



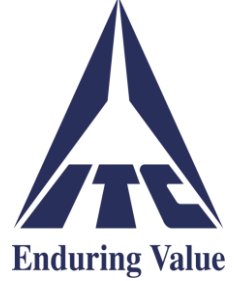
Cultivating **E**xcellence.
Nurturing **S**ustainability.



World Spice Congress
February 2014



Presentation Flow



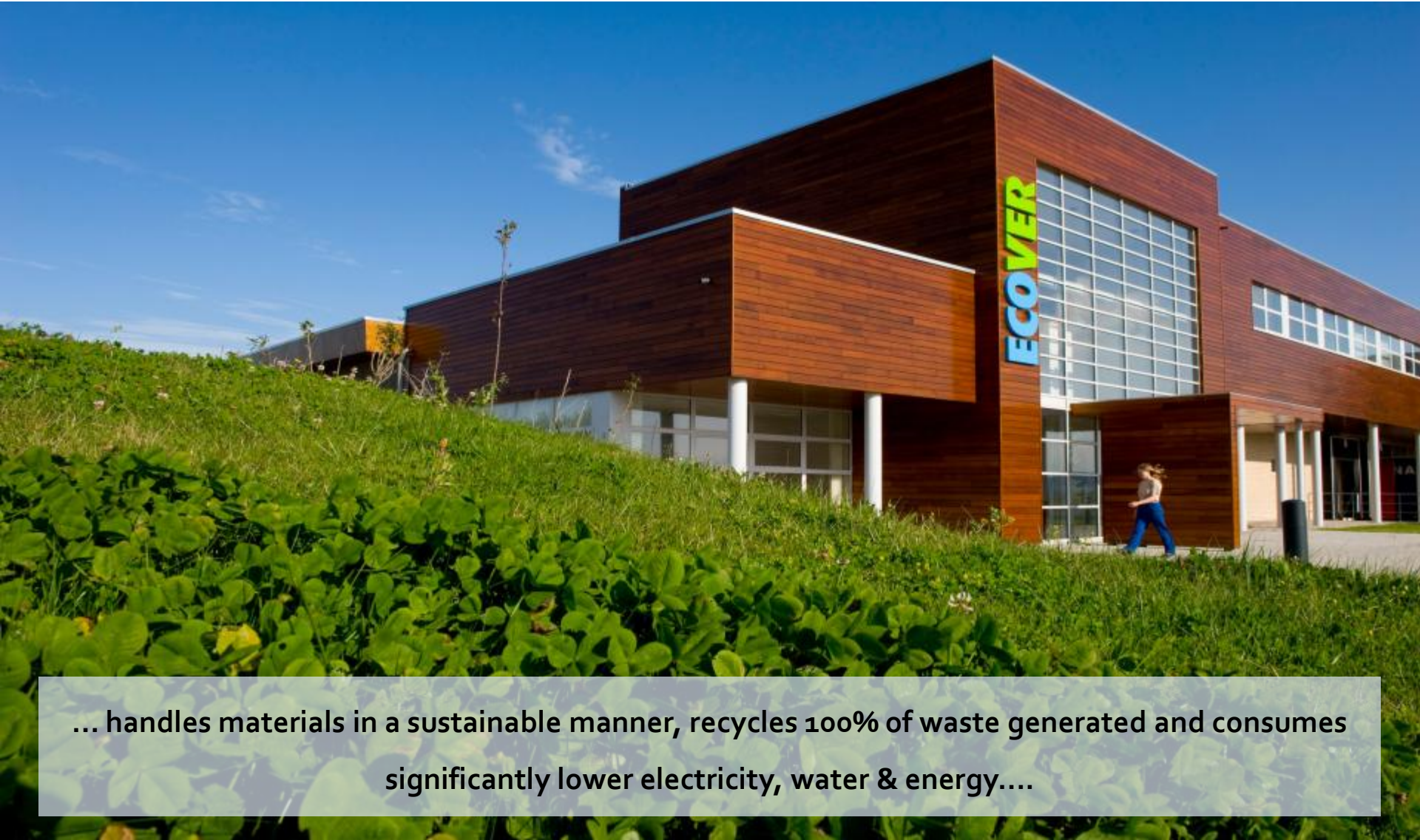
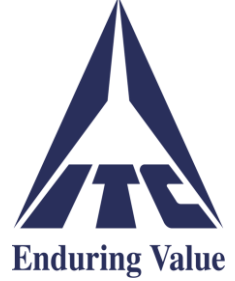
Sustainability & Agriculture

Our Approach to Sustainability

Sustainability in Action

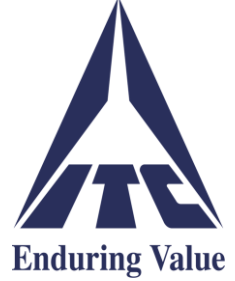
Our Vision

Green Factories



... handles materials in a sustainable manner, recycles 100% of waste generated and consumes significantly lower electricity, water & energy....

