AGRICULTURE

CONTENTS

- Executive Summary........................................ 3
- Advantage India............................................ 4
- Market Overview and Trends.......................... 6
- Growth Drivers.............................................. 18
- Opportunities.............................................. 36
- Success Stories: Green Revolution, Rallis India..... 41
- Useful Information........................................... 46
<table>
<thead>
<tr>
<th>2nd largest agricultural land</th>
<th>At 157.35 million hectares, India holds the second largest agricultural land in the world</th>
</tr>
</thead>
<tbody>
<tr>
<td>Favourable climatic conditions</td>
<td>With 20 agri-climatic regions, all 15 major climates in the world exist in India. The country also possesses 46 of the 60 soil types in the world</td>
</tr>
<tr>
<td>Record production of food grains</td>
<td>Total food grains production in India reached an all-time high of 259 million tonnes in FY13. Rice and wheat production in the country stood at 106.90 and 95.60 million tonnes, respectively</td>
</tr>
<tr>
<td>Largest producer of major agricultural and horticulture crops</td>
<td>India is the largest producer of pulses, milk, tea, cashew and jute; and the second largest producer of wheat, rice, fruits and vegetables, sugarcane, cotton and oilseeds</td>
</tr>
<tr>
<td>Increasing farm mechanisation</td>
<td>India is one of the largest manufacturers of various farm equipments like tractors, harvesters and tillers. India manufactures one-third of tractors in the world; the number of tractors in the country is estimated to reach 16 million by 2030 from 6 million in 2014</td>
</tr>
</tbody>
</table>

*Source: Ministry of Agriculture 3rd Advance estimates, Aranca Research*
Growing demand

Source: Ministry of Agriculture 3rd Advance estimates, World Bank, FAOSTAT, Aranca Research

Robust demand
- A large population is the key driver of demand for agricultural products
- Rising urban and rural incomes have also aided demand growth
- External demand has also been growing especially from key markets like the Middle East

Attractive opportunities
- Increasing demand for agricultural inputs such as hybrid seeds and fertilisers
- Promising opportunities in storage facilities; potential storage capacity expansion of 35 million tonnes under the 12th Five Year Plan

Competitive advantages
- High proportion of agricultural land (157 million hectares)
- Leading producer of jute, pulses; second-largest producer of wheat, paddy, fruits and vegetables

Policy support
- Government is increasing Minimum Support Prices (MSPs) to ensure higher crop production.
- Schemes like Rashtriya Krishi Vikas Yojana (RKVY) incentivises states to increase private investment in agriculture and allied sectors
- Launched National Food Security Mission (NFSM) to increase production of rice, wheat and pulses

1960–61
Food grain production: 69.3 million tonnes

2013-14
Food grain production: 264.38 million tonnes

Source: Ministry of Agriculture 3rd Advance estimates, World Bank, FAOSTAT, Aranca Research
Stagnation in agriculture
- Low growth in crop and grain production (0.4 and 0.1 per cent p.a.)
- Food grain production of 59.2 MT in 1952–53, with a yield of 579.8 kg/ha

Pioneering work of agricultural scientists and efforts of farmers led to Green Revolution
- High Yield Variety (HYV) of seeds, increased use of fertilizers and irrigation resulted in a significant spike in production
- Attained food security and reduced import of food grains

1980-2000
- Expanding cereal production
- Economic reforms introduced; greater encouragement to exports
- Surplus of production of agricultural commodities over domestic demand
- India emerges as a net exporter of agricultural products
- Increase in population and strong income growth

2000 onwards
- MNC players brought in better technology
- Rise in institutional credit for agriculture
- Government launched NFSM to increase production of commodities
- Schemes like National Horticulture Mission (NHM) and Bringing Green Revolution in Eastern India (BREI) helped achieve record production.
- Government initiated National Mission on Oilseeds & Oil Palm
- Commodity exchanges helped in fair pricing of commodities

