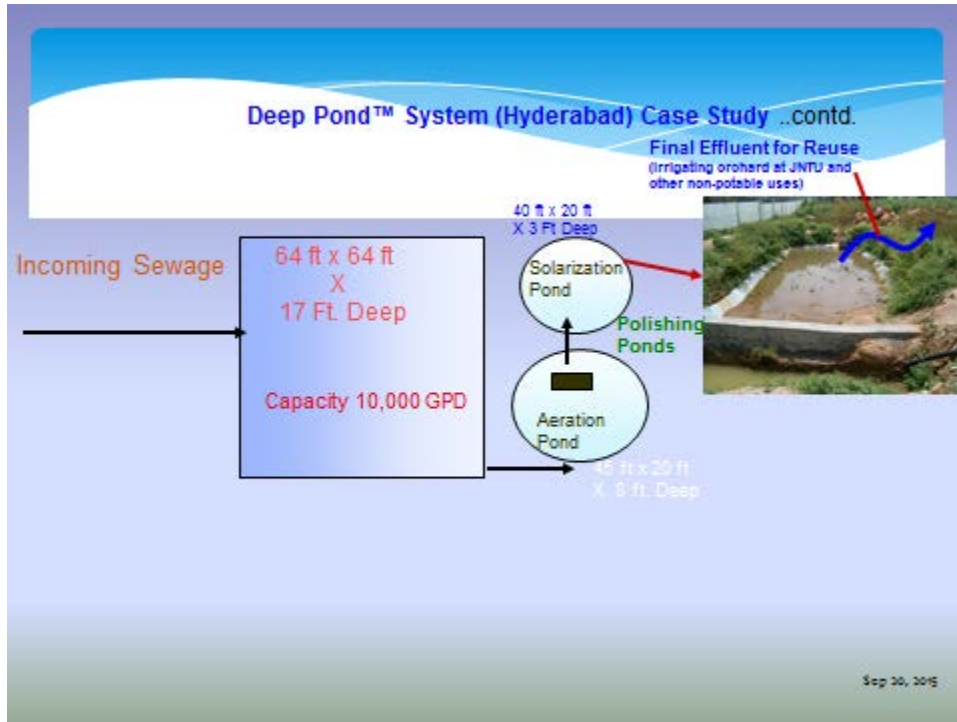


Deep Pond System (JNTU, Kukatpally, Hyderabad)

Deep Pond

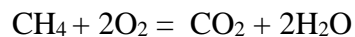


A schematic of the Deep pond system is shown below



This project accomplishments and achievement of each goal are elaborated below:

- ☛ This project met the objective of demonstrating a low-cost treatment alternative for wastewater by completing the system construction, adjustments, and monitoring within \$82,800.00. For a similar performance and capacity of 10,000 gallons/day in Andhra Pradesh, India, a standard wastewater treatment system would cost Five times more. This project has successfully demonstrated a cost saving of more than 80% over conventional system by use of the innovative deep pond system.
- ☛ This project has demonstrated the use of effluent from the polishing pond for irrigating the the orchard next to the deep pond system. Because of the very low volume of solids at the intake there is very little sludge digested at the bottom of the Deep pond. The resulting methane and carbon dioxide generation is thus very minimal at the bottom of the deep pond. The modified design involved recirculation of aerated water from the aeration pond (pond #2) which provides a high oxygen level in the top part of the deep pond. This helps in reducing/converting the methane has to carbon dioxide and water as per the equation below:



- ☛ This system has thus demonstrated reduction of greenhouse gas (methane) emission which would have otherwise emitted from a standard/conventional treatment plant due to the sludge disposal from such plants. Compared to the existing condition of severely leaking and overflowing septic tanks at this site, installation of the Deep Pond system has resulted in the reduction of at least 1128 ft³ or 8,437 gallons of methane gas.. This project thus provided a direct benefit towards minimizing and controlling the Climate Change.

- ☛ It is expected that there will be opportunities for the technology transfer and local capacity building for south Asian countries for this technology. The commercial value of the product (system) is expected to be enhanced by our involvement in marketing this technology in many other parts of India and other countries.

During September 2004, Subijoy Dutta of S & M Engineering visited the site and conducted the system inspection after the initial startup. Delta Business Services, along with contractors and their field persons worked on various kinks and other subtleties of the system to fine-tune the treatment process. One important observation was the sheer simplicity of the system. **The complete treatment system has only three moving parts.** Mr. Dutta went down to the influent level of the deep pond where sewage was getting collected by gravity flow and treated/digested by the anaerobic bacteria. To his surprise there was no odor during the fifteen minutes he spent sitting close to the raw sewage.