BERAS International
Building Ecological Recycling Agriculture and Societies

BERAS
International outlook- India

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Soil is the Reservoir of Life

Despite its universal occurrence soil is a precious limited resource that requires careful management

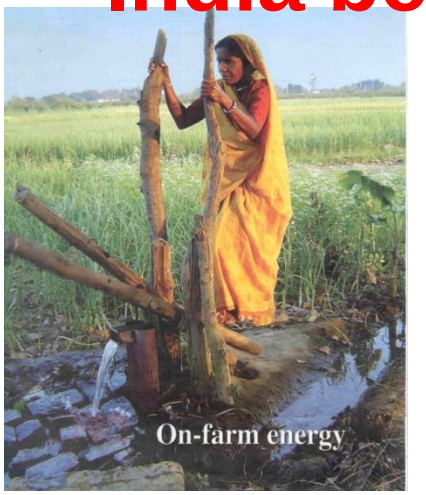
- Earth is made up of
  - 75% water
  - 13% where people cannot live
  - 9% cannot grow food
  - **3% only cultivable**

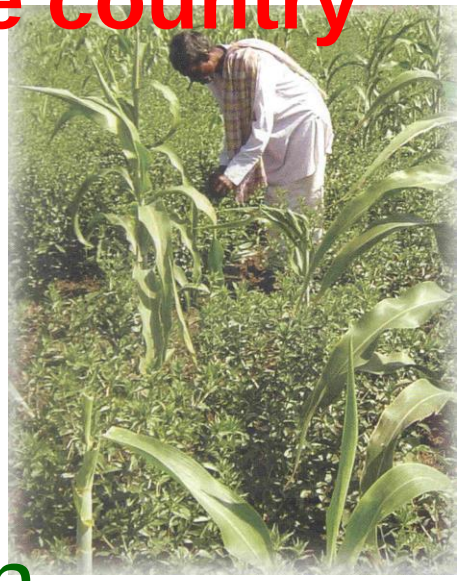
This invaluable resource has to be managed carefully.

The objective is to maximise potential yield AND good quality

Healthy Soil = **Healthy** Crop = **Healthy** World

India being the Agriculture country





With 1.2 Billion Population

Of Which

60-70% of the population engaged on farming

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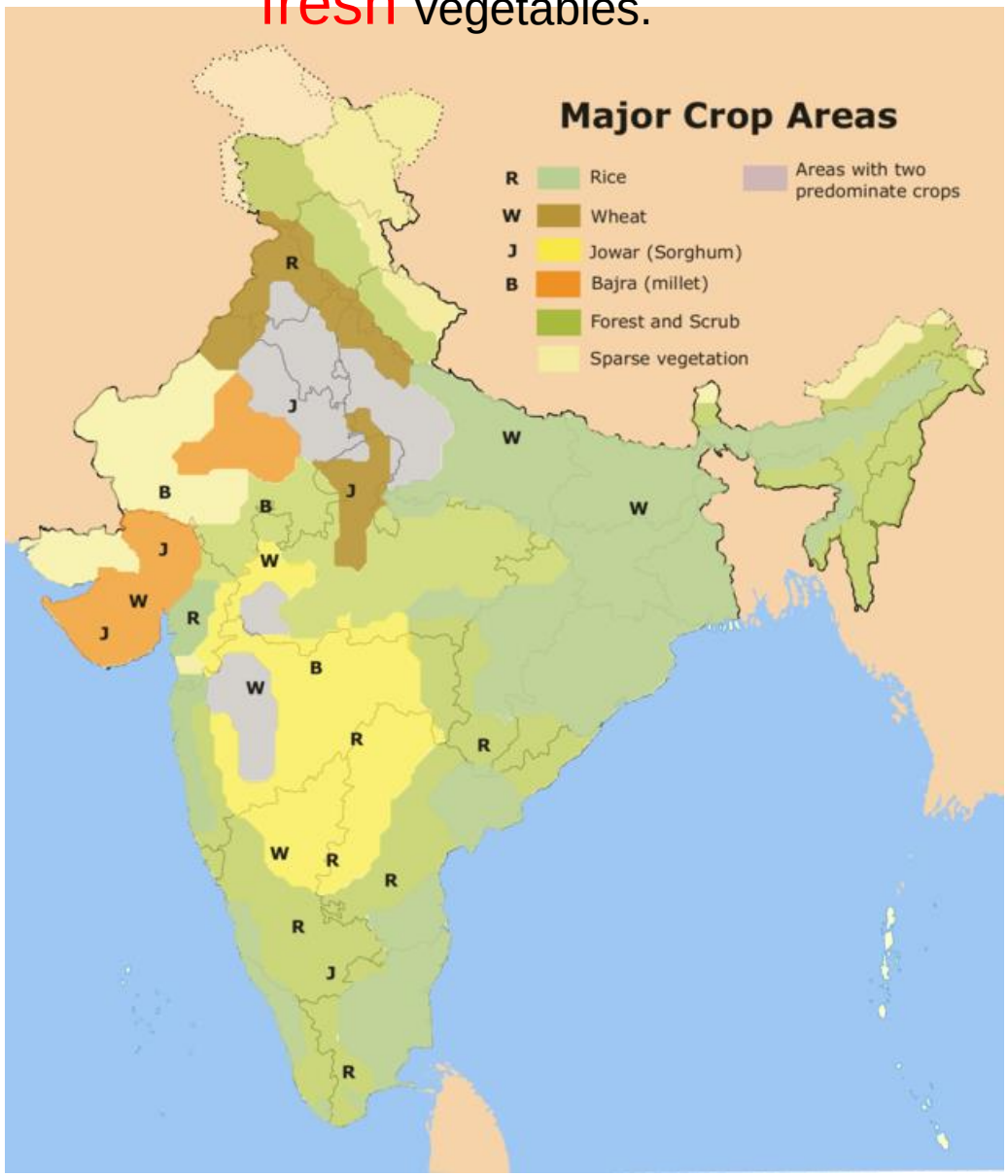
Organic / Biodynamic agriculture in India

