GOVERNMENT DEGREE COLLEGE

LUXETTIPET, DIST. MANCHERIAL

STUDENT STUDY PROJECT

DEPARTMENT OF ZOOLOGY

2019-20

NAME OF THE STUDENTS:	COURSE & YEAR
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GOVERNMENT DEGREE COLLEGE,LUXETTIPET

STUDENT STUDY PROJECT-2019-2020

DEPARTMENT OF ZOOLOGY

CERTIFICATE

Certified that the following students team conducted student study project on the topic "Limnological Study of Mother River" under the supervision of P. Chandrashekar, Lecturer in Zoology, Government Degree College,Luxettipet.

Name of the Students:

1.	R. Umamaheshwari	BZC III
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LIMONOLOGICAL STUDY OF MOTHE RIVER

JAGTIAL (DISTRICT) TELENGANA STATE

INTRODUCTION:

Water is one of the abundantly available substances in nature, which man has exploited more than other resources for the sustenance of life water of good quality is required for living organisms. Now a days due to increased human population and made conditions, the water quality is deteriorating everywhere.

Water quality provides current information about the concentration of various solutes at a given place and time. Water quality parameters provide the basis for judging the suitability of water for its designated used and to improve existing conditions. For optimum development and management for the beneficial uses, current information is needed which provided by water quality programmers. Unequal distribution of water on the surface of the earth and fast decaling availability of usable fresh water are the major concerns in terms of water quantity and quality.

The study of different water parameters is very important for understanding of the metabolic events in aquatic ecosystem. The parameters influence each other and also the sediment parameters, as well as they govern the abundance and distribution of the flora and fauna. Therefore, it has become obligatory to analyze at least the important water parameters when ecological studies on aquatic ecosystem are carried out. Such studies when done from time to time can indicate the favorable or unfavorable changes occurring in the ecosystem.

If you take a sample from a pond or a lake or a dam, you will find impressive range of living things .However if you then sample in a different lake or may be a salt marsh, you realize that the total variety of freshwater organisms is even greater .In this section you will find more information on types of animals and plants..

A smallest size fraction of life in freshwater microscopic plankton, bacteria viruses' farm an important part of the aquatic food web. The zooplankton feeds on the smaller organisms and it, at its turn, fed on by larger invertebrates and fish.

Larger aquatic plants and algae are often called macrophytes. These can be free floating on the surface, or rooted to the bottom with floating or submerged leaves. Some macrophytes can form dense stands of vegetation which is important as habitats and widing places for many chemicals that live near or in water.

OBJECTIVES :

1. Study of Physico-chemical in Mothe River
2. Estimation of Productivity - EPP, GPP.
3. Study of biodiiversity a Mothe River
4. Study of Phytoplanktons and zoopanktons in Mothe River
5. Study of biochemical of flora, fauna and fishes.
6. Identification of fishes with suitable references.
7. Biochemical total carbhohydrates, proteins and lipids.
8. Total Yield percentage in the Mothe River.
9. To analysis the seasonal variation in the physico-chemicals and biological parameters in Mothe River.
10. To analyze the present status and categories of freshwater and fishery from Mothe River.
11. Photographic collecting.

METHODOLOGY :

1. APHA Adopted 2012 methods American public health association
2. Water analysis digital kit.
3. sedzewick grapter method for screening.
4. Microscopic identification of flora and fauna.

STUDY AREA :

JAGTIAL is a city and municpal corporation in Jagtial district in the state of Telangana, India, Jagtial town is one of 16 Mandals in the Jagtial district. Our study are is located in Jagtial District.

Mothe River is 3km for Jagtial. The Forest spread along with the summer house, well laid out gardens, looked as it in island.

Astalaxmi Temple is popular Hindu Temple which is located Near by Mothe River. This Magnificent Temple dedicated to godeness laxmi stands distinctly on the out skirts of the city.

INTERNATIONAL STATUS:

The type-specific taxa for reference conditions as indicators for high ecological status in oligo-humic waters were taxa reported to indicate oligotrophic conditions. These taxa should be present at least by 50% in waters having a high ecological status. Some taxa were typical for impacted waters. Furthermore, there are numerous indifferent taxa. Interestingly, some taxa type-specific for impacted oligo-humic lakes proved to be the type-specific taxa for humic reference lakes. When the lakes are correctly grouped into lake types and into reference and impacted lakes, the taxa list agrees with the observations of phytoplankton assemblages in lakes of e.g. various trophic status and water colours. This result is also in accordance with our longtime observations from phytoplankton assemblages in boreal lakes.

(Type-specific and indicator taxa of phytoplankton as a quality criterion for assessing the ecological status of Finnish boreal lakes Liisa Lepist6 I,*, Anna-Liisa Holopainen 2, Heidi Vuoristo1 Finnish Environment Institute, Helsinki, Finland 2 Karelian Research Institute, University of Joensuu and North Karelian Environment Centre, Joensuu, Finland)

