

ACKNOWLEDGEMENTS

I wish to express my sincere gratitude to my revered teacher Prof.(Dr.) Aparajita Borkotoki, Ex-Head, , Depatrment of Zoology, Ex-Dean, faculty of Science, Gauhati University for her consistent guidance and supervision throughout the investigation of my research work. The task would not have been accomplished without her uninterrupted inspiration and critial suggestion.

I would also like to offer my sincere gratitude to Prof. Karabi Dutta (H.O.D. Zoology Deptt. Of Gauhati University) and Prof. D.K.Sharma (Ex. H.O.D. Zoology Dept, of Gauhati University for providing all the necessary facilities during the research work.

I would like to offer my deep sense of respect to Prof. Amalesh Dutta, Prof. U.C.Goswami and Dr. Bulbul Acharjee for their kind suggestion and cheerful cooperation throughtout the study.

I am highly thankful to Mr. Ranjit Dutta, Mr. S. P. Chaki, Sr. Engineer, CIL, Margherita for giving me references regarding the history of Makum Coalmine, Assam.

I am highly obliged to Prof. K. G. Bhattacharjee and Mr. Bidyutjyoti Sharma, Research scholar, Chemistry Dept. of Gauhati University for their helping hand in the elemental analysis of water and soil samples through Atomic Absorption Spectrometry (AAS).

I am grateful to Director of North-East Institute of Science & Tecnology (NEIST), Jorhat, Assam, Mr. P.C. Borah, Technical Officer of Analytical Chemistry Division, Mr. A.K. Hazarika, Head, Analytical Chemistry division of NEIST for providing help in the chemical analysis of water and soil samples.

I would like to offer my gratitude to Dr. Sudip Dey , Senior scientific officer and Dr. Rahul Chakraborty, Mr. Joston P. Nongkynrih, Miss Anjali Haloi, Mr. Nari K. Rynjah and Mr. Dannis Bareh Tech. Assist (SEM & TEM) of Sophisticated Analysis (SAIF), NEHU, Shillong, Meghalaya for helping me in Electron Microscopy.

I am highly thankful to Mr. Sachin Hazarika and Mr. Dinesh Pegu, Fishery officer, Margherita Development Block, Margherita for his valuable suggestion and cooperation during data collection.

I am also grateful to Mr. Partha Sharma, Scientific officer, Biology Dept. of Forensic Laboratory, Kahilipara, Assam for his kind guidance in the elemental analysis of water and soil samples through AAS.

I would like to offer my sincere thanks to the Librarian, Dibrugarh University and Gauhati University for providing me facilities for reference collection. Thanks are due to the staff of Gauhati University for extending laboratory facilities.

Special thanks to Dr. Sabitry Bordoloi and Dr. J. Meren Ao. for their invaluable guidance and suggestions during the investigation.

The inspiration and good wishes of Director, Principal and all the faculty members of St. John College is always inspiring throughout the study.

The collection of data would not have possible without the kind cooperation extended by my friends, my nephew Bijoy Aditya Dutta and Golkesh Dutta.

Special thanks to he fishermen and village people, who have offered their hands of cooperation in the collection of data.

I wish to offer my deep sense of appreciation to my sisters and the family members for their necessary cooperation, understanding and support throughout the work. I acknowledge considerable debt to my mother Smti. Nirupama Bhagabati for her constant support and strong moral inspiration during the course of study. I am also highly indebted to my husband Raj Kumar Das whose love and inspiration have led to finish the thesis.

Last but not the least I owe my heartiest love to my little daughter Anushi for her cooperation and to permit me to complete the work.

R. Bhagabati