

## Editorial

# Better Risk Information for Communities

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American reality is a range of landscapes and ecosystems overlain with a social structure varied in history, culture, population density, income, age, and occupations. Inevitably, the environmental and health problems that face communities differ. In older cities such as Pittsburgh, lead paint flakes in the aging housing stock pose risk to children who ingest them. In western states such as Colorado, mining wastes contaminate water supplies and disturb local ecosystems through acid runoff. In sparsely populated New Mexico, isolated communities lack timely access to health care. In the smog-ridden Los Angeles Basin, efforts focus on realizing healthier air. Many U.S. communities now express frustration with a political system that obliges them to follow mandates of distant origin. Yet, only a few communities possess their own convincing assessments and plans to improve environment and health.

The Community Risk Profile (CRP) is an experimental tool intended to reintegrate the understanding and management of risk at a level where individual and local action can matter. Initially sketched by researchers at Resources for the Future,<sup>(1)</sup> the concept of a profile of the risks facing a community was further developed by our group at The Rockefeller University in a 1995 report.<sup>1</sup>

At its core, the CRP involves generating and regularly updating a local risk database accessible to a wide range of users. The data are collected and organized to describe the environmental status and public health conditions of the community as fully as possible. In every community, local groups would need to play a major role in determining items to include in the CRP and how to structure it. Local professionals and laypersons provide relevant knowledge of local geography, industry, occupations, lifestyles, housing stock, and other distinc-

tive community features. Involving community residents also allows for greater appreciation of local concerns that may differ from the national mean and narrow, but highly vocal, interests.

Local risk assessment has enjoyed mounting popularity over the last decade. *Unfinished Business*,<sup>(2)</sup> EPA's landmark 1987 attempt at a comprehensive national environmental risk assessment, concluded by noting that "National rankings do not necessarily reflect local situations—local analyses are needed." In fact, EPA-supported risk studies in Baltimore and Philadelphia date back to the early 1980s. Since the release of *Unfinished Business*, EPA has increasingly conducted and supported risk assessments at finer spatial scales, zooming from regions to states to municipalities. All EPA regions have now conducted some comparative risk studies, and over half of the States have completed or are in the midst of their own.<sup>(3)</sup> The EPA has also lent support to local comparative risk projects, such as those in Seattle and Columbus, and is now pursuing programs under the rubric of Community-Based Environmental Protection (CBEP).

Though similar to such studies in its concern with the totality of risks, the CRP departs from these efforts in placing far less emphasis on the ranking of risks. The emphasis on ranking risks furthers the tendency to segment risks so they all fit in an orderly list. The CRP should be a neutral information resource, useful for comparisons but also helping reveal how risks may combine and interact. Moreover, the CRP would be a continuing resource, not a rare spectacle to crown the champion of risks.

The CRP would also provide an occasion to rejoin public health and environment. National and local public health surveillance largely ignores environmental conditions. In advance of environment, several public health organizations have designed tools to help cities and towns implement national goals and standards<sup>(4,5)</sup> in a local context.<sup>(6,7)</sup> A logical step is to combine the information from local public health surveys and strategies

<sup>1</sup> *Community Risk Profiles: A Tool to Improve Environment and Community Health*. I. K. Wernick (ed.), Available from the Program for the Human Environment. Also available on our web site at <http://www.rockefeller.edu/phe>.

with the accounts of local environmental variables that impact them.

Reliable data must form the heart of the Community Risk Profile. Practitioners of risk analysis know that the field requires sound environmental, epidemiological, and demographic data. In the past, census tracts or block groups have determined the boundaries for community-level studies, boundaries that can be artificial from the standpoints of environment and health.<sup>(8)</sup> Emerging information technologies can help. Geographical Information Systems (GIS) offer flexibility, allowing boundaries based on digitized maps of communities and their surroundings that emphasize local features obscured in bureaucratic constructs. This tool for analyzing community problems is gaining popularity in both the private and public sector.

National databases such as the Topographically Integrated Geographical Encoding & Reference (TIGER) files and the Census of Population's summary files can now be accessed quite easily and provide detail on local demography. GIS systems can mesh the geographic and demographic data with data on health, emissions, and locations of industrial facilities, to identify spatial relationships that effect local environment and health. With greater sophistication, meteorological models that analyze the paths of local air emissions and information on hydrology and groundwater can also be integrated. As communities turn from taking inventory of their present condition, GIS offers a prescriptive tool for the siting of future risky facilities.

Individuals and groups who hold stakes in the community must participate in developing the CRP, taking care to reflect at-risk segments of the population that often have no clearly defined public voice. Though meant to be inclusive, the CRP cannot address every social problem. Practical decisions are needed to keep the CRP from expanding to include all social ills, while at the same time not losing sight of what the community thinks important.

A broad cross-section of the local population must accept the institution leading the preparation of a Community Risk Profile. Nongovernmental groups, including universities and community-based organizations, may satisfy the need for public acceptance and connection to local government. In the cities where the EPA now sponsors comparative risk assessments nongovernmental organizations, such as the Houston Area Research Council and Case Western University in Cleveland, play major roles. The profile must pertain to local political jurisdictions and budgets.

Both public and private sources could start funding CRPs. Initial experimental profiles could attract philan-

thropic funding based on their potential for addressing the concerns of socially or environmentally disadvantaged American communities. For-profit entities could also play an active role, inasmuch as they benefit from better community information and enhance their credibility within the local community by participating. Promoting the public good and providing valuable information services should help attract both initial support and maintenance.

The United States has mobilized to an unprecedented extent over the last decades to care for the environmental quality and public health needs of its citizenry. At the federal level, this broad mobilization expresses itself by aggregating the needs of many and organizing an intricate bureaucracy to taxonomize concerns. The Community Risk Profile returns us to the roots of our concern, the actual environmental and health conditions of each American. The challenge is to maintain appropriate national standards while taking account of local conditions.

Greater autonomy for communities is an idea that dates back to Thomas Jefferson and is as current as bipartisan efforts to devolve governmental power to states and localities. While the CRP concept remains untested, it offers the prospect of outfitting communities for greater local control. Only trials in the field will tell us if the reality of the Community Risk Profile can match its promise.

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Program for the Human Environment, The Rockefeller University,  
New York, NY.

Iddo K. Wernick  
*Program for the Human Environment*  
*The Rockefeller University*  
*1230 York Avenue*  
*New York, New York 10021*  
E-mail: phe@rockvax.rockefeller.edu