

Pandemic lockdown- the rejuvenation of freshwater bodies- the Ponds

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ABSTRACT

Due to the emission of greenhouse gases, our country was highly polluted before the COVID-19 lockdown. The over exploitation of natural resources like soil, air and water adversely affected the environment. The negative impact of lockdown was evident on the global economy, human life styles, mental health, tourism etc. However, a positive impact on air quality, clean water and undisturbed forests has been evident. The findings may be useful in guiding future strategies to maintain environmental quality by adopting a well-planned lockdown strategy.

Figure : 00

References : 26

Table : 00

KEY WORDS : Fresh water bodies, Pandemic lockdowns, Rejuvenation.

Introduction

Industrial revolution around the world has resulted in the development worldwide and has seen contributing towards the deteriorating climate change causing water, air and soil pollution. These conditions have been gradually transforming the water bodies very poorly, damaging the ecosystem. In December 2019 with the outbreak of Coronavirus disease (COVID-19) due to Coronavirus from Wuhan China⁶, the entire world environment was under its trap. India was no exception and the first case was reported from Kerala on 30 January 2020 in a student who came from China, later the outbreak of the pandemic spread throughout the country causing heavy death toll. The Central Government took the step to impose historic lockdown to control the pandemic. It took many lives but due to complete breakdown of industrial and partial social activities there has been a tremendous improvement in climatic pollution, a boon in disguise.

The historic lockdown in the country was imposed which has positive impact on the climatic conditions and the entire world has seen the power of rejuvenation of nature by itself²⁰. From the prehistoric era we know the absolute truth and preaching of the Vedas and Puranas for the conservation of nature. We have been worshipping it but in the last few centuries with the advent of so-called development (only for the goal with selfish motives, overexploitation of nature has been done), we have been targeting selfish goals, irrespective of their bad effects

on nature. The results have been seen by all of us. Pollution control of the environment to its extremity in all the aquatic, terrestrial as well as aerial was observed.

The present paper has been prepared specially with reference to the ponds in the country which provide a large ecosystem providing many services.

Ponds and their services

In this context, studies on the role of ponds have been evaluated which have been created by nature as well as human beings. Ponds include a wide range of standing freshwater bodies of varying sizes and with a variety of hydroperiod characteristics^{2,21}. About 2% of the area of the total earth is covered by the ponds¹⁰. Approximately 30% of the total surface area of the standing water is represented by freshwater resources¹². These are very viable economically and have been providing lots of services for the welfare of human beings which have been dependent upon them directly or indirectly. These services can be grouped as provisioning, regulatory and cultural services. Provisioning services are provided by the ponds including the economically important species of plant and animals for food, fuel and water. Regulatory services include the management of climate, floods and water quality. Cultural services include their spiritual and ethical importance attracting tourism, enjoyment and recreational activities^{3,4,7,15,17,23,24}. The importance of the services provided by these ecosystems cannot be underestimated. Carbon cycling is one of the most

important roles played by them¹¹. Ecological interaction between benthic and riparian habitats should be stronger in small and shallow lakes because of the perimeter; area ratio generally increases with the surface area and depth²⁰. Ponds are significant in terms of global carbon cycle⁹. Ponds may be extremely significant in the biogeochemical cycle¹². Their role in pollination, through many insects harbouring in the ponds, is also great. Syrphidae and bees are good examples and crops like strawberries²². Ponds provide a good space for outdoor scientific activities as they harbor a variety of invertebrates, algae, zooplanktons and some fish species¹⁶. In nutshell the ponds are working as eyes of landscapes on the earth performing the serious roles as that of eyes in the human.

Ponds under threat

The ponds have been damaged by enormous activities of the human population. Urbanization, over exploitation of resources, illegal fishing, indiscriminate addition of toxic pollutants have been causing great threat for these ecosystems. Explosive increase of human population and growth of invasive species has caused a tremendous transformation of ponds affecting the biodiversity adversely^{1,24}. Climatic changes have played adversely major role for the existence and survival of species and the sustainability of the ponds worldwide. The effect of the growth of invasive and non-invasive species is alarming and has been affecting the biodiversity of these ecosystems^{13,19}. Efforts for the conservation of these important pond ecosystems are not sufficient enough to maintain their healthy survival neither at government level nor by the local human societies. Lot of planned programs for the conservation of these ponds are required to be done by the Government agencies as well as non-governmental organizations.

Effect of lockdown activities on ponds

Nature has to take the task to rejuvenate itself.

We have witnessed the change in the environment. The level of greenhouse gases has come down to as low as that has not been witnessed ever since the 2nd world war¹⁴. The most common practice to save from corona like social distancing and minimum industrial activities has brought down the level of greenhouse gases due to minimum use of automobiles and negligible effluent discharge from the factories⁵. Due to complete lockdown all the unwanted extra human activities were forced to minimum and hence the environment quality improved²⁵. The air pollution index has come down to almost normal just because of the minimum use of the transport vehicle and almost great shutdown of industries¹⁸. The rivers are flowing with clean and clear water due to the minimum discharge of effluents from industries because of industrial shutdown which caused improvement of water quality⁸. Similarly, the water bodies, lakes and ponds also witnessed improvement due to less construction activities and poultry waste¹⁹. However, the biomedical waste disposed from the hospital has been affecting the nearby dwellers as the groundwater has also been found to be affected by their waste disposals in the water bodies⁸.

These ponds have started restabilizing their lost flora and fauna. Many plants and animal species have been found coming back to their lost homes. These are the useful after effects which can be credited to the forced lockdown which effected minimum and manageable effluent discharge into the natural water system and environment.

Conclusion

During the calm and quiet period we should plan the strategies in order to maintain the environmental standards which nature has maintained during the forced lockdown period due to the threats of corona pandemic. Hope we will change and modify our lifestyle in order to get a balanced environment for all animal and plant life including human beings to thrive in the healthy atmosphere.

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