



# High-density multi-tier agroforestry model with Emphasis on Fruit Plants (Food Forest)

**REJI JOSEPH**

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# **Who am I ?**

## **Reji Joseph**

**Organic Farmer, Founder/CEO Jaivorg, 82,000 food trees planted across 413 food forests ranging from 3 cents to 12 acres.**

**1 National Plant Genome Saviour Farmer award 2015.**

**2 National Medicinal Plants award 2016.**

**3 Kerala State Medicinal Plants award 2013.**



**Ecosystem restoration**

**Reconnecting human  
and nature**

**Food Security**

# **Seven Mission One Solution**

**Water  
Preservation**

**Ecological Balancing**

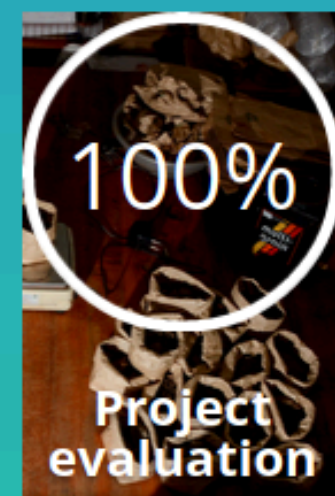
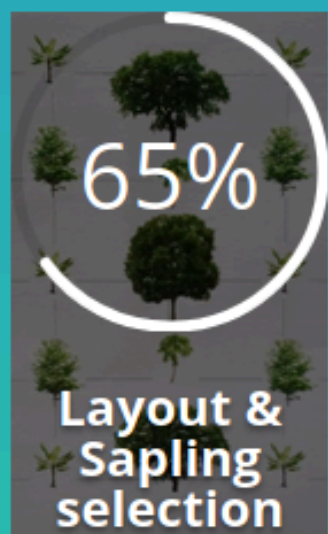
**Biodiversity  
Conservation**

# **Food Forest**

**Soil Enriching**

# How do we do?

*Researching, developing, implementing sustainable food forest through...*



# 1. Camping

1 Day

Experience food forest farming firsthand! Join our camps to learn, explore, and taste. Meet experts, visit farms, and get hands-on with design, compost, planting, and more. Be a camper!



# 2. Resource Assessment

1 Day

Understand your land. Assess wind, water, sun, slope, soil, weather, native plants, biomass, and vegetation. Seek advice from a local food forest expert.



# 3. Planning

3 Hour

Use resource data to decide planting time, area, irrigation, plants, composting, etc. Create a preliminary layout. Be a food forest designer!



# 4. Composting

60 Days

Though a nasty work but a must! Convert coir pith, cow dung, chicken poop, and biomass into nutrient-rich soil for your saplings in 45-60 days.



# 4. Aerobic composting



Parameters	SFFF Compost	Specificatio
Bulk density (g/cm <sup>3</sup> )	0.64	<1
Total organic carbon, per cent by weight, minimum	17.92	14
Total nitrogen (as N), per cent by weight, minimum (on dry basis)	0.97	0.5
Total phosphates, per cent by weight, minimum (on dry basis)	0.203	0.2
Total potash as K <sub>2</sub> O, per cent by weight, minimum (on dry basis)	0.34	0.5
NPK per cent by weight, minimum	1.59	3
C/N Ratio	18.69	<20
pH	7.05	6.0-8.5
Copper (as Cu) (mg/kg), maximum	0.01	300
Zinc (as Zn) (mg/kg), maximum	1.339	50
Nickel (as Ni) (mg/kg), maximum	0.003	1000
Chromium (as Cr) (mg/kg), maximum	4.65	50
Lead (as Pb) (mg/kg), maximum	0.675	50
Cadmium (as Cd) (mg/kg), maximum	BDL	5
Arsenic (as As <sub>2</sub> O <sub>3</sub> ) (mg/kg), maximum	BDL	10
Mercury (as Hg) (mg/kg), maximum	BDL	0.15

