

Future FINDINGS

Economic Growth—But at What Price?

Those parts of Mexico that border the United States play a vital role in the Mexican economy. In fact, thanks to the dozens of foreign-owned assembly plants that dot the border, attracting foreign investment and providing local jobs, Mexico's northern states have the highest growth rate and highest per capita income in the nation.

But as **Siobán Harlow**, professor of epidemiology, points out, the region's economic development may come at a cost. In the communities that have sprung up around Mexico's *maquiladoras*, or foreign-owned assembly plants, poor housing is endemic, water and sewer systems are inadequate, and there is little or no infrastructure to dispose of industrial waste.



HARLOW

In towns in the Mexican border state of Sonora, statistics suggest that infant death rates may be nearly double the national average of Mexico.

Until recently, no one had analyzed the health burdens of economic growth in the region, but for the past year, Harlow and a team of scientists from the University of Michigan, El Colegio de Sonora, and Arizona State University have been working to do just that. Their research is funded by the Health, Environment, and Economic Development program of the National Institutes of Health John E. Fogarty International Center and by Mexico's Consejo Nacional de Ciencia y Tecnología.

"Despite substantial economic growth, there's a growing accumulated deficit in the region's urban and environmental infrastructure," Harlow explains. "What we're trying to do is document whether there is or is not a health consequence of this accumulated deficit."

In the initial pilot phase of their study, Harlow and her team are focusing on infant mortality in the border towns of Nogale and Hermosillo, but in a subsequent phase they hope to assess broader health indicators, including adult mortality, hospitalizations for asthma, and immunization and chronic disease rates.



Double-edged sword: economic growth combined with a poor public health infrastructure.

Using data collected from maps, the Mexican Census, vital statistics, city archives, and interviews with local residents, they will develop an index of socioenvironmental vulnerability to show how well communities can sustain environmental assaults, based on such factors as urban and sanitary infrastructure, technological hazards, and the socioeconomic status of neighborhoods. The team will map both infant mortality rates and vulnerability levels to see whether there is a link between the two, and they'll devise strategies for identifying and protecting at-risk populations.

Harlow hopes to generate information that will be useful to municipal policymakers.

The ultimate impact of the study may reach well beyond Mexico. "Export-led production is the major model of development worldwide," says Harlow. "It's usually done in particular zones of a country, often with tax and duty concessions. We're assessing the impact of this development model on the health of communities." ■

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