

# Dr. Demsai Reang

Assistant Professor

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## Research Area

**Agroecology; Conservation biology; Environmental Sustainability; Forest Ecology; Landscape and natural resource management; Remote sensing and GIS; Socio-economic vulnerability**

## Academic Qualifications

- **PhD | 2020**  
Dept. of Ecology & Environmental Science, Assam University Silchar (AUS)
- **Master of Science | Ecology & Environmental Science | 2012**  
Dept. of Ecology & Environmental Science, AUS. First Division (CGPA 6.62)
- **Bachelor of Science | Botany (Honours) | 2010**  
North Eastern Hill University (NEHU), Second Division (58.5%)

## Working Experience

- **Research Associate** | August 08, 2020 – September 29, 2022 | Funded by Department of Science and Technology – DST SPLICE (Ref: DST/CCP/MRDP/189/2019)  
*The research focuses on the assessment of socio-ecological vulnerability of Climate change among agroforestry managers along an altitudinal gradient in the Eastern Himalayas.*
- **Junior Research Fellow** | September 02, 2017 – March 15, 2019 | Funded by Department of Science & Technology - DST AICP (Ref. AU/E/130/15-16)  
*The research focused on assessing the carbon sequestration potential of major land-uses of southern Assam, Karbi Anglong and N.C. Hills.*
- **Project Fellow** | November 02, 2015 – January 31, 2016 | Funded by Assam State Biodiversity Board (ASBB) (Ref. ABB/BRAP/2014)  
*Through this research project, the People's Biodiversity Register of Lakhimpur Anchalik, Cachar district, Assam was documented and prepared. The report included a detailed list of available local resource (flora and fauna both wild and domesticated) for employing proper resource management and policy building in the region.*
- **Junior Research Fellow** | August 01, 2012 – August 01, 2015 | Funded by Dept. of Science & Technology - DST FASTTRACK (Ref. SERB/F/2489/2011-12)  
*The research assessed and mapped the different land components (forest, water-bodies, agriculture lands, settlements, other infrastructures, etc.) through the application of remote sensing and GIS, and also studied the tree compositions and diversity of the forests in Southern Assam, North-east India.*
- **Resource Person** | March 24, 2021 – March 28, 2021 | Funded by Dept. of Science & Technology | *Invited for a training program on "Net Ecosystem production and carbon dynamics of forest ecosystems in North East India" in the North-Eastern Hill University (NEHU), Shillong, Meghalaya.*
- **Resource Person** | March 20, 2021 | *Invited for a practical training session on "Geospatial technology and interpretation of Topographic maps" at Nabinchandra College, Badarpur, Assam.*

- **Resource Person** | November 15, 2018 – August 22, 2018 | Funded by Dept. of Bio-technology, Govt. of India | Invited in a workshop program for college teachers on “Interdisciplinary Approach to Environmental Science” in Karimganj college, Assam.

## Research Publications

### International

- Post-fire restoration of land under shifting cultivation: A case study of pineapple agroforestry in the Sub- Himalayan region. *Journal of Environmental Management*, 2022, 305:114372. Elsevier-Science (IF- 8.910)
- The Shifting Cultivation Juggernaut: An Attribution Problem. *Global Challenges*, 2022, 2200051. Wiley (IF- 5.135)
- Ethnic homestead forests of North-East India revealed as diverse land-use systems. *Agroforestry Systems*, 2021, 1-14. Springer (IF-2.419)
- Assessing tree diversity and carbon storage during land use transitioning from shifting cultivation to indigenous agroforestry systems: Implications for REDD+ initiatives. *Journal of Environmental Management*, 2021, 298:113470. Elsevier-Science (IF- 8.910)
- Tree diversity, soil organic carbon lability and ecosystem carbon storage under a fallow age chronosequence in North East India. *Environmental and Sustainability Indicators*, 2021, 10:100122. Elsevier
- Quantifying carbon stocks and sequestration potential in agroforestry systems under divergent management scenarios relevant to India’s Nationally Determined Contribution. *Journal of Cleaner Production*, 2021, 281:124831. Elsevier-Science (IF-11.072)
- Coupled human-environment system amid COVID-19 crisis: A conceptual model to understand the nexus. *Science of the Total Environment*, 2021, 753:141757. Elsevier (IF-10.753)
- Tree Diversity and the Improved Estimate of Carbon Storage for Traditional Agroforestry Systems in North East India. *Applied Ecology and Environmental Sciences*, 2020, 8(4):154-159. Science and Education Publisher.
- Allometric Models for estimation of Forest Biomass in North East India. *Forests*, 2019, 10(2):103. MDPI (IF- 3.282)

