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How Philanthropy Can Help Communities Advance Climate Change Adaptation

By Robert Searle and Karim Al-Khafaji

The iconic image of a polar bear stranded on an ice flow helps people visualize the coming climate changes, but it doesn't help them figure out how to make their own communities more resilient to these changes. Philanthropy, both local and national, has a vital role to play.

Three weeks after Hurricane Sandy, Daniel O'Neill, a 75-year-old retired teacher who uses a wheelchair, remained a virtual prisoner of his Coney Island, New York, public housing apartment. His plight was shockingly common. To the astonishment of federal disaster recovery workers who swept through the city's public housing towers, dozens of frail, elderly residents and others with special needs remained stranded even though life in much of New York had returned to near normal.¹

Hurricane Sandy spared no income group as it wreaked havoc on coastal New Jersey and New York, but probably no group suffered more than the poor and elderly who depend on the New York City Housing Authority for basic shelter. Some 402 of the agency's buildings, home to 77,000 residents, lost electricity and elevators, with most of them also losing heat and hot water.² As the *New York Times* reported, the city "could not assess the medical needs of residents stuck atop darkened, freezing towers until nearly two weeks after the storm. It relied on ragtag bands of volunteers who quickly found themselves overwhelmed by the task of reaching, comforting, and caring for trapped residents."

The plight of New York City's poor and elderly played against a backdrop of media speculation linking Sandy's unusual power and devastation to the broader issue of climate change. At a press conference days after Sandy barreled through the region on October 29, New York Governor Andrew Cuomo tacitly fingered climate change as a culprit and warned of the need to prepare for more of the same. "I joke that every two years, we have a 100-year flood," said Cuomo. "It is not prudent to sit here . . . and say, it's not going to happen again. Once you have that recognition, then what are you doing about it, and what design changes, what construction changes are you making to deal with it?" In short, how do we adapt to the inevitable?

That's a much different question than the one typically raised about climate change, where the debate among policy makers and environmentalists long

1 Eric Lipton and Michael Moss, "Housing Agency's Flaws Revealed by Storm," *New York Times*, December 9, 2012.

2 While they were freezing in the dark, those New York City apartment dwellers still had access to fresh drinking water, in contrast to their counterparts in New Jersey, who had to boil contaminated water because the power was out at the water treatment plants. In the mid 1990s, New York City chose to acquire and preserve the land around its natural water source in the Catskills rather than invest approximately four times more in building filtration plants. While this was not explicitly a move to adapt to climate-related weather events, it's a good example of how natural systems are often more resilient to such extreme events than are man-made systems.

has centered on mitigation. For nearly 20 years, that debate has dominated global conversation as developed and developing nations alike have struggled to formalize a treaty pledging to curtail the amount of planet-warming carbon dioxide emitted into the atmosphere. To date, those efforts have faltered, although mitigation remains a priority concern—and for good reason. Global emissions of carbon dioxide hit a record high in 2011, with no expectation of decline in sight.³ And 2012 was the hottest year ever recorded in the contiguous United States.⁴

For its part, philanthropy has followed the lead of policy makers and environmentalists and placed big bets on mitigation, while virtually ignoring adaptation. Between 2008 and 2010, for example, Foundation Center data show over \$1 billion flowed to climate change mitigation projects, but only about \$40 million appeared to be specifically directed toward adaptation.⁵ While it is hard to be precise about the numbers, the overall pattern of underinvestment in climate change adaptation seems clear.⁶

Indeed, our interviews with more than 30 foundation officers, field leaders, and technical service providers confirm that foundations, especially many large, environmentally focused ones, mostly neglect adaptation in favor of a focus on carbon emissions reductions. As one of our interviewees noted, “Going after adaptation feels like giving up on mitigation.”

In this context, Sandy’s unwelcome arrival last October may mark a watershed in public and philanthropic thinking about climate change. “In climate science, we have this concept of tipping points,” said Cynthia Rosenzweig, a climate scientist at the NASA Goddard Institute for Space Studies and cochair of the New York City Panel on Climate Change. “For example, there’s the potential for slow melt of the polar ice sheets up to a certain point. And once that threshold of temperature is crossed, then there’s much faster and dynamic change. It really seems that for the responses to climate change, hurricane Sandy is the tipping point.”

