Organic Farming Can Feed the World

The work of
India’s Organic Farming Community and the
Organic Farming Association of India (OFAI)

The best organic farmers look to the forest for their learning

How does one raise plants (or trees) without:

NPK
Dams and canal irrigation
Tractors
Pesticides, weedicides, fungicides, homicides
Bank credit or bank extension officers
Agricultural scientists or universities
Negative environmental effects like climate change
Water pollution

Amazon forest and river

Natural forest in Goa


www.hebus.com

How forests function 1

- Soil fauna including termites and earthworms ensure aeration and porosity, enabling easy passage of air and water. Amazon forest is standing on colonies of termites

- Highest forests (80 metres) have deepest soils (40 metres). Without vegetation there can be no soil.

- All soil nutrients are held within the forest ecosystem and nothing is allowed to escape outside the root zone

- A forest is a community of living plants and living animals of the most diverse kinds. Together they keep the forest alive and healthy

How forests function 2

- Nutrients in tropical forests are stored in the vegetation canopy, not in the soil. We think they are stored in the soil.

- One hectare of Amazon forest vegetation contains one tonne of nitrogen, 800 kg of potassium, 600 kg phosphorous, 500 kg magnesium, etc.

- Organic farmers seek to create either one or more forest conditions on their farms.

- The Indian organic farming community now believes firmly that one must feed the soil beings, not the plant or its roots.

Sources of plant food

- Elements from the atmosphere

  These represent 92-98% of a plant's dry weight

  4 vital elements (all constitutive)carbon, oxygen, nitrogen, hydrogen

- Elements from the soil

  These represent 2-5% of a plant's dry weight

  12 vital elements of which 2 are non-constitutive – potassium and chlorine, and 10 are constitutive – phosphorous, boron, calcium, magnesium, sulphur, iron, manganese, molybdenum, copper and zinc.

Green revolution ‘science’ says:

- Feed the plant, forget the soil.
- Plants take 95% of their nutrients inputs from the soil.
- Water is mainly required to supply soluble chemical nutrients to plants. If there is no water supply, no food can be grown
- Because of these theories, 40-60% chemical nutrients end up in water bodies, causing pollution
- Chemicals (salts) kill soil fauna, so dependence on chemicals increases
- Excess nutrients convert into vegetative growth, not seed. They feed the fertilizer industry, not the plant

Organic farms modelled on forest principles

Mixed crops, alley cropping, floor cover

Fully regenerated forest at Sarang, Kerala

Legume riot at Nandish farm

Regeneration of forest floor

Weaver birds, owls, spiders are part of organic farms

No-till farm of Mr and Mrs Kailash Murthy

Venkatachalam’s biodiversity based cropping

Arecanut garden of Mruthuyunjayappa, Karnataka

Dr Ashok Bang at Chetna Vikas

Chetna Vikas one acre mixed crop

Brinjal, yam, turmeric, bhendi, etc

Turmeric, castor,
amaranthus

Castor, banana


2009/05/17


2009/05/12

2009/05/12

M.T. Shantimoole,
Karnataka

Mulching activity imitates the litter on the forest floor and also its functions.

Mulching sugarcane

Arunachalam

Mulching for banana

Mulching for banana

Mulching of coconut , Kuppuswamy, Pollachi

Sugarcane crop waste is best mulch

Mulching of brinjal

Soil is cool and damp under mulch

Mulching of turmeric

Mulching of tapioca

Raju Yadav: tree gave 23,456 mangoes in one season

The return of the useful microbe

Forest soils are teeming with beneficial microbes. Organic farmers are re-populating their fields and soils with a variety of such microbes through living media like Panchagavya, Jeevamrut and Amrut Sanjeevani.

It is due to this new perception that the cow has returned centre-place in organic agriculture. Organic farmers want slaughter houses to be banned.

Fertilizer subsidy in 2008-2009 reached Rs.1,20,000 crores. Panchagavya can be made at home with help from animal wastes.

Navneet Krishnan with Kankrej bull

Preparation of Panchagavya is a home industry

Pushparani Sundaram

Learning to make Panchagavyya


PLAY
PEACE


Banana
Egg

Equipment for mixing Panchagayva in irrigation water


NETAFIM

Subhash Sharma explains
Jeevamrut

Panchagavya crops

Organic farmers in India are raising practically every crop with the assistance of Panchagavya and other microbial media.

