

## “Exploring Environmental Education Beyond the Classroom”



### **Report on ESG Workshop for Teachers**

**9-11 July 2009**

Though made mandatory in 1991 by the Supreme Court of India, environmental education has not evolved to accommodate the complex and dynamic nature of current day environmental crises. With this in mind Environment Support Group (ESG), in collaboration with Karnataka State Council for Science and Technology, hosted a teacher’s workshop focused on “Exploring Environmental Education Beyond the Classroom” from July 9<sup>th</sup> to 11<sup>th</sup>, 2009. The twenty participants included teachers from ICSE, CBSE, and SSLC schools, young activists, and even a recent medical graduate, all with diverse backgrounds but a common interest in improving their environmental awareness. Most attendees hailed from Bengaluru, but two journeyed from Mumbai to attend, considering it a valuable experience.

#### **A return to environmental consciousness**

Introducing the themes of the workshop, Leo Saldanha, Coordinator of ESG, discussed the new paradigm in which our ingrained environmental consciousness of the past only now exists on a syllabus, making teachers the most important communicators of humanistic concern. In a time when comfortable, “sustainable” living is exchanged for the health and safety of countless communities, the sensitization of students to such violent and inhuman circumstances is an invaluable tool in the pursuit of social justice.

Following this, Bhargavi Rao of ESG spoke on the practice of environmental education and issues confronted when teaching the same, especially the dryness of government-approved textbooks and the disconnect between students and their immediate surroundings. Teachers were then encouraged to share their own challenges in teaching environmental science, and many cited exam-oriented syllabi and scarce teaching resources as dominant issues. Further, parental worries about the rigor of outdoor education, added to the separation of environmental issues from social issues reinforced by media, hinder creative engagement of students and allow them to take the subject lightly. Given the multiple variables which combine in environmental issues, such education can in fact include elements of every other school subject, not to mention every person,



deconstructing social boundaries and conflicts. Instead of isolating environmental education as just another science to learn, it must be connected to a student's way of life, making them question every purchase in the market, the different living standard of their house servants, and the social conditioning they are subject to every day.

Bhargavi elaborated on the direct connections necessary for students to understand their own role in their environment, using the example of local laborers or waste collectors, not "experts," to act as resource persons. To support this discussion, the group was shown one of ESG's short films, "Nagara Nyrmalya," a dramatization of the key role played by waste collectors in recycling waste and ensuring community health and safety. Teachers were encouraged to show such films to their students to link their daily lives to the functioning of a larger community and global environment.

Following this, the group divided into two sections for an outdoor activity in turning local landscapes into learning landscapes. One group focused on trees, public spaces, and waste, walking through the neighborhood behind the ESG office and identifying tree species, waste collection points, and how roads are composed. The benefits of trees as shade-givers and gathering points for city dwellers were discussed, in addition to the innumerable medicinal, cooking, and other household purposes plants serve. The second group observed the interactions of urban transport and livelihoods, noting the varying uses of roads by different people, including the elderly, differently-abled, children, and street vendors. Children may be encouraged to consider such differences in making daily decisions, such as buying food from vendors near their homes instead of malls, or writing a letter to the local government protesting traffic which prevents them from riding bicycles to school. For teachers, this type of outdoor activity encourages students to connect their studies and surroundings, resulting in practical knowledge of household plant uses, the components of a city's waste stream, or the causes of traffic congestion.



To introduce ESG's Teacher's Handbook of environmental education resources given to participants, Nandini, Sruthi, and Divya gave short presentations on classroom activity ideas. Newspapers brought to the classroom can represent the extent of public interest in environmental issues, and new topics or words within articles can be explored and learned through word scrambles or 20 questions games. For more hands-on learning, composting using the BBC (bricks, baggasse, compost) method and crafting recycled paper

encourages students to consider reducing and reusing waste before throwing it out.

To finish the first day, Mr. Arul Selva, editor of Slum Jagathu magazine, joined the group to discuss issues facing the urban poor and how students can be sensitized to the different quality of life of many of their city's residents. Despite widespread "development," the poor have remained poor, falling prey to exploitation and dangerous conditions as contract laborers, domestic servants, and waste collectors. The presence of slums is a complex issue, as many "slum dwellers" work in our homes and provide us with our comfortable lifestyle. Given the role of parents and the media in

reinforcing the compartmentalization of society into class and caste, teachers have the chance to make students question the current system and develop compassion for different people. Many teachers were interested in having their students visit a slum to understand its complexities, and he remarked that a group of students developing a long-term relationship with a program or school within the slum would be a valuable interaction for both parties.

### **The outdoors as a living textbook**

The second day of the workshop focused on taking students out of the classroom and into their local surroundings to link textbook topics with practical experience. The morning began with a presentation on understanding rainwater harvesting by Mr. Shivakumar of the Karnataka State Council for Science and Technology. All in the room were startled to discover the dramatic disparity between the quantities of water needed to produce a product and the amount of the final product. For example, 1 liter of milk requires 3 liters of water to produce, and 2,500 liters of water are required to produce a single kilogram of sugar! This water is the same freshwater which has always been on earth, but the location and quality of water has changed over time, resulting in many polluted or dried out water supplies and few remaining accessible water sources.

