

URBAN LIVEABILITY FORUM

PRESENTS

"MY RESOURCE. MY RESPONSIBILITY"

A knowledge series from the experts on effective management of resources to enhance urban Liveability during and post pandemic.

IN CONVERSATION WITH CAPTAIN D.C. SEKHAR

Founder and Director of AlphaMERS Ltd.

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Fig. 1. Floating Trash Barrier
Source: AlphaMERS Ltd - Floating Trash Barrier

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ROLE OF ALPHAMERS AND THEIR VISION

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'Water body is an important infrastructure of urban landscape' (T R Neelakantan and K Ramakrishnan 2017 IOP Conf. Ser.: Earth Environ. Sci. 80012068).

Urban water bodies are often the first victims of urbanization, which in turn implies that a healthy urban water system is the sign of healthy and sustainable urban development. These water bodies affect not just the scenic beauty of an urban environment, but also the health and livelihood of its dwellers.

Studies show that a polluted urban water system can have adverse impacts on the mental and physical well-being of the population. Unhealthy water management practices often lead to spread of diseases, polluted water bodies, informal settlements and uncontrolled-unplanned growth of urban ecosystems. This result in inefficient urban development that face a multitude of issues including poor hygiene, water shortage, poor waste management facilities, and poor infrastructure as a whole.

AlphaMERS Ltd. is a company focused on improving the quality of urban water systems by using innovative and viable technology. They are among the few to have realised the threat to water systems as a threat to development as a whole. In conversation with Captain D.C. Sekhar, Founder/Director of AlphaMERS Ltd. :

What is the significance of a healthy urban water system for a city? How can various interest groups and Urban Stakeholders uphold the health of this feature?

There is a large amount of water any city receives as rainfall, river flow through the city and storages in the form of lakes. A smart population will ensure these water sources and storages remain unpolluted and these resources provided by nature are available for consumption as required. Besides they should remain a cosmetic attraction and part of a pristine natural environment.

A not-so-smart population will not plan well and end up releasing wastes into these resources, and lay to waste these abundant naturally available resources.



Fig. 2
Source: CMDA cleans water body - Telegraph India



Fig. 3
Source: Mumbai | India | Britannica

How do urban water bodies impact the well-being and existence of Urban Dwellers?

What images does a 'waterfront' location evoke today? Crystal clear waters flowing in front of the house or smelly waters with mosquitos? Is this a differentiator between a rich and a poor country or is this a cultural factor of a population? This is much like the traffic culture. Good roads and some enforcement can ensure a good traffic culture.

The population will have some die hard responsible people, a large section of fence sitters who will readily adapt to new practices, and a small section of die hard violators.

It is the administrations' responsibility to see that the few compulsive violators do not frustrate everyone's efforts and get away with it.

Solid waste requires adequate processing facilities and logistics infrastructure to clear it. Once this is in place, the awareness campaign and soft policing will set the culture. If this infrastructure is not adequately in place, the awareness campaigns will be a wasted effort.

What are the major pollutants/factors affecting a city's water-body? How effective is the role played by Civic officials in controlling and/or reversing this damage? Share some examples of Badly affected water-bodies that have been turned into clean ones by exemplary efforts by civic bodies.

Usually it is the solid waste besides the sewage that finds its way into these streams. Industrial pollution is also a factor but can be identified and handled more easily.

The solid waste and sewage often come from thickly populated areas living next to the stream. There are socio-economic factors that requires a hard political will to change the status quo and implement changes.

Currently STPs installations are being enforced at various places. We must go to a level where the STP operations are good and the effluent unfailingly meet the required standards.



Fig. 4

Source: 'Over 60% of urban India's sewage enters water bodies untreated' - The Hindu BusinessLine



Fig. 5

Source: CPCB calls for sewage treatment plant in every urban settlement (livemint.com)

What are the measures you would suggest to the Civic authorities/Citizen Interest Groups/Urban community Groups that could aid the betterment of our urban water systems?

It is always a mix of assessment, infrastructure, source control of pollution, surveillance and enforcement that take you down the correct path.

Administration usually has the budgets, but practical and cost effective technology options must be developed by private players and that is what we are doing. There is need for new technologies in arresting silt transport in urban drains, monitoring effluent levels in polluted streams with unmanned crafts, and remediating lake water quality.

What has been the role played by Alphamers in taking on this challenge successfully and making a positive difference? Share some demonstrated examples/proud moments where Alphamers has helped the Civic authorities to transform Urban Water bodies.

AlphaMERS developed technology which is suitable for the problem on hand. The floating barriers managed to stop solid waste at convenient locations in flowing waters and allowed water to flow past easily. This made it a very low cost solution on per ton basis.



We developed tandem sweeping solutions for cleaning lake surface. We developed silt traps which is again modelled as a low cost solution. However these solutions did not deal with liquid effluents mixed in water column. We believe this must be dealt with by source control. Allowing the sewage and industrial effluents mix in water and then remediating it is a thankless work.



Fig. 6

Source: AlphaMERS Ltd - Floating Trash Barrier



Fig. 7

Source: AlphaMERS Ltd - Floating Trash Barrier

What is Alphamers' vision? How will it be instrumental in conserving and improving Urban Water Bodies for ensuring healthy urban environment?

*We believe we will continue to **develop, demonstrate and implement sensible technologies to deal with 'our' nature and scale of problems.** We wish to see **pristine clean waters** around us in our lifetime.*

It is our belief that we as Indians need to solve our problems and are fully capable of that. We cannot continue to shake our head in despair, or wish for everyone to be educated before we get up and act. We shall do our bit to make the change that we wish to see.

ABOUT THE WRITER



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Founder/ Director of **AlphaMERS**

DC Sekhar was captain of large seagoing oil tankers before he hung up his boots to develop new technologies. He has done finance management at Singapore and EGMP at IIM Bangalore. He is the founder director of AlphaMERS and has developed technologies for harnessing ocean wave energy, oil spill response, river clean up, robotics for cleaning up oil tanks and flood relief applications. With firm views on various contemporary issues, he is a firm believer in Indian ability to innovate its own solutions to its problems.

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