

Dr. Nirmal

Personal Information	
Name	: Dr. Nirmal
Designation	: Scientist, Agroforestry, Integrated Farming Systems Division
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Qualification	: Ph.D.
Discipline and Specialization	: Agroforestry
Training/ advance exposure (5-6 lines only)	: <ul style="list-style-type: none">• Advances in Simulation Modelling and Climate Change Research Towards Knowledge Based Agriculture.• Remote Sensing, Geographical Information System and Global Positioning System.• Data Visualization using R.• Recent Development in Agroforestry Dimensions for Managing Salt Affected Ecologies.• Science Communication for Smart Scholars.• Multivariate Data Analysis.• Communication and personality development.• Big Data Analytics in Agriculture.• Agroforestry for Environmental Sustainability and Climate Resilience.• Monetizing Carbon Credits in Farmlands for benefitting Indian Farmers.
Professional Information	
Major Contributions	: <ul style="list-style-type: none">• Identified and designed Bamboo based agroforestry systems for mid hills of Arunachal Pradesh using three species of bamboo namely Eso (<i>Bambusa pallida</i>), Ejo (<i>Bambusa tulda</i>) and Eni (<i>Dendrocalamus hamiltonii</i>) for incorporation in farmlands.• Developed an Agroforestry based IFS model in Siwaya Research Farm, ICAR IIFSR Modipuram to evaluate and compare productivity and performance of three tree crop combinations in Alley cropping design. The species selected were <i>Moringa oleifera</i> (Drumstick tree), <i>Tectona grandis</i> (Teak) and <i>Dalbergia sissoo</i> (Shisham).• Development of Sustainable IFS model for western plain zone of Uttar Pradesh, September 2020 to 2022, project is especially framed for the

