



# Forests of the Future: Empowering Indigenous Women through Food Forests

**Lead Organisation: ICFRE-Institute of Forest Genetics and Tree Breeding, Coimbatore**



**Major Partners:**

1. **Adi Federation - A community-based PVTG organisation, Kurinji Farm, Gopanari**
2. **Jaivorg – A farmer-led initiative, Sreekrishnapuram, Palakkad – Plant Genome Saviour Awardee**



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19-11-2025

# 1. Introduction to project:

Geographic location: Forest fringe areas of Anaikatti, a home to indigenous tribal communities – PVTGs - where the ADI Federation, a CBO established by visionary tribal women operates.

The ICFRE - Institute of Forest Genetics and Tree Breeding (IFGTB) recognised by the Ministry of Tribal Affairs as a Centre of Excellence for its leadership in forestry research and tribal livelihood support - plays a pivotal role in developing evidence-based, community-focused solutions for sustainable resource management in tribal regions.

## Problem Statement:

1. **Over 60-70% of available land** is degraded, shallow-soiled, or highly eroded
2. **More than 80% of PVTG households** depend on seasonal wage labour, forest gathering, or low-yield rainfed farming
3. **Dietary diversity is low**, with households consuming **fewer than 4 food groups/day**
4. Traditional mixed cropping and forest-based cultivation have **declined sharply over the last decade** due to land pressures
5. **Over 70% of saplings sourced are uncertified** or of poor survival quality
6. Remote settlements have **limited or no access to organised markets**
7. Increasing climate stress: **rainfall variability up by 20-25%** and frequent dry spells make conventional farming unreliable

# 1. Introduction to project:



## Justification for Food Forest Model

1. Multi-layer food forests can **restore soil organic carbon by 20–30%** within 3–5 years.
2. Diverse fruit–tree systems can improve nutrition by providing **year-round access to 8–12 food categories**
3. A mature food forest can supply **30–50% of a household’s annual nutritional requirement.**
4. Mixed perennial systems can **increase household income by 25–40%.**
5. Food forests typically support **2–3x more pollinator species** than monocrops.
6. Low-input perennial systems reduce irrigation needs by **up to 40%**, ideal for Anaikatti’s dry conditions.
7. Community-managed models increase long-term stewardship—**survival rates above 75–80%** when PVTGs lead planting and maintenance.

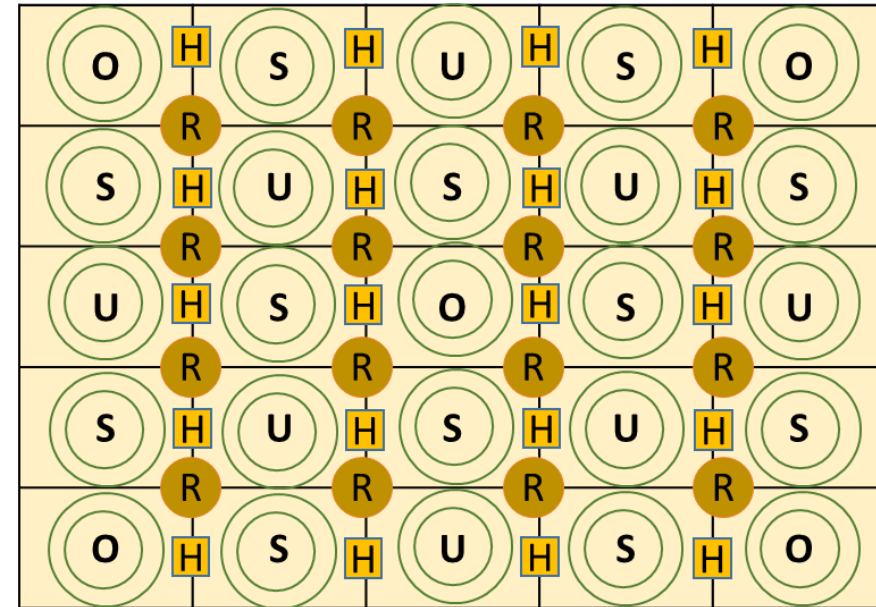
## 2. Project Objectives:

The project aims to establish and evaluate food forest models in Anaikatti's forest fringe areas to

1. Enhance food and nutritional security of tribal communities - PVTGs.
2. Promote climate-resilient, low-input cultivation systems that regenerate degraded forest fringes.
3. Identify suitable indigenous and locally adaptable fruit tree species/cultivars and complementary planting/maintenance methods for sustainable yields.
4. Strengthen the role of the CBO in leading women-centered, community-based natural resource management.