### National Journals

- Heterogeneous Landscape Assessment using Multi-Temporal LISS4 and Hybrid Approach: A Case Study in Barak Valley, India. *Indian Journal of Ecology*, 2020, 47(3):842-848. Indian Ecological Society (NAAS rating: 5.79)
- Gregarious Flowering in *Dendrocalamus Longispatus* (Kurz) in North East India. *Indian Forester*, 2020, 146(4):359-360. FRI, India (IF-0.666)
- Notes on the recollection of *Ormosia pinnata* (Leguminosae subfam. Papilionoideae). *Nelumbo*, 2019, 61(1):27-29. Botanical Survey of India, Kolkata
- Spatial analysis on land use/land cover from IRS-R2 LISS4 FMX data- A case study in Assam University campus, India. *NeBio*, 2018, 9(1):134-140. Northeast Centre Environ Educ & RES-NECEER, (IF-0.998)
- King Cobra: Sighting of a *Ophiophagus hannah* (Cantor, 1836) in Assam University, Silchar Campus, Cachar, India. *Zoo’s Print*, 2018, 33(11):09-11. Zoo Outreach Organisation, INDIA
- Water resources of Barak valley, India: Spatial assessment of Lentic and Lotic System using Remote Sensing and GIS at 5.8 m resolution. *International Journal of Advanced Remote Sensing and GIS*, 2018, 7(1):2633- 2642. Cloud pulication
- Forest Health Degradation in Barak valley: A NDVI-Based study. *Indian Journal of Forestry*, 2018, 41(4):319-328. Dehradun, INDIA
- Traditional practice of Paan Jhum cultivation among Khasia community in Barak valley, Assam. *Journal of Traditional and Folk Practices*, 2016 04(1):96-99. KSCSTE, INDIA
- New locality records of the „Dancing Girl” of Mizoram, a rare zinger species. *Journal of Threatened Taxa*, 2016, 8(5):8841-8843. Zoo Outreach Organisation (NAAS rating: 5.56)

### Book Chapters

- **Reang D**, Nath AJ, Sileshi GW, Das AK. Ethnic Homestead Gardens: Diversity, Management and Conservation. In: Dagar JC, Gupta SR, Sileshi GW (eds.) "Agroforestry for Sustainable Intensification of Agriculture in Asia," 2022. Springer Nature (*Accepted for publication*).
- **Reang D**, Nath A, Nath AJ, Das AK. Carbon stock potential and ecosystem services provisioned by major land-use systems in Southern Assam, India: A meta-analysis. In: Chakrabarty S (eds.) "Sustainability, Development and Conservation of Natural Resources," 2022. Apple Academic Press (AAP) CRC, Taylor & Francis (*Accepted for publication*).
- **Reang D**, De A. Use of plants and animals for ceremonies and magico-religious purposes in some ethnic villages of Cachar district, Assam. In: Das AK, Gupta S, Gupta A & Singha H (eds.) "Recent Research in Ethnobiology and Biodiversity Conservation in India," 2019. Assam University, Silchar.

