ENVIRONMENTAL GOVERNANCE

Marianne E. Krasny, Erika S. Svendsen,
Cecil Konijnendijk van den Bosch,
Johan Enqvist, and Alex Russ

Highlights

- Environmental governance represents the involvement of any government, civil society, or business organization in making rules and decisions about environmental management and in formulating environmental policy.
- Organizations that conduct environmental education play a role in environmental governance networks in cities.
- Urban environmental education prepares participants to play a role in local policy and planning processes, but it lacks an explicit focus on environmental governance and governance networks.
- By understanding their organization's role in environmental governance, urban environmental educators and program participants can better position themselves to influence urban sustainability.

Introduction

Environmental governance is a term used to reflect how not just a single government entity, but multiple government agencies, civil society organizations (e.g., community-based, nonprofit, and national or international nongovernmental organizations), and for-profit businesses play a role in environmental management and policy. More specifically, environmental governance refers to

the involvement of a range of government, civil society, and business actors in the process of making rules, decisions, and policies about commonly held environmental resources. Recently, governance has become increasingly decentralized and participatory, whereas previously governance exclusively by government agencies was the norm (Buizer et al., 2015). But what does environmental governance have to do with urban environmental education? The answer lies in the fact that many government agencies, civil society organizations, and businesses that play a role in environmental governance also conduct environmental education in cities.

In this chapter, we first introduce environmental governance and governance networks. Next we present research on the prevalence of organizations conducting environmental education in governance networks in Asian, European, and U.S. cities. We close by proposing how environmental education organizations can be effective contributors in urban environmental governance and provide practical suggestions for making environmental education's role in governance transparent to educators and participants. In so doing, we make the argument that environmental education organizations are actors in urban governance networks, and through organizational leaders and program participants becoming aware of this role, these organizations can become more strategic players in environmental governance. We feel that an explicit focus on governance will enable organizational leaders to target their partnerships and efforts to have a greater impact on urban sustainability and will enable youths and other participants to gain an understanding of critical concepts in environmental management and policy. By focusing on environmental education *organizations*, this chapter complements chapter 10, which addresses governance from the perspective of how environmental educators can build program participants' capacity for governance, including through enhancing trust.

Environmental Governance

Environmental activism and civil society involvement in environmental policy in Europe can be traced back to the late nineteenth century, particularly related to urban forests (Konijnendijk, 2008). More recently, environmental governance in the United States and Europe is part of a forty-year trend of growing involvement of civil society in environmental management and policy. During the 1970s, government agencies in the United States issued regulations, often in response to pressure from large environmental nongovernmental organizations (e.g., Sierra Club). Relationships between environmentalists and industry were adversarial and in a few cases became violent. In the 1990s, the ways U.S. society managed

its resources started to change. Tired of conflict, people who depended on natural resources for their livelihoods (e.g., loggers) and those who appreciated forests and coastlines for recreational and aesthetic reasons sought common ground. At the same time, interest in new forms of civic engagement, including through volunteer stewardship activities like community gardening, water quality monitoring, and coastal cleanups, was spreading. A new civic environmental movement, in which civil society organizations engaged in hands-on stewardship and advocacy formed partnerships with government agencies and businesses, was born (Weber, 2003; Sirianni and Friedland, 2005).

As more civil society organizations have become involved in environmental management, innovative governance arrangements have emerged. These arrangements have moved away from government control and regulations to incorporate citizen participation, including not just government-directed efforts seeking stakeholder input, but also citizen-driven efforts to influence policies and practices. Further, civil society actors have become more professionalized and now draw on a suite of tactics and strategies (Fisher, Campbell, and Svendsen, 2012; Fisher and Svendsen, 2014). For example, in Bangalore, India, citizen-driven initiatives to protect and restore urban lakes have generated a city-wide water governance network of civic stewardship and advocacy groups. Because network actors live and work in communities around the lake, they are better placed than government authorities to monitor water quality and environmental degradation (Enqvist, Tengö, and Boonstra, 2016). As these decentralized governance networks play an increasing role in setting environmental policy, issues arise as to the role of various government and nongovernment actors, power relationships, accountability, and the functioning of partnerships (Buizer et al., 2015).