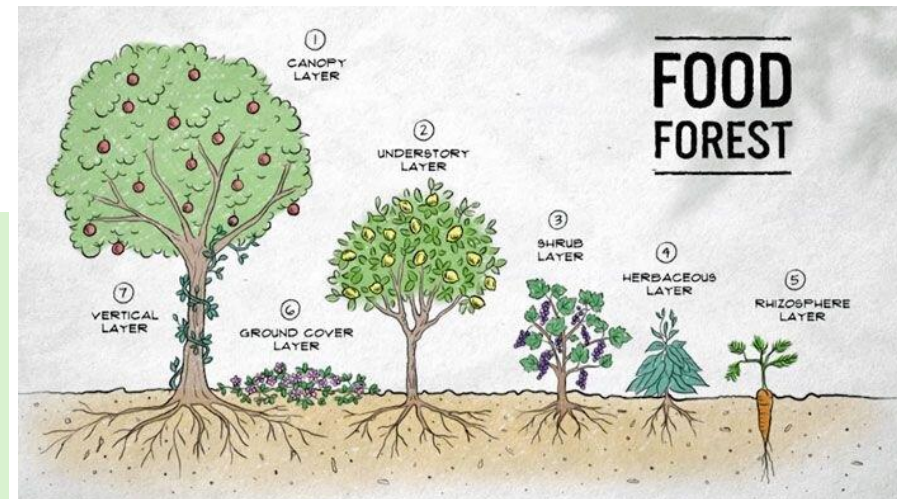
### 3. Methodology and implementation approach(1):

1. **Planting: Multi-layered food forest structure (7 layers).**
2. **Irrigation: Use of low-cost drip irrigation and mulching with leaf.**
3. **Maintenance: Live mulching, composting, selective pruning, and rotational intercropping.**



50 x 50 ft area

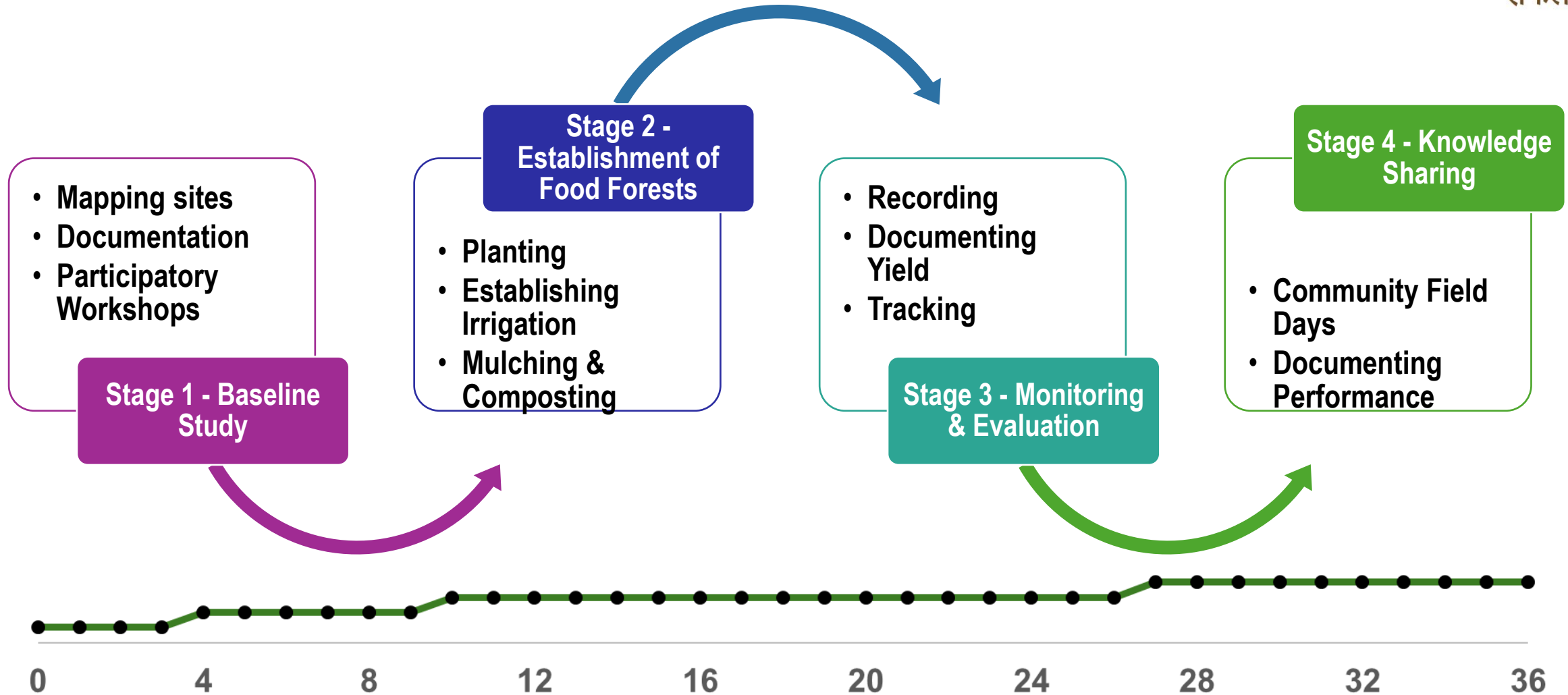
- O - Overstory – Tall fruit or timber trees.
- U - Understory – Smaller trees adapted to shade.
- S - Shrub layer – Berry bushes and similar plants.
- H - Herbaceous layer – Vegetables, herbs, & medicinal plants.
- R - Root layer – Tubers and underground crops.
- ⊖ - Ground cover – Creepers that suppress weeds.
- V - Vine layer – Climbers that make use of vertical space.



