ACKNOWLEDGEMENTS

The thesis marks the end of a long and eventful journey. Glancing through the pages, in ecstasy I could remember the galaxy of individuals who helped me to make this effort a success.

It is difficult to overstate my gratitude to Dr. E.V. Ramasamy, Senior Lecturer, School of Environmental Sciences, Mahatma Gandhi University, Kottayam for suggesting the problem as well as for the guidance, constant encouragements and constructive suggestions rendered during the entire course of this work.

I place on record my gratitude and heartfelt thanks to that dynamic personality Dr. A. P. Thomas, Director, School of Environmental Sciences for offering the facilities and constant encouragement throughout the course of my study.

Words and verses cannot depict my feeling of gratitude to Dr. H. Krishna Iyer, for his help in the statistical analysis of the data.

On a different note, I would like to thank 'Brothers Rubber Mills' for providing all the necessary help for the progress of my work.

I express my sincere thanks to 'Sophisticated Testing and Instrumentation Centre, CUSAT' for providing me the necessary support in the analysis of my samples.

Acknowledgement is a small word to express my gratitude towards all the Research scholars, M/s Thomas Mathew, Mahesh, Rakesh, Joby, Sylas, Mujeeb, Abirosh, Smitha, Sujatha, Harsha, Sreedharan, Sylesh, Abin, Rameshan, Jayasurya, Toms, Arun, Babu and all other students of SES, Mahatma Gandhi University, Kottayam.

I cannot belittle the service and co-operation extended to me by all the other teaching and non-teaching staff, Dr. M. Annie, Dr. A.A. Mohammed Hatha (Reader, CUSAT), Mr. Ajay Kumar (Mining and Geology Department, Government of Kerala), Mr. K.M. Mangalakrishnan (Former Administrative Officer, SES), Mr. D.Prakash, Mr. A.Muhammedu Kunju, Mrs. V.J.Annamma, Mr. Santhosh Kumar (Lab Assistant), Mr. Salahudden Pathu Otayil (Library Assistant), and Mr. Subhash, for the help rendered to visualize my long cherished ambition. My sincere thanks to Mr. Shabeer, (Indus Photos) Cochin for his expeditious work in shaping my thesis.

A single word of thanks will not bring my whole-hearted feelings to Mahatma Gandhi University, Kottayam for financially supporting me through the award of the University Research Fellowship and bringing the thesis into the visual spectrum.

Always remains in my heart, the inspiration and tremendous sacrifices that my family members made to ensure that I had an excellent education.

Above all, I am grateful to the grace showered upon me by the God Almighty during this endeavor.

Bindu T. Abraham M.Sc., M.Phil