The Bangalore case illustrates the importance of governance networks—that is, actors and their interactions and relationships—in environmental governance. In the early 2000s, the environmental stewardship network in New York City included more than two thousand government, civil society, and business organizations that shared information and resources, often around specific resources such as community gardens or the Hudson River estuary. Government agencies, including the New York City Department of Parks and Recreation and New York State Department of Environmental Conservation, served as central "bridging" organizations facilitating the flow of resources and knowledge within environmental networks. Although less central than government agencies, nonprofit organizations also played important roles as information providers for other organizations. The New York City environmental network structure was characterized by so-called "loose ties" among civic environmental groups focused on specific resources and by strong ties between civil society and government actors (Svendsen and Campbell, 2008; Connolly et al., 2014). This linking of

organizations focusing on different resources and operating at different levels creates the capacity to address environmental problems at multiple scales.

Governance networks are important because the actors bring diverse experiences and knowledge around managing local resources and because the ties between the players enable communication and learning across organizations. Bridging organizations often have broad knowledge of stewardship and stewardship actors across the city and can share knowledge across organizations as well as connect actors with complementary interests and concerns. In addition to sharing knowledge, member organizations and individual stakeholders create new understandings about resource management through informal processes such as trying out management approaches and observing results, or learning by doing (Olsson et al., 2007). Compared to government agencies, smaller community organizations have less bureaucracy and may have the capacity to change or innovate more quickly, but they often lack organizational and leadership continuity; thus governmental actors have important roles to play in facilitating discussions and providing continuity and stability. One can think of the large government institutions in a governance network as the more rooted or stable "trees" and the smaller organizations as the more mobile or adaptable "bees" (cf. Young Foundation, 2012).

Information sharing and diverse actors in governance networks allow cities to adapt, which is critical to addressing wicked problems like climate change and associated sea level rise, flooding, and heat waves (Armitage and Plummer, 2010). Government actors can provide incentives for and recognize adaptation efforts, whereas civil society and business organizations often create the practice innovations. For example, the state of Maryland in the United States issued regulations to reduce the impact of development on storm water runoff. In response, heavily urbanized Prince George's County teamed up with a private company to launch the storm water management public-private Clean Water Partnership, which supports local job creation and training and hires minority-owned businesses to install urban green infrastructure projects. The White House (the U.S. Presidency) recognized this partnership as "among the most innovative in the nation" (Prince George's County, 2016). Important to environmental education, this project's career training and related learning opportunities enable youths to gain skills in building green infrastructure.

Environmental Education Organizations

In cities in India, Europe, and the United States, organizations that conduct environmental education are actors in environmental governance networks, leading to outcomes important to urban sustainability. For example, in Bangalore,

India, members of a green space governance network mentioned raising public awareness and putting environmental issues on the urban agenda as their most important achievements. This growing awareness can be attributed to such network activities as creating platforms for diverse citizens to discuss needed changes in green space management, and campaigns in different neighborhoods to share alternative visions for the city. Together with other manifestations of civic engagement in Bangalore and India more broadly, the network activities have influenced media reports, authorities' behavior, and public opinion such that open consultations for major public projects are now expected and questioning traditional development pathways is commonplace (Enqvist, Tengö, and Bodin, 2014).

Similarly, 25 percent of civil society organizations engaged in green space governance in twenty European cities provided education, and 40 percent encouraged city residents to experience green spaces or nature (Buizer et al., 2015). The emphasis on education varied from 7 percent of urban park agencies, 45 percent of urban farming initiatives, and 66 percent of conservation organizations, which saw conservation actions "as a way to promote environmental awareness and education." Examples of these environmental outreach programs come from Helsinki, Finland, and Linz, Austria, where civil society organizations created and shared web-based maps of public fruit trees and edible shrubs.