Green Automobiles



... significantly higher fuel efficiency, great miles per litre of gasoline and optimizes use of renewal & non-renewable energy sources....

Green Buildings



... constructed out of ecologically friendly materials, uses extremely efficient lighting & HVAC technology solutions and promotes sustainable living standards....

Is Agriculture Green?

Agriculture accounts for...



70%

of

**WATER
CONSUMPTION**

Agriculture
70%



34.3%

of

**LAND
AREA**

Agriculture
34.3%



17-30%

of

**GHG
EMISSIONS**

Agriculture 17% Deforestation 13%



37.3%

of the

**LABOUR
FORCE**

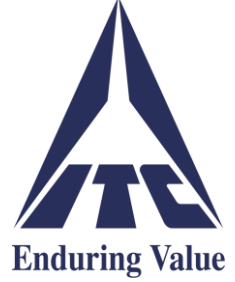
Agriculture
37.3%



What is Sustainability?



What is Sustainability?



What is Sustainability?



What is Sustainability?



Naturally grown
produce



Lower
Pollution



Managing climate
change



Eco Friendly Materials
Usage



Integrated Pest & Crop
Management



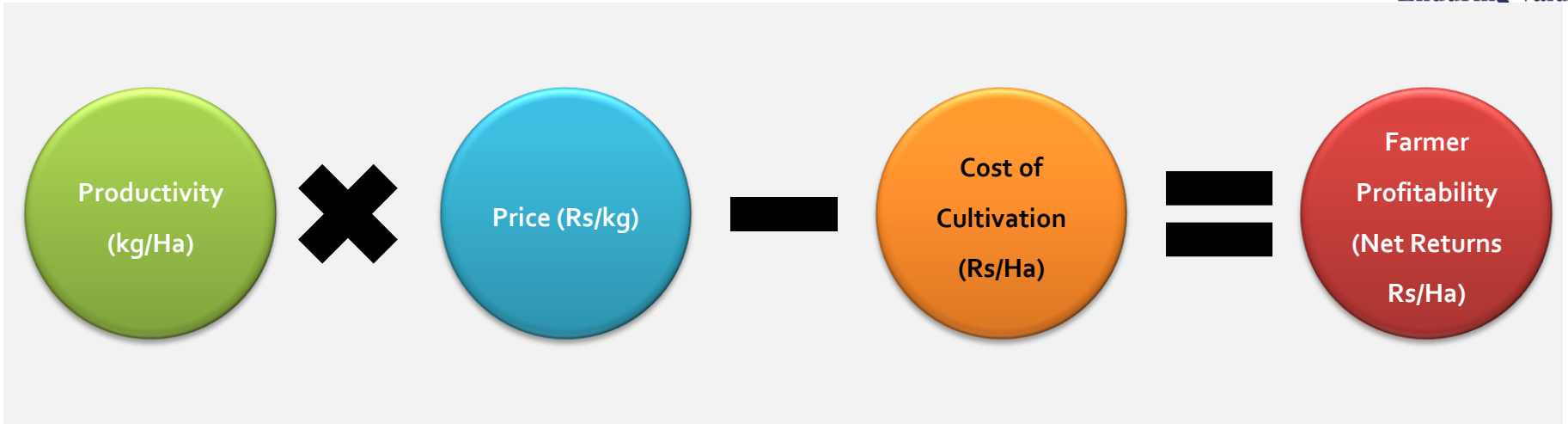
Water Conservation



Children Education

SUSTAINABILITY IS NOT JUST ADDRESSING A FEW SET OF ISSUES IN A SELECTIVE MANNER!

Farmer Profitability Equation



ENVIRONMENTAL SUSTAINABILITY

Drawing Inspiration from Israel



25 cm average annual rainfall vs India's 154 cm.

55 °C to -18 °C temperatures with high diurnal variations.

2 per cent water cover with high groundwater salinity.