Best production from such farms rivals, if not betters, production and yields from chemical farms

Kumar: organic banana

Panchagavya infusion for banana bunch

Brinjal with Panchagavya

Turmeric with
Panchagavya

Sundaram: Raising earthworms with Panchagavya

Mango tree flowering with Panchagavya

Drumstick with Panchagavya

Tapioca with
Panchagavya

Rice with Panchgavya

Organic farmers prepare compost not to supply NPK but to start microbial activity in the soil.

If it is largely for the purpose of inoculating the soil, we have more than adequate compost for the purpose.

Suchde: Amrut Mitti culture

David Hogg with cow horn in biodynamic

Sarvadhamman
composting

Deepak Suchde’s biomass tanks

Mangalbhai Updara, Gujarat

Preparation of Nadep compost

Secret of good soil is biomass

Sarvadhamman Patel with biodynamic compost

We have the world’s best earthworm experts

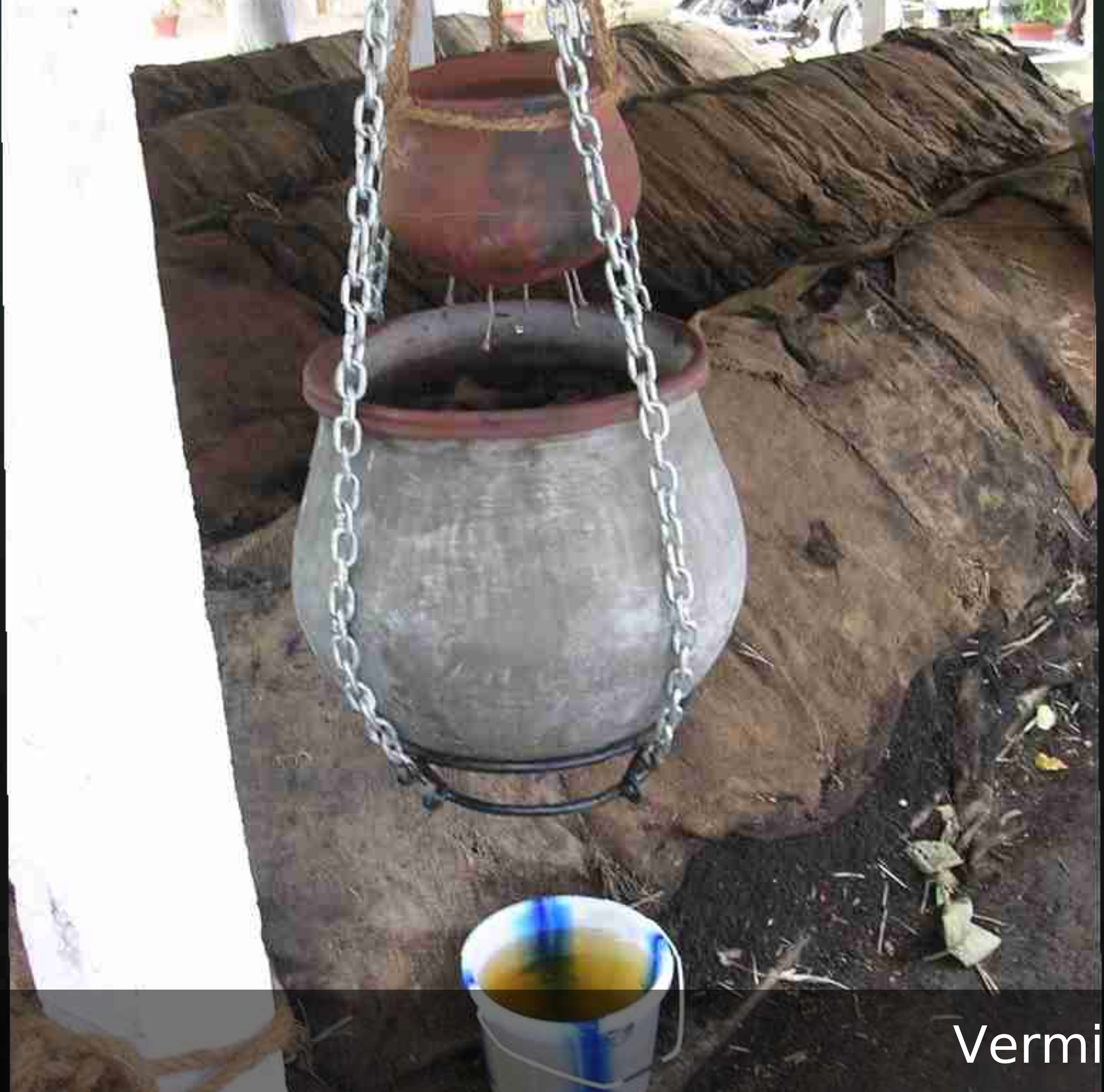
Antoniammal: great vermiculture innovations

