Hyderabad Trip 2009

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The Rivers of the World Foundation began its first mission in Hyderabad during a 25-day trip in India. Foundation members Subijoy Dutta and Ram Koduri led the way, having arranged a site assessment of the Musi River and several appointments with interested entities to help coordinate the restoration of the sites. Dick Lahn and Sumit Dutta, also Rivers of the World Foundation members, came prepared with respective presentations on sustaining a local economy and on conducting environmental research with college students.

The team arrived at the Rajiv Gandhi International Airport, an airport that is up to international standards to such an extent that one would realize he is in India only by the presence of Telugu and Hindi on the airport signs. The oasis was apparently built quite south of the city of Hyderabad, and it provided a pleasant entry yet false overall impression of the state of the city's pollution level.

When going from the airport to Ram Koduri's home, the team could already smell the stench of the Musi River which ran parallel to the road. The state of the river demanded interest, though it was dark at night and thus a more complete site assessment was planned for the very next morning. The city streets were fairly well-kept by street sweepers.

The morning site assessment provided a great awakening to the status of the Musi River. Stopping next to a bridge over the river in southeastern Hyderabad, the Rivers of the World Foundation team went down to the river banks. The putrid stink on the roadside was identified to come from the burial of dead chickens. The Musi River itself had a beauty that had perhaps been greater in the past. The volcanic rock formations and patches of greens and shrubbery in the middle of the river added some elegance to the sight, but destruction was all around. A team of construction workers was pumping out dark muddy water from the bottom of the river bed to provide stable ground for a bridge that would be newly constructed over the river. The black water could easily be traced on its path downstream. These observations provided some insight into the situation and spurred some ideas among the team members. The site visit to the Musi River is depicted on Figures 1a and 1b below.

Figure 1a: Visit to the Musi River, Hyderabad.

Figure 1b: Overall view of the area - Musi River, Hyderabad.

One such idea of Ram Koduri was to maintain a vigilant watch guard at the road side next to the bridge who can charge two rupees to pedestrian traffic or stopping drivers and provide them a clean restroom and trash facility. This type of system would work well with targeting and thwarting the somewhat common habit of throwing trash near the river banks and also excreting directly on the river side. The Indian problems are due to lack of adequate facilities and to a certain degree behavioral, but it is certainly possible to rectify improper habits that have ecological consequences.

Figure 2: The Sewage Treatment Plant and Prospective Anaerobic Methane Power Generation Plant Constructed around June 2009.

The next stop in the middle of the day was a recently built sewage treatment plant. The plant was built with several novel low-cost wastewater treatment technologies. There was also a substation, indicating the intent to generate electricity by burning methane extracted from the sewage, but this component of the treatment process was not yet functional. Several features for higher water quality such as sand filtration were used. The Rivers of the World Foundation team saw perhaps the cleanest body of water in Hyderabad at the treated wastewater pond.

The remainder of the day was spent in a meeting with respected representatives of the Sree Nidhi Institute of Science and Technology (SNIST) in Hyderabad. Due to unexpected protests in Hyderabad, particularly by students, the original plan to hold a Rivers of the World workshop for the students was changed to a dialogue with the administrators of SNIST, Dr. P. Narasimha Reddy (Director) and Professor P. G. Shastri. Both are committed to encourage student involvement in environmental research, protection, and awareness, especially with regards to the Musi River watershed. They are exceptionally busy professionals who were managing a number of administrative and research responsibilities at the time. They presented their institute's status and programs. Following that, for the next four hours, the Rivers of the World Foundation members each presented their case. Ram Koduri introduced his role in Rivers of the World and his visions for student involvement with protecting the Musi River. Subijoy Dutta then provided an in-depth portfolio of the various projects taken on by Rivers of the World, showcasing case studies of successful examples from the past. One of those examples took place right in Hyderabad—a low-maintenance deep pond system designed to handle a university hotel's sewage discharge. Dick Lahn presented his experiences and three-tiered vision of sustainability, explaining how the economy, the environment, and the society must all be in harmony to have sustainable progress. Sumit Dutta shared his past experiences in doing environmental research with the Smithsonian Institution in high school, as well as lessons learned about managing student organizations from his experiences at the University of Illinois at Urbana-Champaign. Dr. Reddy and Professor P. G. Shastri took note of these ideas with plans to embed some of them into their curriculum and activities.

Figure 3: The Meeting with Dr. P. Narasimha Reddy and Professor P. G. Shastri.

Less than a full day remained in Hyderabad, yet more events were planned: (1) a meeting with the Director of the Environmental Protection Training and Research Institute (EPTRI) in Hyderabad, (2) continued site assessments of the Musi River, and (3) Meetings with the Commissioners of Hyderabad Metropolitan Development Authority and Greater Hyderabad Municipal Corporation as arranged *impromptu* by Professor Reddy, Director SNIST. Thus, the task was split such that Ram Koduri, Dick Lahn, and Sumit Dutta would do item (1) and Subijoy Dutta would do (2), and all would attempt (3).

In the meeting with Dr. Indrajit Pal, Director of EPTRI in Hyderabad, a discussion took place about the qualifications of the team members and the insights on productive environmental research experiences of Ram, Dick, and Sumit. EPTRI also sponsors watershed-related research for masters and PhD students at the time, and thus Sumit's experience with the premiere Smithsonian Institution while in high school served as a paragon to involve younger students, especially aspiring scientists and engineers, in watershed stewardship.

Subijoy took some water quality samples and GPS measurements in the mean time. With this information he suggested some action items that the Hyderabad development authorities could take on.

After the Rivers of the World members met back together for lunch they headed to the Hyderabad Metropolitan Development Authority as planned. However, the Commissioner started his job on that very day and so he referred the team to the Commissioner of the Greater Hyderabad Municipal Corporation after a short discussion. The meeting with the Commissioner of the Hyderabad Metropolitan Development Authority would have almost failed had not the team's flight out of town been at 7:55 PM and the referred office on the way to the airport. After discussions with the team, the Commissioner asked for suggestions on restoration of ponds with low-cost alternatives. The team did not miss its flight.

Figure 4: Meeting with the Hyderabad Metropolitan Development Authority.