Haryana's Water Resources Severely Affected by the Green-Revolution

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***Abstract*- The green revolution advocated the use of synthetic chemical fertilizers apart from insecticides and pesticides. Indian farmers, mostly illiterate, made indiscriminate use of these chemicals without realizing the adverse environmental impacts and implications. These left over chemicals reached the various water resources only to contaminate them apart from causing eutrophication of lakes/ponds and their subsequent death. This paper discusses such aspects and related present and future dangers that people of Haryana (a state whose economy is mainly agriculturally based) and other parts of India would be subjected to.**

Keywords: Eutrophication; water-pollution; green-revolution; pseudo-environmentalists

I. INTRODUCTION

The 'Green-Revolution' was advocated by MS Swaminathan. It was meant to advise the farmers to supplement their agricultural fields farming with additional amounts of synthetic chemical fertilizers as plant nutrients in addition to chemically produced insecticides and pesticides for destroying the various kinds of insects and pests respectively that cause damage to the crop yields by consuming as well as by damaging the crops in varying ways. It was fully supported by the numerous agricultural and other scientists who backed it with all their might to obtain government support and approval without realizing or anticipating the various environmental impacts, effects and consequences of the future. The result was a bumper production of these chemicals by the numerous industries for use of the farmers.

II. THE GREEDY FARMERS

In India, a very large number of farmers are illiterate and do not understand many things in their right perspective and like most people, they too are greedy enough to desire bumper yield of their crops and all that of the largest possible sizes apart from their least destruction by the various insects and pests. Naturally therefore, large and more than the required amounts of these chemical fertilizers, insecticides and pesticides are added by the farmers onto their agricultural fields as also the 'green-revolution' was almost forced on the poor farmers. At any level, there exists no effective control or authority to regulate and/or calculate or check the needed doses of these chemicals for every farmer's field and the farmers out of their greed and/or ignorance, add excessive amounts of these chemicals in the hope of bumper yields of biggest possible crop/fruit sizes with zero damage by the insects and pests. Unlike humans but like animals, the plants and crops do not over-feed themselves or consume their nutrients/food more than the needed amounts. Therefore, the unconsumed amounts of these chemicals are left over on the fields only to be carried away with rain waters (referred to as the 'agricultural runoff') and/or percolate into the grounds only to pollute the various surface water resources as well as ground-waters.

III. IMPLICATIONS OF WATERS POLLUTED WITH AGRICULTURAL RUNOFFS

Thus, the various water resources in India get severely polluted with chemical fertilizers (providing nutrients) apart from insecticides and pesticides, the cumulative type of poisons which cannot be removed through water treatment at public or municipal level. Therefore, when such waters, polluted with these cumulative type of poisons are consumed by human beings (or animals) these poisons get deposited in some favorite or affinity having body-organ(s) only to accumulate with time such that when their concentration becomes beyond a certain level, the organ(s) where they got deposited stops functioning properly resulting in the stated organ-failure and subsequent death. Likewise, the entry of synthetic fertilizers into lakes/ponds encouraged photosynthesis process resulting in oxygen production and big algal growth due to the availability of sun-light and carbon dioxide generated from aerobic bacterial activities in the lakes/ponds, manifesting a bio-algal symbiosis. This heavy algal bloom soon depletes oxygen only to result in algal death. The dead algae reaches the lake bottom only to undergo anaerobic digestion to result in inert fibrous material, foul-smelling gases and release of nutrients which diffuse to lake top only to restart the photosynthetic process. This process goes on and on and the inert material left in the lake bottom keeps on building to decrease the effective lake depth on a continuous basis such that after a long period, the lake converts into a marsh-land (meaning the death of the lake/pond) only to be reclaimed later for building colonies. Therefore, this process, the 'eutrophication' once started in a lake/pond would never end and ensures the death of a lake/pond. Dal l;ake in J & K state in India is a case example and many lakes lilke Badkal in Haryana and other places are fast approaching to meet this fate. For these

tragedies, no one can be blamed except the advocators of 'green-revolution', the biggest environmental disaster in India, especially in Haryana where economy is based mostly on agriculture. Imagine the exponentially increasing danger created by the scientists who invented and advocated the so called 'green-revolution' which proved a severe 'bane' rather than the much advocated and expected 'boon' in an agricultural revolution. It happened because these scientists (most of them now also call themselves as environmentalists out of sheer fashion due to the internationality of the 'environment' term) severely lacked knowledge of environment, environmental implications, environmental technology, related hydraulics (the science/technology of water flow), mathematics, etc. and in-fact are mere pseudo-environmentalists (kind of imposters). Because of the dominance of pseudo-environmentalists at most environment-related decision-making levels, a situation is fast approaching when there will be water and water all around, but not a drop of it will be fit enough for human consumption. Another scientist of India (whose organization shared a climate-related Nobel-prize) was at least honest enough to have admitted to some mistakes in global-warming assessments (www.thehindu.com/news/national/pachauri-admits-mistake-in-ipcc-report/article93653.ece) and yet another topmost positioned Indian scientist committed plagiarism (www.ithenticate.com/plagiarism-detection-blog/bid/79335/Science-Advisor-to-India-s-Prime-Minister-Connected-to-Plagiarism#.VjUqb9KrSt8) despite which he was bestowed with the highest Indian honor, the "*Bharat-Ratna*" (meaning a 'Jewel of India'). India's ministry of environment, the administrative and decision making national body/authority is full of pseudo (something or someone fake trying to pass as the real thing – a fraud or imposter, vide www.vocabulary.com/dictionary/pseudo; violentmetaphors.com/2013/05/17/whats-the-difference-between-science-and-pseudo-science/) -environmentalists and considers the real environmental engineers as virus and out-castes which fact is well manifested by the failure of environmental projects including the various Ganga-action-plans executed for the cleaning of Ganga, one of the world's dirtiest river, vide a report published in International journal Nature saying that pollution level in this river was about 3000 times of the safe limit prescribed by the World Health Organization (WHO) for human use (*Hindustan Times, Dehradun ed., 15th August 2014)*. May the God help India as the Indian government is seriously contemplating a 'super green revolution'?

IV. CONCLUSION

On one hand we are dumping sewage into our rivers and lakes only to make them polluted and on the other hand we are depriving the farmers of organic farming which fetches them more revenue. I wish a good sense would prevail when sewage is sold to the farmers as per their requirements, thus not only the organic farming would be encouraged but also our rivers and lakes too will be prevented from getting polluted. On top of this, the farmers will get sewage for irrigating their farms even during the drought times when many Indian farmers are forced to commit suicide.