

# Health

AN ECOSYSTEM APPROACH

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## Housing and Human Capital in Cuba

Community efforts improve health in inner-city Havana

*Inner-city life can test people's endurance. When neighbourhoods decline, human health soon follows. A project in Cuba supported by Canada's International Development Research Centre (IDRC) has shown that, in the struggle to improve community health, the biggest asset may be residents themselves.*



IDRC: Kevin Conway

Dr Mariano Bonet and the INHEM team set up a small air quality laboratory in a Cayo Hueso apartment building.

The gas-guzzling, hulking American car of the 1950s has become a symbol of urban Cuba. Predating Fidel Castro's 1959 revolution, these rumbling antiques are also evidence of a country with a troubled economy, where people have been forced to make due with scarce resources. The past decade was especially devastating. Intensified US trade embargos and the collapse of Cuba's biggest trading partner, the Soviet bloc, hung like anchors on the Cuban economy. Already scarce resources became even scarcer. The 1990s are now generously referred to as Cuba's "special period."

Few in Cuba have felt the impact of this special period more than urban dwellers. And few communities have struggled as much as Centro Habana, an inner-city area of Havana that has the country's highest population density. Statistics from the late 1990s paint a bleak picture. Less than half the population had access to safe drinking water. (The economic blockade effectively destroyed Cuba's ability to manufacture chlorine needed to treat drinking water.) Over a third of the homes in one municipality were deemed as "bad." Communicable diseases like tuberculosis rose steadily throughout the latter half of the 1990s, as did sexually transmitted diseases. For a country that could once boast of having one of the world's best health care systems, Centro Habana was evidence that health care services were being stretched to their limits.

But Centro Habana is not without its strengths. It is a storied area, known for its history, its culture, and its sense of community. "Community" is a word that researchers often use when talking about Cuba's recent efforts to restore its collapsing urban environment.

In Cayo Hueso, one neighbourhood of Centro Habana, it was the community itself that identified a problem — primarily poor housing — and jump-started the move to solve it in 1995. What began as a simple plan to improve housing may prove to be the foundation for a new approach to reversing urban decline.

## Mobilizing support

Cayo Hueso is an overcrowded, badly rundown quarter in the northwest corner of Centro Habana. Despite its ramshackle appearance, however, Cayo Hueso holds a special significance for many Havana residents. It is one of city's oldest neighbourhoods — people have lived here for some 450 years. Its architecture is rich, its history vibrant, and its community spirit indestructible. This may explain how poor inner-city residents were able to muster support to rebuild their crumbling neighbourhood in the middle of the worse economic slowdown in their nation's history.

Between 1995 and 1999, Cayo Hueso was the focus of efforts to refurbish Havana's crumbling infrastructure. To ensure scarce resources were spent in ways that would best improve housing and the quality of life, the president of the Centro Habana municipal council sought the assistance of Cuba's National Institute for Hygiene, Epidemiology, and Microbiology (INHEM), an arm of Cuba's Ministry of Health. A comprehensive evaluation was planned and carried out by a team of international researchers, working directly with neighbourhood popular councils and community urban development groups. Canadian researchers, Dr Annalee Yassi and Dr Jerry Spiegel, both with the University of Manitoba at the time, were asked to help develop a series of ecosystem health indicators to guide the evaluation. They examined a wide range of factors, from the economic growth rate to the incidence of disease within the community.

But it was the work of community leaders, formal and informal, and community organizations, like the "Taller Integral," that transformed the project. Their input was one of the key reasons for the success of what has become known as the "Cayo Hueso Intervention," says Dr Yassi, who is now Director of the Institute of Health Promotion Research at the University of British Columbia in Vancouver. The "intervention" rallied support among the community, at all levels of the Cuban government, and internationally. It improved not only the neighbourhood's physical state, but also the health and outlook of many of its residents (see box, The Cayo Hueso Intervention).

