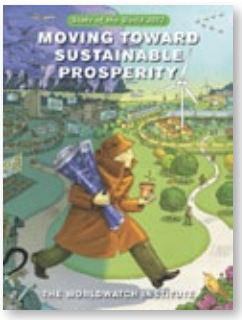
STATE OF THE WORLD 2012
Moving Toward Sustainable Prosperity



POLICY BRIEFS
Chapter 5

Information and Communications Technologies Creating Livable, Equitable, Sustainable Cities

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KEY MESSAGES

- With more than half of the world's population living in urban areas, many cities face the challenge of inadequate transportation, lack of sanitation, and safety risks due to dilapidated buildings and high-crime areas. According to the World Bank, 90 percent of urbanization is occurring in the developing world.
- Information and communication technology (ICTs) can help cities become safer, cleaner, and more sustainable places to live. Through partnerships between local governments, private for-profit or nonprofit businesses, and the public, ICTs can be effective tools at collecting and disseminating information.
- ICTs can provide a venue for concerned community members to discuss urban needs, get involved in their local governments, and improve their communities.

THE PROBLEM

Cities are critical to a nation's economy and efforts to mitigate climate change. But high population densities can also generate problems. Traffic and congested roads cost residents of Singapore hours every day in lost time and fuel, dangerous building sites in Lagos, Nigeria, injure hundreds a year, and tap water in Lingrajnagar, India, is available for only a few hours a day. Although industrialized countries have access to a wide range of ICTs to help address these issues, these technologies remain underdeveloped and underutilized in both industrialized and developing nations.

Access to accurate data is key to creating effective ICTs and critical in finding sustainable solutions to problems such as inefficient transportation and inadequate water supplies. Most local governments collect information to run their health, education, and transportation departments, yet in many places gaining access to this data is difficult. Governments may simply refuse to release data or access may be difficult due to excessive bureaucracy.

MOVING FORWARD

ICTs can help achieve sustainable urbanization through a variety of means. These include:

- *Public-Private Partnerships.* Through various public-private partnerships, corporations and organizations are working with governmental data to improve services and safety in cities, or to create amenities. Paris's bikeshare system, which has a phone app that will find bicycle locations, is a result of a partnership between the local government and an advertising company, JCDecaux, which maintains the system in return for outdoor ad space in the city. There is no solid, independent analysis, however, as to whether these public-private partnerships are achieving their sustainability goals.
- *Smart Cities.* "Smart cities" are springing up around the globe, from PlanIT in Portugal to Masdar City near Abu Dhabi. These cities combine intelligent buildings, public transport, assisted parking, renewable energy, and advanced water systems to increase efficiency and reduce environmental impact. Yet these smart cities have also been criticized for being artificial creations cut off from the surrounding societies.

  Other cities are trying to make themselves "smarter" by partnering with corporations. Rotterdam, for example, is partnering with GE in an effort to reach the city's environmental goal of reducing carbon dioxide emissions by 50 percent compared with 1990 levels. GE will use data visualizations, smart meters, and other technologies to optimize energy efficiency. There is doubt, however, as to whether smart cities actually improve the sustainability, livability, and opportunities of urban life.
- *Open Data.* Giving the public access to data is a critical part of the solution to creating sustainable cities. The city of London, believing that data belongs to the people, made 5,400 datasets on various issues, such as water consumption and traffic patterns, available to the public for free through

the newly created London Datastore. The Spatial Information Design Lab at Columbia University in New York used data to draw attention to connections between crime and poor housing, education, and health care. This type of research could help city governments frame policies about education and poverty in target areas, reduce crime, and save millions of dollars.

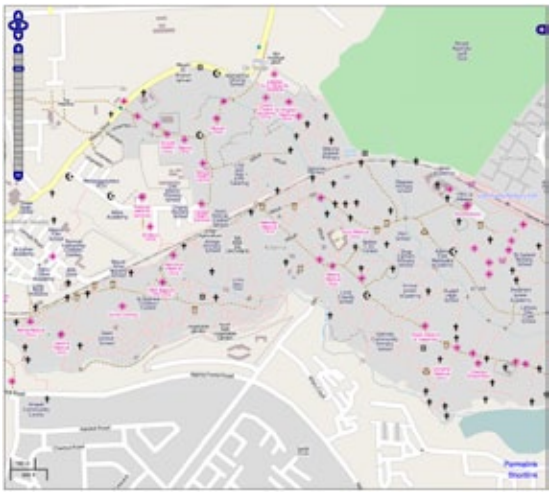
Opening data has led to a variety of innovations. In India, the nonprofit organization NextDrop lets people know via mobile messaging when their tap water will be on, saving residents time and energy. Giving the public access to information also gives people a chance to let their voices be heard. Websites such as SeeClickFix in the United States give people a chance to register problem areas, such as an abandoned house used to sell drugs or a streetlight that is burned out. The website logs each problem, making it easier for local governments to respond to issues that are important to a community.

Innovative as they are, these efforts prompt a number of questions. Does new technology alone make cities smarter? Should cities outsource some of their responsibilities to corporations? Is there a way to enhance such initiatives by better including the public in decision making or idea generation? Empowering citizens to improve their own cities will be critical. ICTs help people help the government, but have thus far failed to solve deeper, underlying problems in cities. Without real policy reform, these technologies risk becoming "nice to have" rather than "need to have."

LOOKING AHEAD

ICT can be an excellent tool, but it is not the solution. In addition to being used to map the problems encountered in many cities, it should be used to find sustainable solutions to those problems. ICTs should not attempt to eliminate human error but should enhance humanity and quality of life. When local governments, private for-profit or nonprofit businesses, and the public collaborate, their top-down, bottom-up, and horizontal, distributed approaches have the potential to usher in advances in sustainability, public engagement, and livability in cities.

Kibera in Nairobi, for example, is Kenya's largest slum and is home to nearly 1 million people. For years, however, it has been excluded from maps of the city, discounting the people who live there. Recently, a team of independent researchers partnered with Kibera youth to create their own interactive map of the slum. They used handheld GPS monitors to record the locations of streets, buildings, water pumps, bathrooms, even the dangerous and well-lit areas. In 2009, the group succeeded in getting Kibera on the official city maps. In the hands of capable community activists, organizations, and government leaders, ICT can go a long way toward helping to achieve sustainable urban centers.



OpenStreetMap.org

Screen capture of the Kibera map.

This brief is based on Chapter 5, "Information and Communications Technologies Creating Livable, Equitable, Sustainable Cities," by Diana Lind, published in Worldwatch Institute's *State of the World 2012: Moving Toward Sustainable Prosperity*. To order a copy of the report, visit www.worldwatch.org/stateoftheworld2012. Additional policy briefs, essays, and select report chapters are available at http://sustainableprosperity.org.