80 per cent of soils classified as "Desert silt".

TOUGHEST POSSIBLE CONDITIONS FOR AGRICULTURE

Major Agricultural Crops



Enduring Value

VEGETABLES



"Cherry" Tomato



Cucumber



Beans

CITRUS FRUITS



Grapefruit



Lemon



Orange

FIELD CROPS



Cotton



Sunflower



Wheat

LIVESTOCK



Beef



Fishing & Aquaculture



Poultry

HIGHEST YIELDS IN THE WORLD!

Technology & Agriculture



The world's most developed irrigation methods in agriculture



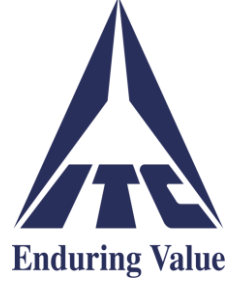
The world's most reused water rate in agriculture



The most advanced ICT technologies in the agricultural space

Technology has been the backbone for agricultural development!

The World of Ag Tech



GREENHOUSES



FARM MACHINERY



PRECISION FARMING



GEO INFORMATION



FERTIGATION



PLASTICULTURE



MICRO IRRIGATION



RENEWABLE ENERGY

Ag Tech provides answers to all our questions!

Pitching Technology to Farmer

APPROPRIATE TECHNOLOGY

Technologies that cognize for the socio-cultural-economic conditions of the farming community



FARMER FRIENDLY



**DRUDGERY
REDUCTION**



COST EFFECTIVE



**LOCALLY
CONTROLLED**

Requires deep understanding of farmer needs

Farm Sustainability @ ITC



**Young & Passionate Team of
Agricultural Graduates & Engineers**



**Contemporary Technology
Experimentation**



Design to Dissemination



**Focus on Farmer Profitability
& Sustainability**

Elements of Sustainability



SOIL



WATER



LABOUR



WASTE



BIODIVERSITY



COMMUNITY

Farm Sustainability Framework



SOIL SUSTAINABILITY



Soil Fertility Management



Soil Moisture Conservation

WATER SUSTAINABILITY



Irrigation & Greenhouses



Groundwater Recharge

LABOUR SUSTAINABILITY



Occupational Safety



Farm Mechanization

SUSTAINABLE FARMER LIVELIHOODS

WASTE MANAGEMENT



Toxic Waste



Farm Waste

BIODIVERSITY CONSERVATION



Risk Assessment



Biodiversity Protection

COMMUNITY DEVELOPMENT



Education & Health



Livestock Development

Soil Health Management

Soil Fertility Management

Vermi Composting



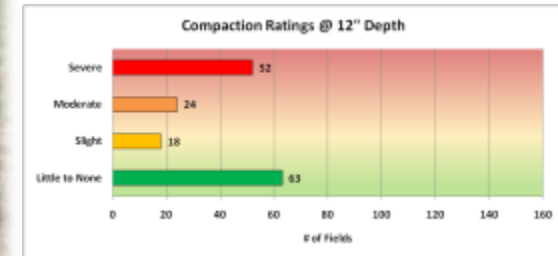
Farm Yard Manuring



Green Manuring



Soil Compaction Management



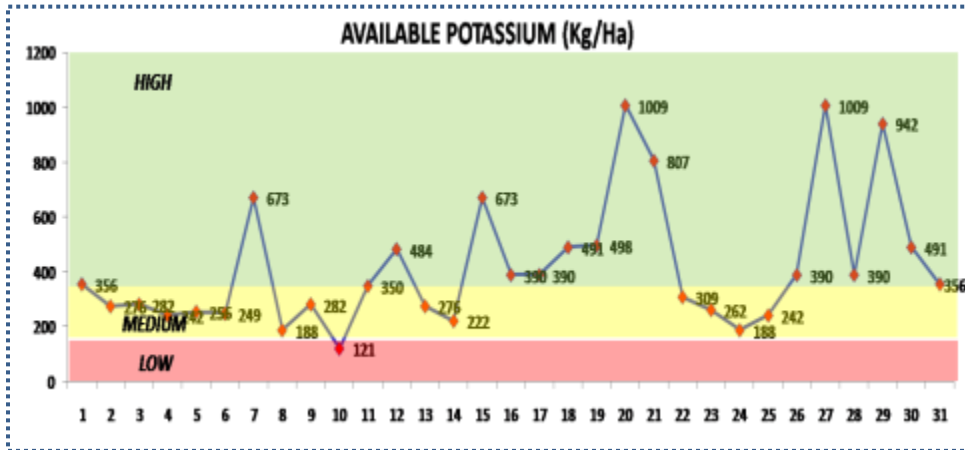
Soil Compaction Diagnosis



Sub Soiling

- ✓ 15" Hard Pan breaking
- ✓ 10-15% Yield increase
- ✓ Erosion & rainfall resilience

