

Working towards the next mobile revolution in India



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Can Mobile revolutionize Indian Agriculture?



Indian Agriculture is witnessing change

“Indian agriculture is ready for a makeover. Fourteen stories from the fields that show the way ahead”

- Outlook Business, Special Issue, October 18, 2008



“Though voice still remains the money spinner, telecom operators and handset makers are betting big on services to acquire the next 400 million customers”

“Agricultural services may not be high-tech but can potentially be a big device sales driver”

- Business Today, May 3, 2009





The world's largest mobile handset maker with a 60% market share in India is investing heavily in services. Will the gamble pay off?

- Business Today, April 4, 2010

More misses than hits

- ☐ N-Gage gaming mobile device
- ☐ Nokia Maps
- ☐ Ovi Store

Potential to Deliver

- ☐ Nokia Life tools – Education, Entertainment and Agriculture
- ☐ Nokia Money

“Better prices, connectivity, rural schemes, new crops and technology are amongst a host of factors which have changed the face of rural India and brought urban lifestyles and aspirations”

- India Today, February 15, 2010



Food demand is driven by population growth



Food Inflation is expected to continue

Food Inflation and Indian Politics



Critics say the powerful minister is emblematic of a government approach that is pushing Indian Agriculture to total ruin.

‘Pawar has used his tremendous knowledge to manipulate rather than manage agriculture’

‘While India’s cotton farmers are committing suicide, we import cotton at a duty of only 10 percent’

But Pawar counters saying his prescription is the only option.

Pawar says “If we have to improve, we have to shift pressure from agriculture to non-agriculture sectors”

- Tehelka, 27 March, 2010



**Profitable Agriculture is the only
way to sustain rural India**



The Problem of Indian Agriculture is its low productivity

Indian Agriculture is at present at low productive levels.

Indian food security for the future cannot be sustained without changes in present farming practices.

Crop productivity in India



Let's take the example of paddy cultivation in India

Highest productivity – Punjab

Average Yield - 3.69 Tonnes/Hectare

Lowest productivity – Madhya Pradesh

Average Yield - 1.00 Tonnes/Hectare

World's Highest – 8-10 Tonnes/Hectare

Crop productivity in India



Factors needing attention

- ☐ **Soil health**
- ☐ **Integrated nutrient management (INM)**
- ☐ Water management
- ☐ Seed management
- ☐ Farm mechanization
- ☐ Integrated Pest Management (IPM)

Food grain production in India is becoming stagnant



Up to 1997-1998:

Fertilizer consumption (N,P, K) = Food grain production

From 1998-Now:

Fertilizer consumption (N,P, K) $\neq$ Food grain production

Extent of nutrient deficiency in Indian Soils

Fertilizer use by crop
in India



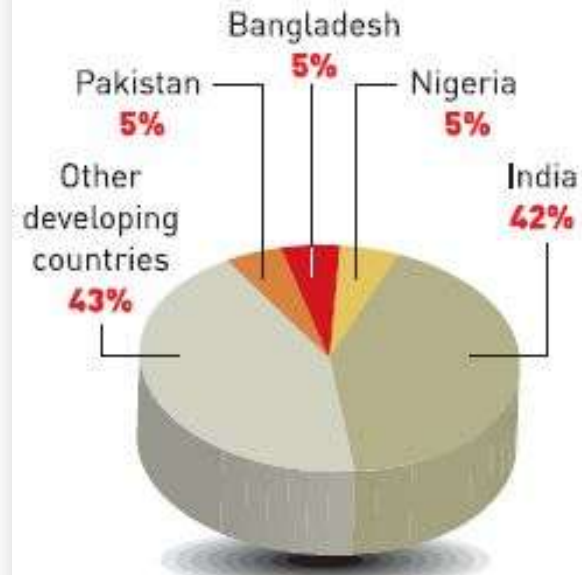
50% of soil samples analyzed have high Potassium deficiency

25% of soil samples analyzed have high Sulphur deficiency

49% of soil samples analyzed are deficient in Zinc, 33% in Boron and 12% in Iron



India's contribution to the underweight burden Children under 5 years of age



Source: UNICEF 2009

India has the largest number of stunted, wasted and underweight children in the world.

