



**Sackhumvit Trust & Dream School Foundation:  
Environment Support Group Workshop  
&  
Lalbagh Field Trip**



## **Introduction**

As part of our endeavors in environmental education, Sackhumvit Trust organized a workshop for students at Dream School Foundation's (DSF) Yeshwantpur and R.T. Nagar centres to learn about ecological issues associated with the urbanization of Bangalore. The workshop was an engaging and unique experience for DSF's students, most of whom attend government schools which are unable to dedicate sufficient time and resources for teaching environmental studies as part of their school syllabus. The workshop covered a variety of topics including the history and current status of Bangalore's urban lakes, the effectiveness of watersheds in securing water supply, and urban waste management in the state of Karnataka. Students also visited Lalbagh where they participated in bird watching, and learned about the history and unique landmarks of Bangalore's botanical gardens.

Sackhumvit Trust organized this workshop in partnership with Environment Support Group (ESG), a non-profit organization dedicated to research, training, campaign support, and advocacy on a variety of environmental and social justice issues. We would like to thank ESG for sharing their knowledge and resources, without which this workshop and Sackhumvit Trust's larger endeavors in environmental education would not be possible. We would also like to thank DSF for encouraging their students to dedicate time during their school holidays to explore the environment and its relevance to their daily lives.

## **Workshop Details**

A total of 60 students attended the workshop representing five government schools associated with DSF's Yeshwantpur centre and two government schools associated with DSF's R.T. Nagar centre<sup>1</sup>. The workshop took place from 10:00 am to 5:30 pm and consisted of two main activities: a workshop hosted at ESG's office and a field trip to Lalbagh. Overall, students enjoyed their time with ESG and found the day's events to be very informative. Most students expressed that they learned about issues which are of great significance to their present and future well-being. The details of the activities comprising the workshop are detailed below:

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<sup>1</sup> Schools represented at this workshop Rajajinagar School, Rajarajeshwari School, Babu School, IISC School, Nirmalajyothi School, and the Tamil and Urdu government schools at R.T. Nagar.



## **ESG Workshop**

During the workshop at ESG's office, students participated in an active discussion facilitated by Mrs. Bhargavi Rao (Yeshwantpur group) and Ms. Sruthi Subbanna (R.T. Nagar group). Students learned about the following topics:

### Bangalore's Urban Lakes

Students were asked to name lakes and water tanks in their community (Sankey Tank was a popular reference), after which they compared features of these water bodies with those of a village lake. Students generally concluded that community members have more freedom of access to water bodies in a village setting. This led to a discussion on the privatization of lakes in Bangalore, where ESG explained how the Bangalore Lake Development Authority's (LDA) scheme of leasing lakes to private companies has increased the public's cost of access to these water bodies. Students calculated the average cost for a family to visit a privatized lake (~Rs. 1,000 including transportation, entry fee, food purchases, playground access, etc.), and concluded that this was too burdensome for a resource that should be freely available to the public. ESG concluded with a case-study of a public interest litigation case they have filed against the LDA concerning the privatization of Lumbini Lake in Bangalore.

Students also learned that lakes were historically developed in Bangalore as part of an intricate system that carried down water from natural reservoirs and rain collected at higher-level lakes to lakes situated further below. Not only did this system provide a simple and efficient mechanism for collecting and transporting fresh water in Bangalore, it also maintained the city's level of ground water. ESG highlighted that Bangalore originally had ~360 urban lakes of which only 39 remain as of today! Students went on to discuss how the building of apartment complexes, bus stations, sports stadiums, golf courses, and so on, have disrupted the water flow between lakes and consequently reduced Bangalore's supply of ground water. ESG informed students that Bangalore now pumps water over a distance of 100 km and up to a height of 1 km from the Cauvery River to supply most of the city's water requirements.

### Ecosystem of Lakes

Students examined the typical structure of a lake (how it goes from shallow to deep) and the different types of organisms and plants that inhabit each level of the lake. Students learned the meaning of *ecosystem* – a system of interdependent organisms which share the same habitat. Students then discussed how dumping waste in a lake, particularly nutrient rich waste containing phosphates and sulphates such as sewage effluents and fertilizer run-off, can destroy a lake's eco-system through a process called *Eutrophication*.

Students learned that excessive phosphates and sulphates can produce *water hyacinth* – a free-floating perennial aquatic plant native to tropical South America. With broad, thick,

glossy, ovate leaves, water hyacinth may rise above the surface of the water as much as 1 meter in height. The common water hyacinth (*Eichhornia crassipes*) is a vigorous grower known to double its population in two weeks. When not controlled, water hyacinth will cover lakes and ponds entirely; this dramatically impacts water flow, blocks sunlight from reaching native aquatic plants, and starves the water of oxygen, often killing fish. Water hyacinth is often problematic in man-made ponds if uncontrolled, but can also provide a food source for fish, keep water clean and help to provide oxygen to man-made ponds.