## A complex web

For the Cuban and Canadian research team, Cayo Hueso was also an ideal proving ground for a new approach to studying urban environments and their effects on human health and well-being. Called an "ecosystem approach to human health" — or "eco-health" — approach it was based on a much broader understanding of the factors that influence human health. The approach "recognizes that there are inextricable links between humans and their biophysical, social, and economic environments that are



IDRC: David Barbour

In Cayo Hueso, researchers harnessed the local sense of community to revitalize a decaying inner-city neighbourhood and improve resident's health.

reflected in an individual's health," says Dr Mariano Bonet, one of Cuban researchers and the Deputy Director of INHEM.

Like tugging on one thread of a spider's web, actions in any of these areas can reverberate through the entire structure. The economy, society, and community are all connected and affect human health. In Cayo Hueso, researchers have been working to identify the links between the efforts to rebuild housing and the resulting improvements in health. In other words, explains Dr Spiegel, researchers sought to "link the direct with the indirect" for a more holistic approach.

Attempting to develop such a complete picture requires a great deal of information from a variety sources. In Cuba, a scientific team made up of physicians, a sociologist, a psychologist, an economist, several engineers, and an architect, among others, worked with the formal and informal leaders of Cayo Hueso. The advantage of this "transdisciplinary" approach, says Dr Bonet, is "a wider and more integrated approach, with different points of views, and that combines techniques from different sciences and sources to analyze results."

"One of the challenges," he notes, "was translating the technical aspects [of the research] into a language that was easily understood by the community and translating their [the community's] expertise into specific indicators and activities."

The researchers conducted hundreds of interviews with community members and leaders. They also analyzed data collected from 1000 individuals by their colleagues at INHEM. With community input, this mountain of data was distilled down to a set of health indicators that could help identify the forces putting pressure on the urban "ecosystem" and ultimately on human health. These included the incidence of asthma and the adequacy of street lighting, along with the economic and urban growth rate. Together, these indicators can be used to "describe the health status of the local environment in relation to human health," says Dr Spiegel.



To further pin down the factors affecting human health — which can be many and vary from the incidence of diseases to violence in the community — Cayo Hueso was compared with another Centro Habana neighbourhood, called Colón, where no intervention had taken place. Researchers have been comparing survey results from the two communities to identify how and where changes in the urban setting changed human health, says INHEM's Director, Dr Pedro Mas Bermejo. "The priority now is to know what's happening with the people who received the improvement [in housing]," he says.

## Tangible improvements

Measuring the actual differences in the communities and the results of the intervention is difficult. But some of these differences are already noticeable. The researchers can point to definite improvements in the health of adolescents, adult men, and in older people in Cayo Hueso.

"We were seeing improved health among the older women in particular," says Dr Spiegel. "They also had a larger involvement in the intervention." This raised the question, he says, of whether their increased social interaction led directly to improvements in their health.

The observation also highlights the importance of gender issues in the ecohealth approach. Since men and women play different roles in the community, it's reasonable to expect the impacts on their health will also be different. Gender differences were indeed evident in the results, says Dr Spiegel. Dr Bonet confirms this. Beyond the essential role they played in community workshops and in devising solutions to Cayo Hueso's problems, "women were also the subject of efforts to increase their social involvement as part of the intervention," he says.



IDRC: David Barbour

With the help of local residents, researchers — among them Ana Maria Ibarra Sala — collected a mountain of data.

## The Cayo Hueso Intervention

In the mid-1980s, activists in Cayo Hueso began identifying problems within their community and called for changes to their surroundings. With the assistance of the locally elected Popular Council, the municipal government, and established organizations within the community — including women's organizations and trade unions — an umbrella organization known as the Taller Integral or "integrating workshop" was created to mobilize support for these improvements. But the severe economic crisis of the early 1990s gridlocked the process.

By 1995, the situation was critical. First on the community's "to-do" list of needed changes in their living conditions was better housing. The community's plan to fix housing was adopted by the government of Cuba, which provided residents with subsidized lumber so they could to repair their own homes. The government began improving public buildings, and improvements were made to the city's ailing water and waste-removal systems. Spaces where youth could gather were built and improvements were made to street lighting.

