## **ACKNOWLEDGEMENTS**

I would like to express my appreciation to my research advisor, Assoc. Prof. Dr. Savitri Garivait, for her valuable guidance and meaningful support throughout my graduate study.

Sincere thanks are expressed to Asst. Prof. Dr. Suthum Patumsawad, Dr. Prapat Pongkiatkul and Asst. Prof. Dr. Kobsak Wanthongchai for their valuable comments guidance and kindness in acting as my research advisory committee members. Special thanks to Prof. Dr. Bernard Porterie, the external examiner for his constructive comments.

I gratefully thank Mr. Utit Phookate and the staff of Ratchaburi Forest Fire Control Station, as well as the students of the Department of Silviculture, Faculty of Forestry, Kasetsart University, Thailand, for their assistance to the field experiments on vegetation structure determination and aboveground biomass estimation. I would like to present my deep appreciation to the Aerosols from Biomass Burning to the Atmosphere (ABBA) research group of the Joint Graduate School of Energy and Environment (JGSEE), King Mongkut's University of Technology Thonburi (KMUTT). I would like also to highly acknowledge for the technical and motivation assistance, the JGSEE-KMUTT, and the Center of Excellence on Energy Technology and Environment (CEE-PERDO), Ministry of Education, Thailand, and financial support through the Ph.D research fellowship program and facilities to conduct measurements both at the laboratory and from field experiments.

I would like to convey my sincerest thanks to all my friends and persons who are not mentioned by here, but who also have contributed to this work, either directly or indirectly. Finally, my sincerest and deepest gratitude goes to my parents, Sayjai and Anuthep Chaiyo, for their continuous encouragement to pursue my graduate studies.

Ubonwan Chaiyo August, 2013