

Restoring lakes, Rejuvenating life

Green Hyderabad Environment Programme



Hyderabad Urban Development Authority

Hyderabad : A City of Lakes



Dedication of Restored Langer Houz Lake by Hon'ble Chief Minister Dr. Y.S. Rajasekhara Reddy

Hyderabad and its surroundings are blessed with a number of lakes. As per the historical records there were as many as 532 water bodies in and around Hyderabad. These lakes were created by the earlier rulers to effectively harvest rainwater in the semi-arid zone for irrigation and community needs like drinking water, etc. It is hard to visualize Hyderabad city without the famous Hussainsagar, Osmansagar, Himayatsagar and Mir Alam lakes.



Lake Management & Related Problems



Mir Alam Lake - Threatened with urbanization

The present trend of rapid urbanization has resulted in unprecedented pressure on the natural resources of the city and the water bodies are no exception.

- The urban lakes are beset with problems like encroachment of the water body due to rapid urbanization
- Discharge of untreated sewage from the catchment area directly into the lake with high values of BOD and nutrients like Phosphates and Nitrates triggering hyper eutrophication
- Indiscriminate dumping of solid waste and land fill activity
- Discharge of untreated industrial effluents causing health problems and loss of biodiversity



Untreated sewage entering the lake



Industrial effluent & solid waste

- Community related abuse of the lake viz. cattle wash, vehicle wash, washing of clothes by dhobis
- Immersion of idols
- Hyper eutrophicated lakes are invaded by water hyacinth leading to mosquito menace
- Land Tenure related problems within the lake
- Polluted lakes are the source of water and vector borne diseases



Cattle wash



Washing of clothes

HUDA's Vision on Lake Conservation

The latest inventory of urban water bodies reveals about 400 lakes still in existence. HUDA, as a first measure of conservation notified 169 lakes with a water spread of 10 hectares and above restricting certain activities.

HUDA is implementing Treatment and Conservation of 87 lakes under the Green Hyderabad Environment Programme 2002-2006. Out of 87 lakes, 18 highly polluted. The lakes restoration is with the objectives of improving the water quality and increasing ground water recharge. The intervention would also help in improving the overall quality of life of the people living in the vicinity of the lake.

Restoration measures

HUDA has taken up the programme of lake restoration with an outlay of Rs.106.52 lakh. This involves intensive treatment of 18 Category-I highly polluted lakes and conserving 69 moderately polluted Category-II lakes.



Restored surplus weir and bund - Langerhouz lake

Lake restoration interventions



Community participation in lake clean up programme

- Lake securing measure like survey and demarcation of the lake boundary, strengthening of bund and fencing
- Environmental Dredging / Desilting for deepening and formation of peripheral bund and creation of islands for enriching the biodiversity
- Improving the inflow and outflow channels
- Prevention of point and non-point sources of pollution by interception and diversion drains / ring sewers, collection of sewage and treatment of wastewater to the tertiary level by establishing STPs and constructing wetlands
- Improvement of eco-tourism by developing parks, walkways, etc. for sustainability of the programme
- Formation of neighbourhood committee i.e. Sarassu Samrakshana Samithi, for institutional building and acceptance of the programme by the community



Sewage Treatment Plant at Langerhouz lake

Benefits



Recycled water in Eco-tourism facility - Langer Houz lake

Restored lakes offer multiple benefits to the community. The water bodies are an integral part of the city landscape and are of immense value to the people. They help in improving the quality of life in the twin cities.