Source: RBI, Ministry of Agriculture, Aranca Research
Notes: NFSM - National Food Security Mission, MNC - Multi National Company, MT - Metric Tonnes, P.A. - Per Annum
National Crop Insurance Programme (NCIP)

- Modified National Insurance Scheme aims at ensuring food security, crop diversification and enhancing growth of the sector
- Weather based crop Insurance aims to minimise the financial loss of the insured farmers on account of anticipated crop loss resulting from adverse weather conditions
- Coconut Palm Insurance Scheme aims at minimising the risks faced by the coconut cultivating farmers

National Mission on Oilseeds & Oil Palm (NMOP)

- The mission envisages increase in production of vegetable oils sourced from oil seed, oil palm and Tree Borne Oilseeds (TBOs) from 7.06 - 9.51 million tonnes
- The strategy to implement the mission will include increasing Seed Replacement ration with focus Varietal Replacement, increasing irrigation coverage under oilseeds, diversification of area from low yielding cereal crops to oilseeds crops

National e-Governance Plan in Agriculture (NeGP-A)

- Introduced in the last phase of 11th Plan for ensuring timely access to agriculture related information for the farmers through the use of ICT
- The services include information on pesticides, fertilizers & seeds, soil health, crops, farm machinery, Good Agricultural Practices, weather advisors, prices, arrivals, procurement points, irrigation, fishery inputs, infrastructure, drought relief, etc

Horticulture Mission for North East And Himalayan States (HMNEH)

- The main objective of the mission is to improve the production & productivity of horticulture crops
- Special emphasis on “Low Volume, High Value, Less Perishable Horticulture Crops”
- Providing viable employment opportunities especially for women by developing the horticulture farming

Source: Ministry of Agriculture, FAOSTAT, Aranca Research

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GROWTH IN AGRICULTURE … (1/2)

- GDP of agriculture and allied sectors in India reached USD 151.8 billion in FY12
- According to the advanced estimates of Central Statistical Organisation, agriculture and allied sector recorded a growth of 3.6 per cent in FY14
- From FY07 –13, agriculture and its allied services grew at a CAGR of 2.6 per cent
- Agriculture is the primary source of livelihood for about 58 per cent of India’s population

Source: Ministry of Agriculture, Print Release, Aranca Research
Notes: GDP – Gross Domestic Product, CSO – Central Statistical Organisation
At USD 30.5 billion, agriculture accounted for 6.8 per cent of total Gross Capital Formation in FY12.

Gross Capital Formation in agriculture and allied sector recorded a CAGR of 8.1 per cent in a decade and now accounts for around 20 per cent.

Under the FY14 Union Budget, planned outlay for various schemes under the Department of Agriculture and Cooperation (DAC) has been fixed at USD 11.8 billion.

Allocation to the Rashtriya Krishi Vikas Yojana (RKVY) in the FY14 budget has been increased to USD 2.1 billion, a rise of about 9 per cent from the previous financial year.

Source: Ministry of Agriculture, Aranca Research
Note: RKVY is a central government scheme providing funds to state governments to spend on agriculture.
There are two major agricultural seasons in India: Kharif and Rabi.

- Kharif season lasts from April to September (summer); rice (paddy) is the season’s main crop.
- Rabi season lasts from October to March (winter); wheat is the season’s main crop.
- Total food grains production in India reached an all-time high of 259 million tonnes in FY13.
- According to the 3rd advance estimates, the total food grains production is estimated to be 264 million tonnes in FY14.

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Production of food grains (million tonnes) in Kharif and Rabi seasons

Source: Finance Ministry, Ministry of Agriculture, 3rd Advance estimates released by Ministry of Agriculture, Aranca Research
**Area sown in FY13* (lakh hectares)**

**Rabi**
- Wheat: 294
- Pulses: 83
- Oil seeds: 38
- Jowar: 142
- Maize: 38
- Rice: 13

**Kharif**
- Paddy: 384
- Oilseeds: 181
- Pulses: 96
- Cotton: 118
- Bajra: 73
- Maize: 71

*Source: Finance Ministry, Ministry of Agriculture, Aranca Research*

*Note: * Second advanced estimates for FY13
During the last five years, production as well as yields of both major crops - rice and wheat - increased significantly.

