

issues of intellectual property rights. Second, there has been a significant amount of good scholarship lately on newer forms of environment-related movements (e.g., environmental health movements, slow food). Related to this is fascinating work on transnational organic and fair trade movements and certification processes. A third area featuring an impressive body of recent scholarship is realist research on the causes of ecological degradation (or environmental problems). Some of this research attempts to explain cross-national variation in a number of impact-related indicators (e.g., ecological footprint, carbon dioxide emissions) to simultaneously test multiple theories of ecological impact. Other research within this area focuses at the mesolevel, attempting to explain variation in the environmental impacts of formal organizations.

-Aaron M. McCright  
Michigan State University

*Aaron M. McCright is an environmental and political sociologist whose work attempts to enhance our understanding of the relationships between social movements, countermovements, and the structure of power within the state-particularly concerning problems of environmental degradation and technological risks. He is an assistant professor of sociology in the Lyman Briggs College, the Department of Sociology, and the Environmental Science and Policy Program at Michigan State University. He has written several journal articles in sociology and has coedited (with Terry N. Clark) one book, Community and Ecology: Dynamics of Place, Sustainability, and Politics (Elsevier, 2006). He can be reached at mccright@msu.edu.*

Victoria D. Markham & Nadia Steinzor. *U.S. National Report on Population and the Environment*. New Canaan, CT: Center for Environment and Population, 2006.

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The U.S. National Report on Population and the Environment documents the deleterious environmental effects of population growth in the United States. The authors focus on the United States to demonstrate how a country with 1/20th of the world's population can have a relatively large impact on the environment. The report provides a basic picture of the population-environment dynamic for a general audience. It falls short of providing a complete picture because of its simple premise of a unidirectional relationship between population and environment. It could be improved by examining a multidirectional model of population-environment dynamics, one that looks both at the ways in which population drives consumption and how institutions mediate consumption patterns and the population-environment relationship. Much of the current literature about the population-environment relationship focuses on institutions (whether social, economic, or political) as critical mechanisms for mitigation. If the report had focused on institutions, then readers could be informed about how to use governance or societal mechanisms to address negative externalities. Instead, readers are left with few tools to redress a very somber set of findings. Finally, any discussion of consumption of resources is incomplete without some mention of the impact that our consumption has on global systems and other nations, something that is given little mention in the report as it is currently written.

The report uses Census data from 1990 to 2000 to examine the environmental impacts and pressures that are a result of U.S. population growth. Some historical

data (dating back to 1900) are included to further illustrate changing population dynamics, particularly highlighting how the number of people per household has declined, but the number and physical size of households has increased, magnifying the impact on the environment. The primary thrust of the report, though, is its *focus* on regional comparisons, highlighting which regions of the country have experienced significant growth over the time period examined, with particular mention of the growth in the South and West over time. The report looks at population growth and population distribution (via density, composition, and settlement) as predictors of environmental impact. The drivers of population growth and redistribution to the coasts and South and Southwest are primarily lifestyle ones, including vacation homes and retirees. In both cases, the result is an increase in the household footprints—in the case of the former, it is two homes per family, and in the latter, it is fewer people per house. A key impact of these choices is defined by examining human consumption of finite and renewable resources, often at rates that outpace the environment's ability to renew them.

In particular, the report *focuses* on changing land use patterns that result from a growing demand for housing and roads. The authors discuss an increase in water and energy consumption that accompanies a growing population, along with the resulting negative externalities, such as pollution. The depletion and pollution of fisheries and forestlands are also addressed, as well as the evolving state of agricultural lands that lie tangent to developing urban centers. The authors then show evidence for the associated decline in biodiversity, growth in waste production, and population growth.

The report should be lauded for linking consumption to population and its effects on the environment. This link is often overlooked in studies that examine population-environment dynamics. However, it does not go far enough to adequately tackle the issues of population and environment dynamics, and as such, it is not a complete picture of the state of knowledge surrounding these complex dynamics.

