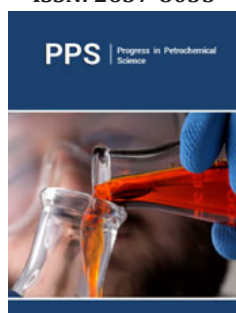


Green Revolution Killing Indian Lakes

Devendra Swaroop Bhargava*

Department of Environmental Engineering & Pollution Control, India

ISSN: 2637-8035



***Corresponding author:** Makarand R Gogate, Independent Consultant for Ch.E Education and Research, India

Submission:  September 09, 2020

Published:  September 23, 2020

Volume 3 - Issue 4

How to cite this article: Devendra Swaroop Bhargava. Green Revolution Killing Indian Lakes. Progress Petrochem Sci. 3(4). PPS. 000568. 2020.
DOI: [10.31031/PPS.2020.03.000568](https://doi.org/10.31031/PPS.2020.03.000568)

Copyright@ Devendra Swaroop Bhargava, This article is distributed under the terms of the Creative Commons Attribution 4.0 International License, which permits unrestricted use and redistribution provided that the original author and source are credited.

Abstract

Lakes in India had been serving as drinking-water-supply sources apart from other uses like recreation, boating, etc. Ever since the Green-Revolution (mastered & advocated by MS Swaminathan) was adopted in India without taking due regard of the possible adverse environmental impacts on lakes particularly due to the ignorance & greed of the illiterate-farmers, Indian lakes started dyeing. This paper attempts to bring out this serious environmental tragedy caused by the “pseudo-environmentalists” dominating the environmental scenario and decision-making in India.

Keywords: Green revolution; Indian lakes; Chemicals; Eutrophication; Algae

Introduction

Lakes in general get created naturally or are man-made to serve the various human needs. Apart from serving as Water-Resources, they also receive run-offs during monsoon times and the wastewaters generated around them including from the agricultural activities/fields. Thus, undesirable material and pollutants of varying kinds find their entry into the lakes. Some of these pollutants are taken care of by the nature but some special pollutants damage the very existence of the lakes, thanks to the stated ‘green-revolution’. The world-famous Dal-Lake in the J&K state of India had been the greatest victim.

The Dyeing of Lakes via Green Revolution

To improve agricultural-yield, synthetic nutrients (N,K & P) along with insecticides/pesticides were added to the agricultural fields as per the green-revolution’s main theme. The doses of these nutrients depend on the varying and numerous parameters of the agricultural fields and desired crops. Indian farmers were/are mostly illiterates of a higher level/order apart from being greedy like most other business-people. They, therefore, added much higher amounts/doses of these chemicals in the hope of a bumper crops with complete killing of insects and pests. Thus, lots of unused insecticides and pesticides were left over on the agricultural fields only to be washed off with runoffs from the agricultural-lands and pollute the various water-resources including the rivers and lakes.

It is to be understood and recalled that unlike the human-beings, plants and animals cannot/do not uptake or feed on their food once they are full or after their hunger is satisfied. As a result, all the extra or the leftover food/nutrients is washed out with runs-offs from the agricultural lands/fields only to enter into the rivers and lakes.

In the lakes, ponds, confined water-storages/bodies, etc. these nutrients along with carbon-dioxide (produced by the aerobic-bacteria through the disintegration of organic matter, present in all waters, in the presence of oxygen) in the presence of sun-light serve the needs to produce algae which in turn gives out oxygen needed by the aerobic bacteria while stabilizing, the organic matter. The algae blooms in the presence of high concentrations of the stated nutrients. Therefore, when all the nutrients are utilized/finished, the algae

begin to die and since the dead algae cannot float, it starts settling to reach the lake-bottom. The settled bottom-algae, an organic-matter, begins to get stabilized aerobically first and soon thereafter when all the Dissolved-Oxygen in the lake-bottom is utilized/finished, it starts getting stabilized anaerobically only to produce foul-gases like methane, inert residual fibrous-material and release nutrients which diffuse upwards to reach the lake-top where, in the presence of carbon-dioxide and sunlight, they again start aiding the production of algae as algal-blooms. This cycled-process is called "eutrophication" (a bio-algal symbiosis process) and once this process of eutrophication starts in a lake, it never ends as discussed above. But the above-stated fibrous-material keeps collecting and building up at the lake-bottom such that it occupies significant lake-depth in a time span of several decades. This phenomenon was reportedly observed in around 1960 in J&K State's "Dal"-lake when a foreign-tourist staying in a house-boat (a boat with built-in bed-room+toilet) took a spring-board dive into the lake but

never came-up because he got entangled in the above-stated heavy fibrous-builtip.

After numerous decades, the thickly built and compressed fibrous-layer occupies the entire lake-depth to produce marshland which later is reclaimed for constructions to denote a complete death of a lake.

Thus, eutrophication has partly killed the above-said Dal lake and is fast taking other lakes towards their end. This is the disastrous-Gift of Green-Revolution enforced by its master, Dr. MS Swaminathan who enforced the Green-Revolution without anticipating its adverse impacts and consequences of its implementation by the illiterate farmers. It is very unfortunate for India not taking corrective measures. On top is the fact that India's blind-faith in Dr. MS Swaminathan is reflected in the approval of a proposed Super-Green Revolution in India.

For possible submissions Click below:

[Submit Article](#)