- The lake is protected from future encroachment
- Rainwater harvesting and recharge of ground water with clean treated water
- Moderate the flood risk by re-establishing inter-connectivity between chain of lakes
- Reduction of disease incidence in the lake vicinity due to clean lake water
- Creation of microclimate and recreational activity through eco-tourism to the community
- Enhancement of biodiversity and pisci culture
- Utilizing the wastewater for maintaining the lake water balance
- Inducing utilization of recycled wastewater for non domestic use



Bird's eye view of Langer houz lake after restoration



A new found home for birds - Safilguda lake



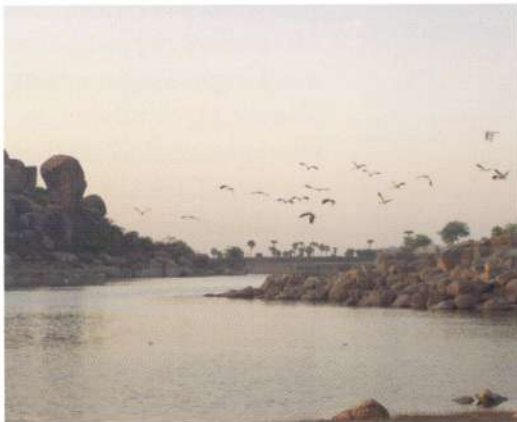
Fish catch due to improved lake water - Safilguda Lake



Saroornagar Lake - after restoration

Lake water quality - Saroornagar Lake

<i>Date</i>	<i>Period</i>	<i>BOD</i>	<i>COD</i>	<i>DO</i>	<i>TKN</i>	<i>Total P</i>
14/5/03	Before Intervention	65.00	212.00	3.40	14.00	5.87
2/4/05	After Intervention	25	92	6.2	9	1.8



Khajaguda lake still pristine but threatened



Langer Houz lake - before restoration

HUDA's Experience in Lake Restoration

The lake restoration programme involves a multi disciplinary approach and has to be treated as an urban infrastructure development activity in delivering improved quality of life to the citizens



Langer Houz lake - after restoration

Hussainsagar lake & Catchment area improvement



Hussainsagar - Shoreline

The Hussainsagar Lake was constructed during the year 1562 AD by Mir Osman Ali to meet the irrigation and drinking water needs of the historic Hyderabad city. The lake is located in the heart of the Twin Cities of Hyderabad Secunderabad. Gradually the lake became a receptacle of sewage and industrial effluents due to urbanization. Over the years due to eutrophication, algal bloom, growth of water hyacinth and bad odour the water body became redundant for recreation and pisci-culture and reached the stage of Hyper-eutrophication.

The Hussainsagar Lake and catchment area improvement project through Japan Bank for International Cooperation is in pipeline. JBIC has short-listed the project and fielded



Panoramic view of Hussainsagar lake at night

SAPROF (Special Assistance for Project Formulation). The project cost is Rs.316 crore of which JBIC has agreed for Rs.270 crore as soft loan.

HUDA has already initiated a number of interventions on Hussainsagar Lake development, like formation of Necklace Road and development of the shoreline. About 1 lakh cu.m. of silt has been dredged from the Hussainsagar Lake-bed.

During 2004, for the first time, HUDA took the initiative by involving community, citizens, NGOs, environmentalists, school & college students, NCC and police personnel to remove huge quantity of immersed Ganesh idol remains from the Hussainsagar Lake bottom.



