

BIODATA:

Assistant Professor Stage 3 (Agronomy)
AICRP on Agroforestry
College of Forestry, Vellanikkara
Kerala Agricultural University, Thrissur, India
Email : asha.raj@kau.in
Mob: 9496164414

Educational qualification

Ph.D. (Agronomy)

Research Experience

1. Principal Investigator of **KSCSTE – SRS Project** “Silvopasture strategies for fodder self-sufficiency through homestead cultivation”.

2a). AICRP projects as Principal Investigator

1. Multitier silvopastoral systems for humid tropics.
2. Revitalization of homegarden based traditional agroforestry systems of Kerala.
3. Evaluation of green manuring trees in rice bunds and boundaries of Kerala.
4. Designing Jack and Gmelina based agroforestry systems for quality forage production in homestead based Goat farms of Kerala.
5. Impact of Bamboo biochar on early growth, understorey productivity and soil quality of Ailanthus plantations in laterite soils.
6. Diagnosis and design of alternate agroforestry practices in clear-felled rubber plantations of Kerala.

b) AICRP projects as Co-Investigator

1. Bamboo based agroforestry practices for humid tropics.
2. Provenance evaluation of teak (*Tectona grandis* Linn f.).
3. Development of an integrated, multitier agrosilvopastoral system for the humid tropics.

Research guidance

- Major advisor to M. Sc/Ph.D (Forestry) research programme – 16 students

Skills and expertise: Agroforestry research, Fodder production, Forest soils, Soil fertility management

Scientific publications

Asha K Raj, Reshma M Raj, T K Kunhamu, V Jamaludheen and A R Chichaghare. 2023. Management of tree fodder banks for quality forage production and carbon sequestration in humid tropical cropping systems – An overview. *Indian Journal of Animal Sciences* 93(1): 10–22.

K. Anu Sagar, Asha K. Raj, T. K. Kunhamu, C.G. Thomas and A.V. Santhosh Kumar. 2018. Management of calliandra (*Calliandra calothyrsus* Meissn.) in coconut plantation for boosting forage yield and nutritive value. *Range Management and Agroforestry Journal* Vol.39 No.1.

Shahina, N.N., Asha, K. Raj, Kunhamu, T.K. and Jamaludheen, V. 2023. Shade tolerance, yield, and nutritive value of selected forage crops in typical home garden of central Kerala. *Range Management and Agroforestry Journal* Vol.44 No.1. 175-182

Asha K. Raj, Kunhamu T.K., Jamaludheen V. and Chichaghare A.R. 2022. Upscaling fodder tree integration in humid tropical agroforestry systems—Prospects and constraints. *Indian Journal of Agroforestry Special Issue*. Vol. 24 No.1:37-46

K. M. Varsha . Asha K. Raj . E. K. Kurien . Betty Bastin, T. K. Kunhamu and K. P. Pradeep. 2019. High density silvopasture systems for quality forage production and carbon sequestration in humid tropics of Southern India. *Agroforestry Systems* 93:185-198

A Comprehensive Analysis of Silvopastoral Potential in Indian Agroforestry Landscapes
Susmita Shil · Asha K. Raj · Ankita Bhardwaj · Umakanta Dash · Lalitkumar L. Maurya · M. N. Ashwath · Manish Kumar Mankur · Vijay Kumar. 2025. Small-scale Forestry
<https://doi.org/10.1007/s11842-025-09597-3>.

Susmita Shil, Asha K Raj, TK Kunhamu, V Jamaludheen, Divya Vijayan V, Binu N Kamalolbhavan and Ankita. 2025. Soil microbial dynamics and enzymatic activity under boundary plantation of green manure trees in wetland paddy system of Kerala. *International Journal of Research in Agronomy* 2025; 8(6): 473-478

Aiswaryalakshmi AR, Asha K Raj, Abhin M Sunil, Aqueala Carmel PT, D Suwethasri, Karthick Mani Bharathi B and M Ashwin Niranjana. 2025. A review on Calliandra calothyrsus: A potential fodder tree species. *International Journal of Research in Agronomy* 2025; 8(1): 423-430

Lalitkumar maurya, V Jamaludheen TK Kunhamu, , Asha K Raj and AV Santhoshkumar. 2024. Soil physicochemical properties and growth of *Dendrocalamus stocksii* under different spacings in Kerala. *Indian Journal of Agroforestry* Vol. 26(2):101-111

Ankita, TK Kunhamu, V Jamaludheen, Asha K Raj, AV Santhoshkumar, Gopakumar S and Susmita Shil. 2024. Growth performance of black pepper raised on *Artocarpus heterophyllus*

planted at variable stand densities. *International Journal of Research in Agronomy* 2024; 7(12): 451-458

Susmita Shil, Asha K Raj, Manish Kumar Mankur and Lalitkumar L. Maurya. 2024. Agroforestry: an approach for food security. In *Advances in Forestry and Agro-Forestry Volume 2*. Amlani Maulik Harishbhai, Dr. Dayanand Sai Painkra, Dr. Akshay F Madiwalar, Pratiksha Patil (EDs). Stella International TM Publication. 1781-3, U.E., Kurukshetra Haryana 136118 (India):1-32

Susmita Shil , Asha K Raj , Ankita Bhardwaj , Manish Kumar Mankur and Vijay Kumar. Kelp forest: ecological significance and restoration prospects. *Planta* – Vol.-7, October 2023: 1419 – 1427 (Research Book Series Chapter – 156)

A.R. Chichaghare, Asha K. Raj, T.K. Kunhamu and Jamaludheen V. 2023. Early growth and productivity of fast-growing fodder trees for integration in smallholding farm boundaries of Central Kerala. *Indian Journal of Agroforestry* Vol. 25(2):75-81.