Human activities expose ecological systems to a wide range of stressors, whose direct, indirect, and interactive effects can vary depending on systems, species, and stressor characteristics. Although the ''static'' effects of single stressors are relatively well studied in aquatic systems worldwide, understanding how their effects interact with natural environmental variability is still poorly understood (Breitburg et al. 1998). Here, we show that the temporal changes that characterize dynamic natural systems also increase the unpredictability of the effects of even a single stressor, whereby the same stressor may have quite different effects depending on the dynamic state of system level processes and system functions analyzed. Although such findings are notable, the extent of our results under represents its complexity. For example, the uncertainty behind the outcome of human changes on natural ecosystems may become more severe along with broader and continental-scale threats predicted for the future. Broad- and continental-scale human-induced changes are expected to alter the natural variability of ecological phenomena. For example, climate change or alterations may change precipitation patterns, thereby altering the hydrological regime of aquatic ecosystems and additionally facilitating marine intrusions into coastal ecosystems due to the predicted scenario of increased sea level (Nicholls et al. 1999). Particularly for the case of Neotropical countries all of these modifications may represent important ecological changes that may compromise key ecosystem properties, and especially the ecosystem goods and services such as fisheries they provide to local traditional populations. In this context, understanding the mechanisms of interaction between current human-mediated stressors and natural ecological drivers will be decisive for applying ecological knowledge in solving and predicting environmental problems related to aquatic inland ecosystems.

(Interactive effects of environmental variability and human impacts on thelong-term dynamics of an Amazonian floodplain lake and a South Atlantic coastal lagoon -Reinaldo L. Bozelli , Adriano Calimana)

NATIONAL STATUS :

In any aquatic ecosystem limnological characteristic can affect both fauna and flora .Biodiversity contribute both directly and indirectly to human such as food for good health, security, social relationship, life and freedom for choice etc. In last decade people interfere with ecosystem and over exploitation of natural resources its result that biodiversity decreases. But the losses in biodiversity and change in ecosystem service have adversely affected the well-being. The present study is relevant to limnological study, biodiversity of plankton and fishes (species) in lake pichhola. This study explains that lake pichhola are in rich biodiversity of plankton, fishes and need to conservation in future.

(Limnology and fisheries Research Laboratory Department of Zoology , University college of science of M.L Sukhadia university , Udaipur (Rajasthan)-INDIA.)

The Madar Tank has been found as mesotrophic. The presences of a number of Zooplanktons also indicate that Madar Tank is little organically rich water body. In this tank we reported some zooplanktons are related to oligotrophic water bodies whereas some are related to eutrophic water bodies and some of them are showing their special preference to mesotrophic environment. Madar Tank is unique due to its spatial division i.e. Southern dam side part of this lake is related to human activities (Domestic and agriculture use) and some of the area towards north-east side is free from any contamination.

(Zooplanktonic Fauna in Relation to Physico-Chemical Characteristics in Madar Tank, Udaipur, Rajasthan, IndiaSharma Vipul1, Verma Bhoopendra Kumar1and Sharma Madhu Sudan2

1 Department of Zoology, University College of Science, Mohan Lal Sukhadia University, Udaipur, Rajasthan, INDIA .2 Vice-chancellor University of Kota, Rajasthan, INDIA)

SIGNIFICANCE OF THE STUDY:

Limnology in the 21st century: the importance of freshwater ecosystems as model systems in ecology and evolution- SIGNIFICANCE OF THE STUDY

Advancements in science operate in a complex way, with sudden paradigm shifts more than as a linear accumulation of knowledge and wisdom. Thus, the aim of this volume is twofold: on one hand we want to work on the linear accumulations, by reviewing of the state of the art and points of view to summarize the foundations of what has been done in the different aspects of limnology; on the other hand, we want to help directing the future shifts in limnology, with scientists from other disciplines pro- viding their external advice to describe how new tools, methods, technologies and paradigms may change the way limnologists work. The rationale for the existence of the volume, celebrating the 75th anniversary of the Institute of Ecosystem Study (former known as Italian Institute of Hydrobiology) located in Verbania Pallanza, is that limnology has been important in the development of several ecological aspects, and still has many suggestions to offer. Limnology is the study of in-land waters, but given that historically the Institute focused on lentic systems such as lakes and ponds, this celebratory volume will focus mostly on such habitats. Once a fundamental part of ecological studies, limnology has experienced a failure to keep up with the moving scientific trends. Limnologists were among the leading names in ecology most of their studies on plankton and eutrophication lead to the developments of current ecological sciences and tracked the ways towards new visions and approaches (e.g., Reynolds, Peters, Harris). Nowadays, lakes and ponds may still be exploited to advance science. They could be used as model systems, for bio-manipulation experiments, for their high local biological Non-commercial use only second one highlights the importance of the Institute in the field of limnology, span Non-commercial use only diversity and, thanks to the availability of many long-term data series, for their response to environmental changes, and for everything we learned from polluting and recovering them. The rationale of this volume is to deal with these problems, in order to give limnology its important place in science again.

The present work has been divided into three chapters, Introduction, materials and methods, Results and discussions.

The first chapter deals with the introduction of water and sediment quality, biotic communities, productivity, etc.

The second chapter deals with the materials methods used for the present study. Methods adopted for physico-chemical analysis of water and sediment were included in the chapter. Quantitative and qualitative planktonic analysis, fishing craft and tackle and estimation of production potentiality methods were also included. The planning of the work, the stocking sizes of seed, estimation of survival rates and growth rates were also included. The biostatistics like standard deviation and significance tests were used.

The third chapter includes the results and discussion, in which various aspects of reservoir. Fisheries like physico-chemical parameters of water and sediment quality and quantitative analysis of phytoplankton and zooplankton, grass primary productivity, fish production and potentialities, stocking densities, management, were analyzed discussed and presented the data with the help of tables and graphs.