By asking, in effect, how do we adapt, New York Governor Cuomo both acknowledged the inevitable and signaled the next phase of discussion about the meaning of climate change. It’s a discussion that puts communities and local governments on center stage. It may be an exaggeration to say that all climate adaptation is local, but the initiative clearly lies at the local level even if substantial funding comes from state and federal sources. And as the post-Sandy struggles of New York City’s public housing residents dramatically demonstrate, disadvantaged populations merit special consideration.

3 Justin Gillis and John M. Broder, “With Carbon Dioxide Emissions at Record High, Worries on How to Slow Warming,” *New York Times*, December 2, 2012.

4 Justin Gillis, “It’s Official: 2012 Was Hottest Year Ever in U.S.,” *New York Times*, January 8, 2013.

5 Bridgespan analysis of Foundation Center data.

6 The \$40-million figure may miss investments that contribute to climate adaptation but have been described in the Foundation Center database as focused on mitigation or another environmental objective. Some grants that include adaptation language may have been primarily focused on things like conservation.

Adapting to climate change is primarily a local problem

A federal advisory panel released a draft report in January on how Americans can adapt to a changing climate. The [draft of the third National Climate Assessment](#) warns that the country is hotter than it used to be, rainfall is becoming both more intense and more erratic, and rising seas and storm surges threaten US coasts. The report aims to guide decision makers on the federal, state, and local levels on how to prepare for a warmer world.⁷

While every section of the United States will experience the impacts of climate change, some regions are more vulnerable than others. Low lying coastal cities—from New Orleans on the Gulf Coast, to Miami and lower Manhattan on the Atlantic Coast—are particularly at risk due to sea-level rise and the anticipated greater intensity of hurricanes and tropical storms. In the West and Southwest, reduced precipitation, declining snowpack, and changes in spring runoff are likely to further tax water supplies that are already under stress. Diminished rainfall also contributes to conditions that produce raging wildfires.⁸

“As recently as five years ago, discussion of climate change adaptation was regarded as taboo—akin to giving up on the climate crisis,” observed a recent Kresge Foundation white paper on climate adaptation.⁹ Since then, state and local governments have begun to turn their attention to the issue, a development that underscores their key role in shaping land-use planning and infrastructure development required to adapt to the challenges of climate change. Of 298 US cities surveyed in a 2012 MIT study of global climate change adaptation, 74 percent already perceived changes in climate and 59 percent are pursuing some form of adaptation planning. Among all nations surveyed, the United States ranked lowest in the percentage of cities involved in such planning.¹⁰ Worldwide, 68 percent of surveyed cities were pursuing some form of adaptation planning. However, most planning initiatives are at an early stage and are just beginning to form task forces to support adaptation planning, or developing partnerships with NGOs, other cities, businesses, or community groups.

What does adaptation mean? For starters, it means recalibrating governments’ approach to billions in annual spending on infrastructure projects, especially those

7 Juliet Eilperin, “Effects of climate change will be felt more deeply in decades ahead,” *The Washington Post*, January 11, 2013; http://articles.washingtonpost.com/2013-01-11/national/36312642_1_national-climate-assessment-climate-change-draft-report.

8 Thomas R. Karl, Jerry M. Melillo, and Thomas C. Peterson, eds., *Global Climate Change Impacts in the United States*, (Cambridge University Press, 2009); <http://downloads.globalchange.gov/usimpacts/pdfs/climate-impacts-report.pdf>; *Adapting to the Impacts of Climate Change* (The National Academies Press, 2010); <http://nas-sites.org/americasclimatechoices/sample-page/panel-reports/panel-on-adapting-to-the-impacts-of-climate-change/>.

9 *Climate Adaptation as an Evolutionary Process: A White Paper*, (The Kresge Foundation, April 6, 2012); <http://kresge.org/programs/environment/adaptation-climate-change/workshop2012>.

10 JoAnn Carmin, Nikhil Nadkarni, and Christopher Rhie, *Progress and Challenges in Urban Climate Adaptation Planning: Results of a Global Survey*, (Cambridge, MA: MIT, 2012); <http://web.mit.edu/jcarmin/www/urbanadapt/Urban%20Adaptation%20Report%20FINAL.pdf>.

subject to major storms and flooding. The Congressional Budget Office estimates that in 2007, the United States spent \$375 billion on water and transportation infrastructure, three quarters of that by state and local government.¹¹ Taking the long view, infrastructure planning and investment today should take into consideration likely impacts of climate change in the future. Major investments in roads, levees, water systems, pollution control, and land use that fail to take climate change into account will have wasted an opportunity to reduce future impacts.

