

# Collaboration

## AAAS FELLOWS HARNESS POWER OF NEW TECHNOLOGIES TO CONVENE MIDDLE EAST URBAN DEVELOPMENT CONFERENCE

By some estimates, as many as 2 billion people worldwide may be living as squatters by 2030, leaving rural areas to dwell in urban slums.

“This is where the sustainable development challenge will have to be met: in places like Lagos, Nairobi, Johannesburg, Baghdad, Mumbai, and Sao Paolo,” said **Fernando Echavarria**, a 1997-99 AAAS Fellow at the U.S. Department of State, who currently serves in the State Department’s Office of Space & Advanced Technology. “How are we going to address the needs of the urban poor—clean water, health, transportation, housing, and other incredibly challenging problems?”

This question provided the foundation for the *Geoinformation for Sustainable Cities* conference, which was held in Amman, Jordan, July 16-20, 2006. The initiative was jointly developed by **Marsha Goldberg**, a 2004-06 AAAS Fellow at the U.S. Department of State, and Fernando.

Fernando was working at the State Department when Marsha was assigned to an adjoining office. Marsha, who holds a PhD in urban planning, and Fernando, a geographer who had been involved in previous efforts at State to promote the use of geographic information system (GIS) technology, began discussing ways that geospatial technology could help policymakers address social issues in the developing world.

They soon secured funding under a State Department program aimed at using science and technology to aid various diplomatic objectives, including outreach to the Muslim world. The U.S. Agency for International Development and the U.S. Department of Housing and Urban Development, as well as private partners, provided additional support.

The conference convened 50 planners, scholars, and government officials from 10 countries and regions in the Middle East and North Africa, including Morocco, Tunisia, Egypt, Jordan, Libya, West Bank/Gaza, the United Arab Emirates, Iraq, Kuwait, and Yemen. The mayor of Marrakesh, Morocco, attended along with the former mayor of Kuwait City.

“These kinds of events are extremely important,” said keynote speaker Eduardo Lopez Moreno, chief of the Nairobi-based Global Urban Observatory for U.N. Habitat. “When trying to respond to regions where there are some political tensions, this creates an excellent opportunity to use science and technology to build bridges and to use this as an example of the value of collaboration.”

The meeting focused on harnessing GIS and global positioning system (GPS) technology to improve decision-making for managers and policymakers working on urban issues, from tracking leaks in water systems to charting broad development and poverty patterns.

GIS is a computer application used to store, view and analyze geographical information, while GPS uses satellite imagery to create detailed maps and land surveys. By layering data from these sources and incorporating socioeconomic data, the systems are able to construct valuable pictures of local infrastructure (such as the availability of water lines, and other utilities) as well as regional trends (illegal logging and population density), that can be used to illustrate the consequences of these issues on local residents and their way of life.

Attendee Nidal Saliba, GIS manager for the Water Authority of Jordan, predicted the session would have broad positive effects, including creating new understanding about the potential of GIS, promoting cooperation and the open exchange of information between different countries, and helping transfer knowledge from experienced countries to those with less GIS experience.

The conference and events like it “can assist people living in the Middle East in dealing with the critical and extremely complex challenges that characterize the region in the political, social and economical realms,” he says.

Eduardo Lopez Moreno suggested conferences such as this could be a small step toward achieving the larger goals of peace and prosperity for the region.

“I don’t want to be naive that just because we organized a workshop democracy will come to a country,” he says. “But when you have an extended support network, you feel more confident and more empowered to discuss issues you might not otherwise be able to.”

One outcome of the conference was the establishment of a Middle East North African (MENA) geospatial steering group to support a regional network on the application of GIS technology to urban problems. A web portal also is being created to allow greater access to the English and Arabic conference materials. A follow-up meeting is planned for November 2007 in Abu Dhabi in the United Arab Emirates, furthering the original goal of raising capacity in the MENA region. In the future, if additional funding is available, Fernando and Marsha would like to organize similar conferences in other regions, including West Africa, Southeast Asia, and Latin America.

After completing her fellowship, Marsha joined the Millennium Challenge Corporation, where she serves as director of environment and social assessment. Looking back, she credits the conference with being the high point of her fellowship experience. “It allowed me to combine my training and interest in urban development with the larger issue of sustainability in the developing world, which was an overarching theme in my office,” she says.

*This story includes material written by Edward Lempinen for Science. Satellite image: UNEP/GRID-Sioux Falls*

*Dead Sea*

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