ACKNOWLEDGEMENT

It is now, the time to say thanks to every one who gave me helping hand in completion of this work.

First of all I am very much thankful and express my sincere gratitude to my guide Prof. D.T. Shete, Director, Water Resources Engineering and Management Institute, Faculty of Technology and Engineering, The M.S. University of Baroda, who constantly inspired me to go for research and for spending his invaluable time and for guidance. He has always extended his full support and has been a constant inspiration while developing and carrying out this work. It was his motivation and support which boosted and motivated me to go for Fuzzy Linear Programming. I am very much thankful to him for his continuous care and support right from start of the project till the end. His immense care towards me, whenever and wherever needed has helped me in completing the study is greatly acknowledged.

I am very much thankful to Prof. S.M. Joshi, Pro – Vice Chancellor, The M.S. University of Baroda and Former Dean of Faculty of Technology and Engineering, The M.S. University of Baroda for his encouragement, inspiration and kind support in carrying out this research work.

I am very much thankful to Prof. V.D. Pathak, Former Pro – Vice Chancellor, The M.S. University of Baroda for his continuous encouragement in carrying out fuzzy linear programming in this research work.

I am very much thankful to Shri V.M. Yagnik, Chief Engineer and Director, Gujarat Engineering Research Institute (2003) in helping me to get the required data.

I am very much thankful to Shri L.V. Ashara, Chief Engineer and Director, Gujarat Engineering Research Institute (from 2004) in helping me to get the required data.
I am very much thankful to Sri. K.G. Rathod, Chief Engineer and Director (2004), Water and Land Management Institute, for his encouragement and valuable help during the course of my research work.

I am very much thankful to Dr. K.K.S. Bhatia, Head, Hydrological Investigation Division, National Institute of Hydrology, Roorkee, for his encouragement and valuable help during the course of my research work.

I am very much thankful to Dr. A.M. Sheikh, Principal, Anand Agricultural University, Anand in helping me to obtain the metrological data.

I am very much thankful to Shri P.I. Patel, Former Superintending Engineer(2003), Surat Irrigation Circle, Surat for providing the data whenever required.

I am very much thankful to Shri K.L. Dave, Superintending Engineer (2005), Surat Irrigation Circle, Surat for providing the data whenever required.

I am very much thankful to Shri J.B. Rabadiya, Superintending Engineer, Surat Irrigation Circle, Surat for providing the data whenever required.

I am very much thankful to Shri C.B. Tiwari, Superintending Engineer (S.D.R.C.), Gujarat Engineering Research Institute for providing the required data and for his invaluable help, sharing his ideas and his continuous encouragement.

I am very much thankful to Shri H.M. Shah, Executive Engineer, Surat Irrigation Circle, Surat for his kind co-operation and providing the data whenever required during the course of my research work.

I am very much thankful to Shri R.M. Patel, Executive Engineer, Ambika Division, Navsari for his kind co-operation and providing the data whenever required during the course of my research work and arranging me all the help he can provide in the field visits during the course of my research work.
I am very much thankful to Dr. M.B. Joshi, Executive Engineer, S.S.N.I., Gandhinagar for his suggestions in my research work.

I express my sincere thanks to my senior colleague Ms. Falguni P. Parekh, Reader, WREMI for her continuous support and suggestions during the time of my research work.

I express my sincere thanks to Anitha Y. Nadar, Ujas H. Pandya, Temporary Lecturers, WREMI for the help rendered by them in completion of my research work.

I am very much thankful and express my sincere thanks to Dr. R.K. George, Reader, Applied Mathematics Department, Faculty of Technology and Engineering, The M.S. University of Baroda, for his continuous encouragement and valuable suggestions whenever and wherever required in preparing the LP and FLP models during the time of my research work.

I am very much thankful to Dr. M.B. Dholakia, Associate Professor, L.D. Engineering College, Ahmedabad for his continuous encouragement and valuable suggestions during the time of my research work.

I am very much thankful and express my sincere thanks to Ms. P.K. Pandit, Lecturer, Department of Mathematics, S.V.I.T, Vasad for her innovative ideas and valuable recommendations whenever and wherever required in preparing the LP models during the time of my research work.

I am very much thankful to Shri D.S. Patel, P.A. to S.E. Surat Irrigation Circle, Surat for his kind co-operation and providing the data in the time of need.

I am very much thankful to Shri Mukesh Desai, Assistant Executive Engineer, Ambika Division, Navsari for his kind co-operation and providing the data in the time of need.
I am very much thankful to Shri D.R. Patel, Additional Assistant Engineer, Vesma Sub-division, Surat Irrigation Circle for his kind co-operation and providing the data in the time of need.