- Frontline, Apr. 10-23, 2010

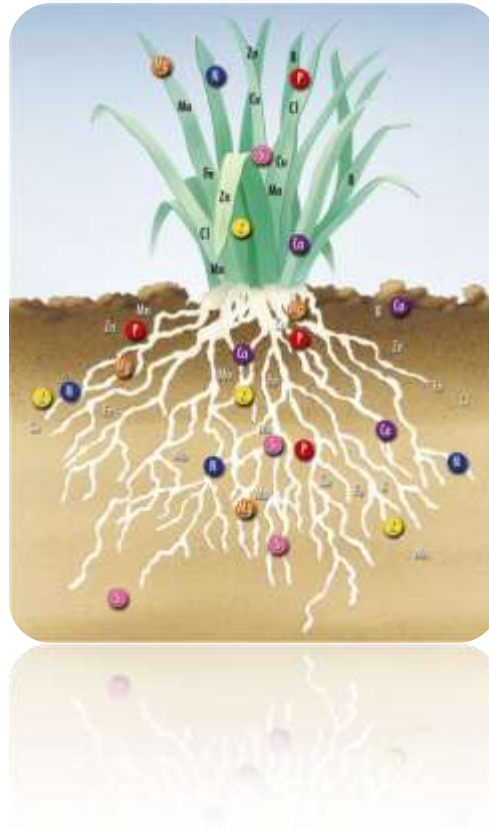


Micronutrient deficiency in Indian soils is increasing



Many experiments have proven significant increase in yields by providing secondary and micronutrients along with NPK nutrients

