayview-Hunter's Point all represent real job opportunities. But the community bears the responsibility of preparing itself to meet these opportunities with job skills that the contractors can’t pass up. We need to do what we can to help the community build itself.

SLUG is not alone in its quest to re-energize communities by enlisting support from government agencies and corporations. Other organizations and agencies around the country are striving to produce a solid workforce in their low-income communities. For example, Women Entrepreneurs of Baltimore (WEB), founded on the belief that "the economic empowerment of women will help strengthen the fabric of Baltimore's neighborhoods," runs business management training programs for long-term unemployed women. WEB then works with local banks to secure business start-up loans. Seventy percent of WEB’s graduates have gone on to start their own businesses.

Bidwell Training Center for unemployed workers and welfare recipients has been running job training and business creation programs in Pittsburgh since 1968. Its founder, Bill Strickland, believes that "education offered in an intelligent, planned, and financially sound way will bear real results." Part of its success rests on Strickland's ability to forge partnerships with Pittsburgh companies—they invest in his programs, and then agree to hire a certain percentage of Bidwell's clients. Strickland’s vision has attracted the attention of the last two Presidential administrations, and organizations in San Francisco are asking him to advise them on economic development plans.

Programs, such as the two cited above, work with support from government agencies and financial and technical assistance from companies. Only when we all work together can we hope to make the long-lasting economic impact that America's poorest neighborhoods need to survive and thrive.

SLUG has cultivated many community-driven projects, and has nurtured the neighborhood leaders who implement them. Locally-grown ideas, which are the most appropriate for meeting a neighborhood’s unique challenges, are sprouting and blooming with SLUG support.

Locally-grown ideas, which are the most appropriate for meeting a neighborhood’s unique challenges, are sprouting and blooming with SLUG support.
SAN FRANCISCO COUNTY
JAIL'S GARDEN PROJECT

It is not often that a county jail does something to arouse the interest of the federal government's Department of Agriculture, but that's just what's happening in San Francisco. One of the things prisoners can do in San Francisco's County Jail is to learn the art of gardening. When they finish their sentences and go free, they can get employment at the San Francisco Garden Project, a mid-city vegetable-and-fruit garden that is the offspring of the jail's farm. The organic produce it grows is snatched up by local restaurants. Reliable work in the Garden Project usually leads to steady work elsewhere, sometimes planting trees for the city, sometimes working in those restaurants.

The Department of Agriculture is so struck by this project that it has distributed a report describing it all across America. "I'm sure the chance to understand how this has worked will be welcomed in every city," says Ellen Haas, the Under-Secretary of Agriculture. Despite some early reservations in Washington, DC praise for the Garden Project has been lavish enough for the report to go ahead.

Alice Waters, the owner of Chez Panisse, a nationally known restaurant in Berkeley, first called the Garden Project to the Department's attention. Her restaurant has come to rely on it for fresh vegetables and fruit. "A radish tastes infinitely better if eaten the very day it is picked," says Alan Tangren, who scouts for Chez Panisse. But it is not only San Francisco's eaters-out who benefit. So do the former drug or alcohol addicts, prostitutes and petty thieves whose lives have been changed by the self-discipline they have learned in the growing of radishes, lettuce, leeks and strawberries.

It is all the work of Catherine Sneed, a determined member of the staff of San Francisco's Sheriff Michael Hennessy. She is no born gardener. Having grown up in urban Newark, New Jersey, she got a job with Sheriff Hennessy, counseling women prisoners. During a serious illness she read John Steinbeck's Grapes of Wrath, and drew from it a belief in the healing power of work with the soil.

Sheriff Hennessy, visiting her sick room, agreed to her suggestion that the jail should turn some of the idle acres around its walls into a garden. When Miss Sneed got better, she went to a horticultural school in England, took a six-month course at the University of California, and then, with volunteers from the jail and with donations from local residents for the purchase of tools, seeds and watering equipment, set about creating her garden. The produce of the garden, being the result of prison labor, cannot be sold: it is given free to San Francisco's soup kitchens, AIDS pantries and homes for the destitute elderly.

