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Study of the domestic sewage and its utilization for pisciculture along the south-west coast of Maharashtra

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Sewage, the liquid waste discharged from all domestic, municipal and industrial sources within a given area, has become a major concern especially in rural and urban areas along the coasts of India. The domestic sewage is generally released through open or closed drainage system traversing the human habitats and finally discharged in the sea. In the rural areas along the south west Maharashtra coast, the domestic sewage runs unchecked through the open drains and has become a major problem. Though the use of sewage effluent for raising fish productivity was recognised much earlier in countries like China, Taiwan, Malaysia, Thailand and Indonesia, in India this potentiality of sewage was noticed much later. Rearing of fish in sewage fed ponds has provided a new way to tackle the problem of sewage in some of the Indian states including Maharashtra. The possibility of utilizing the domestic sewage for pisciculture was studied by sampling the domestic sewage from five locations along the coast of Ratnagiri, Maharashtra, India. On an average the water parameters showed a similar trend. pH 6.5 to 7.5, Dissolved oxygen zero, Dissolved carbon dioxide 20 to 85 ppm, Free ammonia 12.0 to 62.6 ppm, Hydrogen sulphide 2.0 to 4.6 ppm, Phosphate-0.12 to 14.5 ppm, Nitrite-0 to 0.09 ppm, Nitrate-0.03 to 0.33 ppm, Alkalinity-170 to 450 ppm, Chloride-115 to 450 ppm and suspended solids-160 to 400 ppm. The sewage was collected and was subjected to sedimentation, dilution and storage. The treated water was used to study the survival and growth of *Pangasius* sp. and *Tilapia mossambicus*.

Biography

Swapnaja A Mohite has done her PhD in Aquaculture and her subject of research was biology, ecology and culture of *Paphia malabarica* along the Ratnagiri coast, Maharashtra, India. She is working as a Faculty of College of Fisheries, Ratnagiri and has been working on various bivalve species. Currently she is associated with the prestigious Maharashtra Gene Bank program funded by Rajiv Gandhi Science and Technology Commission, Government of Maharashtra and is working as Principal Investigator for the project entitled "Inventory and bio-prospecting of marine invertebrates of the Maharashtra coast with special emphasis on sponges and associated microorganisms".

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Surface water pollution: A case study from Tripura, north-east India

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Kata Khal is flowing along the northern part of Agartala, the capital city of Tripura. The reasons for pollution of the Kata Khal are dumping of various types of domestic wastes, solid and sewage disposal of markets, disposal through various drains of Agartala Municipal Corporation (AMC) as well as by the four major sluice gates of the capital city. The root of this problem lies with the increased population pressure within the AMC. Land use changes for 73 years (1932-33 and 2005) have been detected using Remote Sensing technique. For assessing the water quality, mainly physico-chemical as well as bacteriological quality of Kata Khal, water samples from different points of Kata Khal were collected and different parameters were analysed by using the standard methods given in APHA (American Public Health Association). The findings indicate that the Kata Khal is highly polluted by continuous discharge of waste water received from different drains of Agartala city and excreta discharged directly or indirectly by the residents of northern bank of the channel. From the observed value of Dissolved Oxygen (DO), Bio-chemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Total Coli form and Ammonical Nitrogen, it is concluded that the water of Kata Khal is not suitable for any domestic use.

Biography

Nibedita Das was awarded PhD degree in Geography in the year 2000 from University of Calcutta. Her field of specialization is Fluvial Geomorphology and Fluvial Hazard Analysis and Management. She has experience of teaching in schools, Govt. Degree College and Tripura University (A Central University) for a total period of more than 25 years. A number of research scholars are carrying out their research under her guidance. She has published research papers in different national and international journals and has written chapters in books.

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