PREFACE

Fishes have great significance in the life of mankind, being an important money could buy protein and for providing certain other useful products as well as economic sustenance to many nations. They inhabit a variety of different kinds of environment and areas. In order to survive fishes need continuous acclimatization with the environmental changes which occur in the water body due to alterations in the quality of the habitat because of many anthropogenic factors. The gradual declination in the commercial fish stock is mainly due to over-exploitation as well as alteration of the habitat. This is the reason why fish biology came into existence (Royce, 1972). Such study lays emphasis on the urgent need to develop these resources fully and to achieve this, we need to understand the factors governing life-processes of fish. The fundamental principles of artificial propagation rest upon a prior understanding of life ways in natural surroundings.

In the last few years, West Bengal has made considerable progress in the field of fish seed production and fish culture. Fishery sector of West Bengal has to play a prominent role in rural development and poverty alleviation by creating employment opportunities, supply of protein food, conservation of ecosystem and earning of foreign exchange (Samanta, 2001). There is adequate rainfall and sufficient water bodies to grow fish in this part of the Country. However, very few practical information are available on the biology of the fishes that naturally grow in the ecological condition of this region.

Fish constitutes one of the most important ingredients in the daily diet among all-classes-of-people of West Bengal and a good number of people of the New Alluvial Zone earn their livelihood taking fishes as a commercial food. There is a paucity of information on the biology and ecology of the fishes indigenous to the New Alluvial Zone of West Bengal and knowledge on these is of utmost importance, not only from the
academic point of view, but also its utility is increasing the technological efficiencies of the fishery entrepreneurs for evolving judicious management measures in pisciculture. Hence, due to the virtual absence of scientific knowledge on these aspects, particularly of the fish *Nandus nandus* (Ham.) the present investigations have been undertaken. It is, therefore, earnestly hoped that the information embodied in this dissertation, apart from its academic value would have application and relevance to the socio-economic development of these areas of the country by evolving suitable pisciculture techniques.

The study pertains to the specimens of *Nandus nandus* collected during the period August 2001 to July 2003 from Mogra beel at Birohi of Nadia district of the New Alluvial Zone of West Bengal. The results obtained during the present study are presented in this thesis entitled “Biology and ecology of *Nandus nandus* (Hamilton) from the new alluvial zone of West Bengal.” The investigations were carried out at the Regional Research Station (Gayeshpur) of Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, Nadia, West Bengal and at the Department of Environmental Science of the University of Burdwan, Golapbag, Burdwan, West Bengal, under the joint supervision and guidance of Dr M. Dasgupta, Reader (Research) in Fishery, of Bidhan Chandra Krishi Viswavidyalaya and Dr A. R. Ghosh, Reader, Department of Environmental Science, the University of Burdwan.