Production of wheat and rice reached an all-time high in 2013-14.

In 2013-14 production of wheat according to the 3rd advance estimates is 95.85 million tonnes, and that of rice is 106.29 million tonnes.

Source: Ministry of Agriculture, 3rd Advance estimates released by Ministry of Agriculture, Aranca Research.
India ranks 2\textsuperscript{nd} in global production of fruits and vegetables, and is the largest producer of mango and banana, and has the highest productivity of grapes in the world.

National Horticulture Mission, National Horticulture Board, Technology Mission for Integrated Development of Horticulture in North-East are some of the initiatives taken by the Government of India to boost the horticulture sector in the country.

India’s horticulture production rose at a CAGR of 6.1 per cent during FY05-13.

**Indian horticulture area and production (2013)**

**Fruit and vegetable production of top four countries (2012)**

\begin{itemize}
  \item China
  \item India
  \item USA
  \item Italy
\end{itemize}

\begin{itemize}
  \item Fruits (million tonnes)
  \item Vegetables (million tonnes)
\end{itemize}

\textbf{Source:} National Horticulture Board, Assorted articles, FAO Stat, Aranca Research

\textbf{Note:} ** CAGR mentioned is for production
India is among the 10 leading exporters of agricultural products in the world; the country accounted for 2.07 per cent of global agricultural trade in 2012.

Total agricultural exports from India grew at a CAGR of 22.3 per cent over FY07-13* to reach USD42.37 billion.

Source: Ministry of Agriculture, World Trade Organisation, Aranca Research
Notes: CAGR - Compound Annual Growth Rate; * - Forecast
India exported rice worth USD5.7 billion in 2012-13, accounting for nearly 12.8 per cent of total agricultural exports.

Cotton and Guargum meal were the next largest export items in terms of value; they accounted for 11.5 per cent and 9.20 per cent, respectively, of total agricultural exports in 2012-13.

Guargum meal emerged as major export commodity; the value of exports rose at a staggering CAGR of 182.2 per cent over FY10-13.

Agricultural exports are expected to rise up to USD45 billion this financial year.

**Surge in Demand of Indian Agricultural Products … (2/2)**

*Key agricultural and allied sector exports from India in 2012-13 (USD billion)*

*Exports of guargum meal (USD billion)*

*Source: Ministry of Agriculture, APEDA, Aranca Research*

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Karnataka – largest producer of maize (4.4* million tonnes)

West Bengal – largest producer of rice (15.80 million tonnes)

Uttar Pradesh – largest producer of wheat (33.02 million tonnes)

Assam is India’s largest producer of tea

Gujarat – largest producer of cotton (25.68 million bales)

Madhya Pradesh – largest producer of pulses (26.99 million tonnes)

Punjab and Haryana were the key states of green revolution and continue to be large producers of food grains

Source: Department of Agriculture & Cooperation, Notes: All figures as of 2013-14, * - 2012-13
AGRICULTURE

GROWTH DRIVERS

AUGUST 2014
GROWTH DRIVERS OF INDIAN AGRICULTURE

**Demand-side drivers**
- Population and income growth
- Increasing exports
- Favourable demographics

**Supply-side drivers**
- Hybrid and genetically modified seeds
- Mechanisation
- Irrigational facilities
- Green Revolution in Eastern India

**Policy support**
- Growing institutional credit
- Increasing MSPs
- Introduction of new schemes
- Opening up of exports of wheat and rice

Note: MSP - Minimum Support Price
India, the second-most populated country in the world, has to meet food consumption needs of around 1.237 million people.

India’s current population in 2014 is 1.27 billion and that in 2013 was 1.21 billion.

Population is a key demand driver of agricultural growth in the country.

India’s consumption expenditure is likely to reach USD3.6 trillion by 2020, up from an estimated USD1.0 trillion in 2010.