Site Specific Nutrient Management



Variation of a Soil Fertility parameter in Kurnool

Sub Optimal Blanket
Nutrient Recommendations

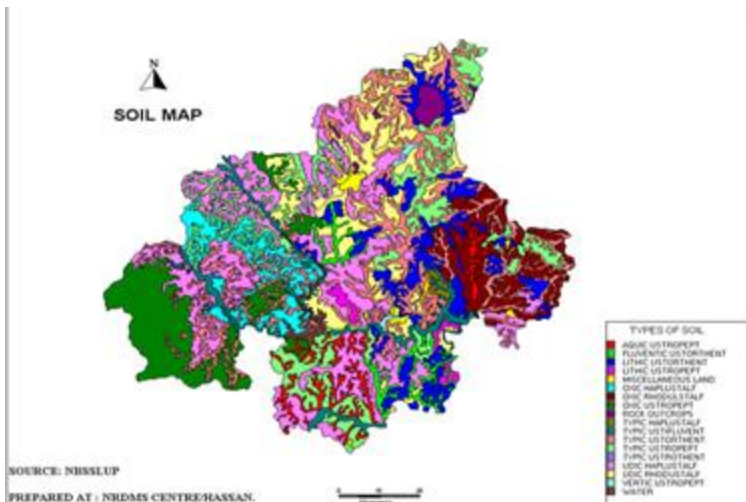


LIMITATIONS

1. Productivity
2. Soil Health

SSNM Site Specific Nutrient Management

A Nutrient Management system that tailors nutrient recommendations according to **local soil fertility status**.

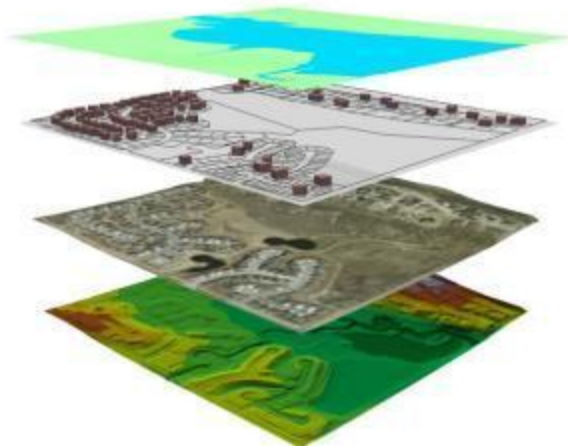


Generation of Large scale
Soil Fertility Maps by manual sampling takes
humongous effort & time