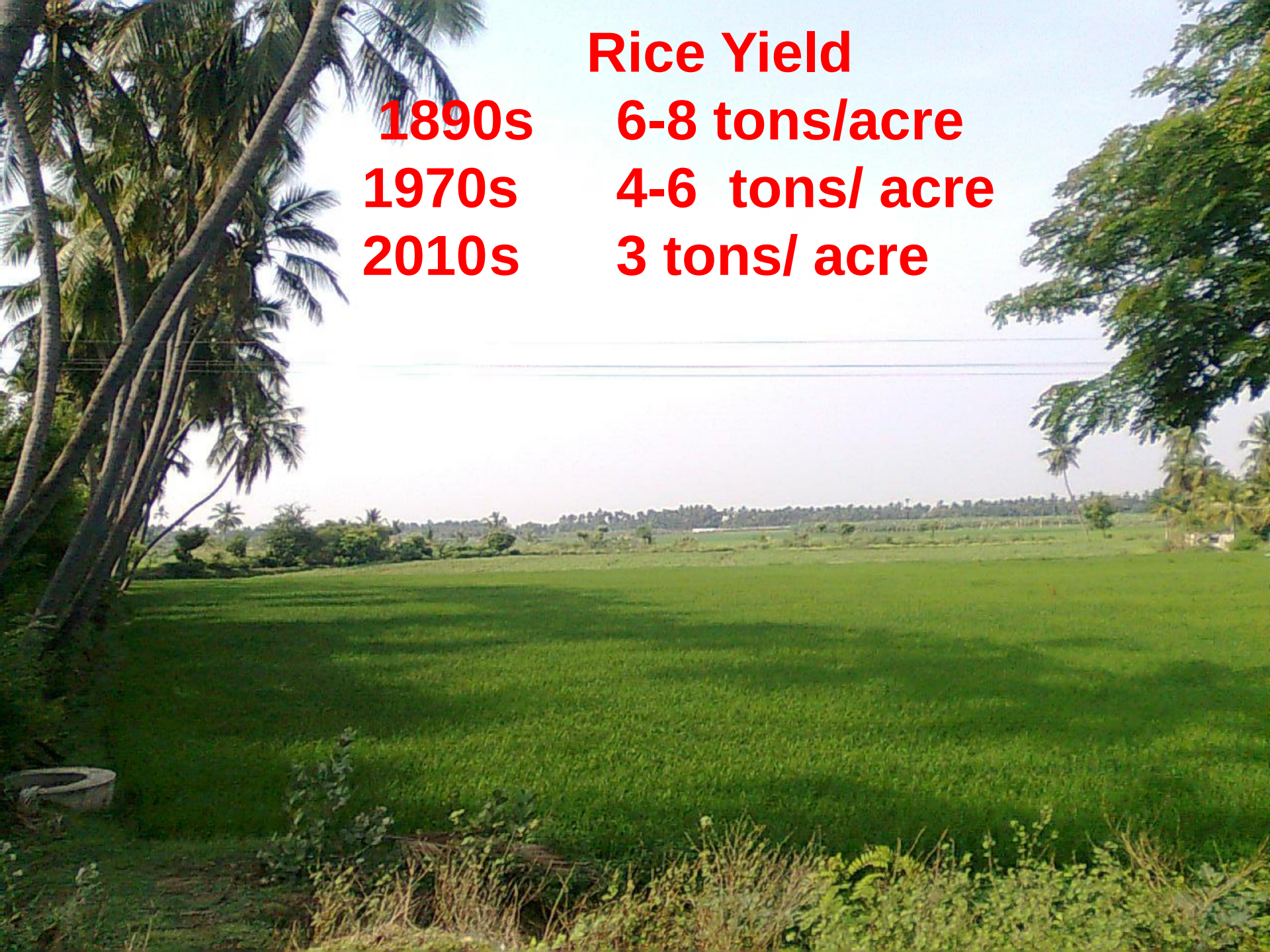
- **Arable land** :159.7 million ha
- **Organic agriculture** : **4.72 million Hectare (certified)**
- **Organic agriculture** - 0.72 million ha% (15 %) of total arable land and remaining 8 million ha (85%) area was forest land (2013-2014)
- **Biodynamic agriculture: < 5000 hacters & 25-30 Demeter farms**

