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Point for discussion this month
Celebration of Environment Day

(For private circulation only)

Dear Readers,

Rains bring life to everything, make green everywhere, cool down breezes, wash all ills, and delight minds. Every drop of rain gets soaked in parched earth. The greenery sprouts immediately and the heat, dryness gets wiped out and becomes memory. The experience of Sajjangad in Satara district cannot be described in the words. The above photograph tells the story of scientist Samartha Ramadas Swami and not of the saint.

We celebrate World Environment Day – 5th June which is before beginning of monsoon. Many NGOs / Government Agencies organize programmes for World Environment Day but the number of participants gets divided and then it becomes like Ganeshotsav. Every lane every apartment every colony celebrate their utsav separately.

This year's 5th June was different for us. It was an attempt to realise the responsibility given to citizens by our constitution.

There was suggestion from Dr. Amar Supate to give experiences of ecotechnology. We will try to give as and when we receive articles from the users or implementers. Excerpts from one of such articles are given in this issue.

Er. Chetan Pandit has explicitly expressed his views which have been included in this issue.

Thanking you,
Chief Editor

Excerpts from the article use of natural technologies to treat polluted streams in Pune city written by Sandeep Joshi (SERI) and Probir Sinha (CRC)

Introduction

There are about 233 class - I cities in 14 major river basins of India. These cities have been partially covered with sewerage system – just 24%. Therefore 76% of the untreated sewage from these cities goes untreated to freshwater bodies - rivers and lakes. Class -II cities don't have sewerage systems at all. Don't think of sewage treatment. It's a dream with conventional cost and energy intensive technologies. Collection of the sewage is not enough. It should be further purified also.

Basis of Revolutionary Experiment

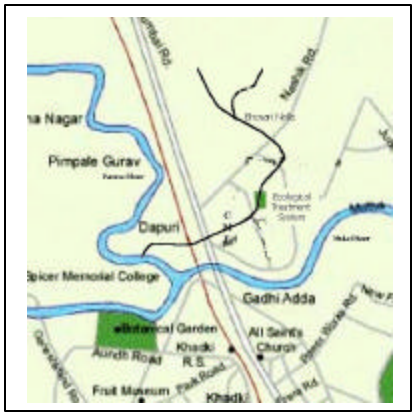
The members of Jal Dindi were perturbed by the level of contamination in river waters in Bhima Basin, its impacts, the apathy of urbanites and inadequate measures taken by concerned authorities. They joined hands with College of Military Engineering and Shrishti Eco-Research Institute to establish a working model with innovation to remove the pollution from the river water. It was realized that the root of the problems is the nallas, which bring wastewaters from the localities to the rivers.

It requires a lot of efforts and time to change the mindset of the people from all walks of life. A model system can be developed in a short period with combined efforts of institutions and environmentally oriented enlightened concerned citizens. That's what Shrishti Eco-Research Institute and Clean River Committee did on Bhosari nalla of which catchment areas are Bhosari MIDC and residential areas.

The project scheme for the Nalla treatment was designed by Shrishti Eco-Research Institute; the machinery was provided by the CME; the materials were provided by Cummins Foundation and Garware Wallropes Ltd. and the whole project was coordinated by Clean River Committee, Pune. It was a cohesive group of NGOs, educational institution, industry and environmental professionals.

The salient features of the project are –

- the funds were contributed by trustees of the organization
- the flow of the nalla was about 70 - 75 mld (now reduced to 20 - 25 mld)
- Completion period - 6 months without use of cement or electricity



Treatment Systems

Natural streams, rivers and lakes have their own in - built purification system which is comprised of the winds, natural slopes, stones for biological growth and complex food web help in the purification process. This food web is nothing but utilization of one's waste by another as food. Nature has her own living machinery of detritivorous living species to consume wastes. These principles have been harnessed in the treatment of polluted streams using ecotechnology.

The scheme involved application of ecological engineering to remove organic and inorganic pollutants from the water and to utilize them as nutrient in the ecological cycles. The Green Bridge is developed using filtration power of cellulose / fibrous material with stones. All the floatable and suspended solids are trapped in this biological bridge and the turbidity of flowing water is reduced. Green plants on the bridges increase the DO level in water, which in turn facilitates the growth of aerobic organisms, which degrade organic pollutants.

Need of the Hour

Pollution control authorities, corporation officers and policy makers - everybody is expressing the urgency of the affordable indigenous pollution control techniques which will improve the quality of environment for the society. The pollution is reaching to the water bodies useful for drinking and irrigation purposes via natural drains and streams making them unfit for

any application.

