

**TREE DIVERSITY IN AGROFORESTRY**  
**Species for Semi-Arid Regions**



# TREE DIVERSITY IN AGROFORESTRY

## Species for Semi-Arid Regions

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### Foreword

It is a pleasure to write foreword to the book entitled *Tree Diversity in Agroforestry: Species for Semi-Arid Regions*, a valuable contribution on sustainable agro-ecological systems.

Semi-arid landscapes, characterized by low and erratic rainfall, present multifaceted challenges to agriculture, including soil degradation, water scarcity, and climate variability. Addressing these challenges requires a judicious blend of innovation and focus on diverse tree species adapted to semi-arid agroforestry systems.

This book showcases the crucial role of plants such as *Melia dubia*, *Delbergia sisoo*, *Tectona grandis*, *Prosopis cineraria*, *Acacia nilotica*, *Pongamia pinnata*, and others that have demonstrated remarkable resilience and ecological compatibility. These trees not only enrich biodiversity and soil health, but also provide invaluable ecosystem services—fodder, fuelwood, soil stabilization, and microclimate amelioration—benefiting both present and future generations.

As researchers, extension professionals, and policy-makers explore these chapters, I trust they will find both scientific rigour and practical relevance—a synthesis that lies at the heart of effective agroforestry. I commend the authors for their rigorous research, clarity of presentation, and dedication to sustainable land-use solutions.

I wish this book will serve as a guide for students, scientists, academicians, policy-makers, and practitioners alike—championing the integration of tree diversity into agroforestry as a tool of resilient and productive semi-arid agriculture.

(A.K. Singh)





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Dean

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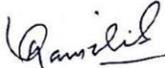
#### Message

It gives me great satisfaction to associate myself with book entitled "*Tree Diversity in Agroforestry: Species for Semi-Arid Regions*", a meticulously curated volume that resonates with our ongoing commitment to ecological resilience and sustainable land-use in semi-arid zones.

This book's comprehensive exploration of tree species adapted to semi-arid regions—outlining their ecological roles, adaptability, and multifunctional benefits such as fodder, soil enrichment, and climate mitigation—aligns seamlessly with our thrust areas: promoting climate-smart agroforestry systems, ensuring the availability of quality planting material, and advancing ecosystem services through strategic tree-crop interactions and precision silviculture.

I trust that this scholarly work will serve as an invaluable resource for students, academicians, policymakers, extension agents, and farmers alike—bridging rigorous research with field-level applicability. I commend the authors whose scholarly contributions reinforce the imperative of integrating diverse tree species into semi-arid agroforestry systems for sustainable and resilient rural landscapes.

May this text inspire a new generation of agroforestry practitioners and researchers to adopt ecologically informed, livelihood-enhancing systems that honor both biodiversity and community well-being.

  
(Manish Srivastav)



## Preface

The completion of this book has been possible through the support, guidance, and encouragement of many individuals and institutions. We wish to express my heartfelt gratitude to my academic mentors and colleagues for their valuable insights and constructive suggestions that shaped the content and structure of this work.

We are thankful to the faculty members and staff of the College of Horticulture & Forestry, Rani Lakshmi Bai Central Agricultural University, for their cooperation and assistance during the preparation of this manuscript. Special thanks are due to research scholars, whose inquisitive discussions and feedback inspired me to compile this resource.

We gratefully acknowledge the contributions of various research publications, reports, and reference materials that provided the scientific foundation for this book. We also extend appreciation to the farmers and field practitioners whose traditional knowledge and practical experiences enriched the understanding of species management under diverse conditions.

Our sincere thanks go to **Vital Biotech Publication** for providing an excellent platform to publish this work and for their professional support throughout the publishing process.

**Dr. Prabhat Tiwari**

**August, 2025**

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**Mr. Avinash V.**

**Mr. Subhaprada Behera**

**Mr. Rakesh Panday**



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