While infrastructure upgrades benefit everyone, some projects take into consideration the special needs of disadvantaged populations—those who otherwise lack the resources needed to prepare and recover from climate change hazards. In New Orleans, for example, higher levees and new flood-control measures have been designed to prevent a repeat of the devastating flooding caused by Hurricane Katrina in August 2005. Low income, mostly black residents of the city's Lower Ninth Ward, which was literally drowned by Katrina, stand to be major beneficiaries.¹² In New York City, officials plan to address infrastructure upgrades to city housing projects to prevent a repeat of the power and water outages caused by Sandy.¹³

Small philanthropic investments can make a big difference

Relatively modest philanthropic investments to increase communities' capacity for planning and adaptation can have a major long-term impact. Consider the San Diego Foundation, which has made nearly \$1.7 million in climate-related investments.¹⁴ It backed, for example, the [Focus 2050 study](#) to explore the implications of climate change for the San Diego region over the next several decades. The work was conducted in partnership with the Scripps Oceanographic Institute and the University of California San Diego.¹⁵ The study drew substantial public attention not only because of the quality of the analysis, but also because it involved respected academic institutions that made the findings highly credible. Its release, in turn, spurred many local governments into action.

For example, in Chula Vista, the second largest city in the San Diego area, the city council authorized a Climate Change Working Group that included representatives from business, education, and environmental groups, and

11 *Public Spending on Transportation and Water Infrastructure*, (Congressional Budget Office, November 2010); <http://www.cbo.gov/publication/21902>.

12 Patrick Sharkey, "Survival and Death in New Orleans: An Empirical Look at the Human Impact of Katrina," *Journal of Black Studies*, March 2007, 482–501.

13 <http://blogs.scientificamerican.com/observations/2012/10/31/post-sandy-new-york-aims-to-rethink-infrastructure-not-just-rebuild-it/>.

14 Interviews with Nicola Hedge of the San Diego Foundation and Brendan Reed of the City of Chula Vista.

15 Carmin et al., *Progress and Challenges*; Only 13 percent of US cities surveyed in 2012 indicated that they had completed an assessment of their vulnerabilities and risks.

community residents. In 2011, this group published a set of 11 climate adaptation strategies that the city is now implementing. These strategies include practical steps like improving community preparedness for extreme heat events, promoting the reuse of rainwater and gray water, and educating businesses about how to reduce their risks and costs from local climate change impacts by installing “cool roofs” and planting trees. “Until 2008, Chula Vista focused solely on mitigation,” said Brendan Reed, the city’s environmental resources manager. “Our adaptation work, without a doubt, was catalyzed by Focus 2050.”

Five adaptation investment models for philanthropic funders

As more communities across the country turn their attention to climate change adaptation, philanthropy has an opportunity to step up and play its traditional role as a catalyst for nurturing fresh approaches to solving vexing social problems. In our discussions with leaders of pioneering adaptation efforts, we’ve identified five investment models philanthropic funders can follow.

Given the local nature of climate adaptation, there is a strong role for *local and regional funders*. Consequently, the first three recommendations are geared towards them: support local science by local scientists, invest in efforts to convene and coordinate local stakeholders, and create pressure to change. Consistent with philanthropy’s social mission, its investments in adaptation should take into account the particular needs of the poor and elderly, who are least able to cope with these impacts.

For adaptation efforts to take root across many communities, there also needs to be a broader effort that can connect and support local work. To that end, two recommendations are aimed at *national funders*: build the field, and reframe the dialogue around people and social benefits.

In time, additional models may take shape, but these five reflect the current range of starting points that emerged from our research.

1. Support local science by local scientists

In US cities most often cited for their pioneering efforts on climate adaptation, including San Diego, Seattle, Chicago, and New York, high-quality research prepared by local scientific authorities was an important part of their efforts. The Focus 2050 project in San Diego, for example, gained significant credibility by partnering with respected local academic institutions.

In New York City, Mayor Bloomberg created the New York City Panel on Climate Change and charged it with developing climate change projections and tools, like the [Climate Risk Information Workbook](#), to assist in adaptation planning. The workbook outlines ways to increase the resilience of the city’s built and natural environments to the impacts of climate change through things like updated building regulations and measures designed to protect coastal areas.

