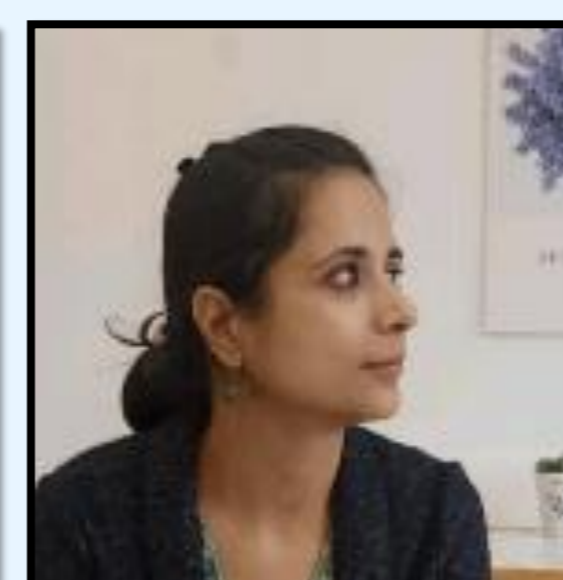
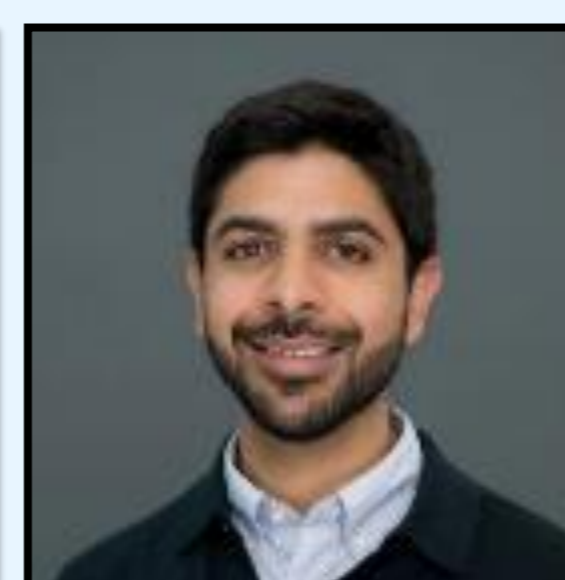


# PRAKRITI RESEARCH FELLOWSHIP (2023-2024)

## First Quarter Summary



Bandijai Ban

Kedar Shah

Manjot Kaur

Arvind Iyengar



# Devika M Anilkumar

## Reviving 3 Tree Species in Kerala ...



- Ecological restoration of three threatened tree species.
  - (i) *Diospyros crumenata* (CR) (ii) *Prioria pinnata* (VU) and (iii) *Hopea ponga* (EN).
- Periodic monitoring, maintenance, transportation of the sapling and restoration of the species and their associates in the identified five different locations.
- Germination and maintenance of 50 saplings of each targeted species and 200 saplings of various associated species.
- Eco restoration at five locations based on Niche specific and Ecosystem Based restoration planning and in compliance with SER Guideline.
- Involvement of BMC and MGNREGA assures long term monitoring and maintenance of saplings
- Research Paper Published -
- To be done -  
Ecorestoration Manual for Species  
Awareness about use of Saplings



*Diospyros crumenata*      *Hopea ponga*      *Prioria pinnata*

SL. No.	Name of species	No. of sapling planted
1	<i>Hopea ponga</i>	48
2	<i>Prioria pinnata</i>	29
3	<i>Diospyros crumenata</i>	43
4	Associates	100
5	Grant Total	220

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Acta Ecologica Sinica  
Available online 28 October 2023  
In Press, Corrected Proof | What's this?

Niche model based conservation and ecorestoration area prediction of threatened *Prioria pinnata* (Fabaceae) and conservation implication on IUCN status

M.A. Devika<sup>a</sup>, K.H. Amitha Barchan<sup>b</sup>

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<https://doi.org/10.1016/j.choes.2023.10.002> | Get rights and content

Abstract

*Prioria pinnata* (Roxb. ex DC.) Breteler, a threatened endemic canopy tree in the Western Ghats-Sri Lanka biodiversity hotspot, which is threatened by habitat loss and low density. Bioclimatic modelling predicts 2999km<sup>2</sup> of potential habitat across nine ecoregions, but 2452km<sup>2</sup> is converted for agriculture, making it unsuitable for niche-specific species restoration. Combining Grinnellian and Eltonian niche factors enhances model accuracy and predictions using a modified Niche modelling coupled with community composition. The study adds more information to the IUCN Red List assessment, expanding the Extent of Occurrence and Area of Occupancy. The species' status has been upgraded from Endangered to Vulnerable due to recovery and increased awareness. A niche profile-based management plan and seedling reintroduction are recommended for this threatened endemic canopy tree.