# 5. Land Preparation

2 Days

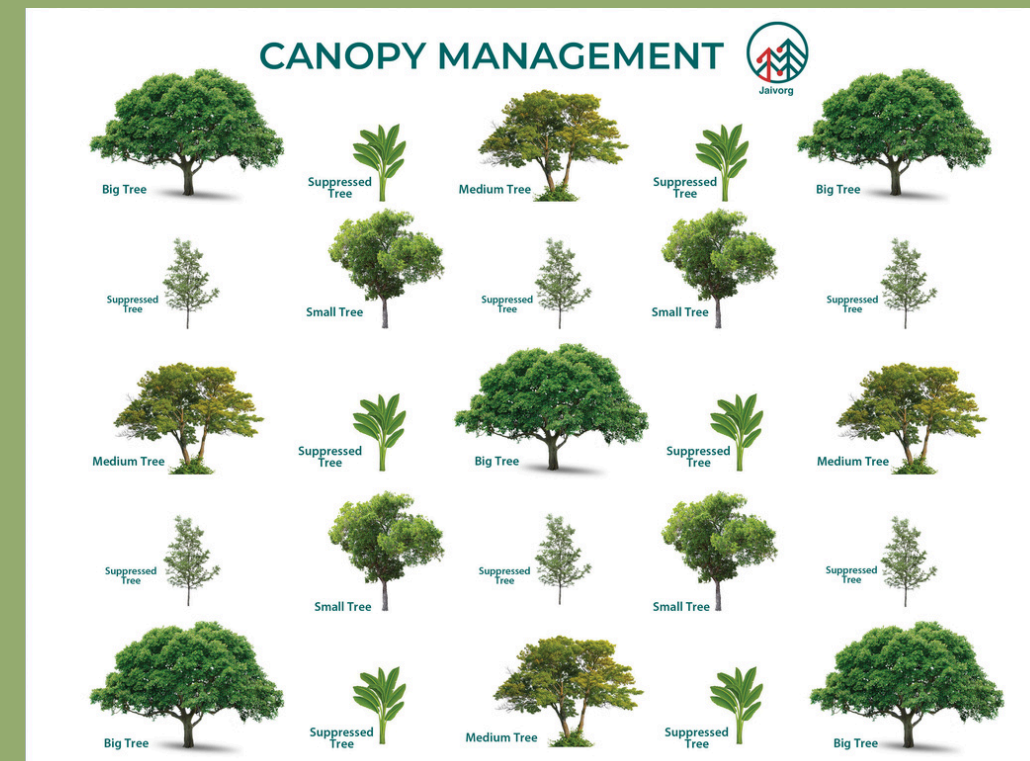
Compost prepared ? about to ready ?  
it's time to create pits for plants  
preserving slop and topsoil. This may  
include creating trenches for water  
harvesting.