Main agriculture products: Rice, Sorghum, Pearl millet, wheat buffalomilk,cowmilk, mangoes, sugarcane, bananas, cotton and fresh vegetables.



Rice Cultivation wet land Small farmers < 1 hactors

Crop	Productivity		
	1980-81 to 1989-90	1990-91 to 1999-2000	2000-01 to 2002-03
Rice	3.19	1.27	-0.72
Wheat	3.10	2.11	0.73
Pulses	1.61	0.96	-1.84
All Food grains	2.74	1.52	-0.69
Oilseeds	2.43	1.25	-3.83
Non-food grain	2.31	1.04	-1.02


Rice Yield
1890s 6-8 tons/acre
1970s 4-6 tons/ acre
2010s 3 tons/ acre

Millets in dry land farming

Sorghum on dry land

Fruits and Vegetabes on fertile land

Most important crops on organic farms

Sugarcane, Cotton, Oil Seeds, Basmati rice, Pulses, Spices, Tea, Fruits, Dry fruits, Vegetables, Coffee and their value added products.

The production is not limited to the edible sector but also produces organic cotton fiber, functional food products etc.

Among all the states, **Madhya Pradesh** has covered largest area under organic certification followed by Himachal Pradesh and Rajasthan.

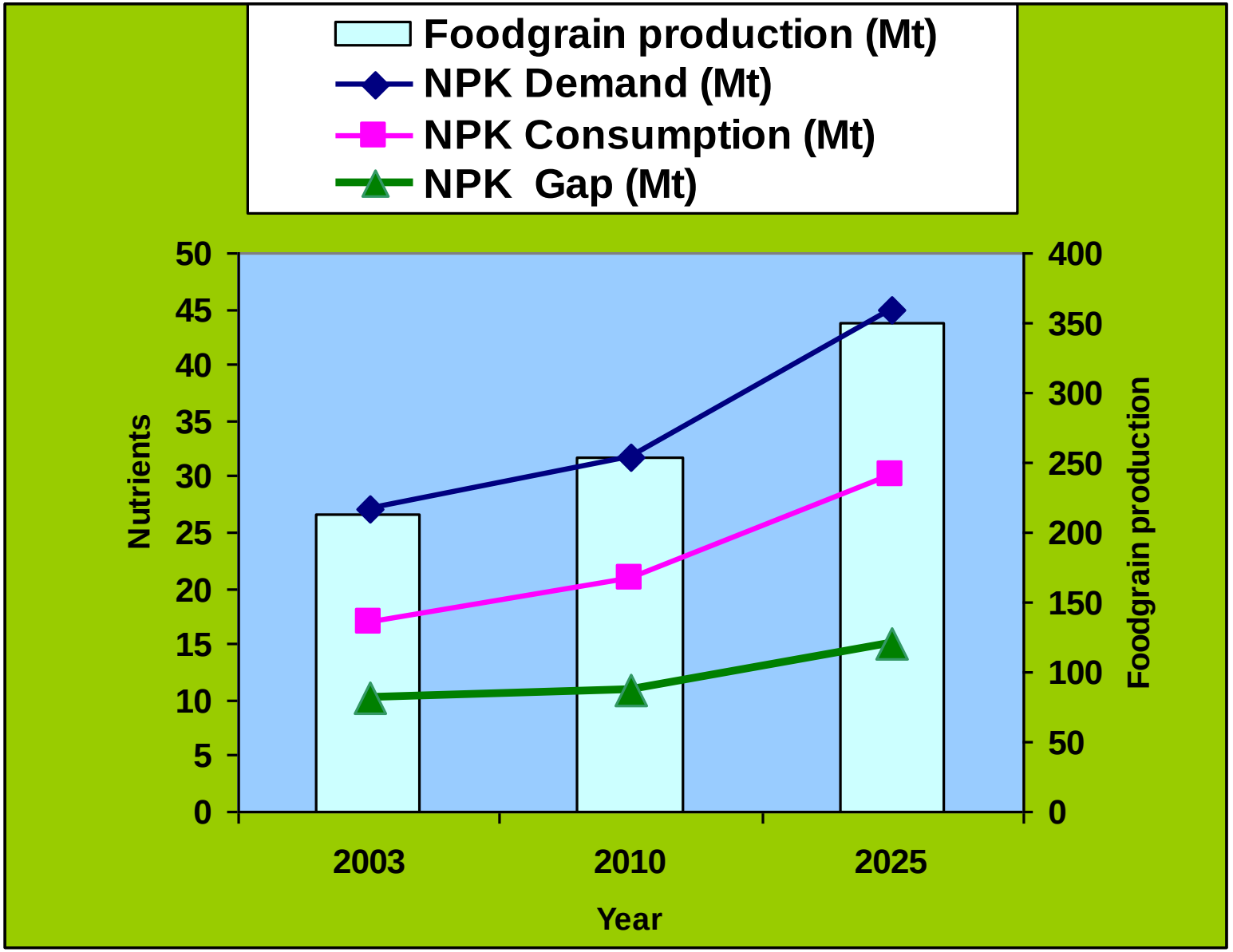
Market for organic agriculture products

India exported **135 products** last year **(2013-14)** with the total volume of **194088 MT i**ncluding **16322 MT organic textiles**

The organic agri export realization was around **403 million US $** including **183 US $** organic textiles

Soybean (70%) lead among the products exported followed by Cereals & Millets other than Basmati (6%), Processed food products (5%), Basmati Rice (4%), Sugar (3%), Tea (2%), Pulses and Lentils (1%), Dry fruits (1%), Spices (1%) and others.

Projected Food Grain Production, input Demand, likely Consumption and Gap- India



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Impotantant Challenges in Indian Agriculture