The overall tone of the report is sobering, suggesting that the changes to the environment are inevitable with very little possibility of improvement once the changes have occurred. The report's unidirectional approach, as well as its general lack of "next steps," leaves the reader with little remedy for the consequences; a more dynamic treatment of the issue of population and environment would deliver a more powerful message to the reader that although human consumption has deleterious effects, there are mechanisms that we can leverage to mitigate the negative externalities. Furthermore, the report fails to note how environmental change can differentially influence population health or particular populations. Although the majority of the report focuses on actions that individuals do and their negative consequences, it disempowers the reader by neglecting to *focus* on mechanisms that also influence the environment and population dynamics. Some examples not discussed include the siting of environmentally hazardous materials near vulnerable and disenfranchised populations, inadequate zoning of land use, or taxation or pricing policies that subsidize or encourage overextraction of resources. For example, informed readers might ask themselves, "Which institutions are in place at the local or national level that encourage the types of land use that results in excess pollution or waste?" In addition, some attention might also have been paid to how consumption patterns in the United States have offshore impacts on the environments of other places, vis-a-vis

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the demand that this places on industry and production outside U.S. borders. Although the intent of the authors was to focus on U.S. consumption, it is important to consider the global market place when examining consumption. In the rest of this review, we elaborate on each of these concerns.

The examination of the effects of population on the environment is an important one, particularly in the context of issues related to resource consumption, something that has been historically left out of the examination of the relationship between population and environment (Curran & de Sherbinin, 2004). Yet Markham's account fails to consider the way in which the environment affects population. Some examples of these include how migration can be explained by changes in the environment—especially its health. Environmental refugees are a phenomenon frequently associated with parts of Africa or Asia but cannot be discounted in the United States with the emergence of environmentally hazardous waste and industrial sites. Similarly, the clear impact on the ecology and population well-being of global climate change suggests dramatic environmental impacts for coastal areas as well as the current farm belt of the Midwest. These environmental impacts on population invite institutional solutions. But the report, as it is now written, does little to convince the reader that there are mechanisms to be leveraged. A more comprehensive report would highlight areas of success, through either citizen or government action that gives readers some tools for effecting change. One example would be to discuss the role that mayors and governors have played in keeping the climate change debate alive, despite the current U.S. administration's refusal to sign on to the Kyoto protocol! Finally, although the report opens with a brief discussion of the Impact = Population \* Affluence \* Technology (IPAT) and ecological footprint models, they are not fully integrated within the text. A more thorough modeling of the production and consumption dynamics that drive the population–environment relationship could draw on these concepts while incorporating a more multidimensional treatment of the variables that the report highlights.

Although the report provides geographic trends and associations among population and environment variables, the theoretical focus is on individuals and household behavior. What the report does not address is the institutional framework in which these decisions are made. A considerable amount of time is spent discussing sprawl and land use, yet there is little attention paid to the land and zoning laws that might make such development possible. Is it possible that an institutional change could reverse or halt sprawl? There are examples in place within the U.S. growth management and urban boundary acts that have been created in metropolitan areas such as Portland, Oregon and Seattle, Washington. A reader of this report might be under the impression that there are no governance avenues that can be followed to discourage such widespread housing development. The same holds for other areas discussed, such as water use and pollution.

As in other areas, the lack of a complete picture weakens the overall objective of the authors, which asks readers to understand and act on the issue of population and environment effects.

The authors state from the outset that their purpose is to focus on the effects of population on the environment within the United States, yet it does so with no mention of how our consumption is situated within a global context of trade, travel, and migration, as well as local ecological systems of air, water, and species movement. In this age of globalization, it is not possible to only discuss

domestic effects. **In** a very simple example, many of our natural resources are imported from abroad. Our consumption footprint in the United States reverberates deleteriously on those countries exporting those natural resource goods or producing cheaply other goods without the environmental regulations to curb industrial pollution and waste production. The deleterious effects that our consumptive patterns have on international sourcing sites must be included in any calculus of population effects. One need look no further than the oil and gas market to understand how increased consumption at home can have environmental effects abroad. **In** addition, as net importers of food, an increased demand in this sector is predicted to have global impacts (Tilman et al., 2001). There are numerous other examples where consumption at home has ripple effects around the world, and not including these in an analysis of population-environment interactions means that the reader is left with less than the true picture.

Other sections of this review have already alluded to the simplicity of the report. The lack of more formal modeling of the interplay between population and the environment, along with the stocks and flows that go into such a model belie the complexity of the relationship. Because of its tendency to oversimplify, the ultimate consequence of this report is that even though the authors state at the beginning that they are not trying to make policy, there is little place to even begin to consider how policy makers can tackle the issues of population-environment dynamics.

-Jacqueline Meijer-Irons Sara  
R. Curran University of  
Washington

#### NOTE

1. See, for example, the *Western Regional Climate Action Initiative* (2007).

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Jacqueline Meijer-Irons is studying for a PhD in public policy and management at the Daniel J. Evans School of Public Affairs at the University of Washington. Her research focus is environmental policy.

Sara R. Curran is an associate professor of international studies and public affairs at the University of Washington. She researches migration, gender and family, population and environment, and globalization and development in Southeast Asia and the United States.

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