# 6. Layout & Sapling

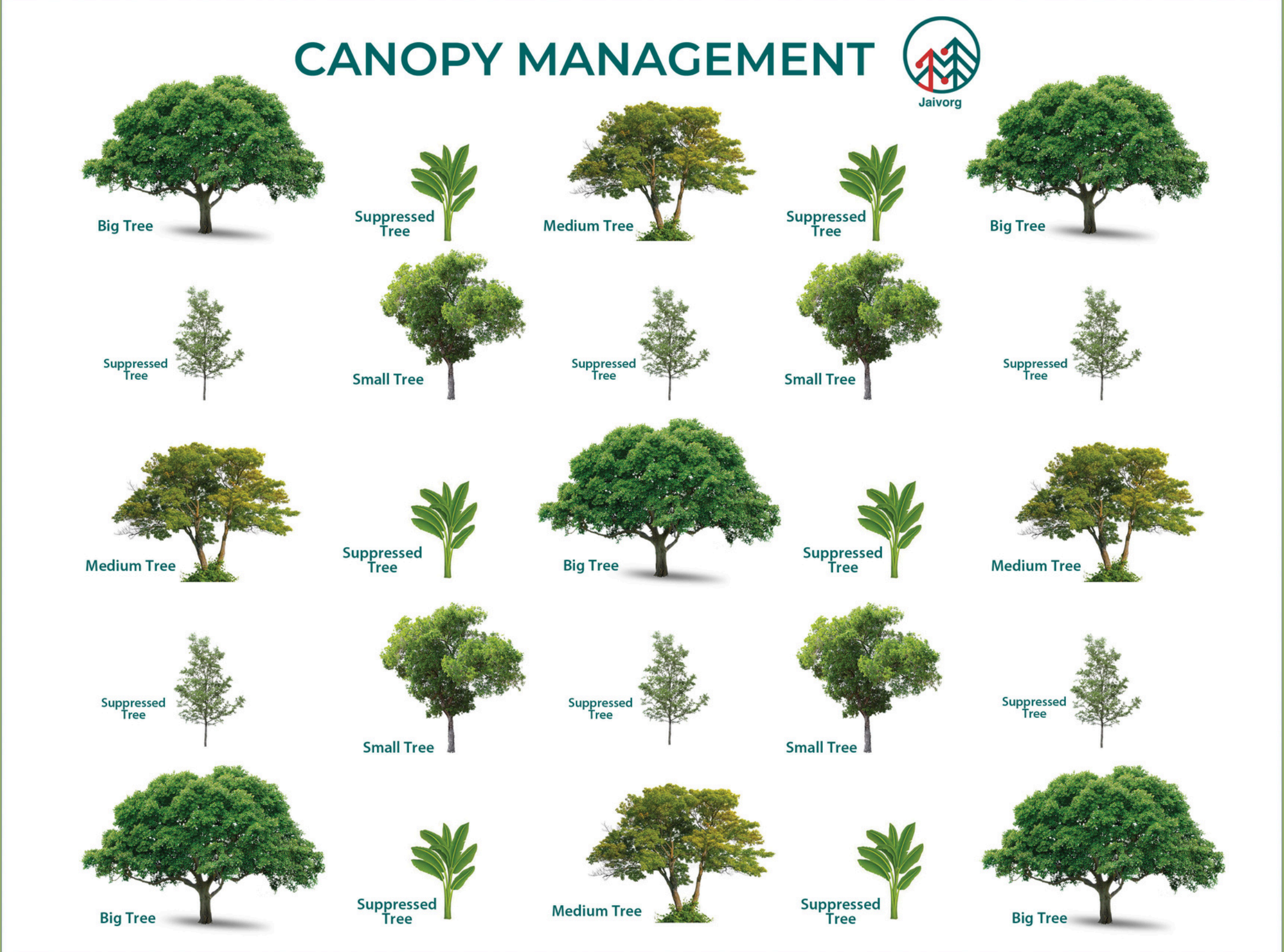
selection 3 Hour

Use our database to select plants  
based on your land and preferences.  
Consider canopy size, fruit/leaf type,  
and more. Be a decision maker!