I am very much thankful to Shri S.K. Shah, Section Officer, Maroli Sub-division, Maroli for his kind co-operation and providing the data in the time of need.

I am very much thankful to Shri S.B. Rana, Deputy Soil Survey Officer, Shri S.N. Panchal, Additional Assistant Engineer Shri J.K. Patel, Junior Scientific Assistant, and Shri S.A. Patel, Junior Scientific Assistant, Gujarat Engineering Research Institute, Baroda for providing the information pertaining to project area.

I am very much thankful to Shri S.B. Mysuria, Deputy Accountant, Surat irrigation Circle, Surat for providing the expenditure related data required during this research work.

I am very much thankful to Shri Mansuriya, Deputy Accountant, Surat irrigation Circle, Surat for providing the expenditure related data required during this research work.

My special thanks are to Shri. N.C. Mistry, Head Clerk, Faculty of Technology and Engineering, The Maharaja Sayajirao University of Baroda, for his kind suggestions and kind cooperation in and during the process of submission of both the synopsis as well as the Thesis.

I am very much thankful to Shri J.D. Vyas, Computer Operator, WREMI for his support whenever required during the course my research work.

I am very much thankful to Shri T.A. Kachhia, Head Clerk (Account) (2003-2006), WREMI and Shri A.N. Jadia, Head Clerk, WREMI for their support whenever required during the course my research work.

I am very much thankful to Shri G.K. Patel, Lab Assistant, WREMI for extending his helping hand in field during course my research work.
I am very much thankful to Shri R.G. Prajapati, Temporary Technical Assistant, and Ms. P.M. Jadhav, Temporary Laboratory Assistant, WREMI for their support during my research work.

I am very much thankful to Shri G.J. Darji and Shri M.R. Kapadwala, Junior Clerks, WREMI for their support during my research work.

I am very much thankful to Shri A.C. Arya, Driver, WREMI for his support during my research.

I am very much thankful to Shri S.J. Chauhan, Peon, WREMI for his kind support and patience during this entire time of my research work.

I am very much thankful to Shri L.G. Rabari, Peon, WREMI for his support during the time of research work.

I am very much thankful to Shri Vasant Desai for his untiring support and for being ready to help whenever required during the course of my research work.

Well, now, it’s the time to thank all my friends and of course above all my family members.

I am thankful to Ambarish and Kamal Kumar for encouraging me to go for research work and for always being ready to help me whenever required.

I am thankful to Urvi Bhatt, Urvi Dave, Dipti and Mohini for their continuous encouragement and support provided to me whenever needed.

I am thankful to Maya, Shweta, and Jinal for their continuous encouragement and support provided to me whenever needed.

I am thankful to Heta for her help and support in framing the maps of the study area within time and always ready to help whenever needed.
I am thankful to my students Rajendra Kumar, Sanjib, Nirav, Jaladhi, Kunal and Darshan for their support during my research work.

I am very much thankful to Pramod for his kind help in data collection and for his continuous support during the initial course of my research work.

I am very much thankful to Shri. S.B. Pimplaskar for helping me in collecting the data and for his support during the course of my research.

My heartiest thanks to Dr. Vaijayanti D. Shete, for her nurture and parental concern towards me in times of need.

I express my sincere thanks to Bhumi for her encouragement and giving me a helping hand in thesis writing whenever and wherever required.

I express my sincere thanks to Neha for her continuous help, encouragement, support and providing me a helping hand in thesis writing and correcting the manuscript without whom this work would not have been completed in time.

I am also very much thankful to Akhil and Maulik who were always present whenever required by me and for lending me helping hands throughout my research work.

Now, last but not at all the least, I am very much thankful to my Amma and Naanna (my parents) and my Akka and Bavagaru (my sister and brother-in-law), without whom this work would not have been possible and it is my parents’ and sister’s encouragement which showed me the path to go for the higher studies and this research work is a result of their continuous support which was like a back bone for me and without which this work would not have been completed within the stipulated time. I am at a loss of words in expressing my thanks to family as during the course of my research work, there have been times when I haven’t been able to be with them in time of needs, still they encouraged me to continue my study which can never be quantified and compensated.

vi
Finally, if at all I have not been able to give the credit by announcing his/her name as an individual who has helped me directly or indirectly in my research work, then I take this opportunity to thank every individual whole heartedly.

Again I take this opportunity to dedicate my work to my family and my guide.

Place : Vadodara
Date : 05-09-2006
(T.M.V. Suryanarayana)