Revival of Gau Ghat - Yamuna River

- Yamuna river cleanup effort began in 1992. After reading an article by Gus Speth (World Resources Institute) about serious pollution in the Yamuna River, Subijoy Dutta, an environmental engineer who grew up in India and designed a few low-cost wastewater treatment systems in Oklahoma thought about rendering assistance by providing low-cost treatment technologies and started collecting data on the validation of wetland treatment system for presenting to the Delhi Authorities. Mr. Dutta visited Delhi, walked all along the Yamuna river in the greater Delhi area and collected water samples and data from various points across the river as it flows southwards beginning from the Wazirabad barrage in Delhi to Agra area.
- 1993 to 2006 - Dennis Haag, a wetland biologist, Dr. William Roper, a senior Civil and Environmental Engineer, Dr. Matt Perry and many other associates in US along with a number of volunteers from Delhi and Agra area joined the team to form the Yamuna Foundation for Blue Water.
- Mr. Dutta along with associates continued to visit the Yamuna river from the Delhi to Agra area with the help of Delhi Lions club, and many local volunteers.
- 2004-2005 - A successful demonstration of a deep pond system installed in Hyderabad India treating 10,000 gallons per day with a grant from the Maryland TEDCO.
- 2006-2007 - An innovative system was designed and proposed thereafter as below:

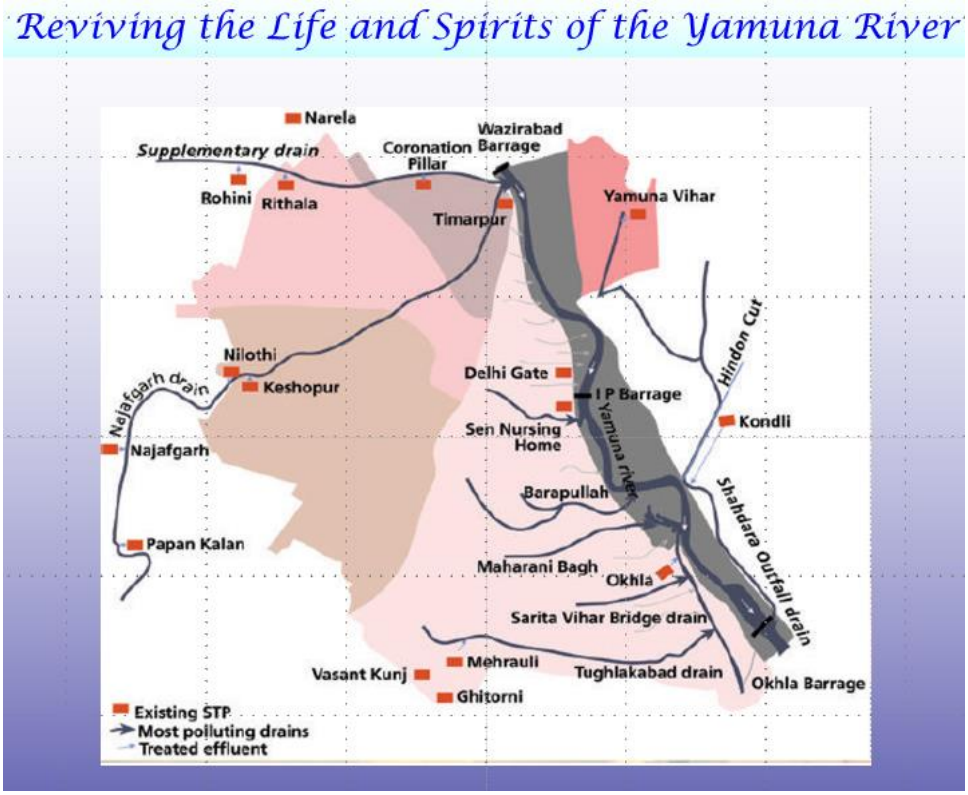
Application of an innovative System for Treating Contaminated Discharges to the Yamuna River