Note - Devika has completed PRF year 2023. She is under consideration for Extension grant for 2024. Her project has resulted in very tangible outcomes and is also being well received and supported by Forest Department (KERALA) and Gram Panchayats of the villages she is working in.



# Samrat Sengupta

Endemic Khasi Toads - *Bufoides meghalayanus*



- Research project on *Bufoides meghalayanus*, a rare frog species, has yielded remarkable findings, discovering a new population 26 km away from any previously documented distributional records.
- Field Sites - Mawblang Plateau, Mawsmai Cave (Meghalaya - Shillong)
- Upcoming - Awareness programs



- Discovering a new Species ????

Collaborating with ZSI



**Zoological Survey of India**

Government of India

Ministry of Environment, Forest & Climate Change

Might be a new species!

Around 6.5% difference with *Ichthyophis moustakius*



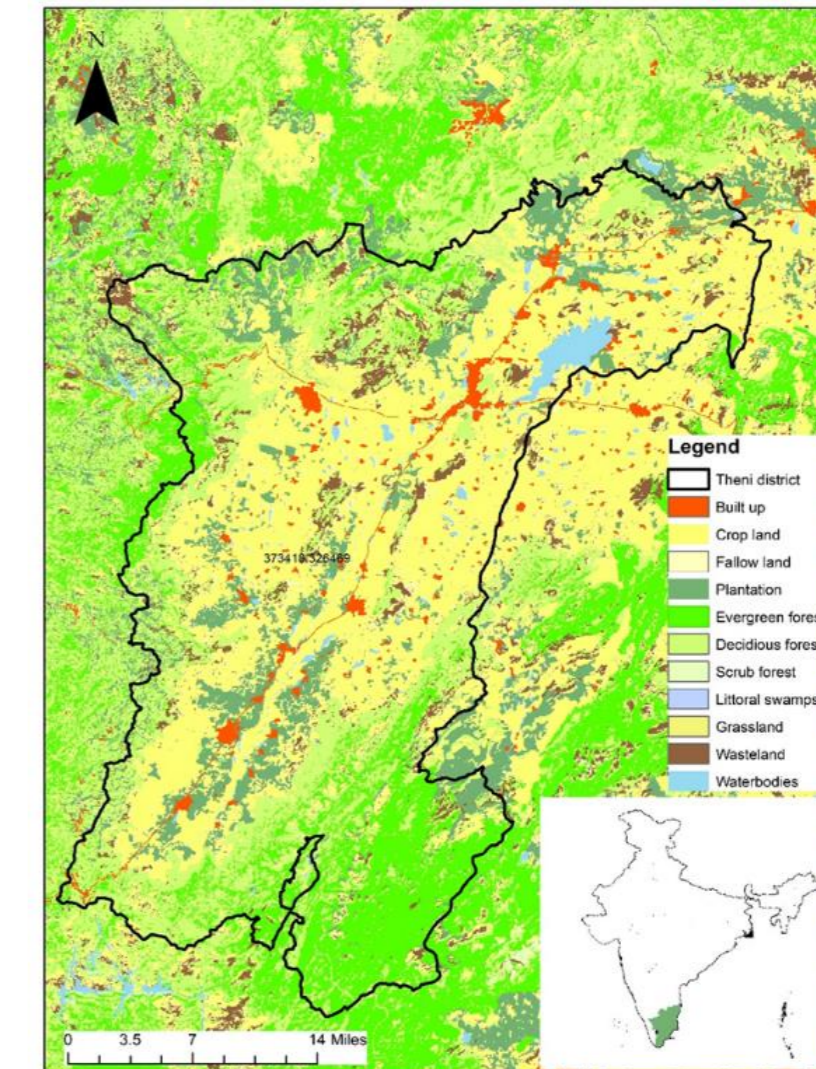


# Gayathri Venkatramanan

## Threats to Bats in Tamil Nadu



- Study Area Defined ~ 2500 sq kms in South Tamil Nadu
  - Acoustic survey to identify the roosting sites of insectivorous bats including building, caves, trees, bridges, etc. in Study Area
  - Identified caves in the study area and the diversity, anthropogenic threats to the bats roosting in the caves.
  - Pellet collected from the caves, buildings to assess the dietary preference of the bats.
  - Survey amongst the local communities
  - Impact of overhead power lines and windfarms on the bats (opportunistic sampling).
- Next steps -
- Awareness programs across villages





## Community led forest conservation in CFR Parcels - Does it work ???

Why do local dwellers engage in conservation of the forest parcels?

How has CFR titles changed conservation-related attitudes of local dwellers?

