PREFACE

Lotic river water is subjected to multiple human uses. Biological components are integrated to physical and chemical attributes of water bodies. Urbanization breeds changes in ecological equilibrium of waters and perhaps pollutant input load into the water systems is growing beyond comprehension. Aquatic ecosystems have the ability to assimilate certain amount of waste material and maintain normal function. With constant use and reuse of water, the function may be allowed or disrupted if the digestive capacity is exceeded. Digestive capacity of lotic water without environmental damage is determined by the physical, chemical and biological parameters. However, involvement of algae in self-purification, pollution, disease spread, water quality, public health hazards, fisheries, pollution abatement and monitoring of river water is of paramount significance.

There has been some advance towards assessment and monitoring of aquatic environmental quality and the best monitor of desired environmental quality is life itself as it reflects cumulative impact of environmental happenings on combined pollutants, stresses and resultant responses through time. Biomonitors and bioindicators are proven with great potential in water quality assessments but in India work on bioindicators is still in nascent stage and yet to catch fancy of investigating eyes.

It is very difficult to assess with certainty which of the two beneficial or troublesome roles of micro-organisms out-weighs the other in biological system. Historically, algae have been responsible for few
problems directly affecting human but for their toxicity, capacity to
impound water, retarded growth of cultivated plants, increase in loss of
water, changes in colour, odour production, spread of allergenic diseases
and hindrance to aquatic sports and fisheries.

As such algae not only marvel significance as bioindicators but
also have intrinsic value in biology of aquatic environments. Fine
intermesh of biological factors trigger changes in physical and chemical
qualities of water. Biological factors are of considerable importance in
self-purification of water and are linked with public health problems. The
accompanying thesis portrays and emphasizes the role of algae in biology
of Ken water at Banda.