Cleaning of Hussainsagar lake



Birds habitat at Safilguda lake



Stakeholder workshop on Urban Lakes

Community Participation

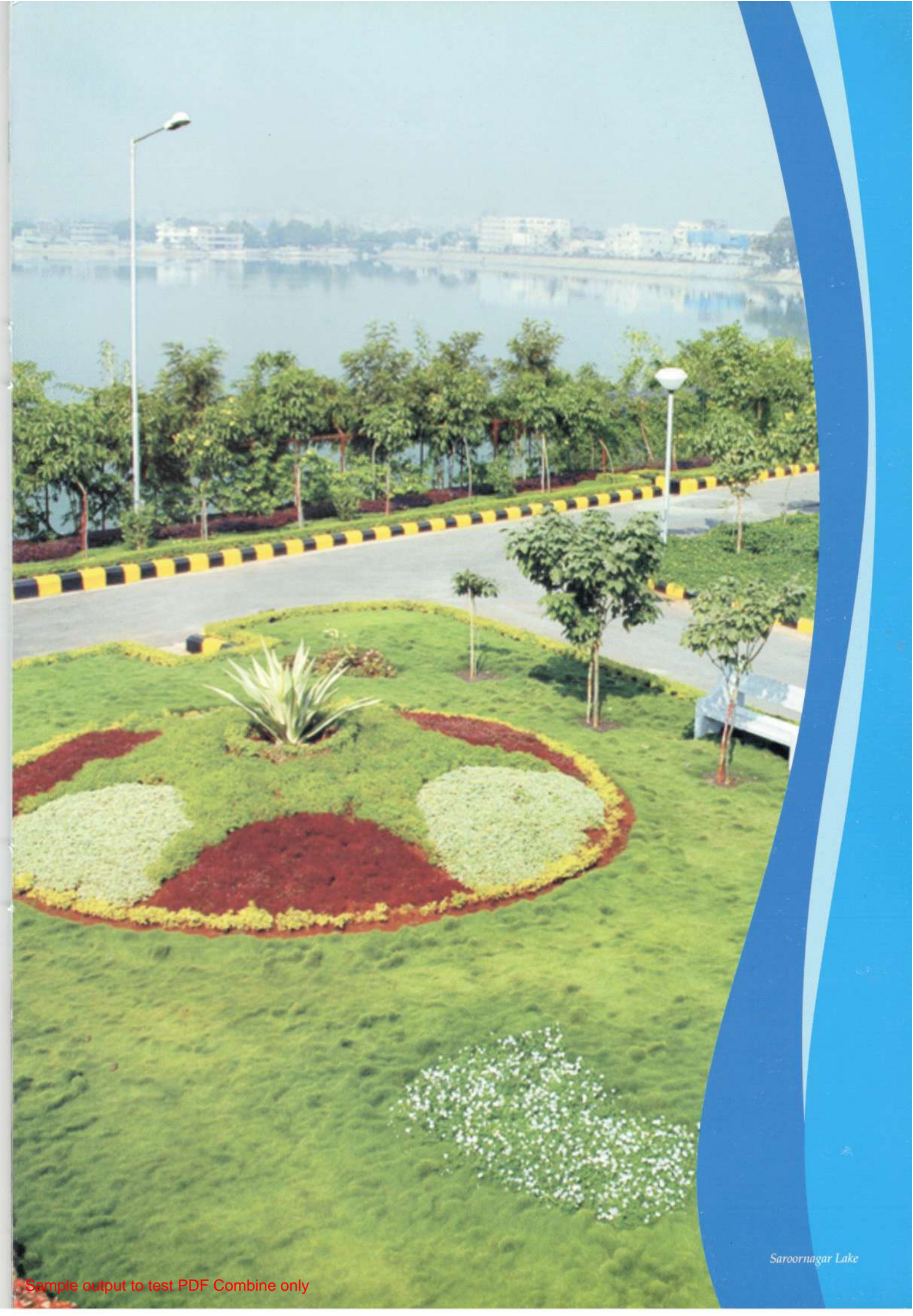
Institutional building is a key component in lake restoration programme. The lake neighbourhood community is organized into a group to oversee and involved in the management of lake restoration programmes and post project management. The resident welfare associations in the lake neighbourhood are formed into Sarassu Samrakshana Samithies. These associations take active part in mobilizing public opinion and orderly disposal of solid waste, etc.