In New York City, more than two thousand stewardship organizations are organized around city parks, neighborhood open space, community gardens, the New York Harbor estuary, and other urban resources. In the early 2000s, more than half of these actors were small community organizations, nearly a third were larger nonprofits, with a smaller number being government agencies operating at the federal, state, or local level and for-profit businesses. When a subset of the groups was asked about the resources they provide to the community, four out of eleven resources were related to education, including providing information or data, hands-on trainings and curricula, and engaging students or interns. Further, when asked about their social and environmental impacts, nearly 70 percent of the organizations said they provide environmental education, whereas more than 60 percent mentioned engaging youth and providing educational experiences (Svendsen and Campbell, 2008). Finally, both government agencies and civil society organizations central to the networks, including the City Department of Parks and Recreation, State Department of Environmental Education, Brooklyn Botanic Garden, New York Restoration Project, and Grow NYC (Connolly et al., 2014), conduct education and interpretation programs ranging from longer-term summer camps and after-school community gardening programs to public fishing days and garden contests.

The fact that government and civil society organizations conduct environmental education in cities is nothing new. Scholars have documented the role of community gardens in science, cultural, and civic education (Krasny and Tidball, 2009) and how organizations whose missions focus on youth and community development engage youth in water quality monitoring, community gardening, invasive species removal, and other environmental stewardship or civic ecology practices in the Bronx (Kudryavtsev, 2013). But a closer look at environmental education *organizations*, as opposed to programs and curricula, reveals how the field of environmental education can contribute to urban sustainability not just through its ongoing teaching activities, but also through purposeful participation in governance networks.

Implications for Environmental Education

The good news for environmental education is that organizations that conduct environmental education are already part of governance networks. Further, education-focused organizations can make important contributions to governance networks, including their expertise in teaching, communication, and learning by doing. Given the importance of environmental governance networks in addressing urban sustainability issues, a purposeful focus on the role of environmental education actors in such networks is important. Below we first outline ways in which organizations that conduct environmental education—including community gardens, youth and community development organizations, museums, botanical gardens, city parks, environmental nongovernmental organizations, state agency-run camps, and amusement parks (e.g., Disney)—are already engaged in environmental governance. We close by suggesting how environmental educators might incorporate governance into their education programs.

Organizations that conduct environmental education in cities are often engaged in a number of governance and related management and planning activities. These include lobbying for environmental regulations; information campaigns to inform local communities about sustainability issues and possible solutions; green infrastructure planning, design, and implementation; and monitoring wildlife populations and water quality through citizen science programs. Youth participants in environmental education programs become involved in these and related activities. For example, the UNESCO Growing Up in Cities program engages children in impoverished neighborhoods in planning local green space in cities around the world; the U.S. Garden Mosaics program engages youths and adults in managing and learning about community gardens; and participants in the Cornell University BirdSleuth program monitor bird populations

in the United States and Latin America. Given the interest in education among government, civil society, and private-sector organizations, as well as in learning by doing as a means to generate urban sustainability innovations, opportunity exists for environmental education organizations at the local, state, national, and international level to form additional partnerships. Environmental organizations can bring to the table knowledge and pedagogical strategies backed up by educational research, as well as their own networks of participants and physical resources such as nature centers or camps.

As a means to strengthen existing networks, organizations that conduct environmental education can be training grounds for other network actors (e.g., about pedagogy, youth development) and for their own program participants. Focusing on participants, educators can point out how governance-related activities youth are already engaged in—such as decision making, planning, hands-on stewardship, and monitoring—involve multiple government agency, nonprofit, and private-sector partners. They can further incorporate into these activities discussions and activities to help participants understand the roles of governance networks and their organizational actors.

Although we are not aware of environmental education organizations purposefully incorporating governance in this way, we present several strategies to do so. Youths could use an environmental or youth organization website to generate a list of collaborators. For example, the partners listed on the website for an urban environmental education organization along the shores of the Bronx River include New York City public high schools; Bronx community organizations and businesses; scientific, technical, and environmental organizations (ranging from local to national in scale); boat-related organizations; and cultural and public organizations (http://www.rockingtheboat.org).