Aiswaryalakshmi A.R., Asha K. Raj , Kunhamu T. K. and Jammaludheen V. 2023. Standardization of vegetative propagation of fodder calliandra (*Calliandra calothyrsus*) using coppice cuttings in humid tropics of south India. *Indian Journal of Agroforestry* Vol. 25(2):40-48

Shahina, N.N., Asha, K. Raj, Kunhamu, T.K. and Jamaludheen, V. 2022. Shade tolerance, yield, and nutritive value of selected cereal and grass fodders in a coconut garden of Central Kerala. *Journal of Agroforestry* Vol. 24 (2): 46-51

Anush Patric, Asha K. Raj, T. K. Kunhamu, V. Jamaludheen and A.V. Santhoshkumar. 2020. Productivity of tree fodder banks in a typical home garden of Central Kerala. *Indian J. of Agroforestry* Vol. 22 No.1 :17-23

Reshma M. Raj, Asha K. Raj, Kunhamu, T.K. and Anoop Prakash. 2019. Fodder yield and nutritive value of mulberry (*Morus indica* L.) under varying plant density and pruning frequency in coconut garden. *Range Management and Agroforestry Journal* Vol.40 No.2. 255-261.

Jilna Joy, Asha K. Raj, T. K. Kunhamu and V. Jamaludheen and Jayasree K. 2019. Fodder production and carbon stock of calliandra under coconut plantation. *Range Management and Agroforestry Journal* Vol.40 No.1. 109-117

R.M. Jose, V. Jamaludheen, T.K. Kunhamu, A.V. Santhoshkumar and A.K. Raj. 2019. Growth and productivity of selected fodder grasses intercropped under mature coconut and rubber plantations at Vellanikkara, Thrissur. *Indian J. of Agroforestry* Vol. 21 No.1 :21-26

Acsah Rose John, Asha K. Raj, T.K. Kunhamu, E.V. Anoop and V. Jamaludheen. 2019. Forage yield and carbon dynamics of mulberry fodder banks under varying density and harvest interval in coconut garden. *Indian J. of Agroforestry* Vol. 21 No.1 : 42-49.

Vikas Kumar, Kunhamu T.K., Jamaludheen, V. , Santhoshkumar A.V. and Asha K. Raj. 2018. Root distribution pattern of young *Swietenia macrophylla* King. stands in Central Kerala, India. *Indian J. of Agroforestry* Vol. 20 No.2 : 9-14.

T. K. Kunhamu . S. Aneesh . B. Mohan Kumar, V. Jamaludheen . A. K. Raj ., P. Niyas. 2018. Biomass production, carbon sequestration and nutrient characteristics of 22- year-old support trees in black pepper (*Piper nigrum*. L) production systems in Kerala, India. *Agroforestry Systems* 92: 1171-1183

Jilna Joy, Asha K. Raj, T. K. Kunhamu and V. Jamaludheen. 2018. Forage yield and nutritive quality of three-years-old calliandra (*Calliandra calothyrsus* Meissn.) under different management options in coconut plantations of Kerala, India. *Indian J. of Agroforestry* Vol. 20 No. 1 : 11-15.

Rocha D., Kunhamu T.K., Santhoshkumar A.V., Jamaludheen, V. and Asha K. Raj. 2017. Biomass and carbon stocks in 12 year old *Acacia mangium* managed at variable density and pruning regimes in central Kerala, India. *Indian J. of Agroforestry* Vol. 19 No. 1 : 69-74.

Asha K. Raj, T. K. Kunhamu, V. Jamaludheen and S. Kiroshima . 2016. Forage yield and nutritive value of intensive silvopasture systems under cut and carry systems in humid tropics of Kerala, India, *Indian J. of Agroforestry* Vol. 18 No. 1 : 47-52.

Reshma M. Raj, A.K. Raj, T.K. Kunhamu, Jamaludheen, V. and Anoop Prakash. 2016. Fodder yield and nutritive value of subabul (*Leucaena leucocephala* Lam.) under diverse management regimes in coconut garden. *Indian J. of Agroforestry* Vol. 18 No. 2 : 79-85.

G. Jayaprakash, K. Shyama, P. Gangadevi, K. Ally, K.S. Anil, **Asha K. Raj**, M. Sathiyabarathi and M. Arokia Robert. 2016. Biomass yield and chemical composition of *Calliandra calothyrsus*, *desmanthus virgatus* and *Stylosanthes hamata*. *International Journal of Science, Environment and Technology*, Vol. 5, No 4, 2016. 2290-2295.

A.K. Raj, T.K. Kunhamu and S. Kiroshima. 2015. Low- cost potting mix for quality seedling production of multipurpose calliandra (*Calliandra calothyrsus*) in humid tropics of Kerala. *Indian Journal of Agroforestry* . Vol 17 (2): 55-60.

Kunhamu, T.K., Niyas, P., Anwar, M.F. Jamaludheen, V. and **A.K. Raj**. 2015. Understorey productivity of selected medicinal herbs in major land management systems in humid tropical Kerala. *Indian Journal of Agroforestry*. Vol 17 (2),

A.K. Raj, T.K. Kunhamu and S. Kiroshima. 2015. Optimizing management practices in mulberry for intensive fodder production in humid tropics of Kerala. *Indian Journal of Agroforestry*. Vol 17 (2): 36-41.