When it comes time to debate the risks and benefits of costly adaptation projects, such as building a sea wall or managing land use along retreating coastlines, local science can assist in scaling global issues to community circumstances. Analysis and recommendations prepared by nearby universities and research institutes may prove more persuasive than work conducted by far-off experts. “There will be difficult conversations about uncertainty in data. And that is where there is a real advantage with local academic institutions as trusted advisors,” said Spencer Reeder, a senior associate in climate adaptation at Seattle-based Cascadia Consulting Group.

2. Invest in neutral conveners

Adapting to climate change is not the sole province of some group of climate adaptation specialists. Rather, the work will need to involve multiple stakeholders: transportation, environmental and public works, business, communities, scientists, and others. Who can best reach across political and socioeconomic divides to bring such diverse groups to the table and keep them there for what will inevitably be a long-term effort?

The San Diego Foundation cast itself in that role by convening local governments, public agencies, and other key stakeholders to address adaptation. “Local governments have repeatedly expressed the need for a third-party, neutral convener to coordinate efforts around climate planning,” noted Nicola Hedge, manager of the foundation’s Climate Initiative. With that in mind, the foundation brought together a Public Sector Steering Committee with staff from local governments, a Stakeholder Working Group, and a Technical Advisory Committee. They were instrumental in developing the Focus 2050 study published in early 2012.

3. Support community advocacy for change

Bringing key stakeholders together is not likely to be enough in itself to overcome the status quo. It takes political will and leadership, which often are elusive. Moreover, powerful interests may array against adaptation measures. For example, developers may resist zoning restrictions or coastal setback requirements.¹⁶ Such special interest groups usually know how to use the political process to push their agendas. Other voices, particularly those representing the poor and elderly, need to be heard. Grassroots organizations that can mobilize local residents can help set an agenda for policy makers as they tackle adaptation measures.

Consider the example of [UPROSE](#), Brooklyn’s oldest Latino community-based organization, which works closely with some of the city’s most disadvantaged communities. Long before hurricane Sandy smashed into the southwest Brooklyn neighborhoods where the agency works, UPROSE had been engaged with climate change adaptation with local officials, and nonprofit and business

¹⁶ David Zucchino, “In North Carolina, a Fight over Sea Levels and Science,” *Los Angeles Times*, June 24, 2012; <http://articles.latimes.com/2012/jun/24/nation/la-na-sea-level-20120624>.

leaders. It has participated in several local planning processes, such as working with the New York City Department of Transportation on adaptation measures like permeable pavement and bio swales—landscape elements designed to remove silt and pollution from surface runoff water.

Along the way, it has been developing policy know-how and political savvy. Grounded in the concerns of its community, UPROSE does not always bring the same perspective as large environmental organizations. For example, when these organizations called for the closure of auto salvage shops as potential pollution sources in the event of coastal flooding, UPROSE recognized their importance as local employers and conducted outreach on proper handling and storage of hazardous chemicals to reduce pollution concerns without forfeiting jobs. As Executive Director Elizabeth Yeampierre said, “You can’t have organizations not rooted in the community make decisions for the community.”

As a result of this credibility in both the local community and the New York City government, UPROSE was seen as a “go-to” agency when Hurricane Sandy hit. Indeed, one of the themes we heard throughout our conversations was the opportunity that an “acute impact event” like Sandy provides. Such events open a window for organizations that have laid the proper groundwork, but that window closes fast. “Now we’re focused on relief, but we need to look ahead and create resiliency for next time,” said Yeampierre a few weeks after the storm.

The Kresge Foundation’s white paper lends support to the idea of using grassroots advocacy and community engagement to create pressure to act. It urged bringing to the table “community members most vulnerable to climate change, often the disadvantaged, and local champions who have trust and connections in the community.”¹⁷ While not all philanthropists are comfortable with supporting community-based advocacy, those that are may find their money especially well spent. When it comes to climate adaptation, advocates from outside the community are often seen as environmental do-gooders with too little stake in the community or knowledge about it.

4. Build the field to share adaptation strategies

While local philanthropy should take the lead in supporting local science, funding convening organizations, and supporting grassroots advocacy, national philanthropy has a vital role to play in building climate adaptation as a field of practice. Local stakeholders will benefit from being able to draw on such shared knowledge and applying it in their own communities and regions to achieve the common goal of climate resilience.

Field building can take many forms: strengthening the research base, better understanding the current strengths and challenges of the field, developing and providing training and professional development opportunities, sharing knowledge, or aligning multiple funders around a single initiative.

