

CONCLUSION: Developing community-based responses to climate change

by Patricia E. (Ellie) Perkins and Patricia Figueiredo Walker

Faculty of Environmental Studies, York University

The stories in this book are specific examples of climate change resilience-building from the grassroots which are taking place worldwide, driven by the immediacy and urgency of climate change and extreme weather events. A range of additional examples is outlined in Figure 14.1. More examples are emerging every day.

FIGURE 14.1: Additional Examples of Grassroots Climate Change Initiatives

- The grassroots NGO Agua Doce organizes flood protection, socio-environmental education, conservation and local job creation for community development in the Guanabara Bay area near Rio de Janeiro, Brazil (Perkins and Leary, 2011)
- The Ecoar Institute for Sustainability carries out socio-environmental education, green jobs, and recycling projects in São Paulo, Brazil (<http://www.ecoar.org.br/web/pag.php?id=31>)
- The Centre for Socio-Environmental Knowledge and Care of the Paraná Basin (Centro de Saberes) leads watershed-based education and community development programmes such as “Cultivating Good Water” (Cultivando

- Agua Boa), building resilience in the Paraná/Plate basin in southern Brazil, Paraguay, western Bolivia, and northern Uruguay and Argentina (<http://www.cultivandoaguaboa.com.br/o-programa/centro-de-saberes-e-cuidados-socioambientais-da-bacia-do-prata>)
- The Riberas Rioplatenses project in Uruguay and Argentina assembles local knowledge on climate change impacts and adaptation priorities (www.iiedal.org.ar/riberas)
 - Dozens of communities in Arctic Canada share health-related climate change education, arts and community-based initiatives (McClymont Peace and Myers, 2012, <http://www.circumpolarhealthjournal.net/index.php/ijch/article/view/18412/html>)
 - The Green Change Project focuses on green community development and training local residents for green jobs in low-income areas of Toronto, Canada (http://www.toronto.ca/livegreen/pdf/jane_finch.pdf; <http://yorkwestadvocate.wordpress.com/2010/05/13/jane-finchs-green-change-project-wins-toronto-green-award/>)
 - The Indian Youth Climate Network organizes local climate change action projects and develops youth leadership on climate change (<http://www.iycn.in/content/about-iycn>)
 - Majora Carter leads green job creation and climate justice projects in the South Bronx, USA and elsewhere (<http://itsgettinghotinhere.org/2007/11/01/majora-carter-says-showing->

[up-for-climate-solutions-is-more-than-half-the-battle/;](#)

<http://www.theroot.com/views/greening-ghetto>)

- Indigo Development and Change carries out local conservation, leadership development, environmental education, and green job creation/climate justice initiatives in Western Cape province, South Africa
[\(http://www.indigo-dc.org/\)](http://www.indigo-dc.org/)
- In the area devastated by Hurricane Katrina in New Orleans, many organizations carry out erosion control, environmental testing and awareness-building, and environmental education, such as:
Bayou Rebirth (<http://www.bayourebirth.org>), Coast Currents
(<http://www.coastcurrents.org/>), LA Bucket Brigade
(<http://www.labucketbrigade.org>), and the Gulf Restoration Network
(<http://healthygulf.org/>)

“Bottom-up,” or community-based approaches to climate change adaptation generally make use of local knowledge to identify a community or group’s vulnerability to current and future climatic hazards and to create coping strategies and mechanisms which are tailored to that community or group’s specific needs. These approaches seek to lessen vulnerability to climate change by strengthening resilience – through training, capacity-building, and literacy. As Ensor and Berger have noted,

"(adaptation) activities should simultaneously reduce the impacts of potential climate change and improve the well-being of households or communities in the short term—for example through addressing poor housing, degraded soils or the inequitable distribution of resources. These approaches to adaptation are in essence vulnerability reduction measures, and can be classified as no-regrets strategies—meeting climate change adaptation goals while fulfilling broader development ends" (Ensor and Berger 2009: 16).

If improperly or not at all addressed, climate change can exacerbate gender and structural inequalities, poverty, and injustice, hence the need to create policies and adaptation strategies which not only address the negative impacts of climate change, but improve the well-being and living conditions of the poor and vulnerable.

Furthermore, community-based approaches to climate change adaptation foster and strengthen political participation by vulnerable and marginalized people, as they often link community, government and civil society organizations.

"Past history shows that the poor and vulnerable do not get a fair share of resources unless they can mobilize effectively and there is parallel pressure on the powerful to make decisions in favour of the many, not the few. In the context of the climate change negotiations, this means making sure that the voices of ordinary Africans—women, men, young, old, farmers and slum dwellers—are heard loud and clear as the policies and institutions for addressing the most challenging of global problems are developed" (Toulmin 2010: 152).

As mentioned throughout this book, women in the Global South are particularly vulnerable to climate change due to their gendered roles—collecting firewood, processing food crops, caring for the young and elderly, and other household tasks. Because women play significant roles in their communities, building their adaptive capacity is likely to improve the adaptive capacity of fellow community members, therefore strengthening the overall resilience of the community. As Chapter 4 indicates, involving youth in climate change adaptation initiatives can yield similar results.

Creating the conditions for women, youth and all who are marginalized, or otherwise discriminated upon, to become active agents of change within their communities, municipalities, and beyond helps to drive the climate justice movement forward, mitigate the impacts of climate change and create stronger, more resilient individuals and communities. Some practical ways of doing community-based environmental education and climate change organizing are outlined in Figure 14.2.