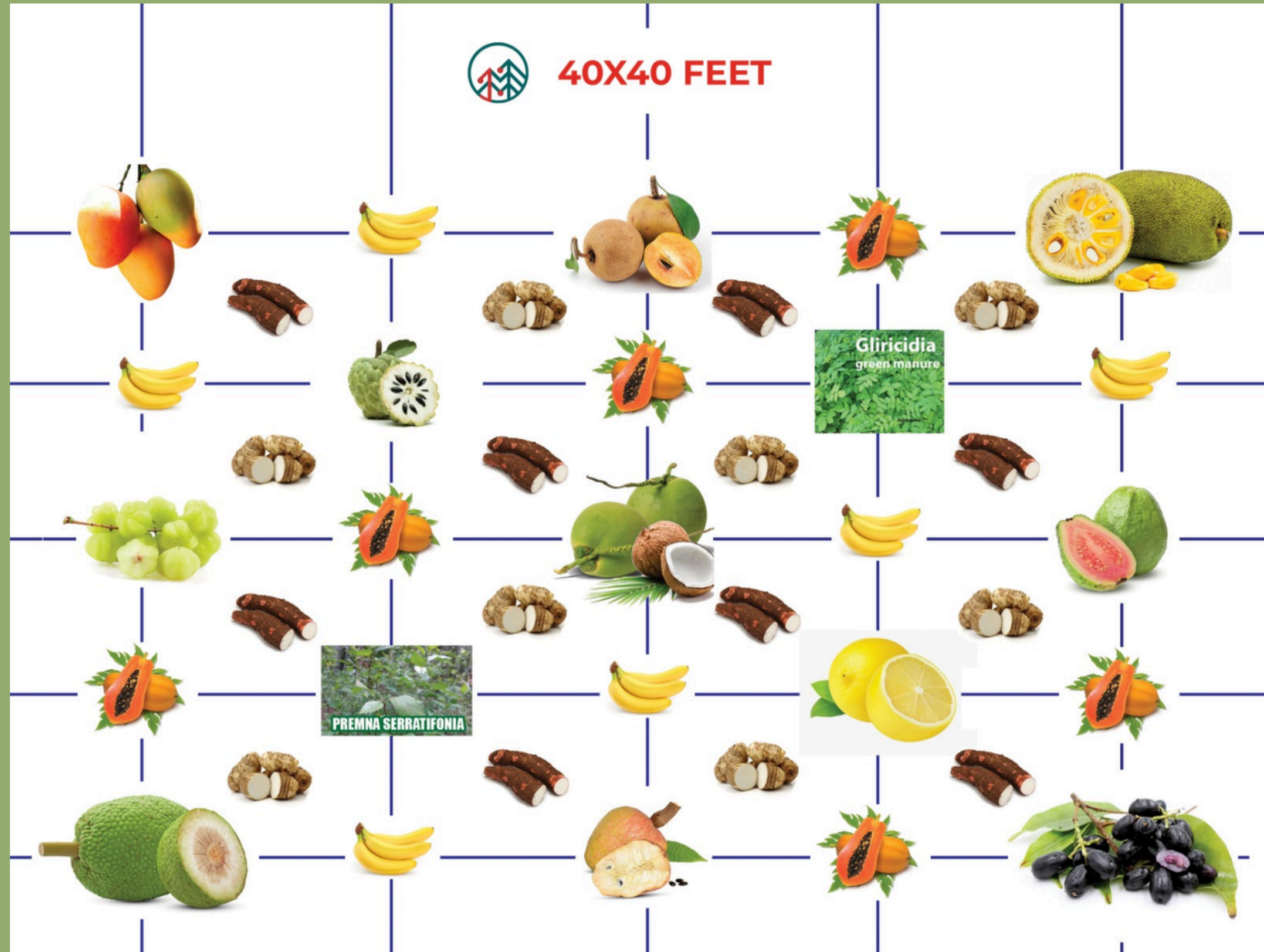
# Canopy architecture

40 Feet



40 feet

# Organic Fruits and Foods



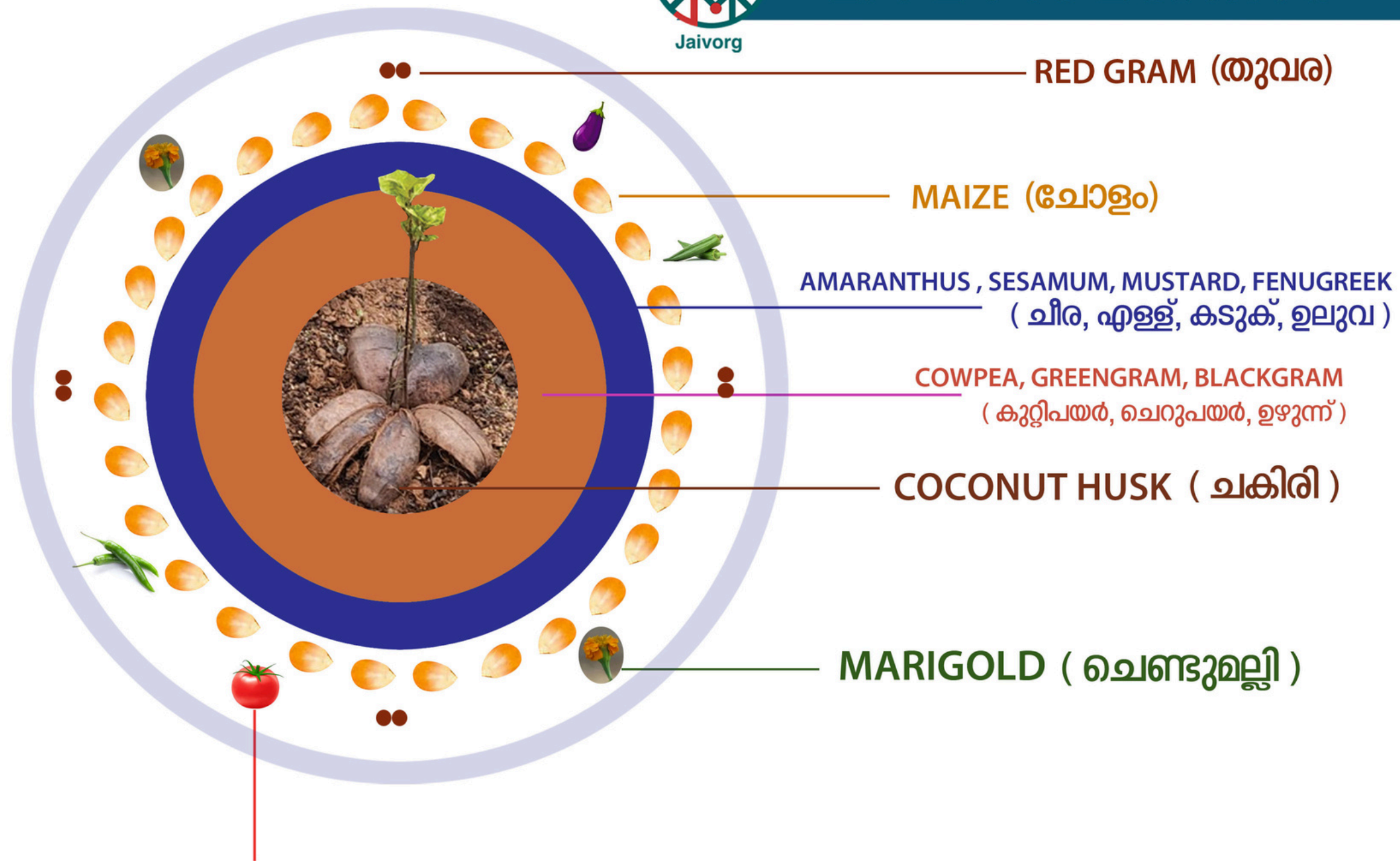
# 7. Planting 1 Day

The rains 🌧️🌧️🌧️🌧️ arrived! The layout is final! Use your compost and layout to plant saplings. Celebrate with family, friends, and local food foresters.





