

Executive Summary

entitled

“Comparative study in planktonic productivity, Ecology and Diversity in Hartala lake of North Maharashtra Region”.

A MINOR RESEARCH PROJECT CARRIED OUT UNDER THE FINANCIAL ASSISTANCE OF UNIVERSITY GRANTS COMMISSION, WRO, PUNE.

Submitted by:

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INTRODUCTION:

With the continuous increase in human population and its constant demand on the fresh water resources of the globe ,there has been a “compounding of the interrelationship between algae and man” (Jackson,1964).This relationship has become all the more complex and important with advances in technology and increased eutrophication of lakes and streams. Problems of test, odour, toxicity or obnoxious growth caused by algae are common.In order to explore these problems ,it is necessary to have adequate basic knowledge of algal taxonomy, physiology, ecology and control of algae.

ORIGIN OF THE RESEARCH PROBLEM:

As per the proposed work in minor research project, in this first phase I have the project was carried out to know the efficiency of micronutrients present in the lake in our study we have observed that the domestic water and human excreta is dumped in the lake so the impact of this human activity is more on the lake. The lake water is polluted due to these activities so it is need

to be conserved and protect by stopping the release of human excreta, sewage and domestic waste. We suggest that this lake should be protected by the authority being polluted with certain activity which has mention above.

OBJECTIVES OF THE STUDY:

- 1) To study the possibility of using advance technique for planktonic diversity and Ecology.
- 2) Explore the flora and fauna with Ecological diversity of lake Hartala.
- 3) Lotic and Lentic zone of the study area will be selected to know its diversity of Phytoplankton and Zooplankton. This will help to know the basic requirement of Hartala lake.
- 4) Physico-chemical analysis will be carried out to know the water quality of an area.
- 5) This will open a new area of research regarding Ecological diversity and community analysis of Zooplankton.
- 6) This research will helpful as an basic data for coming researchers in the form of sample collection and identification Zooplankton species diversity indices, qualitative list of Zooplanktons and soon.

METHODOLOGY:

The environmental pollution problem has been investigated from the study area i.e. The Hartala lake. The project work was to explore the flora and fauna with ecological diversity of the lake. We have carried out the study on phytoplankton and zooplankton diversity to know the basic requirement of the lake. Identification of phytoplankton and zooplankton were done which is most important to know the Biodiversity of the lake. Seasonal variations for physico-chemical parameters were analyzed.

ACHIEVEMENTS FROM THE PROJECT:

The project was carried out to know the efficiency of micronutrients present in the lake in our study we have observed that the domestic water and human excreta is dumped in the lake so the impact of this human activity is more on the lake. The lake water is polluted due to these activities so it is need to be conserved and protect by stopping the release of human excreta, sewage and domestic waste. We suggest that this lake should be protected by the authority being polluted with certain activity which has mention above.

CONTRIBUTION TO THE SOCIETY:

Biological monitoring has provided a valuable and convenient basis for determining river water quality due to increase awareness of the requirement for information on Hartala lake. If the vertical distribution of fecal and total coliform bacteria observed in the lake it should be helpful for the information to the common peoples and policy makers. Utilizing Hartala lake water,

compare to other water criteria of some cities in Maharashtra, the source of drinking water of this part of Hartala village i.e. of Muktainagar, Dist. Jalgaon will be higher and lower values. However the suggestions for comfortably use after normal treatment will be suggested accordingly. Phytoplankton and Zooplankton community will be observing in more diverse and detail study upto species level will be conducted. The suggestion made in this project will be useful as guideline to policy makers for Hartala lake in North Maharashtra region regarding planktonic productivity, Ecology and diversity. This research contributes to the study and development of awareness to the common people in an area of Hartala village lake. The lakes have relatively recent features and can be classified into following types on the basis of origin as tectonic lakes, volcanic lakes, glacial lakes, solutions basin formed by streams, manmade activities in lakes. Natural Hartala lakes were destroyed in 1822 by flood which over topped and breached the lake. Now a days artificial lake has been form which draining six miles from the point source and to construct and repair of lake, building of a waste weir to provide pass way for the escape of flood water and of channels for irrigation facilities is provided. The reconstruction of the outlets and the construction of the channel to increase the drainage area of 6.61 sq. miles are in progress.

CONCLUSION:

Biological monitoring has provided a valuable and convenient basis for determining river water quality due to increase awareness of the requirement for information on Hartala lake. If the vertical distribution of fecal and total coliform bacteria observed in the lake it should be helpful for the information to the common peoples and policy makers. Utilizing Hartala lake water, compare to other water criteria of some cities in Maharashtra, the source of drinking water of this part of Hartala village i.e. of Muktainagar, Dist. Jalgaon will be higher and lower values. However the suggestions for comfortably use after normal treatment will be suggested accordingly. Phytoplankton and Zooplankton community will be observing in more diverse and detail study upto species level will be conducted. The suggestion made in this project will be useful as guideline to policy makers for Hartala lake in North Maharashtra region regarding planktonic productivity, Ecology and diversity. This research contributes to the study and development of awareness to the common people in an area of Hartala village lake. The lakes have relatively recent features and can be classified into following types on the basis of origin as tectonic lakes, volcanic lakes, glacial lakes, solutions basin formed by streams, manmade activities in lakes. Natural Hartala lakes were destroyed in 1822 by flood which over topped and breached the lake. Now a days artificial lake has been form

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