FIGURE 14.2: Ways of Doing Community Education and Political Engagement on Water and Climate Change

A. Education initiatives

- Watershed learning circles: Watershed committees, assisted by CSOs, bring together key civil society groups from throughout the watershed (e.g.

journalists, teachers, artists, government officials) to discuss and develop needed action programs on water-related issues.

- Leadership training: CSOs work with government and watershed committee officials to develop inclusivity training and confidence-building workshops for special groups such as women, youth, or seniors, to welcome and facilitate their participation in water governance institutions.
- Gender/equity awareness workshops: Community organizations facilitate information-sharing on how and why different groups are affected by climate change and have differing water access (women, ethnic groups, seniors, etc.)

B. Public outreach initiatives

- Water dialogues: local residents discuss specific water issues with government officials, in forums facilitated by civil society organizations.
- Learning journeys: community groups run tours of key water/environment-related features in the area for local residents, government officials and visitors.
- Water conflict mediation training: special NGO-run training programs address water conflicts (e.g. over standpipe access, fugitive emissions of pollutants, riparian rights, etc.) through skills training and information on how to access government supports.

C. Creative and cultural initiatives

- Photo-voice: community members photograph local scenes significant to them, in relation to climate change effects, and discuss/share with government officials.
- Community mapping: residents collectively draw maps of important water features in the neighbourhood and how extreme weather affects them; then discuss.
- Water walks / storytelling parades: using waterways as a focus, local residents and visitors tour stream beds and floodplains, stopping for special presentations on local history, wildlife, food production, music, community assets, etc.
- Collective storytelling workshops: community groups use selected 'props' to spark creativity as they compose a joint story about the local watershed, sharing personal memories.
- Sports field and league development: CSOs and youth groups organize social/recreational activities to make use of floodplains and advocate for their preservation as open, public space.

D. Conservation initiatives

- Community-based water monitoring: community groups work with government authorities to monitor pollution, biostatus, and flooding/drought in local waterways, and share the results.

- Watershed restoration: CSOs organize cleanups of local waterways to improve local agriculture, fishing, and recreation opportunities as well as environmental awareness.

E. Subsistence initiatives

- Water harvesting: CSOs work with household members to develop ways of retaining rainfall from roofs and yards for home and garden use, and spread related practices.
- Community gardening: CSOs locate space and train and organize community members to plant gardens for collective food production.
- Community kitchens: NGOs or churches establish kitchen space for collective food preservation, processing and cooking and for feeding vulnerable community members and buffering time pressures for women.
- Dry sanitation: CSOs facilitate the distribution and education/advocacy/promotion of urine diversion toilets.

F. Job-creation initiatives

- Green change agents training: NGOs run workshops for local youth in certificate programs helping develop job-related skills such as environmental building audits, green construction, green roof landscaping, floodplain rehabilitation, etc. The NGOs also set up internships and job placement opportunities for participants.

G. Networking initiatives

- Academic-activist linkage building: students get academic credit for internships with local civil society organizations, and help document their work and write funding applications; professors research and disseminate the methods and accomplishments of community groups.
 - Watershed networking among universities, grassroots organizations, and/or government officials: through participatory research and knowledge-sharing, individuals from different groups build personal relationships and trust as well as sharing information.
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Adapted from P. Figueiredo and P.E. Perkins (2012), "Women and Water Management in Times of Climate Change," Journal of Cleaner Production.

Such climate justice initiatives generate innovative and specifically-tailored ways of strengthening the ability of civil society to participate in watershed decision-making, within the institutional structures set out by national water laws and other statutes.

Academic and international partnerships can strongly contribute to these locally-grounded initiatives. For example, graduate students from partner universities can visit each other's campuses for short research trips; faculty members can collaborate and orient the research, while recognizing the integral collaboration of community-based NGOs is essential. Students can help civil society

organizations to document and capitalize politically on their work at the grassroots. CSOs with their long experience on environmental education and organizing in low-income communities, are often particularly good at presenting information clearly to politicians and bureaucrats. There are many examples of such synergies between research and development-oriented activism.

The researchers and activists working together on our project share a change-oriented approach to exploration and communication: What water-related issues are the most important to local communities? What are the best, most creative and interesting ways to help get the public involved in and knowledgeable about water issues? When the law creates space at the decision-making table for “civil society”, how can that democratic opening be used effectively and how can multiple publics and views be included? These questions are relevant worldwide, in the global North as well as the global South, and in both urban and rural areas.

Climate justice clearly requires new kinds of governance, which recognize equitable access and shared responsibilities for managing common resources: water, air, and ecosystems which we all rely on in interrelated ways for our livelihoods.

As Nobel prize-winning economist Elinor Ostrom noted in her book Governing the Commons, it is at the local level that people can, under the right circumstances, generate the trust necessary to set up governance institutions which are complex and flexible enough to manage common property resources sustainably. “...(I)n the smaller-scale common property resources (CPRs) individuals repeatedly communicate and interact with one another in a localized physical setting. Thus, it is possible that they can learn whom to trust, what effects their

actions will have on each other and on the CPR, and how to organize themselves to gain benefits and avoid harm. When individuals have lived in such situations for a substantial time and have developed shared norms and patterns of reciprocity, they possess social capital with which they can build institutional arrangements for resolving CPR dilemmas" (Ostrom 1990:183-184).

The networks, linkages, and interrelationships which are necessary for forging these new governance systems are built when people work together to respond to climate change as they experience it, in each local area and community. Collaborative grassroots adaptation thus establishes the framework for a more sustainable future.