Alternatively, educators might ask program participants to list all the individuals from different organizations they have come into contact with during their environmental education program, such as government scientists, youths from other organizations, and parks department staff. Program participants could consider the missions of these organizations and brainstorm potential governance networks of which their organization is a part, including not only environmental networks but also those focused on youth and community development. Educators and youths also might acquaint themselves with forms of participation in urban green space and other types of environmental governance, such as conserving, managing, monitoring, restoring, advocating, and educating the public (Connolly et al., 2014). They could next identify where their organization plays or could play a role and how their activities might best contribute to governance networks focused on green space, community development, and other sustainability issues.

Conclusion

Environmental education programs seek to foster deliberation and decision-making skills and build trust among participants (see chapter 10). We contend that these activities, which foster participants' ability to engage in local policy making, can be complemented by activities to make transparent the role of the environmental organizations and their participants as governance actors. Understanding environmental governance—and how organizations, including those that conduct environmental education, contribute to governance networks—is critical to understanding environmental management and policy processes in cities. As educators and participants understand their roles and those of their organizations, they may more effectively position themselves and their organizations as actors in governance networks, which are critical to generating adaptations and innovations needed to address social and environmental change and sustainability in cities.

References

Armitage, D., and Plummer, R. (2010). *Adaptive capacity: Building environmental governance in an age of uncertainty*. Berlin: Springer-Verlag.

Buizer, M., Elands, B., Mattijssen, T., van der Jagt, A., Ambrose, B., Gerőházi, É., Santos, A., and Steen Møller, M. (2015). *The governance of urban green spaces in selected EU-cities*. Green Surge, E.U.

Connolly, J. J., Svendsen, E., Fisher, D. R., and Campbell L. (2014). Networked governance and the management of ecosystem services: The case of urban environmental stewardship in New York City. *Ecosystem Services, 10*, 187–194.

Enqvist, J., Tengö, M., and Boonstra, W. (2016). Against the current: Rewiring rigidity trap dynamics in urban water governance through civic engagement. *Sustainability Science, 11*(6), 919–933.

Enqvist, J., Tengö, M., and Bodin, Ö. (2014). Citizen networks in the Garden City: Protecting urban ecosystems in rapid urbanization. *Landscape and Urban Planning, 130*, 24–35.

Fisher, D. R., Campbell, L., and Svendsen, E. S. (2012). The organisational structure of urban environmental stewardship. *Environmental Politics, 21*(1), 26–48.

Fisher, D. R., and Svendsen, E. S. (2014). Hybrid arrangements within the environmental state. In S. Lockie, D. A. Sonnenfeld, and D. R. Fisher (Eds.) *Routledge international handbook of social and environmental change* (pp. 179–189). London: Routledge.

Konijnendijk, C. C. (2008). *The city and the forest: The cultural landscape of urban woodland*. The Netherlands: Springer.

Krasny, M. E., and Tidball, K. G. (2009). Community gardens as contexts for science, stewardship, and civic action learning. *Cities and the Environment, 2*(1), 8.

Kudryavtsev, A. (2013). Urban environmental education and sense of place. PhD dissertation. Cornell University, Ithaca, N.Y.

Olsson, P., Folke, C., Galaz, V., Hahn, T., and Schultz, L. (2007). Enhancing the fit through adaptive comanagement: Creating and maintaining bridging functions for matching scales in the Kristianstads Vattenrike Biosphere Reserve Sweden. *Ecology and Society 12*(1), 28.

Prince George's County. (2016). Clean Water Partnership. http://thecleanwaterpartnership.com.

Sirianni, C., and Friedland, L. A. (2005). *The civic renewal movement: Community building and democracy in the United States.* Dayton, Ohio: Charles F. Kettering Foundation.

Svendsen, E. S., and Campbell, L. (2008). Urban ecological stewardship: Understanding the structure, function and network of community-based land management. *Cities and the Environment, 1*(1), 4.

Weber, E. P. (2003). *Bringing society back in: Grassroots ecosystem management, accountability, and sustainable communities.* Cambridge, Mass.: MIT Press.

Young Foundation. (2012). Social innovation overview: A deliverable of the project: The theoretical, empirical and policy foundations for building social innovation in Europe (TEPSIE). European Commission – 7th Framework Programme, DG Research, Brussels, Belgium.