Climate change- No or Sporadic Rains lead to severer droughts

Availability and Affordability of Water

Small farms are Not Profitable and Not Sustainable

Loss of Biodiversity

- one of the major concern

- 1000 of Cereals specially rice and 100 of millets

90% loss of rice variety since 1900

- Vegetables specially egg plant

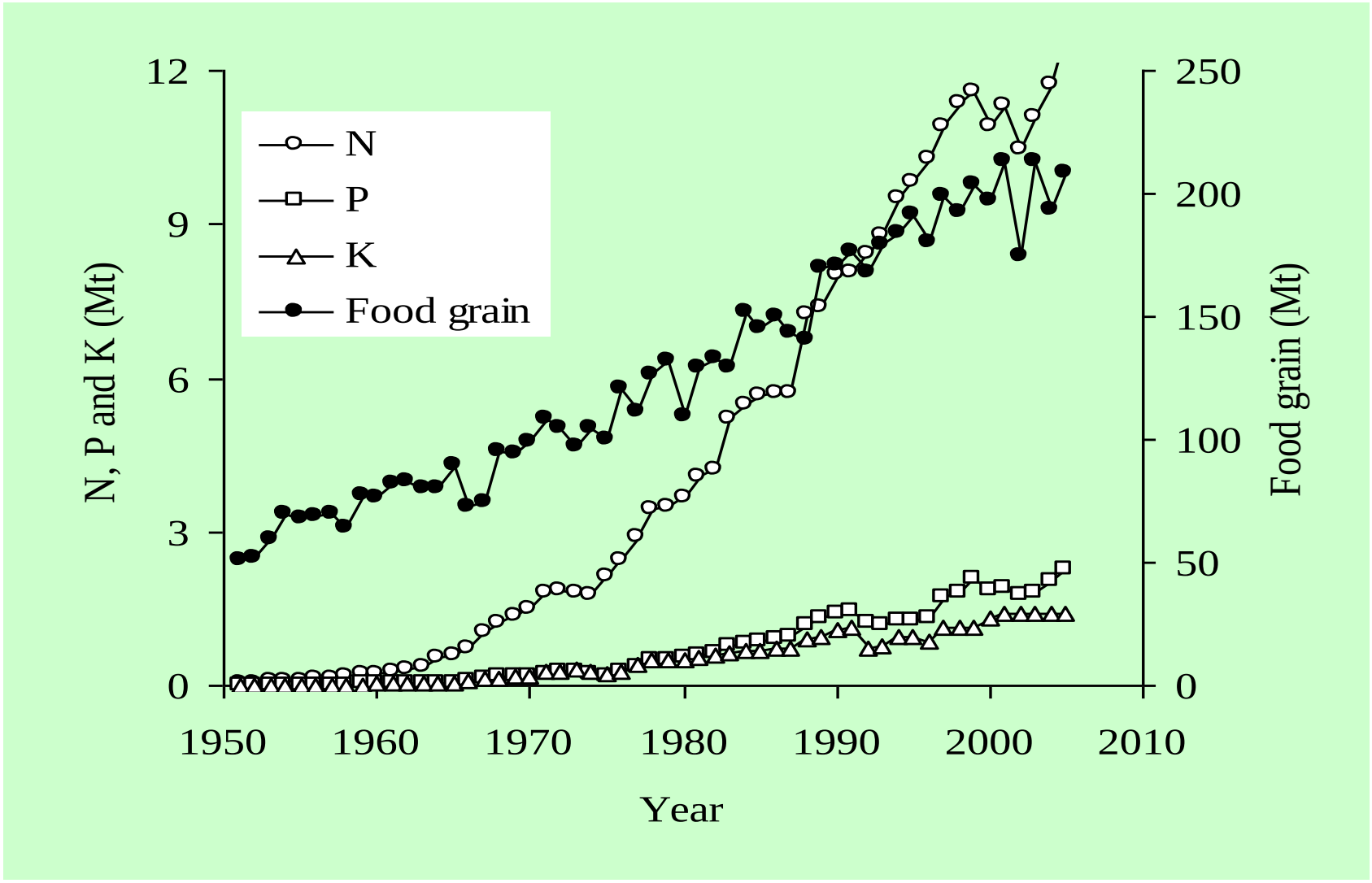
- Local fruits

- Low breads specially country cows (endangered / disappearing)