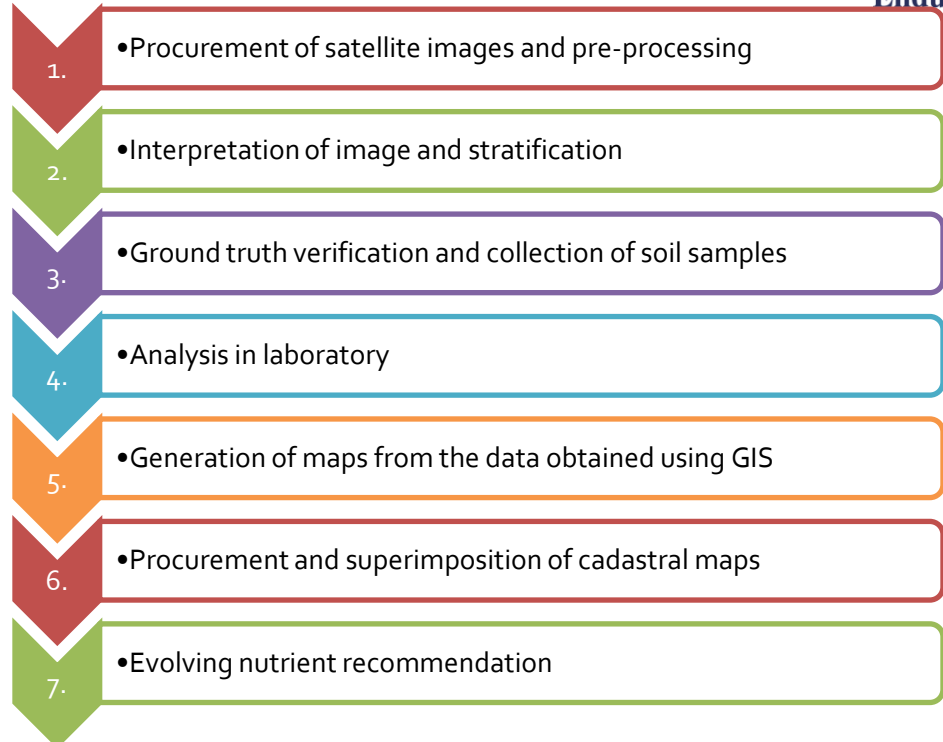
Soil Fertility Mapping using RS & GIS



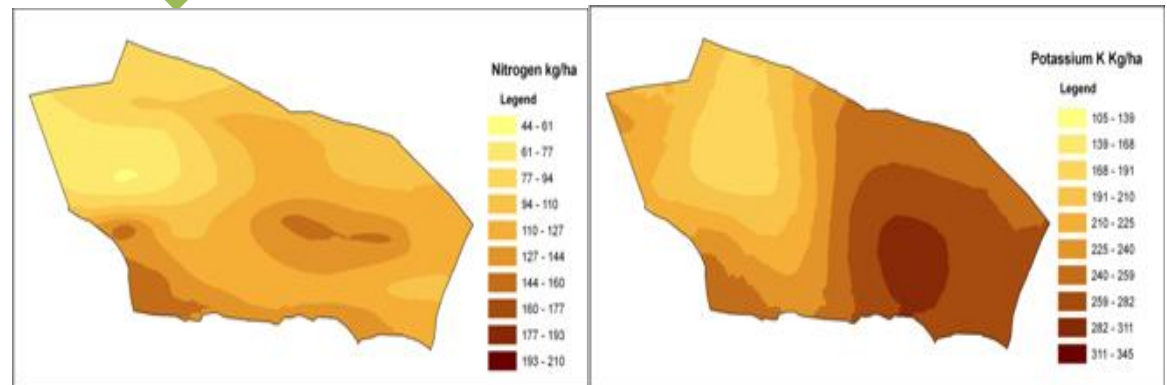
Remote Sensing



Geographic Information Systems



APPROACH



Spatial Nutrient Variability Maps

Seedling Production Technologies

Green Tech System



For small farmers
(< 4 Ha)

- ✓ Higher Yield
- ✓ Lower water consumption
- ✓ Weather resilience
- ✓ Zero disease incidence

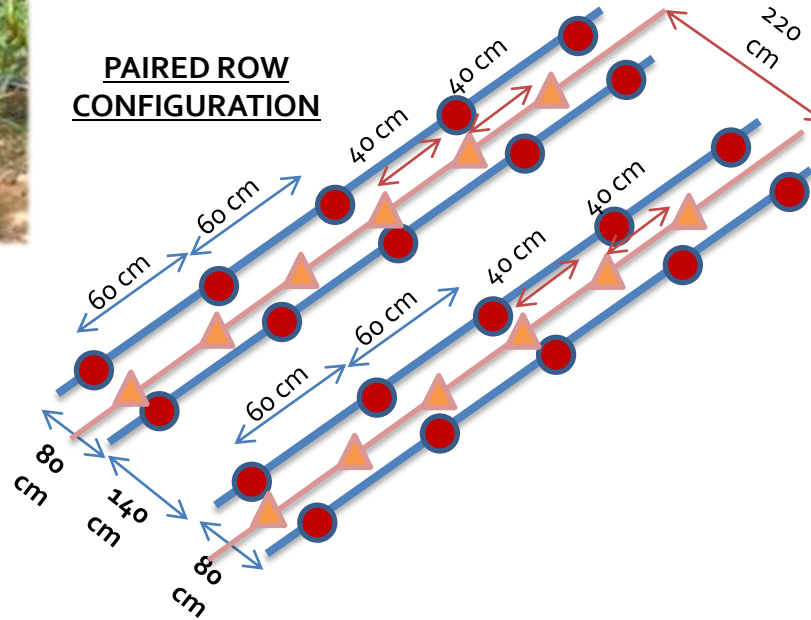
Float System



For commercial nurseries
(> 20 Ha)