Mr. Shivakumar went on to explain how the changing spatial arrangement of water sources, from a water collection center to pipelines in each house, has deconstructed the social bonds of urban communities. Bengaluru's city water is now pumped from the Cauvery River over 100km away, and we are using more of it than we need in construction, recreation, and in the home. Rainwater collection in homes, schools, and offices could supplement and reduce our dependence on city water supply. Several teachers were enthusiastic about organizing their students and schools to work towards installing rainwater harvesting units and contribute to water conservation efforts.



After a short break, the ESG team then led the group on an outdoor adventure to Venkatappa Kere, a relatively undeveloped tank on the outskirts of the city, where teachers may bring their classes to show students more than picture slideshows of plants, animals, and landscapes. All expressed great surprise at such a serene, natural environment remaining relatively protected despite being close to the city and surrounded by “squatters” pushed out by development. As experienced by the teachers themselves, the very

act of observing a living lake environment allows for deeper understanding and personal connections which are impossible to recreate in a textbook.

Turahalli Forest was the next stop, where the entire group enjoyed an invigorating climb up a nearby hill to a temple and stunning views of Bengaluru. As suggested by trek leader Leo Saldanha, a “nature walk” with children would provide countless opportunities for intuitive learning by sight, touch, smell, and even taste for adventurous students. Viewing the various levels of development near the forest, as well as the views of Bengaluru's sprawling urban, semi-urban, and rural areas, offers innumerable opportunities to engage students on themes of urban planning, resource use, and similar human-environment themes.

The third field visit was to Vikasana, an alternative school for rural children, where the group

interacted with the school's founder, Ms. Malathi. Since many of the participants in the workshop hailed from traditional, exam-oriented school systems, Vikasana's unusual focus on cultivating individual talents and a sense of duty to help others was a refreshing alternate. Just as she became a teacher through rigorous self-training using materials that local children were learning in school, Ms. Malathi further encourages teachers to admit their own weaknesses and learn alongside the students. Connecting with the theme of environmental education, Vikasana's campus is full of trees, wildlife, and buildings constructed by students and teachers over the years, reflecting the self-sufficiency and environmental consciousness ESG encourages teachers to bring into their classrooms.



The lengthy but experience-rich second day of the workshop concluded with a visit to the home of Leo Saldanha, where participants enjoyed a tour of his extensive rainwater harvesting system which allows his home to be entirely self-sufficient. His unique design, utilizing an underground moat-like storage system around his home's foundation, allows for all water taps in the home, and flowering and fruiting trees in the garden, to use rainwater collected through the year. After seeing the simple, economic and environmentally-friendly system for themselves, several teachers

mentioned their inspiration to start campaigns at their own schools to construct rainwater harvesting systems.

### **Framing environmental issues as community responsibilities**

The third and final day of the workshop offered a series of case studies presented by ESG staff on prominent environmental issues of importance to teachers and students' understanding of their own roles in local and global communities. Divya began by presenting an overview of her experiences with the Narmada Dam movement (Narmada Bachao Andolan), a 25-year-old campaign fighting for tribal rights to land and livelihoods submerged with the building of a series of dams in Gujarat. In line with Nehru's famous assertion that "dams are the temples of modern India," construction of the dams has continued despite the displacement of over 400 villages, raising the question: is development worth pursuing at any cost to people and the environment? Such questions are essential to raise within classrooms, so the next generation may decide to take action before extreme violations of human dignity and natural disasters occur.

Mr. Sunil Dutt Yadav then presented on the legal basis of environmental protection in India, explaining how laws represent the imposition of "minimum morality" onto the social order, as reflected in the development of reservations for certain classes or castes. In the case of environmentally-related laws, parks and other "lung spaces" are protected by laws on paper, but rarely in practice. For instance, lakes are considered to be public resources and are thus protected for the benefit of future generations, but Bengaluru has already seen a two-thirds reduction in lakes

across the city due to development. Children and teachers then have the opportunity to fill the missing link between law and practice by taking care of local open spaces and observing and reporting unlawful changes.



Bhargavi followed by presenting on a topic essential to the functioning of every school: paper production. ESG was involved in a campaign protesting the West Coast Paper Mills' unhindered exploitation of water from the Kali River and local forests and consequent discharge of untreated effluents into the river. The pollutants caused a wide variety of complications in agricultural crop growth, human development in local villages, and wildlife health. After years of protest, the paper mill finally provided a minimal amount of clean drinking water to the villages, but only for a short time.

In a similar instance of action taken only after extraordinary levels of human and environmental indignity have been reached, the Coca-Cola company's arrival in Kerala in the 1990s completely dried up all nearby tube wells. The Plachimada movement, as described by Nandini, attempted to fight the results of a bribe system which resulted in the free rein of companies despite strong laws defining foreign investment and pollution levels. The movement was mostly successful, although the effects of the company's presence, including polluted wells and toxic cropland, continue to plague the affected communities. If used in the classroom, these case studies provide excellent starting points for teachers to explore the varying legal and economic powers attributed to the government, corporations, the public, and the law.

The workshop concluded with an open discussion of ideas for activities and workshops which teachers were interested in hosting at their schools with the help of ESG, and an online group was also set up in order to create a network of environmental science teachers, resource people, and the concerned public.

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