50% of goat breads

- **20% cattle breads**
- **30% of sheep breads**

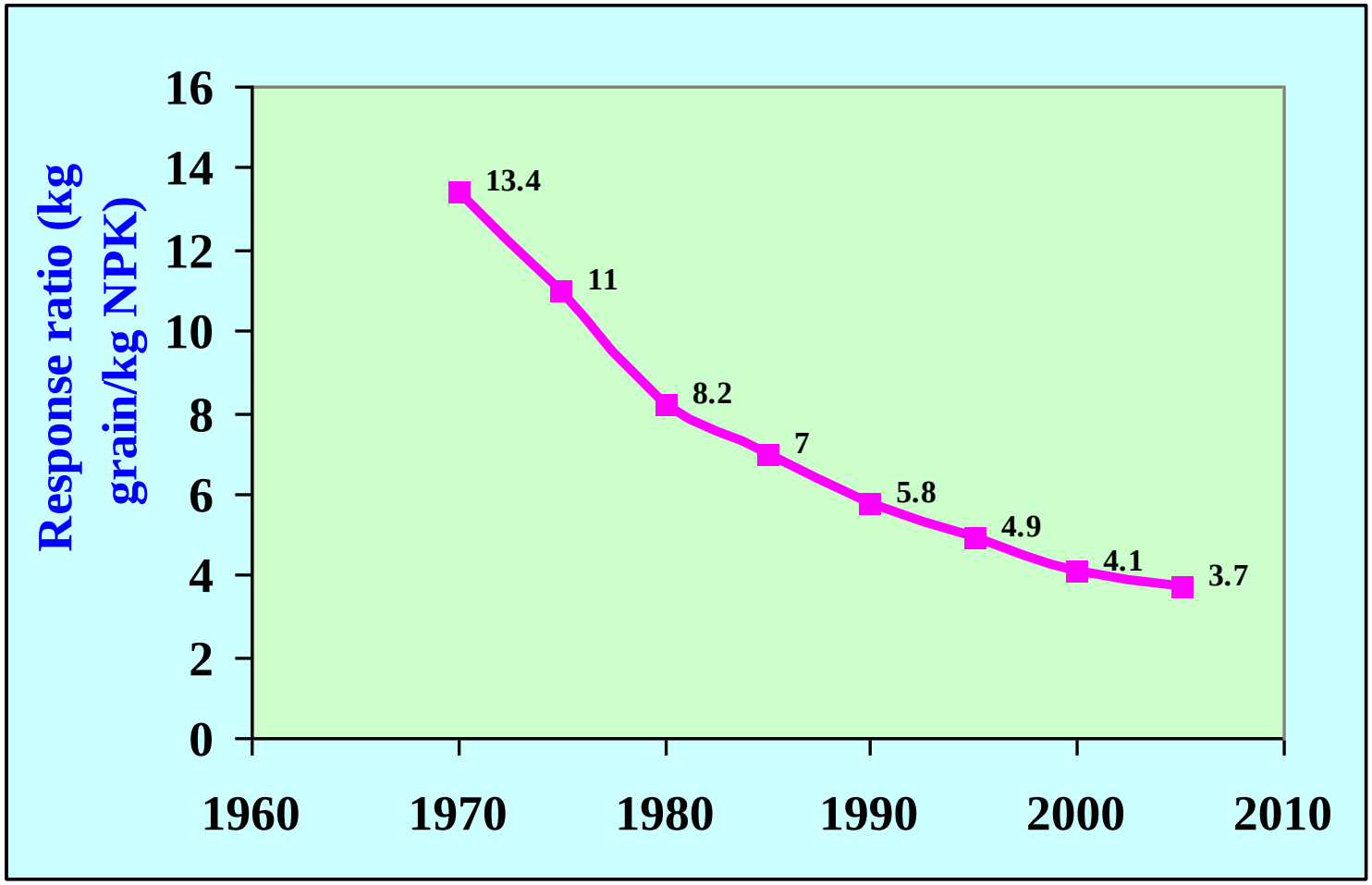
Soil Health & Productivity- A Cause of Concern



Manures – An important input contributing 50% towards improvement in crop productivity

