

Comparative Limnological Studies of Two Ponds (Blue and Milk Pond) of Chandaneswar Temple in Orissa

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Abstract

The study was carried out on the limnological aspects of two pond of Chandaneswar temple in Orissa. Seven physico-chemical parameters were analyzed and its seasonal variations discussed. Many of the parameters showed high values in Blue pond but many of the parameters were found to be below the permissible limits for drinking purpose in Milk pond.

Key words : Limnological studies, Blue pond, Milk pond, Chandaneswar temple.

A series of workers have studied the limnology of stagnant water bodies in India (1-8). A considerable amount of literature is also found on plankton and its relationship with various environmental and physico-chemical features (9-13). The literature shows that limnological information of fresh water lentic system is quit scanty for Orissa in general, and for areas around Chandaneswar temple pond no studies have so far been made. Therefore, a comparative limnological investigation was undertaken in the present study.

Study Area

Area is located in the West Bengal and Orissa border and it is situated in Orissa state. The seashore is about 7 km away from the Chandaneswar temple. The temple, which is more than 400 years old, having two fresh water ponds. Pond-1 is situated on the left side of the temple and the pond-2 on the right side of the temple. In Blue pond (1) color of water was grayish black. This pond was used for various domestic purposes like bathing, hair cutting before offering puja to the God inside the temple. The human excreta were observed in floating condition particularly on east and west embankment of the pond. Some

floating weeds like water hyacinth are also present in the pond. The pond embankment was covered with the vegetation like grasses (*Cynodon dactylon* was dominant) and different herbs and shrubs.

The Milk pond was located on the right side of the temple. The color of the pond water greenish. As it is a holy Milk pond, it was used sparingly for domestic purpose. The pond embankment was cemented for which there were no vegetations. The area of this pond (pond-2) is comparatively larger than that of Blue pond (pond-1).

Methods

Composite water samples were drawn from four corners of the two ponds. Samples were taken in sterilized glass bottles for analysis of free CO_2 , BOD and chloride. These were estimated by using standard methods in the laboratory. Other aquatic parameters, such as DO, pH, water temperature, electrical conductivity, were measured with the help of water quality checker kits (Emarck). The results were expressed in mg/liter except for temperature, pH, electrical conductivity.

Results and Discussion

The comparative study of water quality of Blue