Antoniammal domestic vermiculture unit

Small scale vermiculture

Raise earthworms anywhere


5
6



Vermiwash

Poogodi’s small scale vermiculture unit

Pre-treated waste for vermiculture

Wind-rows for earthworms

Earthworm beds at Madhu Ramakrishnan farm

Large-scale vermiculture

Zoology prof takes notes from Gopalkrishnan


3

Earthworm nursery

Vermiculture in Malaysia

Large scale
vermiculture

Vermicompost

The earthworm Ramdev

Organic farms prove that organic farming can feed the world with minimal cost to health, soil and nation. However, it also requires maximum use of intelligence and close observation, qualities our farmers have in plenty.

Subhash Sharma and contour farming

Ambrosia organic farms

Organic maize

Organic wheat

acob Sebastian: Left field: chemical rice. Right: organic rice

Organic rice

Kailash Murthy: organic rice

Millet harvest at Gloria Land

Basavraj Kapsi: organic sugarcane

Subhash Sharma

Kailash Murthy with record banana bunch

Papaya madness at Suchde farm

Organic farming diversity

Unlike organic Australia where 97% of organic cultivation is limited to grass, Indian organic grows a diversity of crops from dates to tulsi, all fruit, all vegetables, all cereals.

Vijay Shah with organic dates

Arjan Gadhvi: organic groundnut

George Antony’s forest garden and home

Organic tomatoes with EM

Organic tulsi,
Lucknow

Organic chili:
Yeovatmal

SRI rice from Tibetan settlement

Subhash Sharma with organic onion

Mangoes from Syed Ghani organic orchard

R.T. Doshi: organic bhendi on Mumbai terrace

Keerthichandran: No land? Grow organic rice in bags

Seed conservation

Unable to get good organic seed, NGOs and keen farmers now maintain their own seed banks.

Open pollinated seeds are now available due to the work of organizations like Annadana and BioCentre.

Several organizations are now publishing catalogues of organic seeds available in their possession

Traditional paddy varieties

DDS Millet Seed Collection

DDS: Millet Yatra through villages

Boregowda raises 26 varieties of rice

Seed saver Deepika Kundaji

Pradeep Nikam : pretreatment of groundnut seed

ന്നിളക്കാതെ കൃഷിചെയ്യുചേന.

ാടൻ കാച്ചിൽ.

മത്തങ്ങ.

Yam grown from seed

Mohan Kumar with traditional karela

Organic seed collection of Dulal, Orissa

Organic farming pioneers

Every great movement has its inspirational leaders. The organic farming movement has hundreds.

If the organic farming movement has grown, this is simply due to the contributions of individual farmers who have used their brains to come up with great solutions. (Earlier, they only did what ‘scientists’ told them to do.