Ms. Sneed invited local businessmen to see the jail's gardening effort. One of them, Elliott Hoffman, the owner of a large San Francisco bakery called Just Desserts, and in constant need of fresh strawberries, drew Miss Sneed's attention to an empty lot near his bakery in the heart of the city. This became the Garden Project, source of good things for the city's restaurants. Now the original Garden Project is to expand into a second site near the jail, leased to it by Sheriff Hennessy.

The benefactors have themselves benefitted. At first only a handful of inmates turned out to work in the jail's garden. Today more than 100 at a time learn the rudiments of soil preparation, small-plant nurturing and careful harvesting. It is often the first constructive work in their lives. Many of them then move on to the Garden Project. It seems to help. Four months after release from prison, only six percent of these gardeners have committed another offense, compared with 29 percent of other ex-inmates.

Ms. Sneed has now set up a "Tree Corps" that has planted 2,000 trees along San Francisco's streets. Some of the city's schools have begun to operate small gardens, to teach their children how to grow things, and California's Department of Education is pushing the idea throughout the state. But the chief fruit of the Garden Project is the new life it has given to some of society's discards.
The Homeless Garden Project in San Francisco is not only a place of work and training: for many homeless people it is one of the few places where they may socialize, relax or snooze (in the chamomile nap patch) free from police hassles and away from drugs and alcohol.

According to many of the homeless, it is here in this colorful and vibrant atmosphere, that they have a sense of belonging and contributing to the community, that they have positive interactions with a broad cross-section of the community and regularly teach school children about composting and gardening and about people without homes.

Through the process and gratification of nurturing soil and seeds to fruit, they are simultaneously nurturing their self esteem and seeing some of their own potential ripen. In contrast, as gardener Patty Morse puts it, "On the street you have to have all your barriers up."

In places as diverse as gardens for the homeless to hospitals, prisons to psychiatric clinics, corporate offices to orphanages, gardening, or "horticultural therapy" (HT), has proven a successful tool for healing and empowerment. In the United States, HT – primarily concerned with special needs groups – is a long-standing, respected and rapidly-growing field, complete with university degree programs. Meanwhile, grassroots community gardeners (who might chuckle at the term HT) have long recognized that gardening addresses much more than our needs for physical nourishment.

WORDS FROM TOMLYN SHANNON, A FORMERLY HOMELESS MOTHER

"As I walk through the fields I remember the seasons. Fall: when I first came to the Garden; the need to touch the earth deep in my soul; I was so frustrated, depressed, and lonely; longing for a home and balance. Winter: when I was hired as a wreath maker; my days with Olivia as she shared her knowledge of dried flowers, workshops, friendships and love, as we listened to the rain, sang songs, and created wreaths; I also remember the powerful rush of my first wreath selling, the comfort of people enjoying my art. And now as I am harvesting these flowers, I am thinking of Spring: looking at seed catalogues, sowing seeds, days in the greenhouse, watering, watching, waiting. In Summer, everything bursting with life... The plants, people, and land at the Garden have given me beauty, comfort and praise. So much of my past is filled with ugliness, pain and humiliation. I am so grateful to say, 'I walk in beauty, I have the comfort of friends, and I am proud of what I am doing.'"

Reprinted from the quarterly newsletter of the Homeless Garden Project.
SINGING LIKE WE MEAN IT
Native Food Systems, Health and Culture
by Tristan Reader

Just as the sky began to brighten behind Baboquivari Peak on the Tohono O'odham Nation in Southern Arizona, the sound of gourd rattles, desert fiber drums and singing could be heard coming from the bahidaj (saguaro fruit) camp. The voices of young and old joined together in a traditional Tohono O'odham harvest song, giving thanks for the blessings of the desert.

By the time the sun rose above the mountains, small groups of people were scattered across the desert floor, gathered under towering saguaro cactus. Using long poles made of the ribs of dead saguaros, the bahidaj was knocked to the ground where it was collected. Buckets soon filled with the sweet, bright red fruit.

By the time the afternoon heat reached 110 degrees, everyone gathered back at camp to begin boiling the fruit into a thick syrup which would be used to make the ceremonial wine to "sing down the rain" and bring the monsoon into a thick syrup which would be used to make the ceremonial wine to "sing down the rain" and bring the monsoon floods to dry desert fields.