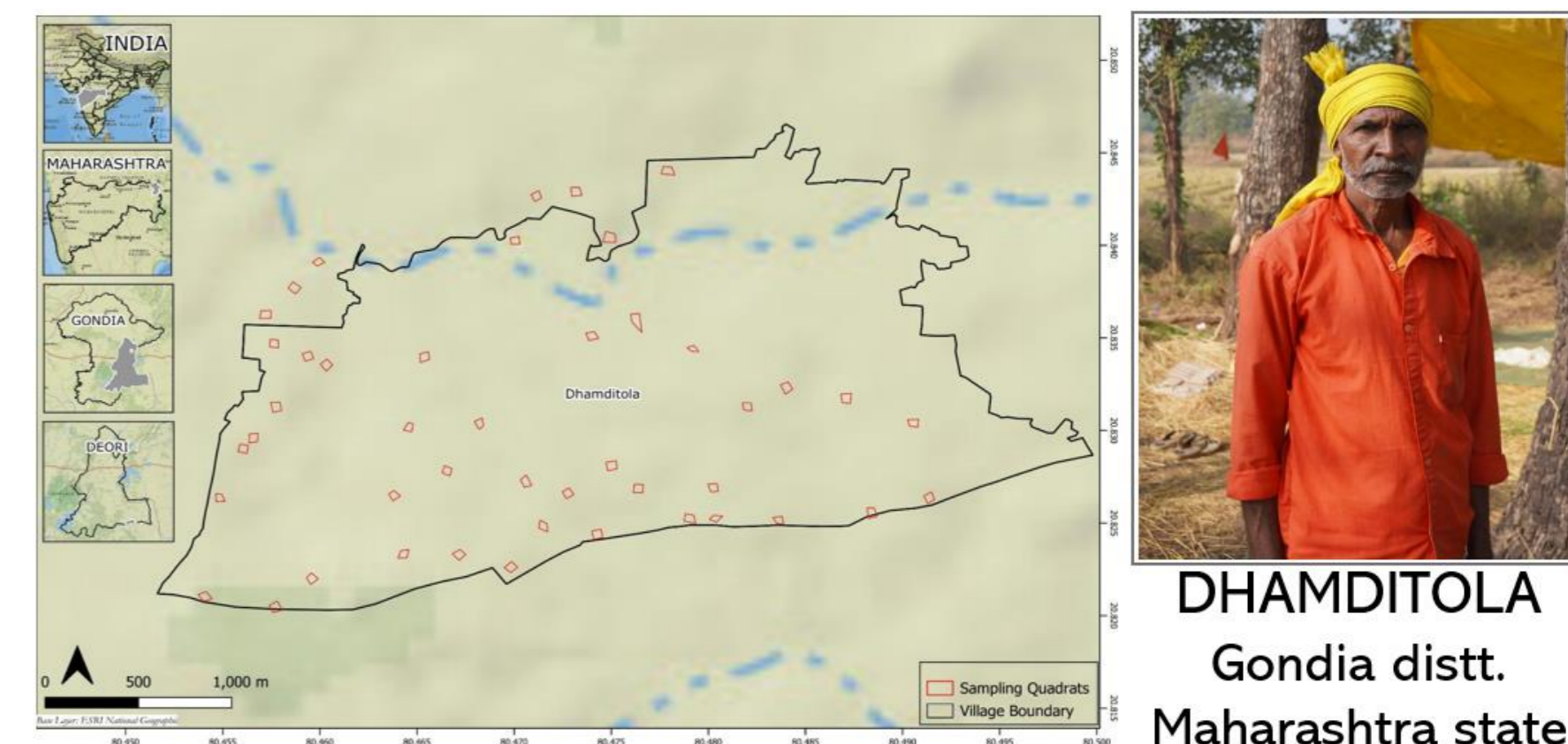
What is the present ecological state in CFR-forest parcels?

Has community-led conservation been effective on-the-ground?