Source: Census of India 2011, World Population Statistics, Aranca Research
Domestic demand for agricultural and allied products has not only been rising due to rising population, but also as a result of greater consumption by a wealthier population.

Over FY07-14, India’s per capita income increased at a CAGR of 10 per cent to USD1,270 and is estimated to be USD1,274.2 in FY14*

Consumption expenditure in India is likely to reach USD3.6 trillion by 2020, up from an estimated USD1.0 trillion in 2010.

Indian agriculture has also benefitted from rising external demand and the sector’s wider participation in the global economy.

Source: Central Statistical Organisation, Aranca Research
Note: FY14* - Advance estimates for 2013-14
India’s irrigation potential has steadily increased over the years; as of March 2010 it stood at 108.2 million hectares compared to 81.1 million hectares in FY92.

In FY11, aided by central government funding, individual states generated additional irrigation potential of 0.6 million hectares under the Accelerated Irrigation Benefit Programme (AIBP).

The two major lift irrigation projects in Kohlapur; Tembhu and Takari Mhaisal-have received USD19 million and USD15 million by the Union Government.

Source: Ministry of Agriculture, Aranca Research
Note: P is Provisional estimate
Gross irrigated area under food grains is estimated to have grown to 58.6 million hectares in FY10(P).

Of the wide variety of crops in India, rice and wheat are the most irrigated.

With growing investments in irrigation, the dependence on monsoons has declined considerably over the years.

Source: Ministry of Agriculture, Aranca Research
Note: P is Provisional
Mechanisation helps in raising farm income by increasing productivity and limiting post-harvest losses.

Growing sales of tractors and tillers in India reflects the increasing level of mechanisation in farming; over FY07-14, tractor sales rose at a CAGR of 8.7 per cent.

India is the largest manufacturer of tractors in the world, accounting for about one-third of global production.

Sub-Mission on Agricultural Mechanisation initiated where in it has been decided to establish parallel line for testing of tractors at FMTTI provide expansion, Budni, to enhance the intake capacity for testing of tractors and reduce the time involved for testing of tractors.

Source: Department of Agriculture and Cooperation, State of Indian Agriculture 2013-14, ICRA, Aranca Research
Notes: E – Estimates, FMTTI - Farm Machinery Training and Testing Institute
Sale of tillers increased at a CAGR of 19.3 per cent over FY07-12

The government has set up a number of Farm Machinery Training and Testing Institutes to train farmers on the operation and maintenance of agricultural equipment

DAC proposes to initiate National Mission on Agricultural Mechanisation (NMAM) to spread the benefits of mechanisation among all levels of farmers especially small and marginal ones

Note: DAC - Dept. of Agriculture and Cooperation

Source: Department of Agriculture and Cooperation, Aranca Research
Note: * – Up to Oct’ 2012
The size of India’s seed industry was about USD1.6 billion (estimate) in FY10

There has been strong growth in the use of hybrid seeds due to their high yield and resistance

Usage of hybrid seeds has been more prevalent in cash crops than food crops

In FY13, production of certified seeds increased to 3.0 million tonnes from 1.27 million tonnes in FY07

Production of seeds ('000 tonnes)

Source: Ministry of Agriculture, Aranca Research
Note: * - until February 2013
Usage of hybrid seeds has boosted the yield of food grains to 2,086 kg/hectare in FY13 from 1,023 kg/hectare in FY81.

The government has been playing a proactive role in promoting greater use of hybrid seeds; it encourages private seed companies by providing a subsidy of 25 per cent of the capital cost subject to a maximum of USD50,000 per unit.