- ✓ Zero seedling mortality
- ✓ Least water consumption
- ✓ Minimum labor dependency
- ✓ Weather resilience

Micro Irrigation



- ✓ 30% Higher Productivity
- ✓ Economical Design – Costs < \$600/acre
- ✓ Better Crop Quality

Farm Mechanization



MECHANIZATION MENU



VIBRO CULTIVATOR



TRANSPLANTER



FERTILIZER DRILL



POWER WEEDER

Field Evaluation Trials

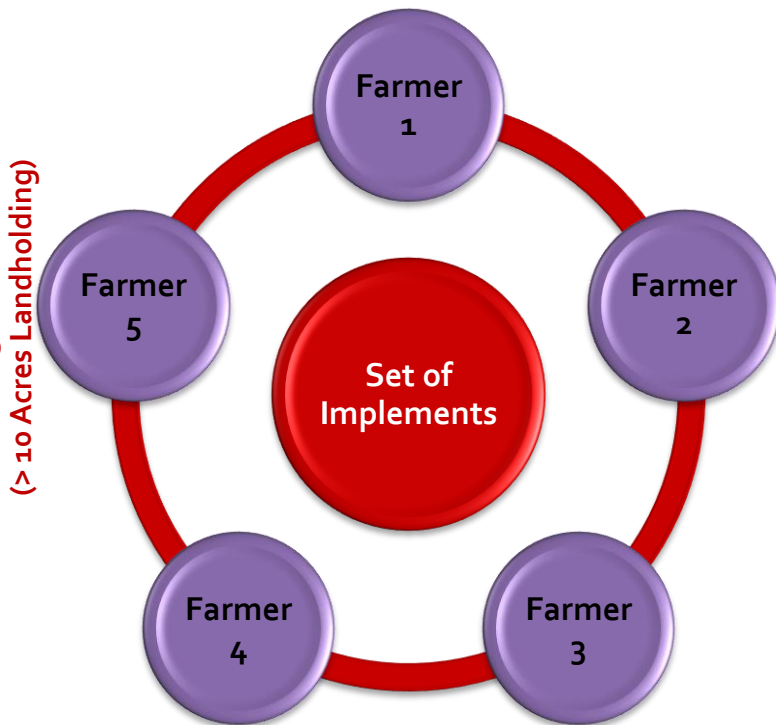
Implement
Vibrocultivator
Transplanter
Fertilizer Drill cum Intercultivator
Power Weeder

Farmer Training & Demonstrations



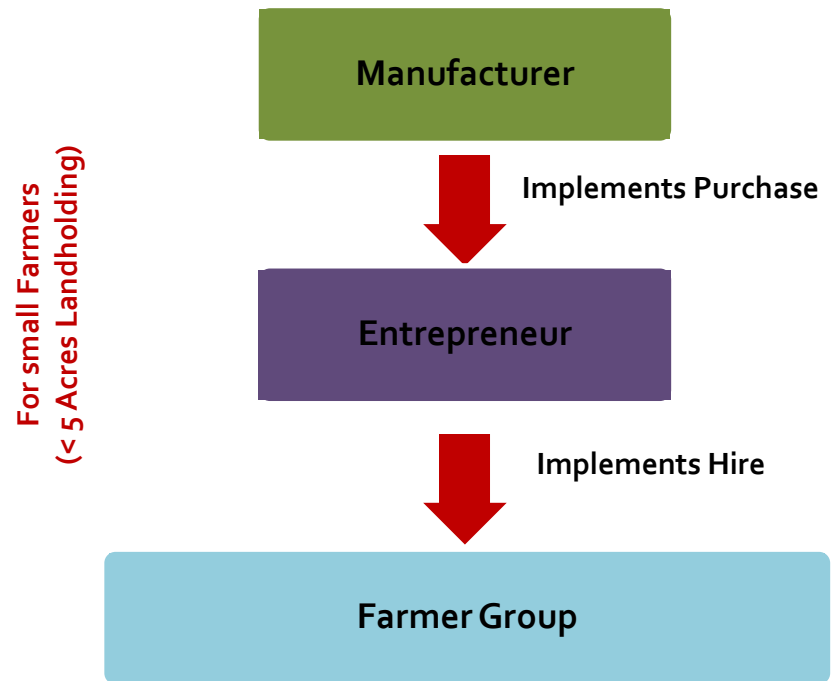
Dissemination Models

Farmer Group Model – Big Farmers



- Farmer group purchase a set of implements & share between each other
- Combined seasonal capacity of **200 acres**