# LIVE MULCHING



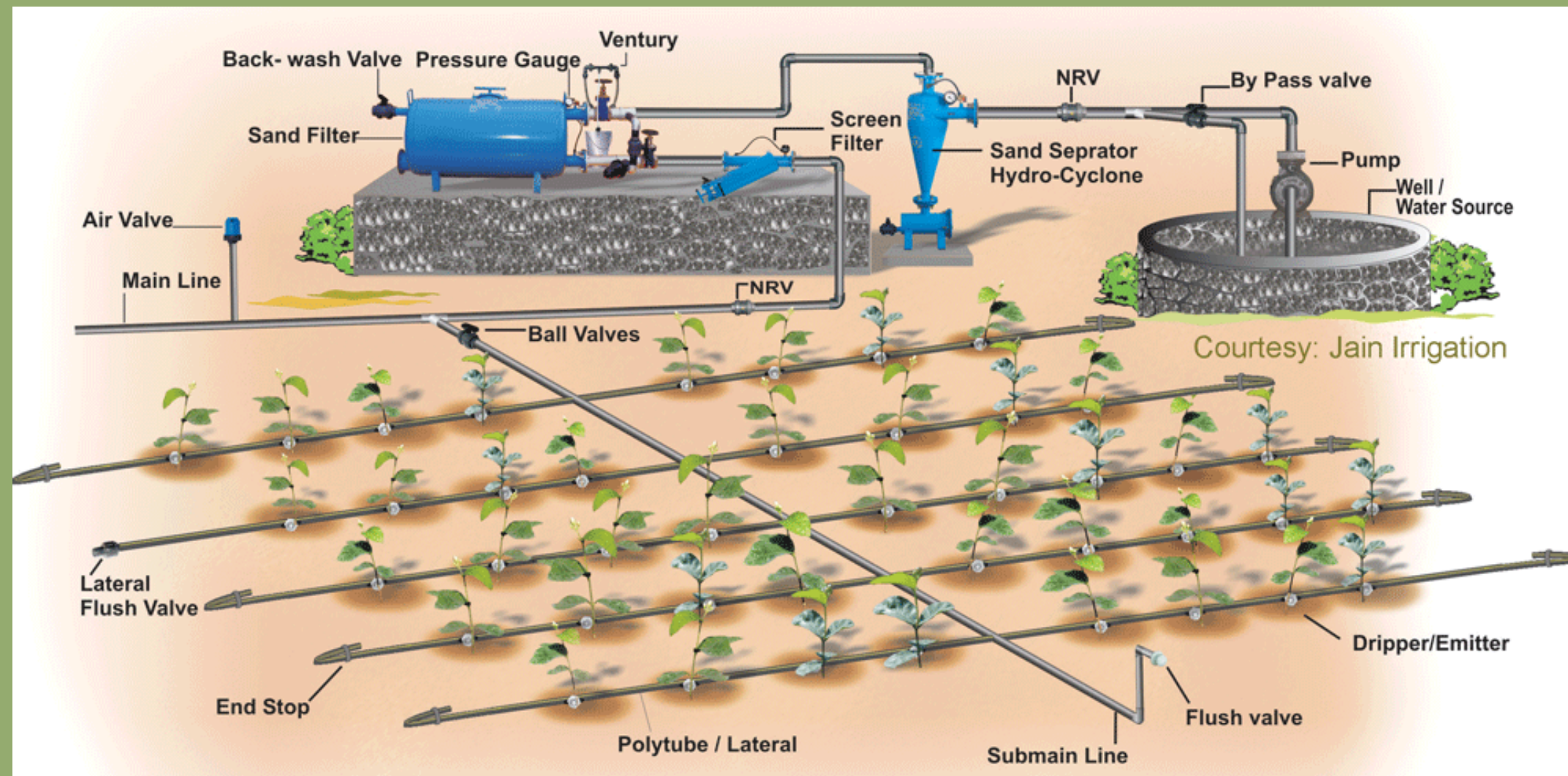
**TOMATO, BRINJAL, GREEN CHILLI, ...** ( തക്കാളി, വഴുതന, പച്ചമുളക്, ... )



# Live shading



# 8. Irrigation 2 Days





40X40 FEET





# Direct Benefits

- 1 Rainwater harvesting helps secure and maintain water levels.**
- 2 Nutritional and health benefits.**
- 3 Mental well-being through farming, and by connecting with neighbors, earth worms, birds, and butterflies.**
- 4 Reduction of up to two degrees in temperature, regulate microclimate.**
- 5 Increased yield in surrounding trees and plants.**
- 6 Up to 2x vegetative and production growth compared to normal planting with fertilizers.**
- 7 Lower maintenance costs compared to conventional planting methods.**

# Challenges

- 1. It's not easy to make people feel the effectiveness of drip irrigation, live mulching, coconut husk, etc.**
- 2. It's not easy to create awareness that direct sunlight on bare soil—without live shading—damages soil health.**
- 3. A 3-month to 4-year-old food forest often does not look visually appealing.**
- 4. People hesitate to accept the reality that better ways do exist.**
- 5. People hesitate to start food foresting due to a lack of awareness about methods to prevent animal attacks.**
- 6. People avoid composting due to fear of bad odor and lack of awareness about smell-free aerobic composting.**
- 7. Miyawaki ??? A STUPID ESTABLISHED IDEA! It creates more pollution, costs more, is not scalable, has poor canopy freedom/management, and is unnatural. Electric Vehicles, Solar Panels ??!!!**

# Scaling....

**Vattamkulam Project – 2018: 60 feet of soil removed, dry land, lying vacant for 14 years, clay soil, flooding issues.**