Source: Ministry of Agriculture, RBI, Aranca Research
Institutional credit to the agriculture sector increased at a CAGR of 17.4 per cent during FY07–13

Farmers are allowed to avail crop loans at an interest of 7 per cent

In FY12, the government increased the interest subvention for timely repayment of crop loans to 3 per cent from 2 per cent in FY11

Source: Ministry of Agriculture, Aranca Research
Note: * Figures for FY13 are provisional
<strong>INSTITUTIONAL CREDIT TO AGRICULTURE ON A RISE … (2/2)</strong>

- Domestic banks (both private and public) are stipulated to provide almost one-fifth (18 per cent) of their net bank credit to agriculture

- Banks are issuing Kisan Credit Card (KCC) to farmers to provide timely and adequate credit support; by the end of Oct, 2011, 107.8 million KCCs were issued to eligible farmers

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**Share of institutional credit to agriculture**

<table>
<thead>
<tr>
<th>Category</th>
<th>FY01</th>
<th>FY11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co-operative Banks</td>
<td>0.0%</td>
<td>39.2%</td>
</tr>
<tr>
<td>Regional Rural Banks</td>
<td>8.0%</td>
<td>15.7%</td>
</tr>
<tr>
<td>Commercial Banks</td>
<td>9.8%</td>
<td>52.6%</td>
</tr>
</tbody>
</table>

Source: Annual Report on Agriculture 2010-11, Aranca Research
The MSP is announced well ahead of the sowing season so that the farmers can take informed decisions on cropping.

The Indian government increases MSPs regularly to incentivise farmers to enhance production of crops and ensure there is adequate supply.

The MSP for rice was raised to USD44.0 per quintal in FY14 at CAGR of 19 per cent from USD26.0 per quintal in FY13.

Source: Ministry of Agriculture, Aranca Research
Note: MSP is Minimum Support Price
Government has increased the MSP of pulses significantly in the past three years to encourage production and thereby reduce the supply shortage.

MSP for Arhar came down to USD71.3 per quintal in FY14 from USD32.3 per quintal in FY08.

Source: Ministry of Agriculture, Aranca Research
National Food Security Mission (NFSM)

- National Food Security Mission was launched in FY08 with an outlay of USD1.2 billion during the 11th Five Year Plan. It aimed at enhancing the production of rice, wheat and pulses by 10 million tonnes, 8 million tonnes and 2 million tonnes by FY12.
- National Food Security Act came into being in September 2013.

Rashtriya Krishi Vikas Yojana (RKVY)

- Rashtriya Krishi Vikas Yojana (RKVY) was launched in FY08 with an outlay of USD5.3 billion during the 11th Five year plan.
- RKVY aims at incentivising states to increase outlays for agriculture and allied activities there by creating an increased focus on agriculture.

Foreign Direct Investment (FDI)

- 100 per cent Foreign Direct Investment (FDI) is allowed under automatic route in storage and ware housing including cold storages.
- FDI policy for agriculture was amended to allow 100 per cent FDI under automatic route for development of seeds.

Bringing Green Revolution in Eastern India (BGREI)

- Scheme was launched in 2011, under RKVY, to strategically increase productivity in Eastern states.
- BGREI actively promoted various technological interventions and emphasised on collaborative work among institutions, officials and farmers.

Source: Ministry of Agriculture, Union Budget 2011-12, Aranca Research.
Note: RKVY - Rashtriya Krishi Vikas Yojana.
Government has launched an initiative to spend USD65.1 million to promote 60,000 ‘pulses villages’ in rain fed areas for increasing crop productivity and strengthening market linkages.

Realising that scientific and technical breakthroughs are critical to increasing agricultural productivity, the government, in its FY14 budget, allocated USD711.4 million to incentivise farm research.

The government plans to set up a Regional Rural Bank Credit Refinance Fund with a capital of USD2.1 billion to enhance the capacity of RRBs to disburse short term crop loans to small and marginal farmers. In budget for FY14, the government raised the target for agricultural credit by USD26.04 billion to USD145.8 billion.

ISOPOM scheme was launched in 2004 to provide flexibility and promote crop diversification; under ISOPOM, states can utilise the allotted funds to develop a crop of their choice.