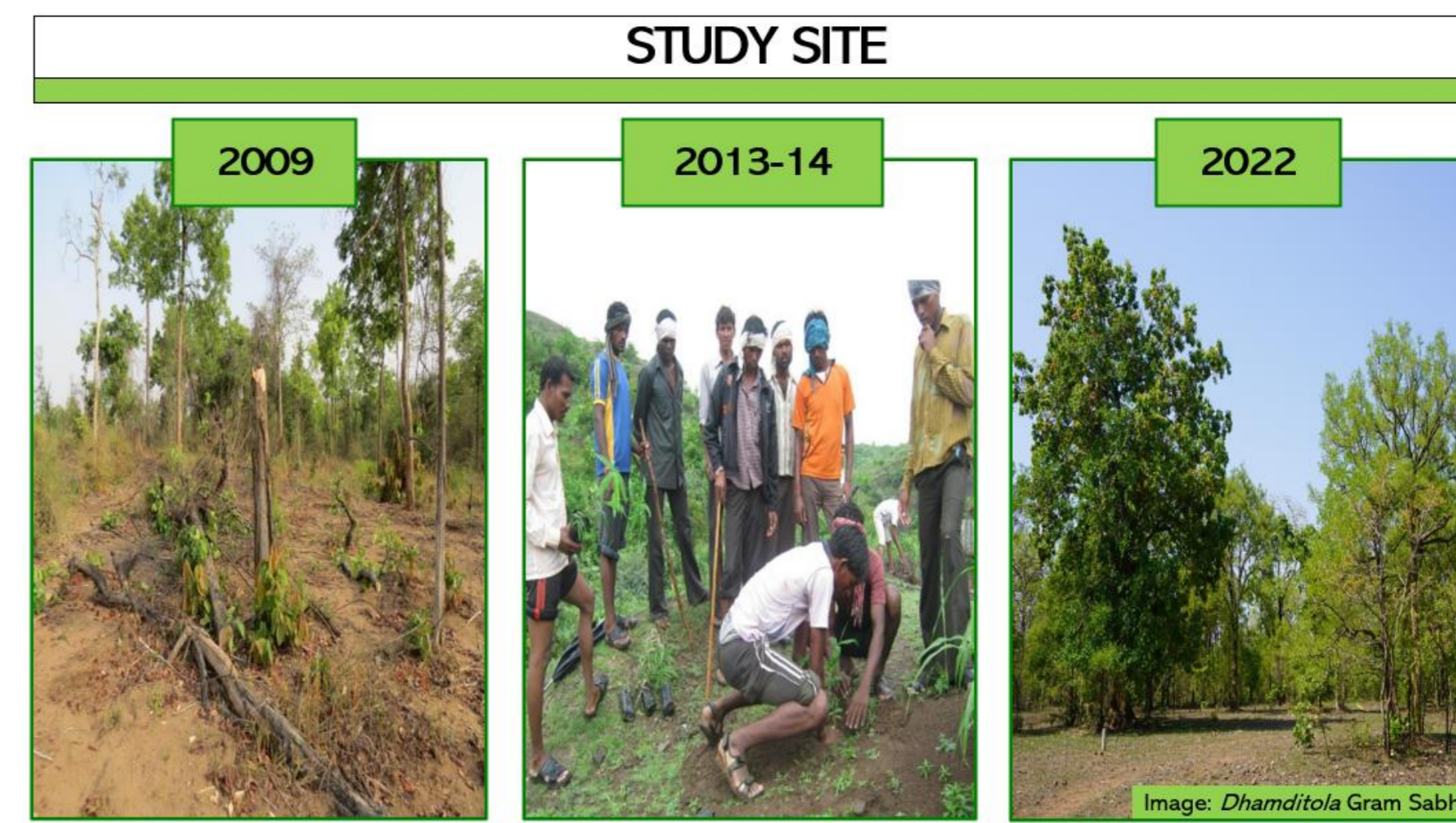
- A mixed methods approach for data collection was adopted at the study site - so far done 40 household interviews and 2 key informant surveys, 2 Focus Group Discussions (FGDs), and 30 quadrat-based vegetational analyses.
- Thematic analysis of motivations of local villagers to engage in community-led forest management revealed livelihood generation as the major driver followed by regaining past wilderness and accruing ecosystem services - benefits.
- Presence of IUCN-red listed species presence like *Aegle marmelos* (near- threatened), *Gloriosa superba* (vulnerable), and *Rubia cordifolia* (vulnerable) in forest parcels.

What Next - Completing Analysis - Publishing a paper in IRALE 2024

Awareness programs



Finding answers in a remote village in Vidarbha ...





### Objective 1

Workshops with 10 schools to understand knowledge of swamps and their wildlife

Interviews with randomly-selected students from 2 local colleges (College of Forestry, MM Arts & Sciences College) about swamps and biodiversity (20 from each college)

### Objective 2

Water quality assessment (5 parameters) for 16 swamps in monsoon and winter seasons

Flow (inflows, outflows)- monsoon season in 12 swamps

### Objective 3

Focus group discussions with arecanut farmers in 10 villages to understand the market, incentives, and financial situation

Semi-structured interviews with farming families to understand aspirations, financial stability, and arecanut farming practices as well as awareness about impacts of areca on swamps



- What Next ?

Work with the Forest Department and the Sirsi College of Forestry to grow and transplant seedlings into swamps as part of restoration initiatives and monitor the conditions for their successful growth

Follow Priya's Videos at -  
<https://www.youtube.com/@TheSwampStory>