The Management of Industrial Forest Plantations Theoretical Foundations and Applications; Edited by: José G. Borges, Luis Diaz-Balteiro, Marc E. McDill and Luiz C.E. Rodriguez (2017), Volume 33, Series title: Managing Forest Ecosystems
(ISSN 1568-1319), Springer Dordrecht Heidelberg, 543p.

With the necessity to meet the growing wood demand, tree plantations are raised in a large scale. The means to manage such large scale plantation – industrial tree plantation is the key theme of the book "The Management of Industrial Forest Plantations - Theoretical Foundations and Applications" is edited by José G. Borges (University of Lisbon, Portugal), Luis Diaz-Balteiro (Technical University of Madrid, Spain), Marc E. McDill (Pennsylvania State University, USA) and Luiz C.E. Rodriguez (University of São Paulo, Brazil). The editors have made such a valuable work in production forestry by compiling up the information from more the 35 contributors This book is 33rd volume of series – Managing Forest Ecosystems published by Springer (part of Springer Science Business Media). The book covers all latest topics from supply chain management, modelling techniques with detailing and description of usual plantation forestry aspect in a new perspective with current examples. The contents are carefully chosen by editors as well as framed to address the issues pertaining to industrial plantations establishment, development and management. This book do provides a centralized albeit expansive explanation and reference for the content. There are few works (Suzuki *et al.*, 2006; Brockerhoff *et al.*, 2009; Evans, 2009) that are referred for plantation forestry; but these do not detail all the theoretical and practical approached in plantation forestry. This book provides a comprehensive picture similar to that of Evans & Turnbull (2004) but including the latest developments.

The content are portioned into three parts. First part of the book begins with the chapter that attempts to provide an introduction to industrial forest plantation by defining the term 'Industrial forest plantation'; which also covered the importance of industrial forest plantations by highlighting the aim, objectives of plantations; with a wide array of statistics to showcase the increase in area under plantation from 1990 to 2010. It also attempts to portray the future demand and describe the need to develop management tools for managing the plantations, to the future demand. Like natural forest, plantations are also complex in their own ways and means. Managing such plantations needs planning at many levels and also needs linkage between different stratus and stake holders for a good and efficient plan. Chapter two describes the different levels of planning with some models that can aid in formulation of management plans during the readers career. Modelling not only aids in better planning by predicting and calculating the yield potential at stand level and individual tree level. The author of this chapter Weiskittel also describes the need for development of models to understand the impact of different silvicultural treatments like thinning, pruning *etc*. Personally, we would also recommend in developing such models. For instance, formulation of stand management practices for single tree species as real time experiment may take more than one decade. Chapter four forms the key one that takes the book much relevant to the present status of industrial plantations. It picturesque on the various activities that are carried in industrial plantation. The content and references of this chapter did guide through our research work which aimed at understanding the implications of thinning. The success of industrial plantation depend upon the economics and strategic planning in all operations such as felling, transportation. The authors did had widely covered the crux in the remaining chapters.

Part II presents the latest development in the field of the management and also highlighting the significance of incorporating such latest technologies for better management. Information and technology support is indispensable for enhancing the efficiency of any practice, it holds well in plantation sector too. When, why and how to integrate the decision support systems with the management of stands for better results are purely based on experience which is in nutshell (chapter nine). As forest planning has its impacts after a long time and outcomes are highly depended on the perfection in planning but any plan has its own uncertainty and risk. The chapter ten briefs about the way to address the uncertainty by two means i.e. mathematical and heuristic techniques. There are classic management books that deal with optimization of output from plantations. However, the context in the book is very different which might sparkle many questions to the readers. Management design to improve the efficiency and to attain sustainability in plantation are focused in Chapter 12 and 13 which are more advanced concepts for which authors should have used some more case studies and examples.

Any activity has its own impact with climate change at our door steps - the editors have conceptualized part III with chapters addressing the emergent topics that can turn over the plantation sector such as carbon sequestration and marketing (chapter 14), need for and the benefit due to forest certification in chapter 15. The chapters also compare the different

certification schemes across the world and points out the difficulty in certification of plantations. Supply chain management being an integral part in any venture, plantations do have supply chain management that are explained in chapter 16 and 17. The latter speaks on the supply chain management issue faced by the pulp and paper industry whereas the former provides a general out view. The book concludes with a chapter on EIA (Environmental impact assessment) of forest operations with Lifecycle assessment methodology as suitable tool to utilize. Limitations or criticism that come to mind regarding the book is the usage of some complicated notations in the equations presented.

On the whole this book provides a comprehensive outlook of matters related to plantation in this 21st century. The editors deserve credits for making out section in each chapter, to highlight the objectives of that chapter. Similarly at the end of chapter there are series of questions to further support the understanding. A book of this sort is most handy for the plantation managers, forest department officers as well as graduate and undergraduate students of forestry.

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