Source: Ministry of Agriculture, Union Budget 2011-12, Aranca Research
Notes: RRB – Regional Rural Bank, ISOPOM - Integrated Scheme of Oilseeds, Pulses, Oil palm and Maize
Agricultural R&D in India is being managed under a three tier scheme:

* Indian Council of Agricultural
* State Agricultural Universities (SAUs)
* Private Sector at both sector and commodity levels

**Major Achievements in R&D in Agriculture**

* Over 2,300 high-yielding types and hybrid of crops have been developed and approved for commercial cultivation

* India is the first in the world to develop hybrid cultivars* of cotton, grain pearl millet, castor and safflower, and second to develop cultivars of rice and sorghum

* High yield varieties of crop have been developed in India; productivity of banana and potato has increased three-fold

**Expenditure on R&D in agriculture by government (USD millions)**

- FY08: 106.3
- FY09: 107.5
- FY10: 111.1
- FY11: 158.5
- FY12: 138.8

CAGR: 11.7%

Note: *Cultivars - A variety of a plant that has been created or selected intentionally and maintained through cultivation
• Agriculture GDP growth for the current year is estimated at 4.6 per cent compared to 4.0 per cent in the last four years
• A sustainable growth of 4 per cent is to be achieved each year

• During 2014-15, the government has fixed an amount of USD132.7 billion for agriculture credit

• Food grain production is estimated to be 264* million tonnes in 2013-14 compared to 259 million tonnes in 2012-13
• MSP for every agriculture produce increased significantly

• Agricultural exports likely to cross USD 45 billion higher than USD 41 billion in the year 2012-13

### AGRICULTURE

#### Farm management services
- New agri business, which provides inputs such as seeds, fertilizers along with providing advice and training farmers on latest agricultural practices
- It introduces efficiencies into the whole gamut of agri practices
- Provides assistance to sell products at appropriate prices

#### Agricultural inputs
- Limited arable land against growing population makes agricultural inputs crucial
- Huge opportunity exists for agri input segments like seeds and plant growth nutrients
- In India, commercial seeds only account for minor percentage (25 per cent) and huge demand is expected for quality branded seeds

#### Logistics
- The 12th Five Year Plan estimated a potential storage capacity expansion of 35 million tonnes
- Cold storage capacity needs to grow rapidly from the current level of 24 million tonnes
- Private warehouse operators are supported by multiple income streams, subsidy and available of credit

Source: Ministry of Agriculture, Aranca Research
**Foreign Direct Investment (FDI)**

- Cumulative FDI from April, 2000 to April, 2014 in agriculture services and agricultural machinery is USD2059.1 million
- The highest FDI came in services, followed by automobiles, pharmaceuticals and construction development in the 11 months of 2013-14

**National Food Security Act, 2013**

- The Act gives the Right to receive food grains at subsidised prices by persons belonging to eligible households under Targeted Public Distribution System.
- Under the provision of the Bill, beneficiaries are able to purchase 5 kgs per eligible person per month of cereals at the following prices:
  - Rice at Rs. 3 per kg
  - Wheat at Rs. 2 per kg
  - Coarse grains (millet) at Rs. 1 per kg
- The government is likely to invest more on the storage infrastructure, which will reduce wastage and thereby lead to lower prices

*Source: Ministry of Agriculture, DIPP, Aranca Research*
**Contract Farming: Changing the Farm Dynamics … (1/2)**

The Government of India’s National Agriculture Policy envisages that “Private sector participation will be promoted through contract farming and land leasing arrangements to allow accelerated technology transfer, capital inflow and assured market for crop production especially of oilseeds, cotton and horticultural crops.”

### Foreign companies practicing contract farming in India

<table>
<thead>
<tr>
<th>Company</th>
<th>State</th>
<th>Crop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cargill India Pvt Ltd</td>
<td>Madhya Pradesh</td>
<td>Wheat, Maize and Soya bean</td>
</tr>
<tr>
<td>Hindustan Lever Ltd</td>
<td>Madhya Pradesh</td>
<td>Wheat</td>
</tr>
<tr>
<td>ITC - IBD</td>
<td>Madhya Pradesh</td>
<td>Soybean</td>
</tr>
<tr>
<td>Nestle India Ltd</td>
<td>Punjab</td>
<td>Milk</td>
</tr>
<tr>
<td>Pepsi Foods Pvt Ltd</td>
<td>Punjab, TN</td>
<td>Chillies, Groundnut, Seaweed, Tomato and Basmati Rice</td>
</tr>
</tbody>
</table>