Experience

The successful implementation of the scheme with natural technologies like Green Bridge, Green Lake and Stream Eco-System implied that the ecotechnology can be employed to treat the waste streams coming from the non-point sources. This can be very economical, say capital expenditure can be 5 - 10% of the total for conventional mechanized aerobic and anaerobic treatment systems. That's why, with support of corporates and NGOs the two nallas – Sandvik and Ambil – have been selected for the purification and beautification.

The experience of Sandvik was different. The surrounding people protested initially. They thought that it was encroachment on their territory. But they latter realized the benefits of the cleaning the area and treatment of nalla water. When the Ambil was thoroughly and water was freely flowing, the residents along the bank noticed the substantial reduction in mosquitoes. These are very encouraging experiences for us to take up more polluted streams with active participation of local residents.

Green Lake System in CME

Green corridor Sandvik Nalla

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Reaction from Reader

A nicely written editorial. But there were a few jarring notes. First, the remark "But, the vibrant scientific research and quest to conquer earth lead to more complicated processes and wastes."

Contrary to assiduously cultivated belief, the scientific research is NOT driven by any quest to conquer the earth or the nature. The earth or the nature are not "adversaries" that are to be conquered. The basic research is driven by a quest for more knowledge about the nature. And applied research is driven by a desire to use that knowledge to make life more comfortable. This has its beginnings in the era when mankind learned to use stone tools for hunting; used animal skin to protect themselves from cold; and used fire to cook and thus make the food more digestible.

Strictly speaking, all these are "unnatural" actions, - no other living beings wear cloths of any kind or cook their food. Shall we then say lighting of fire to cook the food was driven by a quest to conquer the earth? When the ancient man learned to build a house, he was only trying to protect himself from the elements. And if the modern man some day uses nuclear energy to deflect an asteroid on collision course, he too would be only trying to protect himself from the elements. Each generation uses, and is also constrained, by the technology of the day. There is no question of a "quest to conquer the earth".

Second, it is time we come out of the mindset that industrial pollution can be prevented only by intensive policing by the Government. Does any one take the line that theft / robbery / murder / rape / . . . . can be prevented only by intensive policing by the Government ?

Every member of the society has to know what is right and what is wrong, and avoid doing what is wrong. But occasionally there will be some deviants, and policing is required to bring them to book. But an attitude of "unless the Government catches us, we will merrily do the wrong" can not work – whether for theft / robbery / murder /

rape/ . . or for industrial pollution.

Blaming only the environmental policing agencies for the pollution caused by the industry may earn one international applause, because it is high-fashion to criticize the Governments of developing nations, but it will not serve the cause of environment.

Chetan Pandit
Chief Engineer
National Water Academy
Pune, India

We request readers to express their views on these vital issues of role of government agencies, citizens' responsibilities and goals of scientific and technological advancements.
- Executive Editor

NewsCapsule

- Sandeep Joshi attended "Bal Sanskar Shibir" – Summer Camp of rural children in the first week of May 2007 with the president of Jaldindi Dr. Vishwas Yevale. They discussed the use environmental resources for their own progress. They vowed not to pollute their serene environment.

- Susmit – designer of SERInews went to Singapore from May 2 to 10, 2007. He visited international Science Center there. He experienced various technologies – genetic engineering, space science, robotics. According to him, Singapore city was very clean and the Little India area was just like any city in India with crowded roads and wastes.

- Sudarshan Sangale – a student of M. Sc. Environment Science of New Arts, Commerce, and Science College, Ahmednagar has been permitted to join SERI on request for Summer Training programme started from June 1, 2007.

- Vimal Suhag has been accepted as Environment Internee in SERI. His graduation is in computer science and aspiring to join M. S. Environmental Engineering in university in US.

- Compiled by Priya

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Announcements

1. SERI's Pollution Clinic announces a Free Scheme of the assessment of ETP reports, designs and evaluation of present status of ETP / STP / C-ETP starting from May 1, 2007. The scheme is free for first 200 registrations only.

   The only requirement is to give all the details of existing facility or planned pollution control facility and register as early as possible.

   The brief study report will be inclusive of with cost – effective suggestions with environment management guidelines to achieve the norms set by pollution control authority.

   For more details, please contact –
   Amit Naregalkar, Project Executive, SERI
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2. SERI's website is www.seriecotech.com. Some articles are posted on website. Earlier issues of SERInews are also available on website.

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