Custom Hiring Model – Small Farmers



- Entrepreneur purchases implements and hires them out to other farmers
- Seasonal capacity of **100 acres**

Community Development



TANK REHABILITATION



3,90,800 Cu.m. Water
Harvesting Potential

CATCHMENT TREATMENT



2,000 Ha.
Soil Moisture Conservation

ENERGY PLANTATIONS



700 Ha
Eucalyptus Plantations

LIVESTOCK DEVELOPMENT



41,600
Artificial Inseminations

COMPOST UNITS



130 Units
NADEP Composting Pits

AGRI BUSINESS CENTRES



1765
Farmers benefited

Farmer Empowerment



ನಮ್ಮ ಸಂದೇಶ namma sandesh

- Interface with farmers through **mobile telephony**
- Communication in **vernacular language and English**
- **Voice & SMS** based information delivery

Sandesh for farmers

Crop Advisory



Local News



Weather Forecast



Market News



Schemes and Subsidy



Other alerts



'Village' Centric Approach

Farmer



Village



Integrated deployment of interventions in a village, round the year!

**Crop
Management**

**Research &
Development**

**Farm
Sustainability**

**Community
Development**



**Farmer Profitability &
Community Connect**



**Quality Conformance
Issues**

Our Sustainability Journey



ICM

IPM CHILLI



IPM CUMIN



CERTIFIED SUSTAINABLE SPICES

Transforming sustainability as a key value proposition to customers



Rainforest Alliance Certified
Chilli Production



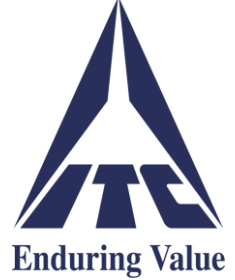
Control Union Certified
Turmeric Production



Member of SSI,
The Netherlands

Embedding sustainability as a competitive advantage!

Recognition



World Business and Development Award 2012 at the historic Rio+20 United Nations Summit

FICCI Award for Outstanding Achievement in Rural & Community Development (2009-10)

Ranked 2nd among top companies in India and 7th in Asia in the **Asian Sustainability Rating** released by CSR Asia (2009-10)

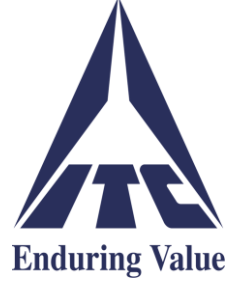
First Indian Company to gain membership of **WWF GFTN** for responsible forestry (2009-10)

UNIDO Award at the International Conference on Sharing Innovative Agribusiness Solutions at Cairo (2008)

First Indian Company to be awarded **Development Gateway Award** for its trail blazing e-Choupal initiative (2005)



Walking the Talk



Building sustainability in Indian spices production ecosystem involves time, effort, human resources, passion & a lot of money!



ITC employs more than **50 Managers, Technicians & Field Extension workers** in the implementation of sustainability

Walking the Talk

Demonstrating the Walk

Building a Sustainable Value Chain begins at the farm



And ITC has got its **Head, Heart & Hands** on Sustainability

ITC Spices : Business Vision



Building & sustaining a strong base of

1 MILLION FARMERS

To be a world leader in sustainable agriculture by empowering the Indian farmer to capture greater value in global markets

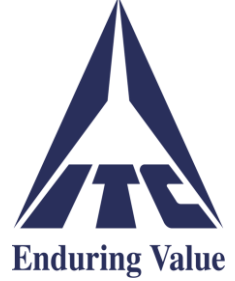


Enduring Value

Thank You!

For more information, please visit us @ Stall # 26 today!

Indian Spices Production Landscape



23

Provinces



2.5

Million Farmers*

26 Different Spices



5.8

Million M.T.



3.2

Million Ha Land

'Village' Centric Approach

CROP MANAGEMENT



AGRI EXTENSION



QUALITY ASSURANCE

RESEARCH & DEVELOPMENT



MICRO REGION AGRONOMY



VARIETAL DEVELOPMENT

FARM SUSTAINABILITY



AGRITECH SOLUTIONS



STANDARDS COMPLIANCE

COMMUNITY DEVELOPMENT



COMMUNITY DEVELOPMENT



CAPABILITY BUILDING