ACKNOWLEDGEMENT

"No scientific endeavor is a result of just one individual’s efforts. And so comes the time to look back on the path traversed during this endeavour and to remember the faces and spirits behind the action with a sense of gratitude”.

I wish to express my profound sense of gratitude to my esteemed teacher and Supervisor of my advisory committee Dr. R.V. Rao, Scientist-G (Retd.), Wood Properties and Uses Division, Institute of Wood Science and Technology, Bangalore. It is only because of his wise guidance, keen interest, valuable suggestions and constant encouragement, that is this work gathered momentum. It was indeed a great opportunity of mine to work under his guidance. I owe a great deal to him and thank him for his persistent encouragement and keen interest throughout my course of Ph.D. programme.

I take this rare opportunity and proud privilege to extend my heartfelt and deep sense gratitude towards my Co-supervisors of my advisory committee, Dr. T.S. Rathore, Scientist-G and Head, Tree Improvement and Genetics Division, Institute of Wood Science and Technology, Bangalore and Dr. H.P. Borgaonkar, Scientist-E, Climatology and Hydrometeorology Division, Indian Institute of Tropical Meteorology, Pune for their valuable and expert guidance, timely suggestions, close counsel, critical evaluation and constant encouragement at every step of the present investigation. It was indeed a great opportunity of mine to work under their guidance.

It is my proud privilege to express my gratitude and sincere thanks to Dr. S.K. Nath, Joint Director of IPIRTI, Bangalore, Dr. Nataraja Karaba, Professor of Crop Physiology, GKV, UAS, Bangalore, Dr. S.R. Shukla, Scientist-E and Head, Wood Properties and Uses Division, IWST, Bangalore and Dr. Ritesh Tailor, Scientist-C, Wood Properties & Uses Division, IWST, Bangalore, who acted in expert members of my advisory committee, for their encouragement and benevolent guidance throughout this study.

I express my sincere gratitude towards Dr. S.K. Sharma, Nodal Officer and Scientist-G, Wood Properties and Uses Division, IWST, Bangalore for his constant encouragement and great help during the course of study.

I am conscious of my gratitude towards Shri Suresh C. Gairola (former Director, IWST), Shri S.C. Joshi (former Director, IWST) and Dr. V. Ramakantha, Director, IWST, Bangalore for providing me the opportunity and encouragement to carry put this piece of work.

I emphatically, feel grateful to Dr. Anil Sethy, Scientist-D, IWST, for his constant encouragement and help during the present study, especially during pre-thesis presentation at IWST, Bangalore.

I am very thankful to the Ministry of Environment and Forests (MoEF), Government of India for their financial support, kind permission to use teak samples of the project entitled “Investigations on tree ring analysis of certain species of Western Ghats to monitor climate changes and its relevance to wood quality” for Ph.D. study, and award of SRF under the project.

I am also very thankful to Forest Development Corporation of Maharashtra Limited for their kind permission and encouragement to carry out the present study. Active supports of research staffs of FDCM in collecting the teak samples are gratefully acknowledged.
I sincerely acknowledge the help rendered by all the staffs of Wood Properties and Uses Division, Institute of Wood Science and Technology, Bangalore.

I wish to thank Dr. D. B. Jadeja, Principal, College of Forestry, Navsari Agricultural University, Navsari and Dr. P.K. Shrivastava, Professor and Head, Department of Natural Resource and Management, College of Forestry, NAU, Navsari for their constant encouragement and great motivation to carry out the present study.

I express my heartfelt gratitude towards Dr. Rajesh Panduranga Gunaga, Associate Professor, Agroforestry/Forest Biology, College of Forestry, Navsari Agricultural University, Navsari for his constant encouragement and help at every step of the present investigation and finalization of this manuscript.

I am very thankful to Mr. Laxmikanta Behera, Assistant Professor (Silviculture), Mr. Abhishek A. Mehta, Assistant Professor (FPU), Mr. H.T. Hegde, Assistant Professor (FPU), Mr. S.A. Huse, Assistant Professor (Tree Improvement), Dr. S. K. Jha, Associate Professor (Forest Biology), Dr. Dileshwar Nayak, Assistant Professor (Agroforestry), Dr. N.S. Thakur, Assistant Professor (Agroforestry), Dr. J.R. Manmohan, Associate Professor (Silviculture) and other colleagues and my friends for their constant encouragement and help during the course of study.

I extend my sincere thanks to Mr. Ramesh Soundarva, Mr. Jignesh Bhusara Senior Research Fellows and all the staffs of Forest Products and Utilization, College of Forestry, Navsari Agricultural University, Navsari for their active help rendered in many ways.

In spite of all these, I lack in words to express my deep sense of gratitude to my beloved parents, Shri Badri Narayan Singh and Smt. Moti Sundari Devi for their constant blessings and sacrifices. I am aware of their painstaking efforts and constant encouragement to shape my educational career. This piece of work marks fulfillment of their dream. I owe everything in my life to them.

Special thanks to my wife, Richa for her kind support, constant encouragement and sacrifices. Love and affection received from my daughter Shubheksha has enabled me to go on and finish this work.

I wish to thank my father in law Shri Satya Prakash and mother in law Smt. Kalawati Prakash for their blessings, love and kind support.

I extend my sincere thanks to the staff members of Institute of wood Science and Technology, Bangalore and college of Forestry, NAU, Navsari who have helped me during the present study.

I would like to thank all the reviewers for their insightful comments on my thesis, as these comments led me to an improvement of the thesis work.

I thank the Director, Registrar and all the staffs of FRI Deemed University, Dehradun for their help all throughout.

Finally, I bow before Almighty “God” for having given me enormous mental, physical and spiritual energy to complete this task fruitfully.

Any omission in this brief acknowledgement does not mean lack of gratitude.

Ending is inevitable for any kind of work. Though acknowledging is an endless task, I end by saying endless thanks to all those whom I am able to recall here and also those whom I might have left unknowingly.

(Satish Kumar Sinha)