

**Centre for Science and
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Anil Agarwal dialogues
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Sewage as a resource

Offering Solutions to a Problem

- Practical and profitable ways to treat sewage.
- Nano technology based Nano nutrients called **NUALGI LAKES for Environment**
- **NUALGI FOLIAR SPRAY - Agriculture**

Indian patent 209364 dt. 27th Aug 2007

US patent 7,585,893 B2 dt. 8th Sept 2009

Major Sources of Pollution in Water

- Agriculture– Nitrates, Phosphates, Pesticide residues and agriculture chemicals.
- Sewage and food processing.
- Industrial Wastes.

Problems caused by Sewage

- Nutrients and organics in sewage boosts growth of Blue green algae
- Organics remove dissolved oxygen
- Putrefaction of organics – generation of methane and hydrogen sulfide gas. Bad odor.
- Roots need oxygen – so, sewage cannot be used for irrigation without treatment due to BOD.
- Growth of pathogenic bacteria
- Mosquito breeding
- Contamination of ground water.
- Sewage in Oceans helps growth of dinoflagellates and jelly fish not finfish.

Sewage containing ORGANICS

BACTERIA

Anaerobic

- Generates H_2S and methane
- Bad smell
- Treatment incomplete
- Pollutes ground water

Aerobic

Requires Oxygen
No bad Smell
Treatment Complete

Current methods of treatment

- **No treatment** : Anaerobic bacteria generate Hydrogen sulfide gas and methane- **Stink**-- Nitrates , nitrites and organics in ground water.
- **Treatment: Sewage treatment plants**
- Aerators – **Oxygen** --Activated sludge process
–Aerobic bacteria – Sludge removal
- Investment—Power--Running cost--Capacity restriction--Location and land

Nualgi Technology



**Add 1 liter Nualgi Lakes for
2 million Liters of Sewage water
Bloom of Diatom algae
Production of food and Oxygen
By Photosynthesis.**

**Oxygen helps Aerobic Bacteria
breakdown all Organics in water
Water gets supersaturated with
Pure Oxygen From Diatoms.**

Zooplankton and fish clean up water body

Diatoms and zooplankton Video

TOTAL VIDEO CONVERTER
[HTTP://EFFECTMATRIX.COM](http://effectmatrix.com)

Treatment of Sewage polluted lake

TOTAL VIDEO CONVERTER
[HTTP://EFFECTMATRIX.COM](http://effectmatrix.com)

Nano nutrients – Nualgi Lakes-Uses

- Food for zooplankton and fishes.
- Cleaning sewage polluted water bodies.
- Crashing out Blue green algae in ponds and rice fields - preventing methane generation.
- Providing oxygen in aerator ponds and large bodies of water.
- Carbon sequestration.
- Solving acidification of sea water and preventing the dying of corals.
- Mosquito control – Larvae eaten by zooplankton

Treated Lake adjacent to Jindal Nature Cure Hospital, Tumkur road, Bangalore



Customers

- Nualgi Lakes is being exported to M/s. Lake Savers and M/s. Clean flo USA for lake remediation and they have given their report.
- JSW steels is using in reservoirs to treat Blue green algae growth.
- Fishermen are using Nualgi to prevent Mass fish kill.
- Several farmers are using Nualgi Foliar spray to boost agriculture production and cut costs.

List of treated Lakes.

- Madivala lake, Bangalore.
- Nagawara kere, Hebbal Bangalore.
- Vengayyana kere, KR Puram, Bangalore
- Jindal Nature cure hospital lake, Bangalore.
- Ashok Leyland in Hosur plant.
- JSW Steel for treating their Reservoirs.
- Lake in Ooty is currently being treated.

Pollution from Agriculture



Soil application of inorganic Fertilizers can be stopped. Use of Nualgi Foliar Spray delivers all required nutrients directly to the leaf of the plants thus boosting Photosynthesis. It reduces costs, increases yields and avoids Pollution.

Benefits of Nualgi Technology

- All polluted water bodies including lakes, rivers and Oceans can be treated. Eg. Ganga, Yamuna, Dal lake, Cooum river, Mithi river etc can be brought back to their pristine glory at affordable cost.
- Global carbon dioxide can be sequestrated and replaced with oxygen.
- Dead zones in the ocean can be reoxygenated.
- The dying of corals can be prevented.
- The oceans can be repopulated with finfish rather than Jelly fish.

Q & A

Thank You