

ACKNOWLEDGEMENTS

First, I would like to express my deepest gratitude to my advisor, Associate Prof. Chart Chiemchaisri, for his excellent support. The understanding, guidance, patience as well as continuous encouragement he extended throughout the time of research contributed the great deal to my success. I wish to convey my profound gratitude to the other member of the committee, Associate Prof. Wilai Chiemchaisri and especially Associate Prof. Patcharaporn Suwanvitaya for their constructive criticisms, helpful suggestions and valuable discussions.

I would like to admire extensive assistance from technical staffs, Ms. Kanchana Thnyviang, Mr. Prachaya Chansuk and Ms. Piyakan Boonsuwan and their team whenever asked for. Also my sincere appreciation goes to Ms Viriya Paksasuk, Ms Supha Vihokpaibul, Ms Bang-orn Inpum and all staff members of the Environmental Engineering and Management and my colleagues and friends especially Miss. Boonya Charnok and Miss. Varinthron Boonyaraj in Environmental Engineering Program for their help in many ways.

I am thankful to Department of Environmental Engineering for awarding me a scholarship and Swedish International Development Cooperation Agency (SIDA), for allowing me to work as a research assistant during my study period to support my study. This admiration is extended to ARRPET phase II project, funded by SIDA, for funding this research.

The author would like to express her deep gratefulness to her beloved husband for his support, understanding and constant inspirations that let this study to accomplish successfully. At last, but not least, it is with gratefulness that I hereby mention my parents in Sri Lanka whose giant shadows have been behind my success in the education.

Ruwini Weerasekara

February 2008