More than a fun summer outing or a quaint cultural relic, events like this taught the Tohono O'odham that the weapons intentionally wielded against them.

Having been repeated over the years, this statement may seem like a "politically correct" telling of the earliest contact between Native Americans and Europeans. However, it is also an accurate description of the effect that the destruction of traditional food systems has had on Native communities throughout the U.S. in the last half of the 20th century. In indigenous communities the loss of local food systems has lead to devastating health problems, contributed to the destruction of systems of local self-sufficiency, and played a central role in the loss of traditional cultural practices.

The effects of the destruction of an indigenous food system cannot be seen more clearly than in the case of the Tohono O'odham community. Known to many outsiders as the Papago, the Tohono O'odham and their ancestors have thrived for millennia in the dryness of the Sonoran Desert. Living a semi-nomadic life, the O'odham traditionally combined dryland farming, the collection of wild desert foods and small amounts of hunting to provide food for their families and communities.

These strategies served the O'odham well until relatively recently. In his book, The Desert Smells Like Rain, Gary Paul Nabhan notes that the O'odham still use traditional dry land methods to cultivate more than 10,000 acres as late as the 1920's. By 1949, that acreage had declined to 2,500 acres. Today that number is certainly less than 100 acres, perhaps not more that ten. At the same time the once common practice of collecting and storing wild foods has declined in an equally dramatic way.

The result of many factors, particularly the introduction of processed foods through federal food aid programs, the loss of the traditional food system has led to severe consequences for the Tohono O'odham.

For centuries, traditional desert foods and the effort it took to produce them kept the Tohono O'odham healthy. Over thousands of years, the Tohono O'odham metabolism had become especially well adapted to the foods of the Sonoran Desert. The introduction of processed foods, however, changed all of that. The new foods were metabolized by the body in a much less efficient manner, leading to a previously unexperienced disease among the Tohono O'odham: adult-onset diabetes. As recently as the early 1960s, diabetes was unknown among the Tohono O'odham. Today, more than 50 percent of the population develops the disease, the highest rate in the world. As a degenerative disease, diabetes causes many subsequent health problems, including kidney failure, loss of eyesight, circulatory problems and severe organ damage.

The exponential rise in diabetes has mirrored the reduction of traditional foods in the Tohono O'odham diet resulting from the loss of the traditional food system. Indeed, several scientific studies have confirmed that traditional O'odham foods such as tepary beans, mesquite beans, cholla (cactus) buds and chia seeds help regulate blood sugar and significantly reduce both the incidence and effects of diabetes. In a very real sense, the destruction of the tradi-
commodity distribution programs, it no longer really matters to most people whether or not the rains come. In such circumstances, there is no longer a compelling reason to spend long, hot days camped in the desert collecting bahidaj, no reason to learn the songs which bring down the rain, no reason to bless the ground... no reason for a key element of Tohono O'odham culture to continue.

The destruction of indigenous food systems is causing similar, albeit somewhat less dramatic, damage to the health of Native people and communities throughout the U.S. The physical and cultural survival of many Native peoples requires the rejuvenation of these food systems. Like in Native communities across the U.S., such renewal is beginning to happen on the Tohono O'odham Nation.

**New Traditionalists: The Tohono O'odham Community Food System**

The Tohono O'odham Community Food System, a project of Tohono O'odham Community Action, is working with individuals, families, communities and institutions to combine elements of the traditional food system with new forms of organization. These strategies include:

- establishing community gardens where the traditions and techniques of O'odham gardening can be passed on to a new generation;
- helping families grow traditional O'odham crops at home;
- organizing trips to collect traditional O'odham foods such as cholla buds, saguaro fruit and mesquite beans;
- revitalizing farming in traditional flood plain fields;
- sponsoring storytelling events and other cultural activities which are based in traditional food production; and
- providing opportunities to sell and distribute traditional O'odham foods within the community and elsewhere.

