ACKNOWLEDGEMENT

I wish to express my sincere gratitude and sense of deep indebtedness to Dr. K.V. Devaraj, Vice-Chancellor and Guide, University of Agricultural Sciences, Bangalore, who besides inspiring me to pursue higher studies, offered his valuable guidance, constant encouragement and helpful suggestions throughout the period of this study and in the preparation of the manuscript.

I am extremely grateful to Dr. S. Parameswara Ayyar, Director, Central Inland Capture Fisheries Research Institute, Barrackpore and Co-Guide for his untiring guidance in planning and programming of experiments, critical comments and constructive suggestions to improve the quality of the thesis.

My sincere thanks to Dr. S.D. Tripathi, Director, Central Institute of Freshwater Aquaculture, for permitting to utilise the facilities of Bangalore centre of CIFA.

I am grateful to the University of Agricultural Sciences, Bangalore for according permission to prosecute higher studies.

I wish to record my sincere thanks to Dr. V.S. Ranganathan, Chairman, Department of Zoology, for his encouragement and help.
My thanks to Dr. S.Ravichandra Reddy and Dr. Katne Shankuntala, Professors, Department of Zoology, Bangalore University, Bangalore for their co-operation and helpful suggestions.

I owe my thanks to Sri L. Sudarshana, Assistant Professor, Department of Bio-chemistry, U.A.S. Bangalore for his help in biochemical analysis and to Sri Karthikeyan, Scientist, CICFRI, Bangalore and Dr. Lalit Achut, Assistant Professor, Department of Agricultural Economics, U.A.S. Bangalore for their help in the statistical analyses of the experimental data.

I wish to express my sincere thanks to my colleagues, Sri, G.V. Keshavappa, Dr. D. Seenappa, Sri K.V. Mohire, Dr. Sukumaran, Dr. H.V. Vijayakumaraswamy and Sri K.S. Ramesha for their timely help and to Dr. P.G. Changappa, Dr. H.V. Nanjappa, Sri K.S. Somanna and Sri B.S. Subramanya for their generous encouragement during the period of this study.

I am thankful to Sri C.H. Gopalakrishnaiah, Officer in-charge CICFRI, Bangalore for extending the computer and library facilities and to Dr. G.V. Kowtal, Officer in-charge, Peninsular-aquaculture Division of CIFA, Bangalore for his help during the course of this investigation.
I also extend my thanks to Dr. T. Ramaprabhu, former Officer in-charge and Sri Kumaraiah, Scientist, CIFA, Bangalore for their support.

This study has been possible mainly due to unstinted co-operation of the staff of Fisheries Research Station, Hessaraghatta and Inland Fisheries Unit, Hebbal and I am thankful to them for the same.

I owe a great lot to my wife Smt. Anuradha for her constant encouragement and support. The love and affection of my children Master Abhishek and Baby Apoorva have been a great source of inspiration throughout this study.

I express my thanks to my brothers, sisters and other relatives for their encouragement and moral support during the period of my study.

The invaluable help and support extended by relatives and friends whose names are not mentioned here are gratefully acknowledged.

My sincere thanks are due to Sri Narayana for the neat drawings and to Sri S.B. Jayadeva for his neat typing of this thesis.

Bangalore
March 17, 1993

V. BASAVARAJU