Many residents donated their time and labour in what became known as the Cayo Hueso Intervention. About 600 unemployed residents were also contracted to work in construction brigades. Government employees pitched in as some government ministries took responsibility for upgrading entire blocks within the neighbourhood. International organizations like Oxfam and UNICEF were also involved.

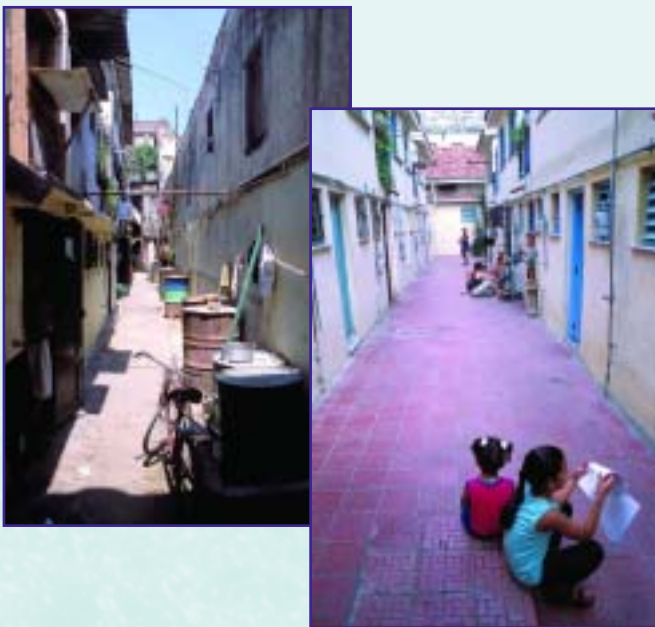
From a focus on infrastructure, the project grew to include some social planning — the local government started programs for seniors, which included self-esteem workshops and exercise programs. The project's cost totaled 13 million pesos — about CA \$2.04 million, a massive investment for Cuba at the time.

## Moving beyond Cuba

To actually observe and document health effects from changes in the urban environment isn't easy. Even collecting health data about a particular neighbourhood can present researchers with a daunting task. Cuba's health system, however, is well connected to the population. "Health services are focused in geographical areas," says Dr Spiegel. "Because there are support structures in place, you can look at what sorts of health benefits are accruing from changes to the urban environment. How would you organize that in, say, Canada?"

Cuban institutions, from the government to health service providers, were also prepared to adopt the new approach. The country has "forms of social organization eager to have a methodology and approach," Dr Spiegel adds.

Close ties with Cayo Hueso's residents also helped the research team overcome other problems, like communication barriers between scientists and community members. "In the Cuban case, researchers and community people are closely linked," says Dr Bonet. "INHEM has some researchers living in the community, so it was not difficult to balance the interests of both."



IDRC: David Barbour

In January 2001, Cuban researchers were awarded the Cuban Academy of Sciences Award (Health), for their efforts in revitalizing Cayo Hueso.

Drs Yassi and Spiegel agree that the ecohealth approach would work in other parts of the world. However, it would be a little harder to measure and document without the very close links they saw between Cuba's health care system and its clientele and between the research team and the residents of Cayo Hueso.

## The work continues

In January 2001, the Cayo Hueso researchers were awarded the Cuban Academy of Sciences Award (Health), one of the most prestigious scientific recognitions in Cuba. Further IDRC-supported follow-up studies are now underway in Cuba. The methodology and practices used in Cayo Hueso are also being adapted to tackle another critical issue, the spread of dengue fever on the island and its prevention.

This *Case Study* was written by Colin Campbell on behalf of IDRC's Communications Division.

[www.idrc.ca/ecohealth](http://www.idrc.ca/ecohealth)

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## Ecosystem Approaches to Human Health

Human health and well-being are intimately tied to the health of the ecosystems that sustain life. Yet the potential for improving health by better managing the local environment is an avenue rarely explored in mainstream health programming. Through its Ecosystem Approaches to Human Health (Ecohealth) Program Initiative, IDRC aims to identify the web of economic, social, and environmental factors that influence human health. Communities can then use this knowledge to better manage ecosystems and improve the health of both people and the ecosystem.