ACKNOWLEDGEMENT

In the name of God

I thank the God Almighty, the most beneficent and merciful for blessing me with good knowledge and life with which I complete the thesis successfully.

My deepest gratitude is to my advisor, Dr. M. Anand, Assistant Professor, Department of Marine and Coastal Studies, School of Energy, Environment and Natural Resources, Madurai Kamaraj University, Madurai. I have been amazingly fortunate to have an advisor who gave me the freedom to explore on my own and at the same time the guidance to recover when my steps faltered. His patience and support helped me overcome many crisis situations and finish this thesis. I hope that one day I would become as good an advisor to my students as my advisor has been to me.

My sincere thanks to Prof. K. Muthuchelian, the Chairperson, School of Energy, Environment and Natural Resources, Madurai Kamaraj University, Madurai for providing the facilities.

I am also thankful to Prof. A. K. Kumaraguru, Senior professor (on-Lien, Vice-Chancellor of Manonmaniam Sundaranar University) for providing the laboratory facilities for my research.

I would like to express my hearty gratitude to Dr. C. M. Ramakritinan, Assistant Professor, Department of Marine and Coastal Studies, School of Energy, Environment and Natural Resources, Madurai Kamaraj University, Madurai; he rendered timely support and the help, facilitating the completion of the work.
I am grateful to Dr. C. Pitchairamu, Associate Professor, Department of Botany, Pasumpon Thiru Muthuramalinga Thevar Memorial College, Kamuthi for his encouragement and practical advice and also my family friends Mr. Abdul Kapoor and Mrs. Sakila Kapoor for helping me to pursue PhD.

I thank Mr. M. Maruthupandy, my best friend as well as colleague for his help throughout my research. He accompanied me to the sampling areas and his valuable suggestions paved the right path for my work. Without him, I couldn’t finish this thesis within this period. I am indebted to him for his continuous encouragement and friendship.

I extend my heartfelt thanks to Mr. P. Thavasi, Technical officer; Mr. P. Raman, Technical assistant and Mr. V. Sundaram for providing support and help regarding supply of materials needed for my work. I also thank the fishermen of Mandapam for helping me in sampling and also the non teaching staffs of Marine Research station, Madurai Kamaraj University, Padumadam for their support during my occasional work there.

I would like to acknowledge Dr. V. Hairul Islam, Pondicherry Centre for Biological Sciences, Puducherry for supporting me in doing cell line studies.

I thank UGC, New Delhi for supporting my research financially through UGC BSR, Meritorious fellowship.

My immense thanks to my cousin Mr. M. Mohammed Rafi, Research Assistant, Vanderbilt University, Nashville, USA who helped me in getting full length articles from which I fulfilled this research.
Many friends have helped me stay sane through these difficult years. Their support and care helped me overcome setbacks and stay focused on my study. I greatly value their friendship and deeply appreciate their belief in me. I thank Ms. R. Kalaivani, Ms. R. Anitha Jothi, Ms. K. B. Sivakami, Ms. R. Jeeva Priya and Ms. G. Jayanthi, Research Scholars, Department of Marine and Coastal Studies and my friends from other schools, Ms. N. Maangani Devi and Ms. R. Gomathi for the enchanting moments.

I am also thankful to all the teaching staffs, non teaching staffs and other Research Scholars, School of Energy, Environment and Natural Resources, Madurai Kamaraj University, Madurai for their kindling support during my enrollment period.

Crucially, none of this would have been possible without the love and patience of my family. My parents Mr. A. Akbar Sait and Mrs. A. Noorjahan Beevi and my brother Mr. A. Najib Isaaq Kani pushed me to pursue this PhD. They sacrificed a lot to make me what I am now. My husband Mr. N. Sulaiman has aided and encouraged me throughout this endeavor. He persuaded me during my tough times and taught me the patience. I wouldn’t be finishing this thesis devoid of him. I am also thankful to my in laws for their constant support.

Finally, though only my name appears on the cover of this thesis a great many people have contributed to its production. I owe my gratitude to all those people who have made this possible and because of whom my research experience has been one that I will cherish forever.

A. Hameedha Beevi