Adopting Appropriate Methods of Restoring Lakes in India: A Case Study from Mysore City
Lake Kukkarahalli

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Introduction

- Kukkarahhi lake is a man made lake in Mysore and was constructed in 1881 for drinking water purposes.
- Total area of Kukkarahalli lake is about 104 ha. and water spread area lake is 49 ha.
- It is situated within the Mysore University Campus and is partly arboretum and partly aquatic habitat.
- Lake supports flora and fauna.
Biodiversity of Kukkarahalli lake

- Lake supports variety of life forms
- Birds
- Fishes
- Crocodiles
- Algae - chlorococcales
- Desmids
- Diatoms
- Blue green algae
- Euglonoids
- Dianoflgellates
Ecological problems

- Inflow of untreated sewage from Padavarahalli, Jayalakshmipuram, Ontikoppal and Mysore University and Karnataka Open University
- Reduction of catchment area
- Indiscriminate dumping of solid wastes
- Storm water drains choked
Ecological problems

- Non optimal utilization of lake resources for medicinal plants, aquaculture etc.
- Non utilization of lake as a source of human and live stock biomass requirements
- Shrinking of feeder canal (Poornaiah canal) from 25 km to 5 km due to urbanization
Ecological problems

- Siltation in the lake
- Algal blooms
- Reduced water level in lake due to diversion of sewage
- No proper wildlife and biomass management
- Abandonment of recreational activities
- Absence of lake water quality monitoring
- Open defecation
Kukkarahalli Lake in 2001

- Emanations of foul odour
- Eutrophication – *Microcystis aeruginosa*
- Water quality – depleted
- BOD level – increased
- Fish death occurred
- Out break of diseases like cough, fever etc. Seen among the people who live in the vicinity of the Lake
Methods for restoration of lake

- Stop the inflow of sewage
- Stop dumping of waste around lake including biomedical wastes
- Removing accumulated algae by manual methods
- Removing weeds at the periphery of the lake
- Cleaning boundary conditions of the lake by engineering techniques
- Stop the immerse of Lord Ganesha idols
- Increasing the security system particularly for bird killing
Methods for restoration of lake

- Bunding the lake peripheries
- Aeration of water by introducing boating – rowing, peddling by NCC cadets
- Rainwater harvesting – from Mysore University Playground (accepted by MUDA)
Methods for restoration of lake

- Improving the quality of water by inflow of filter cleaned back wash water (work started at Vanivilas Water Works, Mysore City Corporation).
- Formation of Parks for recreation.
- Planted tree saplings like Neem, Jambolana etc.
- Created awareness among local residents living around the lake with regard to the need for conservation and protection of the lake through public debate, group discussion, lectures and also through television, radio, newspaper.
- Taken steps to revive feeder channel (Poornaiah Canal) of the lake for certain extent
Manual removal of algae from the lake
Removal of algae and polluted water from the lake through pump.
Removal of algae from the lake with the help of machine
DETERIORATED WATER-FISH KILL, KUKKARAHALLI LAKE: 2001 MICROYSTIC – BLUE GREEN ALGAE BLOOM IS EVIDENT
Kukkarahalli Lake dying: Birds perish on eating toxic fish
Boating: one of the methods to aerate the lake water
Restoration of lake started with 91 Lakh ADB Grant in 2003
Thank You