# Scaling....

**We are happy to collaborate with CFI to scale up Food Forests across India.**

- **Works even in challenging or poor soil conditions**
- **Low labour requirement with passive maintenance**
- **Can be sustained with minimal water**
- **Naturally resistant to pests**
- **Uses indigenous and climate-resilient plant species**
- **No conflict with existing plantations like coconut, mango, jackfruit, etc.**
- **Provides nutritious, safe, home-grown, and consistent food**
- **Can be easily implemented around homes or small spaces**
- **Backed by a decade of experience with 413 successfully completed Food Forests**

# Credits

## Natural farming pioneers

- Bill Mollison - Permaculture
- Subbash Palekar - Zero budget Farming
- Masanoba Fukuoka - One straw revolution
- S.A. Dabholkar - Natu-eco Farming

## Food Forestrians Farmers

## Adviser

- Dr. C. R. Elsy - Academic
- Dr. Joshy V Cherian - Microbial Farming
- Dr. K M Unnikrishnan - Circular Economy



# Birds' Visits to Our Food Forest

 Anily stephen, World Food Forest member, New Zealand

 Tomies, Chilly - Syntropic agro forestry expert

 Nalinimohan Denduluri I.F.S, State Biodiversity board,  
Andrapradhesh

 Dr. C.K. Peethambaran, Kerala State Biodiversity  
board Technical Advicer

 Dr. CR Elcy, Agriculture University Mannuthy, Kerala



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**Reconnecting human  
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**Food Security**

# **Seven Mission One Solution**

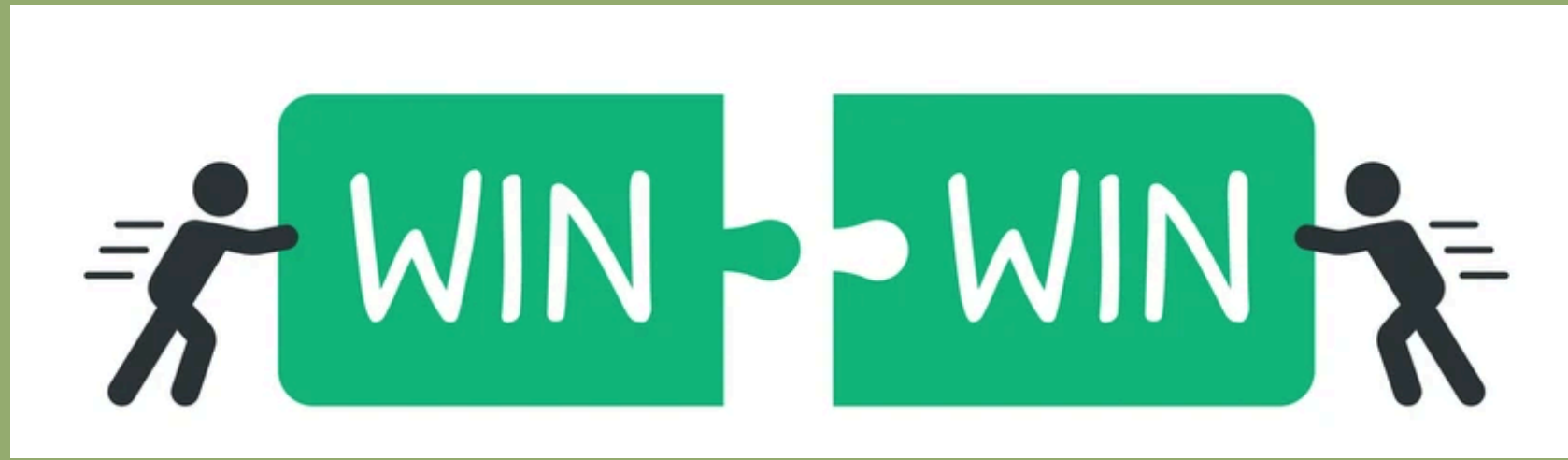
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**Biodiversity  
Conservation**

# **Food Forest**

**Soil Enriching**



## Presentation Link



**Jaivorg**

Sustainable Food Forest Farming

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