Fertilizer Use in India in comparison to other countries



Fertilizer Usage

India: 105 Kg/Ha

China: 275 Kg/Ha

Egypt: 471 Kg/Ha

Average yield of food grains

India: 2100 Kg/Ha

China: 4800 Kg/Ha

Egypt: 7250 kg/Ha

Improving productivity by Integrated Nutrient Management



N

P

K

+

Ca

Mg

S

+

B

Cu

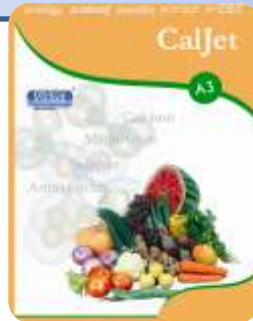
Fe

Mn

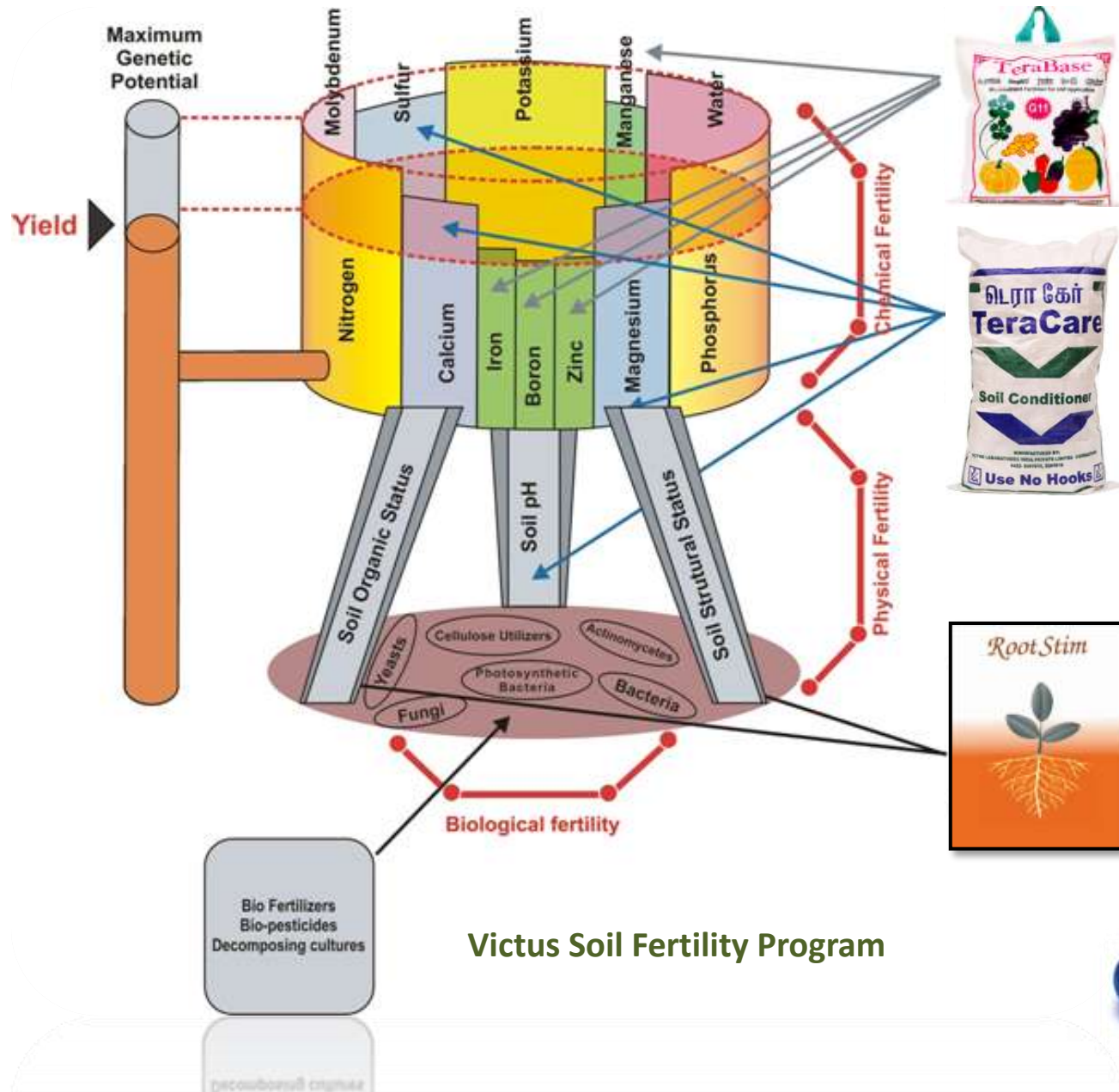
Zn

Mo

Closing the nutrient gap through balanced fertilization



Soil health and nutrient management



The Problem

The need to educate farmers on
best farming practices

Difficult to do extensive field campaigns, educates farmers about improving soil organic matter, role of humus in crop productivity, importance of macro and micro nutrients in agriculture, abiotic and biotic (pests, disease) stress management.



Current ICT for Indian Agriculture

Internet /PC with net access



Mobile / SMS Service



Mobile/ Recorded messages



Mobile/ MMS Service



Plan for MMS Service



Agri Advisory Services

Limitations



ikisan

PC with internet connectivity required



E-Chopal

PC with internet connectivity required



Kisan Mitra

PC with internet connectivity required



Nokia Life Tools

Limited to Nokia Handsets, only SMS



Windows Mobile based software, only SMS



Airtel

Limited to Airtel subscribers, voice only



TCS

Camera mobile required for MMS



Camera phones – First Phone, first camera

It is said that a picture is worth a thousand words. In many emerging markets around the world, a picture can be worth more... much more. For millions of people in these markets, their first experience of taking pictures is likely to be on a camera phone. And it can have a major impact on their lives.

During a survey trip to rural India in 2007, a member of a Nokia research team reported that:

"I took lots of pictures of the kids in the village — because their joy in seeing a picture of themselves is beyond compare. It would be easy to infer that having a camera on a device would be a great thing, but after visiting a couple of houses, I realized that there are no mirrors. So these kids were fascinated by their own image as much as the fact that I could take a picture of them with my camera phone!"

According to Lyra Research, an international market research firm, camera phone shipments will exceed one billion units per year in 2011. And, they also state that by late 2008 or early 2009, the cumulative number of camera phones shipped will surpass the cumulative number of both conventional and digital cameras shipped in the entire history of photography — and camera phones have been on the market for less than a decade. In 2007 Nokia sold almost 200 million camera phones.

NOKIA
Connecting People

Integrated
Pest
Management
(IPM)

Plan for MMS Service



Integrated
Nutrient
Management
(INM)



What is this symptom? What should I do now to protect my crop?

Huge Revenue potential from services to Indian Farmers

There are around 110 million farmers in India.

"If one expects on an average \$1 fee per month, the potential would be \$110 million per month of revenue from this market segment"

-- Dr. Arun Pande, mKrishi, Tata Consultancy Services

Gartner predicts mobile advertising market will be worth over \$12 billion by 2011

"First and foremost, telecom carriers need to differentiate their approach to the advertising market".

"This is particularly important, given the fact that advertising money is being pursued by their immediate telecom competitors, consumer device manufacturers such as Nokia, and Internet-related companies like Google, Yahoo, MySpace and Microsoft."

-- King-Yew Foong, Research Director, Gartner

Mobile Agri Advisory Services - Excellent opportunity to tap the Indian rural market

Evolution of ITC's e-choupal



“the e-Choupal model has led to 4-7 per cent reduction in the true cost of contract for different buyers in the commodities business. For ITC, there has been a 40 per cent reduction in transaction costs of procurement. This channel throughputs more than Rs. 2,000 crore in sales for ITC and its partner companies. Through e-Choupal v3.0, which will personalise crop management advisory for farmers, crop yields could potentially double.”

“An Internet-based two-way platform to procure from and sell to farmers, which has evolved into a mobile-based channel that offers services too.”

- Business Today, June 13, 2010

Indian Farmer Needs

MMS Based
Agri Advisory
Service

Pest Management

Fertilizer Management

Irrigation Management

International Conference : Next Generation of Indian Agriculture

Focus : Information and Communication Tools (ICT) for Indian Agriculture



A concurrent event of
AGRI INTEX 2010

Date : October 1st

Venue : Hall-D, CODISSIA Trade Fair Complex, Avinashi Road, Coimbatore



India's prominent industries association is
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For more information Contact



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Let's transform Indian Agriculture

Thank You



“Spectacular achievement is always preceded
by spectacular planning”
- Robert H. Schuller