

Despite declines in global food prices, three-quarters of a billion people in the world are chronically hungry. International aid helps to address famine in the Sudan.

## What choices do we have that can affect the course of population and the environment?

In human terms, almost nothing is inevitable about the 21st century. There are four choices about population, economics, environment and culture that can improve the human condition.

First, we can help 56% of the world's people who live in countries with continuing high fertility rates to achieve family sizes at or below replacement levels of fertility, by providing universal health and reproductive services.

Second, we can organize our economic production more efficiently. Until now, economic production has been a linear process: we extract some resource from nature, industry transforms it, consumers use it, and we throw away what's left. But today there is no longer any "away" to which we can throw things. In the future, we should strive to transform the economy into networks of industries that feed other productive activities, just as food webs in ecology link all species in a network of feeding and recycling.

Third, we can install more monitoring instruments in the atmosphere, continents and oceans, to better understand the earth's history and future and our place in it. Despite scientific advances, we still do not fully understand the functions provided by most species and ecosystems on earth.

Fourth, we can ensure that future generations are educated. Universal education would have favorable effects on fertility, economic productivity and enterprise, environmental understanding and preservation, and human capacities to innovate and to adapt. There are 1.25 billion children in the world today between 6 and 16 years old. We could probably vastly improve their education for about \$500 per child per year. How can we afford not to educate all children?

© 2000 by Joel E. Cohen.

## **Research Updates**

## Women, minority farmers are growing in California

As California agriculture and population become increasingly diverse (see p. 11), women and ethnic minorities are finding new opportunities to own and operate farms.

"In the long term, it's inevitable that we'll see greater diversity" among growers, says Desmond Jolly, director of the UC Small Farm Center. "The trend is clear and irreversible."

According to the U.S. Census of Agriculture, 14% of California farm operators in 1997 were female (10,064), up from 11% of the total a decade earlier. During the same time-period, farm operators of Spanish, Hispanic or Latino origin increased 30%, from 3,471 in 1987 to 4,515 in 1997, while the number of Asian, black, American Indian and "other" owners increased 21%, from 3,663 in 1987 to 4,430 in 1997.

Steven Blank, farm finance management specialist at UC Davis and author of The End of Agriculture in the American Portfolio, says California's total acreage and the number of distinct farming operations slowly continue to shrink, yet the relative percentage of small farms is growing. Many new farm operators are women and immigrants, who generally start new businesses on smaller farms.

"The smaller size of farms allows easier entry in comparison with other businesses," Jolly says.

Nonwhite growers. New immigrants to California during the past two decades (such as Southeast Asian refugees) often feel at home on small farms in the Central Valley, Blank says, while long-term immigrants (such as workers from Mexico) have "acquired wealth and are now able to own farms" (see p. 33).

"Many new immigrants are not coming from an urban setting," Jolly agrees. "It's easier to adjust to rural heritage and culture." Farm operation and ownership allows Hispanic immigrants greater stability than working in the fields, although it is still a "risky and marginal enterprise," he says.

Despite the historical dominance of Europeans in California agriculture, black farmers built a number of Central Valley towns, while Sikh growers and other ethnic groups have a "long and distinguished history of agriculture in the

state," says Al Medvitz, UC Davis lecturer and Solano County grower.

Women growers. The increase in female farmers has also occurred primarily on small farms, Blank says, either with wives taking over when their husbands die or obtain off-farm jobs, or with women starting their own specialty or "niche" operations.

Specialty farming often appeals to women because "they can go anywhere in the state and grow something," says Jeri Hansen, vice president of California Women in Agriculture (CWA), a trade association with 3,500 members and 27 chapters.

Janet Pauli, operator of Pauli Ranch, oversees crews of between 25 and 80 workers on 450

acres of wine grapes and 60 acres of pears in Mendocino County. "I may get more respect [from mostly male crews] automatically because of being female," Pauli says.

Farming has also allowed Pauli to seamlessly integrate her work and family lives. "It's wonderful to work here and be with my children," says Pauli, who has two sons with husband Bill, president of the California Farm Bureau Federation. "The children are raised in it. Day care has never been a problem. Some women find it much easier to raise kids on the farm." — Janet Byron



The trend toward more women and minority growers in California is "clear and irreversible."

## Grandparents become primary parents

One of the joys of grandparenting is said to be the fun of spoiling the children then sending them home, but an increasing number of children are making their home with their grandparents. According to the 1990 U.S. Census, the percentage of all U.S. children under age 18 living in grandparent-headed households rose from 3.2% in 1970 to 3.6% in 1980 and leaped to 4.9% in 1990 and 5.5% in 1997. According to 1997 U.S. Census population surveys, 21% of these grandparents are over age 65.

In California, the 1990 U.S. Census recorded 493,080 children living in households headed by their grandparents, comprising 5.4% of children in the state age 18 and under. If the 1990 prevalence rate of 5.4% remains constant, projected over the next 25 years, there will be at least 784,000 children living with their grandparents in the state in 2025. With the proportions of both elderly and youth expected to grow in California in the 21st century, this trend is likely to continue if not rise (see pp. 11 and 55).

Alameda County health and nutrition advisor Mary Blackburn set out to determine the distribution of grandparent-headed households among California counties. Blackburn analyzed the 1990 U.S. Census data and found that in San Francisco County, 10% of children lived with grandparents, the highest rate in the state; the next highest rates were found in Imperial (8.6%), Los Angeles (7.18%) and Alameda (7.12%) counties.

"No one has ever looked at the numbers to see how many grandchildren are cared for by their grandparents," Blackburn says.

She hopes UC Cooperative Extension can use these data to develop funding for programs that address the special needs of the children and caretakers in these living arrangements.

"Many grandparents report feeling emotionally, physically and financially devastated by these added responsibilities," says Blackburn, who has worked with groups of grandparents who have assumed parenting roles.

Grandparents are often drafted as caretakers in the event of the parents' death, drug addiction, unemployment, homelessness, incarceration, abandonment, neglect, abuse or lack of child care.

Although these grandparents may be experienced parents and willing to take on the responsibility, they may not be up to the physical demands of the job. In a group of 98 grandparents Blackburn worked with in Alameda County, 81% reported chronic health problems.

Meredith Minkler, a UC Berkeley public health professor, co-authored a study that found more than 50% of custodial grandparents had trouble doing heavy housework, 41% with climbing stairs, 39% with walking more than six blocks and 17% with moving about inside the house. For these people, lifting an infant or toddler could exacerbate a physical problem.

In 1997, 5.5% of U.S. children were being raised by their grandparents.

