

Chapter 1

The Role of Scientific Conferences to Foster Conservation Solutions for Global Forests

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The professional group of biologists who prioritize studies of the forest canopy hosted their first international conference in Sarasota, Florida, in 1994, and the field's first textbook was published the same year. Subsequently, canopy scientists have convened a dedicated conference every 4 years, with a mission of advancing the scientific field through collaborative exchange of ideas. For its first time ever, the fifth International Canopy Conference (ICC) convened in an emerging country, hosted by Ashoka Trust for Research in Ecology and the Environment (ATREE) in Bangalore, India. Also, for the first time ever, education outreach was added as a new session to the conference agenda, including a highly popular canopy education workshop that drew Indian students, teachers, scientists, and stakeholders from all regions of the country. This session was advertised as an open forum where laypersons and teachers could interface with canopy scientists, who enthusiastically shared their experiences, thereby taking science outside the conventional walls of academia. In a country like India, this was groundbreaking. In subsequent feedback, we were inspired by the reports of burgeoning education outreach activities in India spawned by this conference session.

Like many developing countries, India needs success in advancing its forest conservation. The Western Ghats forest region in southern India is one of India's

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Fig. 1.1 Teaching Indian students about canopy access

four designated biodiversity hotspots, and the other three also contain critical forest habitat. India is losing 2 % of its forests annually (see Seidler et al.'s chapter), and charismatic megafauna such as tigers, leopards, and Indian elephants remain poster children for India's forest conservation, as well as the potential economy of ecotourism for future generations. The promotion of education outreach at the ICC fostered new enthusiasm in forest canopy conservation using canopies as a "hook" to inspire rapid action. New outreach programs promoted by canopy scientists throughout India after this conference included (1) tree planting programs in schoolyards, (2) citizen surveys of butterflies, (3) Fulbright funding for canopy education outreach, (4) participation by canopy scientists in Earthwatch field courses for HSBC Bank employees, (5) graduate training programs in canopy access (Fig. 1.1), (6) publication of a canopy science book for the public, and (7) a certificate course in conservation for young professionals. All these activities illustrate the genesis of a new



Fig. 1.2 Future women scientists of Assam, India

culture among Indian canopy scientists to engage in education outreach. One year later, hundreds of Indian students and thousands of citizens benefited directly from this one session at the canopy conference.

The notion of including science education and outreach as part of a technical scientific conference agenda was not part of the first ICC, nor of many other scientific meetings several decades ago. Almost 100 years old, the Ecological Society of America (ESA) has witnessed an exponential increase in education sessions at its annual meetings, from less than five in 1990 to over 25 in 2010. The emerging priorities of communicating science and fostering education of diverse stakeholders is an increasingly important platform for scientific conferences, especially given the urgent priorities for STEM (science, technology, engineering, and mathematics) education initiatives in many countries. In India, the priority of education outreach at the canopy conference provided a new model for scientific meetings. This session fostered discussion of a critical question: Will canopy scientists pursue business-as-usual in the face of significant forest degradation, or challenge themselves to do things differently, such as prioritizing education of youth, policy makers, and citizens? Keynote speaker Dr. Thomas Lovejoy (former President, Heinz Center for Economics and Environment, Washington, DC) remarked to the international attendees, “By any measure, tropical forests are in big trouble.” But to date, none of the four prior forest canopy conferences celebrated clear links between conventional scientific data collection and forest conservation. The Bangalore, India, conference, for the first time ever, inspired conversation about the role of women in science (especially for developing countries) (Fig. 1.2) and the notion of actions to educate



Fig. 1.3 Environmental education in rural India – bird spotting

many diverse stakeholders about the importance of their environment. Will innovative approaches for both research and education aimed at engaging citizens and policy makers to achieve better metrics of success for forest canopy conservation?

In India, the notion of “treetops at risk” is a clear threat to human quality of life and also to ecosystem health. Over one hundred teachers of India’s southern states representing diverse cultures, ages, gender, and religions eagerly attended the conference and listened to important take-home messages: (1) develop short courses in canopy science for teachers, citizens, and K-12 (Fig. 1.3); (2) create climate change awareness in schools and for regional government; (3) share resources; and (4) plant trees to “green India” as a strategy to offset climate change and sustainable services.

The ICC fostered a dialogue where a combination of economics and environment, via more effective science communication and education outreach, may hold the key to producing a scientifically literate generation of citizens and policy makers. If every practicing scientist were to give 10 % of his or her professional time to education outreach, not exclusively limited to technical publications, then perhaps the notion of a scientifically literate public could be attained. Currently in India and elsewhere, many science professionals still think that education outreach does not fall into their purview. The expanding footprint of education integrated with science at technical conferences provides one metric of hope for improving science literacy among diverse stakeholders, not just scientists.

This volume was inspired by the 5th International Canopy Conference held in Bangalore, India, but the authors and issues have subsequently burgeoned, as has the mission of this book. By sharing the story of Bangalore, we hope to set the stage

for this book as a “wake-up call” for scientists in many fields of expertise – we must not only uncover the secrets of how ecosystems operate, but we must also disseminate our findings in a manner that inspires conservation and solutions by the diverse stakeholders that comprise the seven billion people of planet Earth. The stakes for conservation have never been higher. And the ultimate height of the forest canopies represents an epicenter for many global solutions – carbon storage to offset global warming, biodiversity of millions of species, productivity of billions of leaves, shade for humans, freshwater cycling, and essential spiritual sanctuaries.