**Pic 1: Mrs. Bhargavi drawing a diagram of a lake's ecosystem based on input from Yeshwantpur students.**



**Pic 2: Mrs. Sruthi introducing activities organized at ESG to R.T. Nagar students just returning from a rainy visit to Lalbagh!**

### Zilla Parishad School Water Shed Program

Students watched a short film about a water shed project at Zilla Parishad School located in northern Maharashtra. The video explained the concept behind a *watershed* - a drainage basin constructed to collect fresh water from rain, rivers, etc., for use by the surrounding community. The video demonstrated how a watershed built by a small village increased their agricultural produce and supply of ground water. The watershed's construction was also connected to a project for building a self-sufficient school to educate village children - Zilla Parishad School. Both the watershed and Zilla Parishad School were built by the voluntary labor of community members. The video also showed how students at Zilla Parishad School regularly interact with nature as part of their school studies by participating in tree planting, seed banks, composting, cleaning of the school, youth conferences on the environment, cultural activities, and so on.

Students enjoyed the short film as it opened their eyes to an educational experience entirely different from their experience of attending a government school situated in a big metropolis. Most students were not aware of the history of their school (how it came to be, who built it, etc.), nor if their schools participate in any environmental initiatives such



as composting, rain water harvesting, paper recycling, etc. Students were then asked how they can act to better integrate their daily lives and schools with their surrounding environment.

### Waste Management

This component of the workshop started out with a game where students brainstormed different types of urban waste such as plastic, paper, aluminum, biomedical waste, and toxic waste. This was followed by a documentary, Nammooru Chandadooru / Nagara Nymalya, which brought up issues of urban waste management in the state of Karnataka. Students were engaged by the movie and learned about the importance of recycling, reusing, and reducing.

ESG then shared a case-study of illegal waste dumping in Mavallipura located in Northern Karnataka, where piles of improperly disposed garbage have produced toxic leachates, effluents, and gaseous residues contaminating the ground water supply and air quality of surrounding village communities, hence causing severe health problems. Students were shocked to learn that such grievances are suffered by people in their own community. When asked what they can do on a personal level to alleviate this problem, students expressed that they would make a greater effort to recycle at home.

Students also learnt a simple way of composting at home by the brick, bagasse and compost method. This method requires an old bucket with some small pin holes. The bottom of the bucket is first filled with charcoal or brick followed by a layer of sugarcane bagasse. Some water is sprinkled and a small amount of manure is added as a starter. On this the everyday kitchen waste comprising of vegetable peels, dry leaves, and flowers can be added and in 45 days the first harvest of compost can be obtained to use in home gardens.



**Pic 3: Mrs. Sruthi facilitating a discussion on composting with R.T. Nagar students who displayed a lot of interest in this subject.**



**Pic 4: Mrs. Bhargavi and Mrs. Shruthi leading a game where students brainstormed types of urban waste.**

### Lalbagh Field Trip

The second half of the workshop involved a visit to Lalbagh facilitated by Mrs. Bhargavi (Yeshwantpur students) and Mr. Leo Saldhana (R.T. Nagar students). This was the highlight of the day for many students who have never visited Lalbagh before. Students had a chance to walk throughout the botanical gardens, and learn about the historical significance of various sites such as the Kempegowda tower, a 20 million year old tree fossil, Bangalore's tallest tree Araucaria sps, Lalbagh's famous silk cotton tree and rose garden, and so on. The visit concluded with a walk around Lalbagh Lake where students participated in bird watching and observed some water hyacinth growth at one end of the lake. Students also observed some birds such as the Purple Moorhen, Pheasant Tailed Jacana, Coots and a Pond Heron, Kingfishers, Brahminy Kites, etc. Overall, students enjoyed their experience at Bangalore's botanical gardens and most of them did not want to return home by day's end!!



**Pic 5: R.T. Nagar students walking around Lalbagh Lake.**



**Pic 7: Yeshwantpur students next to a 20 million year-old tree fossil at Lalbagh.**



**Pic 6: A group picture of Yeshwantpur students at Kempegowda Tower at Lalbagh.**



**Pic 8: Yeshwantpur students at Lalbagh Lake.**



**Pic 9: Mr. Leo Saldhana explaining the history of Lalbagh to R.T. Nagar students.**



**Pic 11: A student using ESG's binoculars for bird watching at Lalbagh Lake.**



**Pic 10: Yeshwantpur students standing next to the tallest tree in Bangalore.**



**Pic 12: Yeshwantpur students in front of Lalbagh's silk cotton tree.**