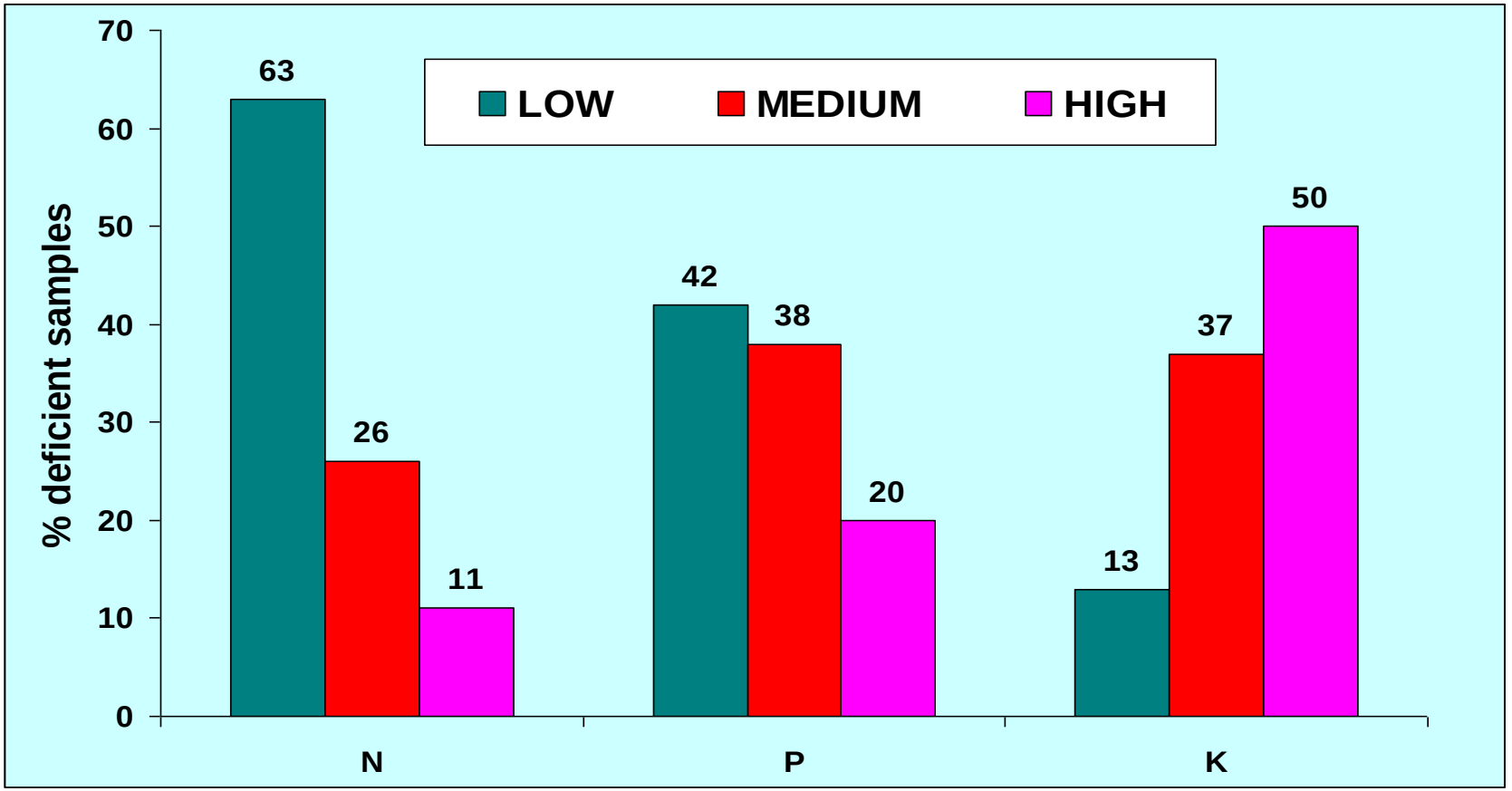
Declining Fertilizer Response

Low Fertilizer Response - Irrigated Areas



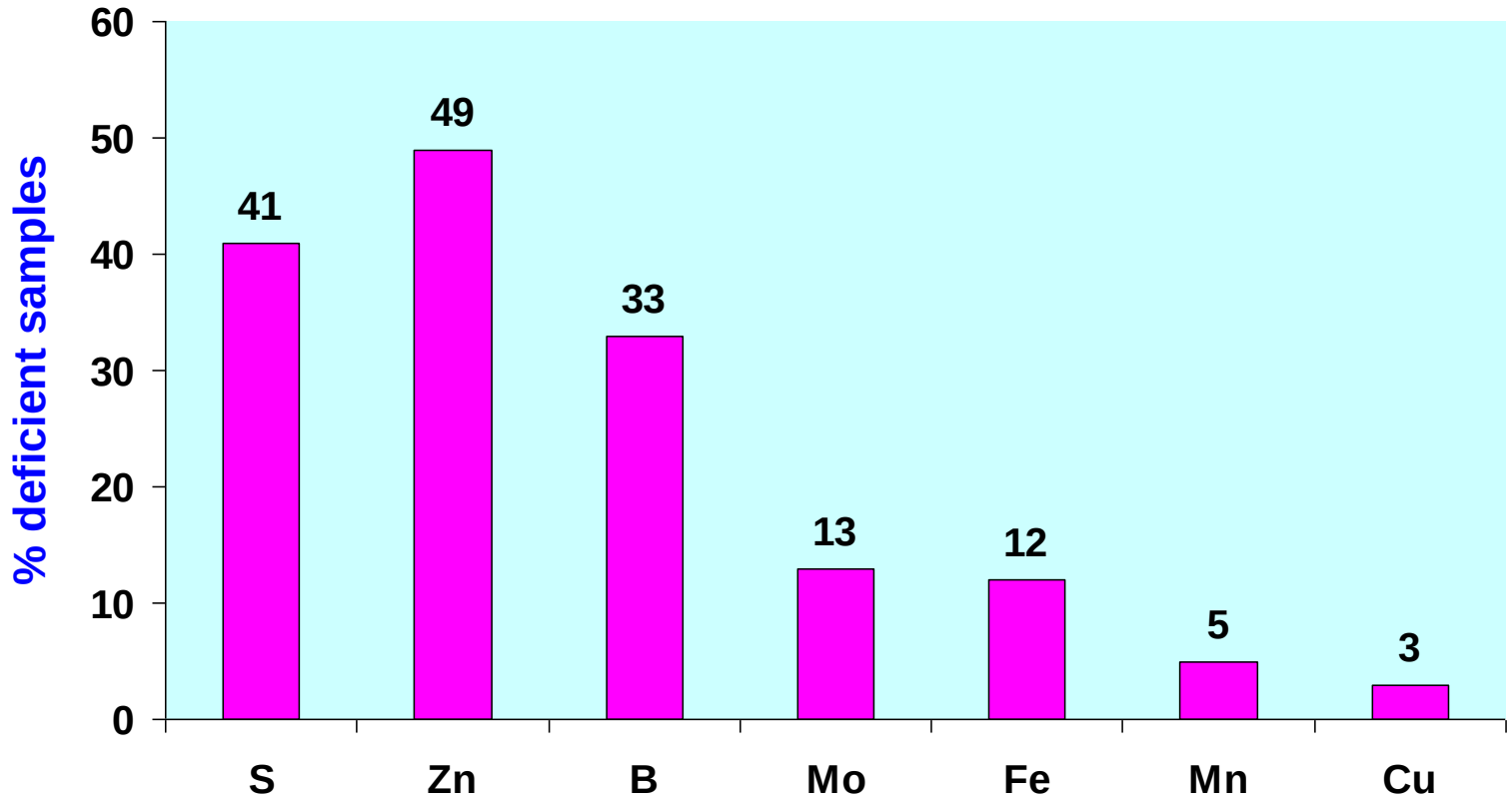
Poor Soil Nutrient Status – N P K

Indian soils poor in N and P with 89 and 80 percent soil samples in low to medium category; relatively better in K with 50 percent samples only low to medium.



Nutrient Status –Micro and Secondary

S, Zn, B, Mo, Fe, Mn and Cu deficient to the tune of 41, 49, 33, 22, 12, 5 and 3 % respectively.



Solutions already available through sustainable ORGANIC / BD farming

Many NGOs and limited institutions are engaged themselves with small or family organic farms: are profitable but due to political will power and wherewithal's could not be sustained. Successful Leads available in many state of India

CIKS

Navadhaniya

Supra Biotech

Deacon Development Societies

EcoPro & Auroville farms

Muhil &Karmuhil

CiHREP

ISS- Small farmers Empowerment

Individual farmers: Mr Antonysamy & Mr Jayachandran

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Actions proposed by BERAS India to meet the challenges

ISS (India) & Sofia (Sweden) collaboration led to form

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BERAS India

- 19 founding members since 2014
- Membership from
  - 5 institutions / associations
  - 3 Research centers
  - 7 NGOs- Civil service organisation
  - 4 individual experts (Government and Public sectors)
