

PREFACE

Department of Zoology, Yashwantrao Chavan Institute of science, Satara is approved as subcentre for M.Phil. studies in Zoology of the Shivaji University, Kolhapur. Department of Zoology, Yashwantrao Chavan Institute of Science, Satara is actively engaged in the hydrobiological studies of the near by rivers and water reservoirs. Growing population, agricultural and industrial development of society and indiscriminate and injudicious use of toxicants is responsible for the pollution of water bodies.

Liquid water covers about three quarters of earth's surface either as ocean or fresh water. Virtually all these water contains life in one form or other. Global aquatic systems fall into two broad classes namely, fresh water ecosystems and salt water ecosystems. Fresh water ecosystems are conveniently divided into two groups i.e. Lotic or running water habitats and lentic or standing water habitats. The later comprises ponds, lakes and reservoirs (Verma, 1987).

The number of man-made reservoirs in India has greatly increased over the last two or three decades. The shape and size of these reservoirs depends on the topography of the area in which they were built as well as on the primary functions of the reservoir. Most reservoirs built for the irrigation, hydropower generation, industrial

or domestic uses. In India, reservoirs existed since rivers have been dammed for irrigation. However fisheries in such reservoirs are a recent phenomenon, significantly only during last three decades. Most developing countries in the region have not yet fully recognized the importance of aquaculture in the reservoirs and therefore do not include provisions for fisheries in the planning of them. However, in China, pre-impoundment studies on fisheries are carried out in man made reservoirs. The high water temperature of lakes and reservoirs at low latitude create an environment conducive for fast growth of fish (Rajbanshi, 1984).

The present limnological investigation of man made water reservoir at Triputi (District Satara – Maharashtra) records the biotic components and other aspects provide a guideline for Judicious use of water for village population and increased production of fishery resources. Physicochemical parameters have profound influence on the biotic communities of an aquatic ecosystem. It determines distribution and diversity of organisms in aquatic habitat and also represents the quality of water for human use.

The inland water bodies in India exhibit distinct seasonal fluctuations in their physiochemical and biological features and these factors vary from region to region. Thus assessment of their conditions in reservoir water is always useful in determining the

suitability of these reservoir for fish production. However, the assessment of water quality based on its physicochemical properties in an important aspect for the implementation of developmental activities of the particular region.

The review of fish catch survey of the district brings into a notice that, capture fishery as predominant. The popular species are Labio rohita, Cirrhinus mrigala and Catla catla, used in most of the aquaculture practices in the region Government and few private fish production centres make the seedlings of the carps available to the fishermen.

Considering the importance of biological productivity in human welfare, recent years work on bioproductivity, soil relationship and pollution ecology were directed at different ecosystems. Biological resources are forming the basis of all future welfare and food security of the nation. Considering fish as a bio-product obtained from aqueous ecosystem, the fishery sector provide ample opportunities of employment, low value proteinic food and export earnings. Time has come to take a back glance towards the evaluation of the productivity potential of the man-made and natural water bodies and efforts are also needed for their renovation and reclamation for human welfare and ecologically balanced use of the water resources available to us.

The quality of water in the Triputi reservoir near Satara city has been studied by observing different physico-chemical factors.

The dissertation is divided into five chapters. The first chapter includes introduction, review of literature, on hydrobiological studies and related work. The second chapter deals with material and methods employed in the present investigation. The third chapter is confined on result of physicochemical parameters of Triputi reservoir near Satara city. Chapter fourth will include discussion on present investigation. Chapter fifth comprised the general summary and concluding remarks. The references cited in the various chapters will be summarized at the end of the dissertation as bibliography.

I assume responsibility for the opinions expressed in the present dissertation and for omission and errors if any. I feel present dissertation will be interesting, informative and stimulatory to the readers and research scholars.