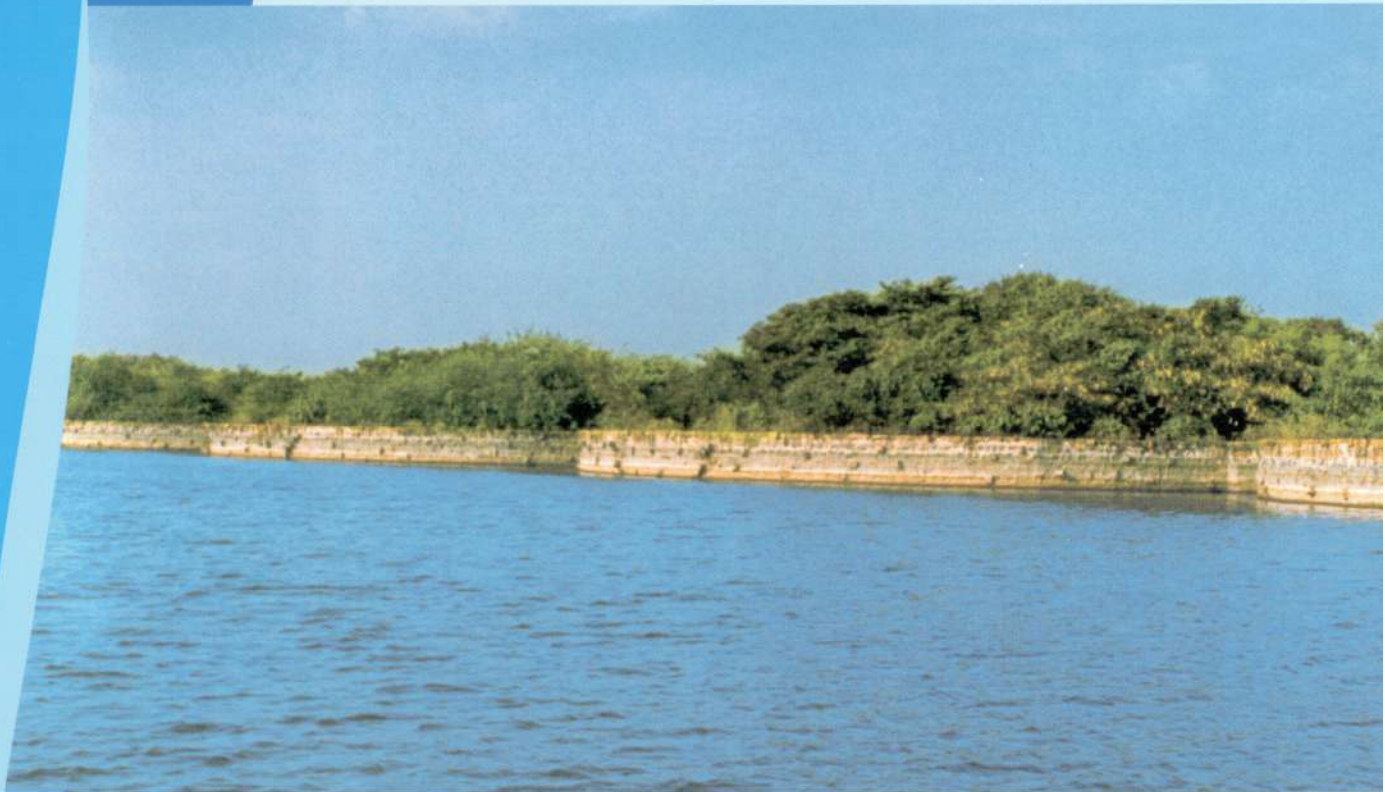
Sarassu Samrakshana Samithi - Safilguda



Awareness generation - Lake Walk



Saroornagar Lake



The Historic Mir Alam Lake



Hyderabad Urban Development Authority

1-8-323, Paigah Palace, Police Lines, Rasoolpura, Secunderabad - 500003

Ph: +91-40-47905371, 27908520, 27900126/127

Fax +91-40-27903185, 27906297

E-mail: hyd2_hudahyd@sancharnet.in or huda512@eth.net

Website: www.hudahyd.org

Lakes are our Heritage - Save them for the future