  - Initially Tamil Nadu & Pondicherry in India

BERAS India Secretariat

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Action to be carried out in India on

Ecological Regenerative Agriculture

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Actions proposed

- India need to understand of main principles of BERAS
- Identify and Create region specific demonstraation /functional units
- Conduct High quality applied reserach related ERA, DGP and SFS
- Share Good examples of watershed management and water management/ water harvesting system with International BERAS partners
- Share Good examples of regenerative activities for barren land - agroforestry
- Share experiences on Advanced educational program developed by BDAI & Annai Lea Biodynamic community college

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Actions continued:

- Baseline studies and scientific methodology introdused on farm level (on farm research) to be conducted and documented

- BERAS Guidelines to be prepared contextualized and adjusted to local conditions
  - Farming Guidelines
  - Economic Guidelines
  - Marketing Guidelines
  - Farm Examples

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Actions to be carried out in India on **Diet for a Green Planet**

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Actions :

- Diet for a Green Planet is being concidered as a new conceptual approach that needs to be developed, contectualized and implementet adjusted to local conditions
- Start with Baseline Study in every location
- Discuss"Optimal diet!"
- Step by step learning process implementing the different parameters of Diet for a Green Planet

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Actions to be carried out in India on Local Learning Centers for Sustainable Food Societies

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Actions:

- Learning Centers for Sustainable Food Societies shall be concidered as a new conceptual approach that needs to be well understood, contextualized and adjusted to local conditions (but similar to Gandhiyan principles & approaches)
- The Learning Centers are where the BERAS concepts and ideas are developed, implemented and demonstrated
- Provide new opportunities to revitalize rural development with the farm in the center

2015 International Year of Soils

Soil is the Reservoir of Life

Healthy Soil = **Healthy** Crop = **Healthy** World

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…BERAS India request for

Closer cooperation with BERAS International:

We are here to seek partners who will jointly works with us on BERAS for the benefit of our Planet

Despite the many accomplishments of mankind, we owe our existence to six-inch of top soil and fact that it rains

---Confucius

BERAS - a Game changer

Specially

for

India

Thank You ALL