Through these strategies, the program nurtures the production and distribution of traditional foods on three different levels. First and most importantly, families and communities are provided with the resources they need in order to grow and collect traditional foods for their own consumption. Second, the program is developing opportunities for people to engage in microenterprise projects by marketing their surplus O'odham foods to local institutions (such as the hospital, elderly programs and schools) where they are served to other community members. Third, after all local need has been met (and only then), additional microenterprise opportunities will be developed by marketing to surrounding communities, such as restaurants and specialty groceries in Tucson.

The Tohono O'odham community is not alone in the realization that physical health and cultural survival are dependent upon the rejuvenation of the traditional food systems. Native peoples from the deserts of Arizona to the ice flows of Alaska are actively seeking to redevelop the ways of producing, processing, distributing and consuming foods that have nurtured both body and spirit for generations.

Shortly after the bahidaj harvest was over and the monsoon rains had brought precious moisture to the desert plants, Christine Johnson, a basketweaver from the village of Nolic, reflected on her experiences harvesting and planting in the desert heat. "Every year, I sang the songs that called down the summer rains," she said. "But this year, I had a garden filled with devil's claw and corn, melons and squash. This year, I sang for them. This year, I sang like I really meant it."
We’re getting COURAGE.
Communities Organizing for Urban Regional Action and Grassroots Empowerment is our new project to build leadership for social equity, change the balance of power in the region, and create a land use agenda for the Bay Area that supports affordable housing, and transportation equity, controls gentrification, and stops suburban sprawl.

We’re borrowing COURAGE from ongoing UHP projects, where partnerships with community organizations gained some important wins. Our Transportation Equity project published Crash Course in Bay Area Transportation Investment, which looks at who benefits from regional public transportation funds, and successfully lobbied the Bay Area Air Quality Management District to incorporate Environmental Justice regulations. Our Community Revitalization and Land Restoration Project, which supports community-driven efforts to cleanup and reuse brownfields (vacant and contaminated land), has organized a regional forum for activists and published Building Upon our Strengths, a Community Guide to Brownfields Development. Our new Leadership Institute, which offers hands on training to community activists, will soon graduate its first class. UHP is planning workshops in several communities on gentrification, which is the regional issue of greatest concern to Leadership Institute participants.

This Fall, UHP turned ten. Call UHP for a copy of our commemorative program of the Tenth Anniversary Celebration, COURAGE, at 4151561-3333.

T he Center on Race, Poverty & the Environment recently expanded its operations in California’s Central Valley by opening a new office in Delano. We welcome community organizer Joe Morales, attorney Caroline Farrell, and office manager Esmeralda Martinez to the CRPE team. In the San Francisco office, Alex Berwick has joined the staff as assistant to the director. We are excited by our growth and the array of skills, contacts and experience our team brings to the fight for environmental justice in California.

CRPES Delano staff has been tackling important issues in Kern, Kings and Tulare counties and has had several successes in recent cases against dairy farms, forcing the dairies to complete full environmental impact reports. We have mobilized communities around issues affecting their environment, such as pesticide overspray, contaminated water, sludge dumping, dairy farms and air pollution. The first of a series to come, CRPE Delano hosted a successful training event in May on issues identified by surrounding communities. Our Fresno organizer, Ephraim Camacho, has been effective in organizing several community struggles around Fresno County.

CRPE continues to develop civil rights strategies for community groups, and has filed several groundbreaking administrative complaints under Title VI of the Civil Rights Act of 1964 with the U.S. Environmental Protection Agency in recent months, including one challenging the use of the deadly pesticide, methyl bromide, because of its disproportionate impact on Latino children in California’s public schools. CRPE staff has worked with groups around the country to enhance their capacity to use Title VI, including holding trainings on Title VI for members of the Southwest Network for Environmental and Economic Justice and others.

CRPE’s director, Luke Cole, was appointed by EPA administrator Carol Browner to the EPA Advisory Committee on Title VI implementation, a group comprised of industry representatives, heads of state environmental agencies, and environmental justice leaders given the task of helping EPA refine its civil rights policies. Luke will also begin his fourth year of service on the National Environmental Justice Advisory Council, where last year he was elected to chair the Enforcement Subcommittee.

Through his participation on these committees, Luke brings the issues and complaints of grassroots groups and clients to the attention of federal officials and other stakeholders.


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