The Global Adaptation Atlas

Shalini P. Vajjhala
Resources for the Future

Executive Summary

Threats posed by climate change bring existing development challenges into sharper focus. Even if we are successful at averting the most severe predicted impacts, local climate changes will complicate the already-demanding tasks of finding clean water, combating disease, and sustaining livelihood activities essential to the survival of communities around the world.

Numerous policy and funding mechanisms have recently emerged to support adaptation, the process of adjusting to changing environmental conditions. Some of the largest funds are expected to channel billions of dollars to adaptation activities over the coming decades. However, the allocation of these funds remains controversial, in part because of the diversity of possible interventions, including drip irrigation installations to help African farmers weather more severe droughts, mangrove restoration programs to help Pacific Islanders buffer against natural disasters, and levees to protect Southeast Asian communities from sea-level rise. Successfully implementing, tracking, and evaluating such projects will require extraordinary new ways of coordinating and disseminating data to understand: What are the critical impacts we need to address? What are our options for responding? Have our efforts been effectively targeted over time?

To answer these questions, we propose to create a dynamic new online tool: *The Global Adaptation Atlas* (patent pending). Using mapping software, including ArcGIS Server and Google Earth, our goal is to capture ever-evolving information on both climate change impacts and adaptation activities to allow scientists, policymakers, and citizens to visualize what impacts are likely to affect their region(s), what other activities are already underway, and what gaps need to be filled.

To develop the *Atlas*, we have already initiated partnerships with Columbia University's Center for International Earth Science Information Network (CIESIN) to obtain climate impact data and with researchers at the College of William and Mary to utilize their project-level aid (PLAID) database encompassing development and environmental aid projects over the last three decades. We plan to use these existing data to develop a prototype that will eventually automate the upload of new relevant climate impact science and build on existing internet search tools to invite practitioners, donors, and others to enter, update, and verify information about their adaptation projects. All data will be made publicly-available, and we further envision linking with tools like Google Scholar to capture quality metrics, such as whether studies have been peer-reviewed or cited.

Successful adaptation depends not on less site-specific attention, but on more effective long-term coordination, without which we run the risk of investing in adaptation measures that could undercut one another. For example, rainwater collection programs in warmer parts of the world could inadvertently create pools of standing water in areas newly susceptible to mosquito breeding, which in turn could undermine public health programs targeting malaria or dengue fever outbreaks. As a result, people require information not only on how their local climate could change, but also on what others in the area are doing in response. Right now, no central clearinghouse accessibly and comprehensively combines these data. With the *Atlas,* we aim to bridge this gap.