### 3. Methodology and implementation approach (2):

	Stages	Activities
Stage 1	Baseline Study	Mapping 10–15 pilot plots in the fringes.
	Months 1–3	Documenting existing plant diversity, soil conditions, and traditional cultivation practices.
		Participatory workshops with ADI Federation leaders to finalize species and design.
Stage 2	Establishment of Food Forests	Planting species in 7-layer food forest design .
		Establishing irrigation using gravity-fed drip systems (where water is available).
		Mulching and composting with locally available biomass.
Stage 3	Monitoring & Evaluation	Recording growth performance (survival, growth rate, canopy spread).
		Documenting yields of annuals over seasons.
	Months 10–24	Tracking resilience indicators: soil moisture, organic matter, pest incidence.
		Recording community perspectives (ease of management, nutritional benefits, income opportunities).
Stage 4	Knowledge Sharing	Community field days to showcase plots.
		Documentation of species that thrived/failed, and methods
	Months 25–36	Developing community manuals in vernacular

# 3. Methodology and implementation approach(3):



## 5. Social and nutrition impact pathway – Project outcomes/Impact:

- **Improved household nutrition** through year-round availability of diverse fruits, vegetables, tubers, and medicinal plants grown in the multi-layered food forest systems.
- **Enhanced livelihoods for indigenous women**, with the ADI Federation leading the maintenance, harvest sharing, and value-addition activities.
- **Strengthened community resilience**, as food forests restore degraded fringes, improve soil moisture, and reduce dependence on external inputs or market-purchased food.
- **Revival of traditional ecological knowledge**, integrating indigenous cultivation wisdom with modern agroecology and creating intergenerational learning within tribal communities.
- **Greater social cohesion and empowerment**, as community-led food forests become shared spaces for collective decision-making, skill-building, and improved food security.

## Slide 6. Environmental and climate advantages

- **Restores degraded forest fringes** through multi-layered, perennial food forest systems.
- **Improves soil health, moisture retention, and reduces erosion** for long-term ecological resilience.
- **Enhances carbon sequestration through diverse tree canopies and rich root biomass.**
- **Minimises chemical inputs, reducing emissions and supporting pollinators and soil biodiversity.**
- **Strengthens climate resilience of tribal communities** through year-round, low-input food production.

## 7. Scaling, sustainability and cost efficiency:

- **Community-led design** enables easy replication across tribal settlements using locally adaptable species and materials.
- **Low-input agroecological practices** (mulching, nitrogen fixers, organic composts) reduce long-term maintenance costs.
- **Strengthens local capacity through ADI Federation leadership**, ensuring continuity beyond project funding.
- **Mixed-species perennial systems** provide sustained yields with minimal recurring expenses.
- It is a **scalable model** that leverages community labour, traditional knowledge, and shared resources for cost-efficient expansion.

## 8. Budget summary and risk and mitigation strategy:

Category	Details	Budget Head
<b>Human Resources</b>	<ul style="list-style-type: none"> <li>• Project Coordinators (2) – IFGTB</li> <li>• Field Facilitators (2) – ADI Federation &amp; JaivOrg</li> <li>• Local tribal women leaders – mobilisation &amp; knowledge sharing</li> <li>• Technical Expert – JaivOrg (consultant)</li> </ul>	Included in staff & expert honoraria
<b>Material Resources</b>	<ul style="list-style-type: none"> <li>• ~3,000 Saplings for 15 pilot sites (~2500 sq ft or 150 sq.m.)</li> <li>• Irrigation kits (drip/gravity-based)</li> <li>• Compost pits, farm tools, fencing</li> </ul>	Included under materials & tools

### Financial Resources

Budget Heads	Estimated Cost (INR)	Estimated Cost (USD)
Saplings & planting material	700000	8750
Irrigation systems	500000	6250
Tools, compost, fencing	450000	5625
Training & workshops	500000	6250
Staff, expert honoraria and institutional charges	850000	10625
Documentation & dissemination	250000	3125
Community maintenance & scale-up fund	250000	3125
<b>Total Budget (3 Years)</b>	<b>35,00,000</b>	<b>43,750</b>

**In-kind/community contributions:** Involvement of Staff from ICFRE-IFGTB, Land allocation, labour for planting/maintenance, traditional knowledge

# 8. Budget summary and risk and mitigation strategy:



Risk	Likelihood	Impact	Mitigation Strategy
Poor plant survival/growth	Medium	High	Use native species, improve soil with compost, conduct baseline assessments
Water scarcity	High	High	Install gravity-fed drip systems, harvest rainwater, choose drought-tolerant varieties
Pest and disease outbreaks	Medium	Medium	Promote biodiversity, use natural repellents, monitor regularly
Community disengagement	Medium	High	Involve ADI leaders, host field days, highlight nutritional and income benefits
Knowledge gaps	High	Medium	Provide vernacular manuals, hands-on training, peer learning
Climate variability	Medium	High	Diversify species, build soil organic matter, create microclimates with agroforestry



**Thanks**