

Biodata of Dr. C. Buvaneshwaran

Name : Dr. C. Buvaneshwaran

Designation : Scientist-G & Head
Silviculture and Forest Management Division

Department/Institute/University :
Institute of Forest Genetics and Tree Breeding, Coimbatore

Date of Birth : 18.07.1970



Education (Post-Graduation onwards & Professional Career)

Sl No.	Degree Awarded	Institution / Place	Year	Field of Study
1.	M. Sc.	Tamil Nadu Agricultural University, Coimbatore	1995	Forestry
2.	Ph. D	FRI Deemed University, Dehra Dun	2004	Forestry

Position and Employment (Starting with the most recent employment)

Sl No.	Institution / Place	Designation	From (Date)	To (date)
1.	Institute of Forest Genetics and Tree Breeding, Coimbatore	Scientist	15.12.1997	Till date

Honors/Awards

- i) Postgraduate fellowship by Auroville Green Work Resource center, Pondicherry
- ii) Dr. Krishnamoorthy's Gold Medal for 1st rank in M. Sc. (Forestry) in Tamil Nadu Agricultural University, Coimbatore

Professional Experience and Training

- ❖ Evaluated “Ecological impact of coastal afforestation” in Pondicherry with postgraduate fellowship sponsored by Auroville Green Work Resource center.
- ❖ Carried out productivity and nutrient cycling studies under teak plantations in Tamil Nadu.
- ❖ Assessed carbon sequestration potential of trees in plantation and agroforestry systems
- ❖ Carried out Research on tropical tree species response to elevated CO₂ and temperature.
- ❖ As Nodal Officer of IFGTB, assessed Soil Carbon Stocks in various forest types in Tamil Nadu, Kerala and Andaman & Nicobar Islands and submitted to ICFRE for inclusion in the 2nd National Communication to UNFCCC.
- ❖ Consultant in Environmental Impact Assessment studies for various mining projects.

- ❖ Underwent three months training programme on Agroforestry in University of Florida, USA.
- ❖ Underwent DST-sponsored training on Forests and Climate Change at FRI, Dehra Dun.
- ❖ Underwent ICFRE sponsored training of "Dendrochronology and Climate Change" at Indian Institute of Tropical Meteorology, Pune.

Ph D and PG Guide

- ❖ As Ph.D. Guide: Four scholars got Ph.D awarded and six students got Post Graduate degree awarded under my guidance.
- ❖ Presently guiding four Ph. D scholars.

Publications

Journals: International-13; National- 55

Books: 4

Book Chapters: 15

Proceedings of the Conference / Seminars: 20

Research Areas currently working on:

Title of Project	Funding Agency
Evaluation of superior phenotypes of Neem (Azadirachta indica A. Juss.) for agroforestry systems – As Principal Investigator	National Medicinal Plants Board, GoI
All India Co-ordinated project on Silviculture – As National Project Co-ordinator	CAMPA, MoEFCC, GoI
All India Co-ordinated project on Casuarina. Component: assess water and nutrient use efficiency of accessions and develop a package of cultivation practices for most productive of them – As Principal Investigator	CAMPA, MoEFCC, GoI
All India Co-ordinated project on Sandal. Component: Sandal-based Agroforestry System – As Principal Investigator	CAMPA, MoEFCC, GoI
All India Co-ordinated project on Tree Fodder. – As Principal Investigator	CAMPA, MoEFCC, GoI
All India Co-ordinated project on Forest Hydrology. – As Principal Investigator	CAMPA, MoEFCC, GoI
Developing Volume Table, Biomass Table and Mobile Apps for yield estimation in plantations of Melia dubia, Ailanthus excelsa and Gmelina arborea – As Principal Investigator	ICFRE
Securing Pulpwood Raw Material Availability: Developing High Yielding Clones and Breeding Orchards of Casuarina and Leucaena to Increase Plantation Productivity in Andhra Pradesh - As Principal Investigator for Silviculture and Agroforestry Component	A collaborative project of IFGTB and Andhra Paper Limited
Sustainable Pulpwood Production through High-Yielding Varieties of Nitrogen Fixing and Drought Tolerant Trees - As Principal Investigator for Silviculture Component	A collaborative project of IFGTB and Tamil Nadu Newsprint and Papers Limited.

Significant achievements

1. Developed and released five superior Tree Varieties of Casuarina for Windbreak Agroforestry particularly to protect agricultural and horticultural crops from wind damages.
 - Names of the clones released:
 - IFGTB-WBC-1
 - IFGTB-WBC-2
 - IFGTBWBC-3
 - IFGTB-WBC-4
 - IFGTB-WBC-5.
2. Associated in PATENT (No. 290429) received for “Tree mean diameter estimation from terrestrial images using digital camera”.
3. Developed *Acacia mangium* + Beans based agroforestry system for Tamil Nadu and *Acacia mangium* + Pepper based agroforestry system for Kerala.
4. Developed Integrated Dry Land Agroforestry Systems in Tamil Nadu (Ramnad district) for enhancing livelihood opportunities.
5. Under NATCOM project on 'Assessment of soil C stocks and dynamics in forest soils of India', estimated Soil carbon stock in forest soil under different forest types over the period from 1995 to 2007.
6. Developed Volume Tables for five short rotation plantation species in Kerala with funding support of Kerala Forest Development Corporation.
7. Developed clone- specific biomass prediction equations to minimize the error in biomass estimation in clonal plantations for *Eucalyptus camaldulensis* clones EC 3, EC 7 and EC 10.
8. Selection of clones adaptive to climate change:
 - Among five Windbreak clones, IFGTB-WBC-3 clone was more adaptive and recorded 38% more dry matter accumulation under elevated CO₂ environment.
 - Identified two clones (AI-9 and AI-12) more adaptive to elevated CO₂ in Neem under Open Top Chamber studies.
9. Selected CPTs of *Acacia leucophloea* for higher pod production and the progenies of these selected CPTs were raised and established in a germplasm bank.
10. Selected high fruit yielding CPTs of Neem and have established progeny and clonal trials for selecting superior phenotypes for Agroforestry systems.

11. Released farmers friendly Mobile Apps and are now available in Google Play Store as well as in “TreeGenie” – an interactive Digital Platform of IFGTB
 - i) “CYCUS” for Yield estimation in plantations of *Casuarina equisetifolia*.
 - ii) “Wood Yield Calculator” for yield estimation in plantations of
 - *Melia dubia*
 - *Ailanthus excelsa*
 - *Gmelina arborea*

12. For Andhra Paper Ltd., developed Mobile App “Pulp Wood Yield Calculator” for yield estimation in plantations of
 - *Casuarina* - seedling origin
 - *Casuarina* hybrid Clonal origin
 - Subabul – Seedling origin

13. Recorded 1.5 times yield increase in red gram (Var.CO-8) for two consecutive year under Windbreak clones of *Casuarina* released by IFGTB.

14. Entered into a License Agreement for mass propagation and sale of windbreak clones released by IFGTB with
 - i. M/s Anandha Agricultural Solutions, Thoothukudi
 - ii. VETRY-NGO, Tiruppur

15. Disease management through optimum spacing in clonal plantations of *Casuarina*: Identified wider spacing of 2 m x 1 m for prevention of diseases caused by *Diplodia* sp. (collar rot) and / *Ralstonia solanacearum* (bacterial wilt) resulting in lodging of trees in clonal plantations of *Casuarina*.