PREFACE

The Ph. D. thesis entitled "Ecological studies on biodiversity and biophysical factors of river Dikrong in Arunachal Pradesh" has been carried out covering river Dikrong and its two major tributaries, Pare and Pachin that are situated in the Papum Pare district of Arunachal Pradesh flowing down an altitudinal range between 810 m asl (river Pare) to 126 m asl (river Dikrong). For a detailed study, three subsections along the watershed (viz. river bank or the catchments, river bed or the riparian zone and river line or the thalweg) of the Dikrong river system were selected. The major objective of this study is to understand the variation in the physico-chemical and microbial properties of soil, sediment and water besides the diversity of the biotic communities of the riverine systems including the riparian vegetation with different land use patterns. The data collected have been tabulated, analyzed for statistical significance and presented in the form of eleven chapters. Chapter 1 deals with the general introduction and objectives of the study. Chapter 2 presents a comprehensive review of literature related to the present study which had been done in India and elsewhere. Chapter 3 deals with the description of the study area. Chapter 4 gives information on the physico-chemical properties of water of the Dikrong riverine system along six stations. The dynamics of physico-chemical properties of soil and sediment of the watershed of the riverine system of Dikrong is presented in Chapter 5. Microbial biomass C, N and P in soil and sediment of the watershed of Dikrong river system is presented in Chapter 6. Chapter 7 deals with the diversity and productivity of planktonic and periphytonic communities. The diversity of benthic macroinvertebrate communities along the river system of Dikrong is presented in Chapter 8. Dynamics of riparian vegetation along the river system of Dikrong with disturbance gradient has been described in Chapter 9. Chapter 10 deals with the biomass and productivity of the riparian vegetation of the riverine system of Dikrong at Pare, Pachin and Dikrong. Data collected on the above thematic chapters have been discussed comprehensively to evolve a few strategies for the management of the lotic system in general and Dikrong river basin in particular is dealt in Chapter 11. A brief summary has been given at the end.