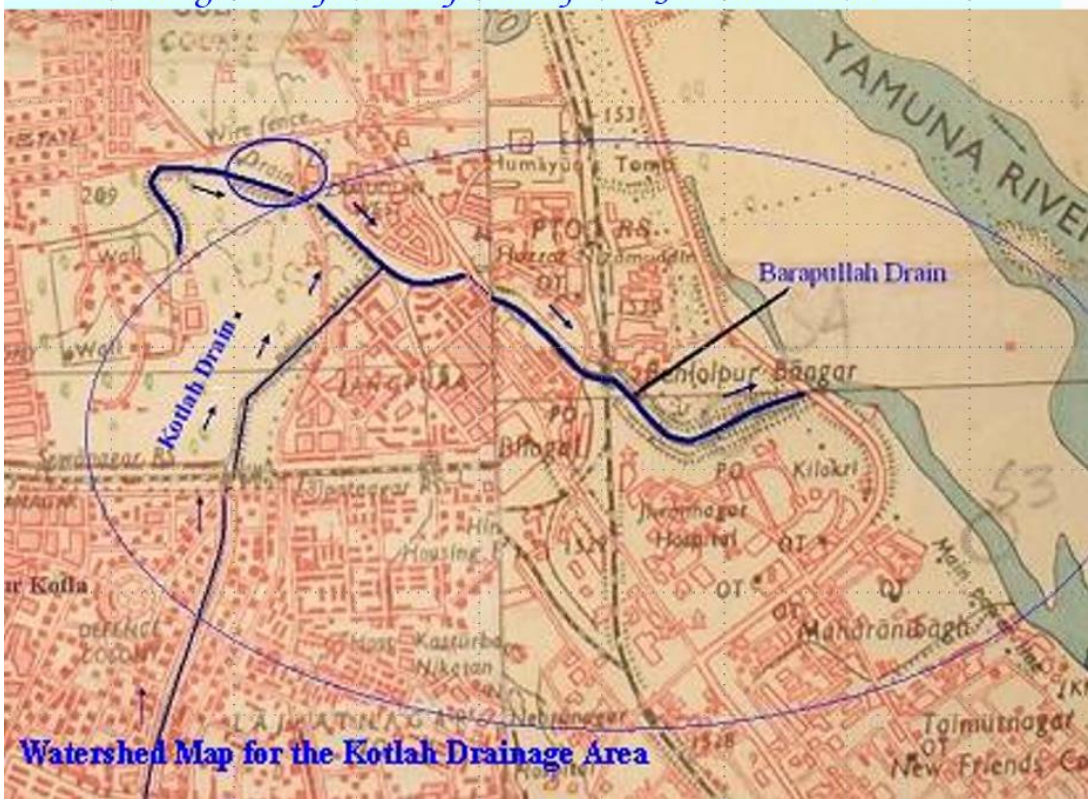
Based upon the available information from the Central Pollution Control Board (CPCB 2000), the estimated wastewater discharge to the Yamuna River from the greater Delhi area through the major drains

is 2,723 Million liters/day (MLD) or 720 Million gallons per day (MGD). There are about 17 drainage canals which carry enormous volume of wastewater including raw sewage to the ill-fated Yamuna River as she flows south from the Wazirabad Barrage to the Oklah Dam. While considering potential treatment alternatives to treat these wastewater discharges from these drainage canals the Biological treatment system seems to have great potential to remove the pollutants without incurring huge costs and in a phased manner by treating these drains progressively by fine-tuning the technology to yield the most desirable outcome as the process continues.

A proposal involving design, installation, and initial operation and maintenance of a Wastewater Reclamation System (WRS) at the Kotlah Drain site on the east central side of New Delhi has been submitted to the Delhi Jal Board. The total facility was proposed to be completed by using a new technology involving an integrated biological wastewater treatment system. The cost of the proposed project was estimated to be 1/10th of the installation cost of a standard wastewater reclamation system for a similar flow volume.

2006 – A proposal was submitted to the DWSSD (now Delhi Jal Board) on the following system.




YAMUNA RIVE
Barapullah Drain
Kotlah Drain
Humayun's Tomb
Nizamuddin
Sarai Kale Khan
Bhogal
Jangpura
Kilokri
Jawaharnagar Hospital
Mahdrandbagh
Tajmutnagar
New Friends Co
Watershed Map for the Kotlah Drainage Area


Kotlah Drain

The Delhi water authorities showed a lot of interest and asked for yet another proposal, which we submitted. Unfortunately, we didn't hear back from them.

We then started moving forward with volunteers from Delhi, Agra and other towns along the Yamuna and started various river cleanup activities and awareness program under Yamuna Foundation for Blue Water. Later in 2007 we formed the Rivers of the World (ROW) Foundation, https://rowfoundation.org , a charitable organization and began working on many rivers in India, US, Philippines, China, Nepal, and other countries.

Although we couldn't get an opportunity through the Delhi Government to install our system to improve the Yamuna water quality, our work with many dedicated volunteers continued. It led us to restore and protect two areas of the Yamuna River close to Agra, India.

Gau Ghat is one such rural landing of the Yamuna River.

A site (Gau Ghat) on the Yamuna River near Agra, which got partially restored due to our active persuasion, monitoring, and observation of serious pollution due to petroleum products is a good example (see picture) of how your simple steps and actions can help the Yamuna River. In December 2000 while looking at the Yamuna River in Gau Ghat area, I was crossing the river by a boat. At the center of the river, I noticed some bubbles rising up from the bottom and they seemed to have some oily stains with slight rainbow color. I asked to stop the boat and collected two samples of the water. I had my flight scheduled that night back to Baltimore, Maryland that night. After arriving in Maryland, I arranged to provide the samples to STL laboratory in Baltimore, Maryland next morning. The results indicated total petroleum hydrocarbon at around 19,000 ppb. An image copy of the test result summary as conveyed to Agra in 2001 is shown in the figure below. This caused a serious alert and I started to look at the possible reason for such petroleum products in the river. Studying the local geology I observed that there is a sandstone layer that outcrops about 4 miles west of the river and sits at the river bed, at about 40' depth at the center of the Yamuna River at that location. There is a clay layer, 10-15' thick above the sandstone layer in the local area that prevents contaminants from the local area from percolating down below. Our volunteers looked into that fact and identified the Mathura Refinery at about 5 Kms west of the River and alerted the authorities, but their appeal was not heard at that time. 5 years later there was a massive fish kill at that location involving over 10,000 fish floating up. Our volunteers contacted me again at that time when I mentioned that they must ensure that no liquids and wastes from the refinery are dumped in open pits at the refinery. To that end they were successful in getting an injunction from the judge banning the refinery from discharging any waste liquids into a pit. All of their wastes had to be placed in tanks.

About 9 months later in November 2007, when I visited the Gau Ghat area of Yamuna, I saw the return of a vibrant ecology there.