¹⁷ *Climate Adaptation*, Kresge Foundation.

Since 2009, the [Kresge Foundation](#) has been one of the few national foundations emphasizing climate adaptation and is often cited by practitioners and other environmental funders as a leader in this work. Kresge’s field-building activities emphasize strengthening the research base and developing networks, tools, and information resources to promote informed action. It has been a major sponsor of the [Climate Adaptation Knowledge Exchange \(CAKE\)](#), which aims to build a shared knowledge base for managing natural systems in the face of rapid climate change. The foundation looks for projects and ideas that connect across states and regions, or have the potential for scale. For example, since 2008, Kresge has supported the [Geos Institute](#) in the expansion of its Climate Futures Forums—facilitated programs that inform and empower local decision makers to proactively respond to climate-change impacts. After three years of conducting these programs in California, Oregon, and Montana, Geos hosted a workshop for Kresge grantees and other practitioners to synthesize what had been learned.

Kresge also has focused its resources on low-income and rural communities. For example, it has supported [Climate Solutions University](#), which uses an online curriculum to help rural communities develop and implement local adaptation plans. Launched in 2010, Climate Solutions University has already helped 16 rural and underserved communities develop local adaptation plans. These have included the Nez Perce tribe in Idaho and communities challenged by water quality, flooding, deforestation, and other concerns.

Beyond its grantmaking, Kresge also builds the field through its influence as a convener. For example, the foundation hosted a February 2012 workshop with 80 practitioners representing more than 40 projects to share lessons and develop insights on promising approaches to climate change adaptation. The proceeds were distilled into the white paper that now has reached a wider audience. One of the Foundation’s goals is to “jumpstart the community of practitioners and draw them out of narrow focus into a holistic frame,” explained John Nordgren, Kresge’s senior program officer for the environment.

5. Reframe the dialogue around people and social benefits

Most work on climate adaptation to date has focused on ecosystems and wildlife, furthering the popular misconception that environmental leaders are more concerned about flora and fauna than people. Unfortunately, the image of polar bears stranded on ice sheets conveys this narrow focus. Philanthropy has a critical role to play in shifting attention from polar bears to communities, using its money and its voice to emphasize the human toll of climate change, especially in those communities with low-income and elderly residents. Indeed, climate adaptation raises fundamental questions of fairness and equity.

A key potential ally in reframing the dialogue is, not surprisingly, the media. “Paying attention to the needs of members of the media—reporters, media entrepreneurs, bloggers—with respect to adaptation outreach and education can’t be emphasized enough,” said Roger Stephenson, executive vice president for programs at the nonprofit [Clean Air-Cool Planet](#). Clean Air-Cool Planet works

on college campuses and with communities and businesses to pioneer and scale-up solutions aimed at reducing carbon emissions and preparing for climate change. It also works to build support for national climate policies. Realizing how important journalists are to informing key stakeholders about climate change, the organization has begun experimenting with ways to connect journalists to up-to-date information on the subject.

In New Hampshire, it has developed a [“Journalist Room” for its Storm Smart Coast website](#) to help journalists develop and file timely stories based on reliable data and informed by interviews with experts and local officials. Built in consultation with journalists themselves, this portal includes a primer on climate science, state-specific facts, and links to reports and other reference materials.

Philanthropy can be a key driver for climate adaptation

Five years ago, talking about climate adaptation—much less doing anything about it—took a backseat to efforts to mitigate climate change. “As recently as three years ago, few cases of applied climate adaptation could be found” anywhere in the United States, according to the Kresge Foundation white paper. Since then the foundation has taken a leadership role in nurturing the nascent field, funding some 40 projects. In its destructive wake, Hurricane Sandy left little doubt about the urgent need for more such projects to take root across the country.

For most communities, planning for adaptation will mark a new approach to dealing with public policy ranging from infrastructure projects and land use, to building codes and public health concerns. For most foundations and philanthropists, investment in adaptation to date has been small and scattered. But in the years ahead, opportunities will abound as more and more communities come to grips with the local impact of a changing global climate.

Taken together, the five philanthropic investment approaches described above provide an ambitious but workable framework for action. Admittedly, they turn standard advice—attack root causes (mitigation), not symptoms (adaptation)—on its head. There’s no doubt that mitigation remains an important topic, and efforts to address it should continue. But for the people and property in harm’s way of future catastrophes like Hurricane Sandy, the time to act is now. And philanthropy can help to lead the way.

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