		<p>betterment of schedule caste communities.</p> <ul style="list-style-type: none"> • Studies undertaken to evaluate the capacity building to upscale the IFS and impact of IFS on farmers livelihood in Kerala, Tamil Nadu and Telangana.
Current area of research	:	Agroforestry, Integrated farming, Tree physiology, Climate resilience, Ecosystem Services
Major Publications (10)	:	<ul style="list-style-type: none"> • Nirmal*, Ajit and Handa A.K. (2021). Biomass and volume models for clonal <i>Eucalyptus tereticornis</i> coppice under agroforestry systems in central India, Indian Journal of Agroforestry, 23(1): 54-60. • Nirmal*, Bakshi M. and Singh H., (2021). Effect of CO₂ elevation on Shisham growth at nursery stage, Indian Journal of Hill Farming, 34, 272-276. • Jitendra Kumar, H. Kalita, Wangnem Rekhung, Rajesh A. Alone, Thejangulie Angami, Doni Jini, Badapmain Makdoh, Letngam Touthang, Nirmal Khatri, A. P. Singh, Nishant K. Sinha, Dhiraj Kumar & R. S. Chaudhar. (2023) Dynamics of soil organic carbon of jhum agriculture land-use system in the heterogeneous hill of Arunachal Pradesh, India, Scientific Reports, 13 (12156) • Raghavendra KJ, John J, Jacob D, Rajendran T, Prusty AK, Ansari MA, Ravisankar N, Kumar S, Singh R, Shamim M, Punia P, Nirmal, Meena AL, Kashyap P, Shivaswamy GP and Dutta D (2024) Unraveling determinants of integrated farming Systems adoption for sustainable livelihood and dietary diversity. Front. Nutr. 11:1264658. • Kumar S, Ravisankar N., Verma N., Nirmal, Chaudhary J., Singh R., Punia P., Bhanu C., Ansari M.A., Prusty A.K., Shamim M. and Raghavendra K.J. (2023) Agri-food system transformation through integrated farming systems approach, Indian Journal of Agronomy, 68 (XXII Biennial National Symposium Special issue): S98-S109 • Thejangulie Angami, Rupankar Bhagawati, Letngam Touthang, Badapmain Makdoh, Nirmal, Lungmuana, Kumar Avinash Bharati, Rajendran Silambarasan, Muniappan Ayyanar (2018) Traditional uses, phytochemistry and biological activities of <i>Parkia timoriana</i> (DC.) Merr., an underutilized multipurpose tree bean: a review, Genetic Resources and crop evolution, 65: p 679-692 • Sunil Kumar, Amrit Lal Meena, Chethan Kumar G, L.K. Meena, Lalit Kumar, Peyush Punia, L.R. Meena, Nirmal, Anil Kumar, Ashok Gupta, Vijay Khajuria, Raghavendra KJ, Jairam Choudhary and PC Ghasal, (2023). Characterization and impact of organic vis-à-vis conventional farming systems in Jammu District, Journal of Eco-friendly Agriculture. • Rani J, Nirmal*, Ramgopal and Bakshi M, (2023). Potentiality of plant production in different genotypes of <i>Dendrocalamus strictus</i> (Roxb.) Nees via ex vitro and in vitro approaches, Indian Journal of agroforestry, 25(1) pp 55-60 (NAAS 4.99) • Sulekha Doley, Satvinder Kaur, Nirmal*, Neeraj Kumar Pandey (2023). Edible and dye yielding plants used by Galo tribe of Lepa Rada, Arunachal Pradesh, Indian Forester. 149 (5): 591-594 • T. Angami, R.Bhagawati, B.Makdoh, Nirmal*, S.R. Assumi, S.Baruah (2017) Taktir (<i>Garcinia Lancifolia</i> Roxb.): A yester year bounty from the mid hills of Arunachal Pradesh, Indian Forester, 143(5): p 511-512
Awards and Fellowships (ICAR/ Recognition society awards)	:	<ol style="list-style-type: none"> 1. Young Scientist Award: Pragati International Scientific Research foundation, Meerut, India; Registered Trust under “The Indian Trusts Act, 1882”; For contribution in the field of “Agroforestry” on the occasion of 2nd International Conference on “Prospects and challenges of environment and biological sciences in food production system for livelihood security of farmers (ICFPLS 2023) during September 18 20 2023 at ICAR CIARI, Port Blair, A N Islands, India. 2. Best Poster Award: National Conference on Agro-Ecology Based Agri-Food Transformation Systems, ‘Development of Indian Mustard varieties for organic production system’ 27th to 28th January 2023, organized by FSRDA and ICAR IIFSR in collaboration with CIMMYT and ICRISAT 3. Best Article Award: Sunil Kumar, Nirmal, A.S. Panwar, A.L. Meena, (2022)

	<p>Recent Trends in Indian Agriculture, Agriculture and Food E-newsletter, E-ISSN 2581-8317, August 2022, pp 204-207</p> <ol style="list-style-type: none"> 4. Best Oral: Nirmal, RP Mishra, K Kumar, PP Singh, Raghavendra KJ and S Kumar 2024. Tree-Crop-Soil Interactions in Agroforestry based Integrated Farming System under rainfed conditions, National Symposium on Sustainable Agriculture Practices for Food Security and Environmental Conservation, SVBPUAT Meerut, 15 March 2024 5. Best Oral: Nirmal, Rajendra Prasad Mishra, Peyush Punia, Suresh Malik, Pushpendra Pratap Singh, Kamlesh Kumar, Raghavendra KJ and Sunil Kumar, Oral Presentation “Crop yield and soil parameters of Agroforestry based Integrated Farming System in rainfed areas” in Prospects and challenges of environment and biological sciences in food production system for livelihood security of farmers (ICFPLS 2023), 2nd International Conference PISRF, 18-20 September 2023 at ICAR-CIARI, Port Blair, Andaman & Nicobar Islands, India. 6. Best Stall Award: Kisan Mela 2024 “Natural Farming and Nutri-Cereal Cultivation for Farmers Prosperity” at Dr. Rajendra Prasad Central Agricultural University Pusa, Samastipur, Bihar from 24th to 26th February 2024 7. The Indian forester Prize in the field of forestry for the year 2017 for contribution in research article titled ‘Taktir (<i>Garcinia lancifolia</i> Roxb.): A Yester year bounty form the mid hills of Arunachal Pradesh’ published in May, 2017 issue of ‘The Indian Forester’.
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