Late Purushottama Rao

Masanobu Fukuoka

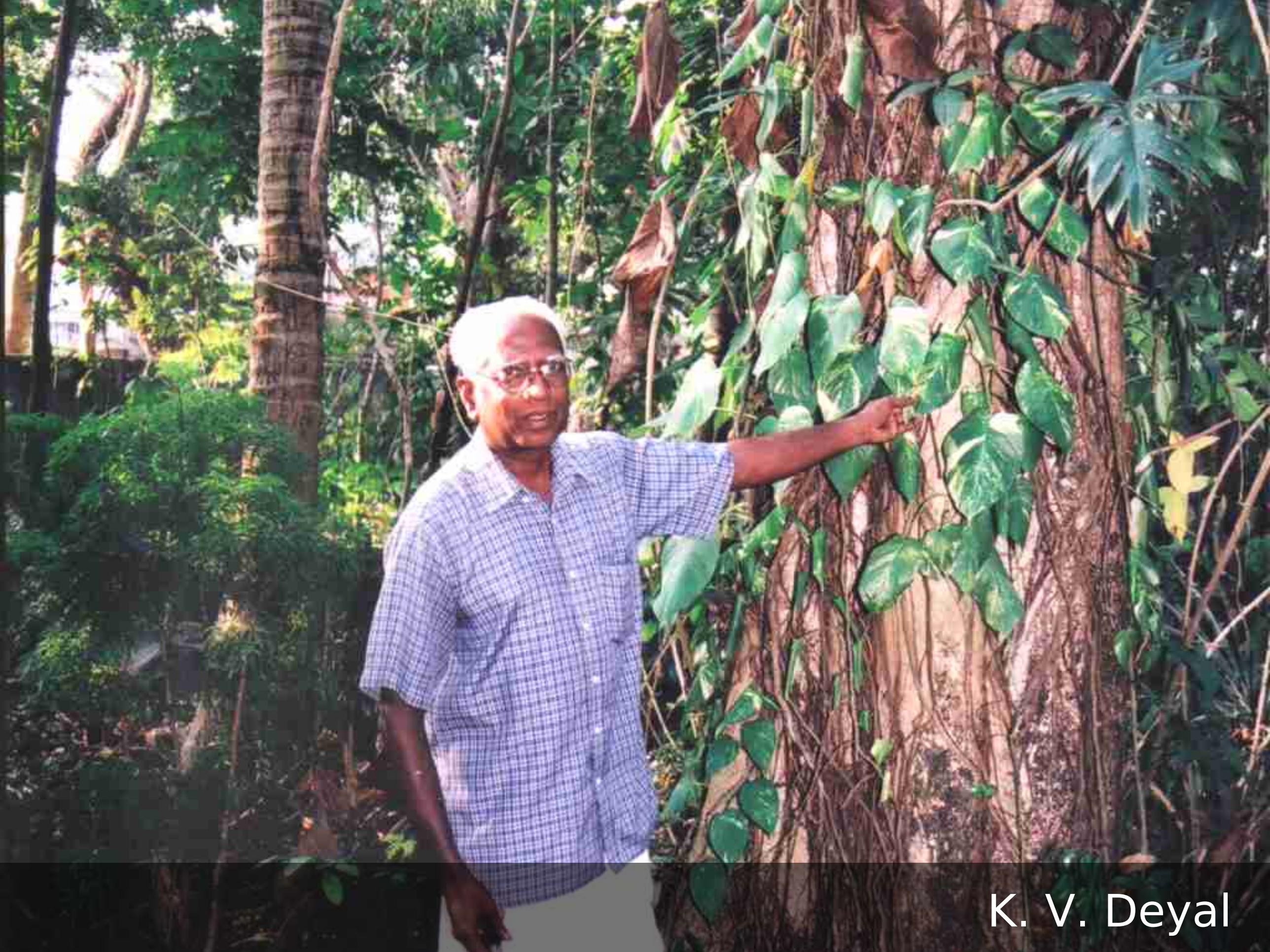

Bernard

Dr G
Nammalwar

Dr Nammalwar with Sheelarani Chunkath

Bhaskar Save

Shoorvir Singh



K. V. Deyal

S.R. Sundararaman

Jayant Barve

Deepak Suchde

Prof. Radhamohan, Orissa

Subhash Palekar, Zero Budget Natural Farming

Raju and Shalini Titus, no-till farmers from Itarsi

Dr Sujata and Dr Anurag Goel

Sarvadhamman Patel

A.P. Chandrasekhar

Subhash Sharma

The Organic Farming Multiversity

- No universities teach organic farming even today. Despite the reducing productivity of chemicals, they continue to teach the same diet

- Organic farmers are the only professors and teachers who understand how to grow without manufactured chemicals. They are recognized as ‘learned individuals’ by OFAI

- OFAI ensures that all its programmes are conducted by organic farmers who are able to provide not just theoretical understanding but practical techniques as well

N.G. Gopalkrishnan

Dr Natarajan conducts Panchagavya session in Orissa

Fr Inez Almeida explains EM secrets

Bharatendu Prakash conducts training at Banda

Shoorvir Singh addressing organic farmers

Poongodi training vermiculture hopefuls

N.G. Gopalkrishnan: consummate teacher

Organic training at Kasargode

Malaysian team visiting Gopalkrishnan farm at Trichy

Sahaja Samrudha meeting on safe food

Nammalwar with TN organic farmers

Kapil Shah with organic farmers in Gujarat

Sundararaman with Malaysian farmers

Preeti Joshi on composting

FAI ജൈവ കൃഷി സമിതി

Organic Farming Association of India

Organic vegetables at elements store

Organic food store in Vadodara, Gujarat

Sahaja Samrudha organic bazaar

Jayant Barwe convincing local MLA

Site of International Institute of Sustainable Agriculture

IISA: Breaking ground

Organic Farming Association of India

OFAI

www.ofai.org