## Certificates

- Certificate of presentation in the National Conference on "Aspects and Prospects of Spermatophyte Taxonomy: Focus on Plant resources of India" organized by Bioinformatics Centre (DBT-BIF), AUS, in collaboration with East Himalayan Society for Spermatophyte Taxonomy, North Bengal University, Siliguri from 26th to 27th February, 2015
- Certificate of presentation in the National Seminar on "Charting and Managing Biodiversity: Perceptions and Priorities (CMBPP-2016)" organized by AUS in Association with University Grants Commission (UGC), New Delhi held on 8th & 9th of March, 2016
- Certificate of presentation in the National seminar on "Ethnobiology and Traditional Knowledge in Biodiversity Conservation-Approaches and dimensions (ETKBC)" organized by the Department of Ecology and Environmental Science, AUS in Association with Council of Scientific and Industrial research (CSIR), New Delhi held on 2nd & 3rd of February, 2017
- Certificate of presentation in the National seminar on "Recent trends in Ecological Research (RTER-209)" organized by the Department of Ecology and Environmental Science, AUS held on 5th to 7th March, 2019
- Certificate of participation in a webinar on "Managing the Earth from Space: Geospatial Technology" organized by Dept. of Earth Science, University of Science and Technology, Meghalaya on 13th July, 2020
- Certificate of participation in a webinar on "Impact of Climate Change on Biodiversity in India" organized by STLLES India, New Delhi and EcoR Foundation, Kochi on 15th July, 2020.
- Certificate of participation in an International Webinar on "Application of Geospatial and Molecular tools in natural resource conservation and management" organized by Dept. of Ecology and Env'tl. Science, AUS on 29th of July, 2020
- Certificate of participation in an international webinar on "Covid-19 and its link with Biodiversity conservation: some facts and perspective" organized by Dept. of Ecology and Env'tl. Science, AUS on 14th August, 2020
- Certificate of participation in an International Webinar on "Publishing in academic journals and how to succeed with your publication" organized by Taylor and Francis Group, India and DeLCON on 26th August, 2020
- Certificate of participation in a webinar on "Trends in Biomedicine and Life Sciences Publishing and Nuances & Tools of Scientific Publishing" organized by Springer Nature in collaboration with DeLCON on 02nd September, 2020
- Certificate of participation in a webinar on "Drone Remote Sensing in Agriculture" organized by Indian Society of Agrophysics in association with Division of Agricultural Physics, ICAR-Indian Agricultural Research Institute, New Delhi on 09th September, 2020
- Certificate of participation in a workshop and hands on training programme in "Geospatial Techniques in Ecological Studies" held on 4th April 2015 organized by Department of Ecology and Environmental Science, AUS
- Certificate of participation in a workshop on "Ecological Issues & Concern: Quantitative Applications" held on 23th-24th March, 2015 organized by Indian Statistical Institute, Kolkata and Department of Ecology and Environmental Science, AUS

- Certificate of participation in a workshop on “A Day with Tea” held on 10th of February, 2016 organized by Department of Ecology and Environmental Science, AUS
- Certificate of participation in a workshop on “Dehydration of Flowers, Foliage and Floral Craft” held on 16th & 17th of February, 2016 organized by Department of Life Science & Bioinformatics, AUS
- Certificate of participation in a science academy” lecture workshop on “Emerging trends in environment and life sciences: an integrated approach” held on 14th – 16th November, 2017 organized by the Department of Ecology and Environmental Science, and sponsored by the Indian Academy of Sciences, Bangalore, the Indian National Science Academy, New Delhi and the National Academy of Sciences, India, Allahabad
- Certificate of participation in a regional stakeholder meeting and workshop on “Assam Biodiversity Portal” organized by Ashoka Trust for Research in Ecology and the Environment (ATREE) in collaboration with Centre for Biodiversity and Natural Resource Conservation and Department of Ecology and Environmental Science, Assam University, Silchar, held on 10th January 2018
- Certificate of participation in a workshop on “Introduction to R” held on 22nd - 24th September, 2018 organized by the Department of Ecology and Environmental Science, AUS.
- Certificate of appreciation for volunteering in organizing stakeholder consultations in Assam during the preparation of Assam State Biodiversity Strategy and Action Plan 2016-17, undertaken by Wildlife Institute of India, Dehradun.

## Training & Courses

- Trained in “Introduction to digital image processing & pattern recognition” conducted by Indian Space Research Organisation, National Remote Sensing Centre, Hyderabad.
- Trained in “Basics of plant identification and nomenclature” organized by Eastern Regional Centre, Botanical Survey of India, Shillong, Govt. of India.
- Trained in a Global Initiative for Academic Networks (GIAN) on “Bio-Optical characterization of water resources: Implications for future satellite missions” organized by Indian Institute of Technology (IIT), Kharagpur, and Ministry of Human Resource Development, Govt. of india.
- Participated in “Remote sensing applications in agricultural water management” course conducted by Indian Institute of Remote Sensing, Dept. of Space, Govt. of india.
- Participated in “Advances in monitoring and modelling hydro-meteorological hazards using geospatial technology and process-based models” course conducted by India Space Research Organisation, Dept. of Space, Govt. of India.

## References

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Remote Sensing & GIS Lab  
Dept. of Ecology & Environmental Science, Assam University

## Declaration

*I consider myself familiar with all the above provided information.*



**Place:** Royal Global University  
**Date:** 13 | 02 | 2023

**Signature**