*Source: Company reports, Assorted articles, Aranca Research*
Contract farming agreement with farmers in Punjab
PMG technology sourced from China

Pepsi Co

Groundnut

Company supported farmers in R&D and other farm activities
Farmer started to grow two crops in one year

Yields increased to 3-4 tonnes per hectare, much above national average of 1 tonne per hectare

Model extended to other states

Created procurement centers to procure Barley in Rajasthan

SAB Miller

Barley

Provide higher-quality certified seeds and training to 5,600 farmers in Rajasthan

Increase in yields from 1.9 tonnes a hectare to 3.8 tonnes a hectare within the space of one year

Others followed the model

Source: Company reports, Assorted articles, Aranca Research
Note: PMG - Plastic Mulch Groundnut

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SUCCESS STORIES

AUGUST 2014
The Green Revolution started around 1965 in India, especially in the states of Haryana and Punjab, to increase the production of food grains.

The movement helped the country to reduce imports and become self-sufficient in food grains.

Food grain production more than doubled to 150.4 million tonnes in FY86 from 72.4 million tonnes in FY66.

Agricultural infrastructure improved during this period with dependence on monsoons going down due to better irrigation facilities.

Source: Handbook of Indian Statistics, Aranca Research
**The Bringing Green Revolution to Eastern India (BREI) started in 2011, with special focus on the production of rice and wheat.**

**The government used a cluster-based approach, private sector participation and strategic interventions relating to crop production, water harvesting and recycling.**

**The movement helped the region to increase productivity of rice, which was previously among the lowest in India.**

**Rice production in Eastern states increased by about 39.0 per cent to 561.0 lakh tonnes in FY13 from 403.2 lakh tonnes in FY10.**

**BGREI has increased demand for farm machinery and equipment, and adoption of hybrid rice.**

Rice production in Eastern States of India (lakh tonnes)

- **Jharkhand**: FY10 - 30.3, FY13 - 15.4
- **Chhattisgarh**: FY10 - 66.1, FY13 - 41.1
- **Bihar**: FY10 - 73.4, FY13 - 38.0
- **Uttar Pradesh (East)**: FY10 - 54.8, FY13 - 119.6
- **Total for seven states**: FY10 - 403.2, FY13 - 561.0

**Source:** Ministry of Agriculture, Aranca Research
RALLIS INDIA: BENEFITTING FROM DEMAND OF AGRICULTURAL INPUTS … (1/2)

Salient characteristics

- Rallis is a leading player in the agricultural inputs business and one of the largest player in agri chemical business
- Crop protection is the major segment for the company and it plans to expand its presence in seeds and PGN
- As part of the above mentioned plans, Rallis acquired a research-led seeds company ‘Metahelix’ and launched a PGN product in the name of ‘Ralligold’
- Rallis India has set up Rallis Farm Management services to undertake contract farming
- Rallis Research centre has won the prestigious New Millennium Indian Technological Leadership Initiative award for a molecule discovery

Major business segments

- Crop protection
- Agri services
- Contract farming
- Seeds and PGN

Note: PGN - Plant Growth Nutrients
RALLIS INDIA: BENEFITTING FROM DEMAND OF AGRICULTURAL INPUTS … (2/2)

Net sales (USD million)

Profit before taxes (USD million)

Source: Company website, Aranca Research
AGRICULTURE

USEFUL INFORMATION

AUGUST 2014
Autonomous Bodies

- **National Institute of Agricultural Extension Management**
  Rajendranagar, Hyderabad–500 030, Andhra Pradesh
  Phone: 040-24016702 to 706
  Fax: 040-24015388

- **National Institute of Agricultural Marketing (NIAM)**
  Bambala, Kota Road
  Jaipur–302033, Rajasthan
  Phone: 0141-2770027
  Fax: 0141-2771938, 2770027

Boards

- **Central Insecticides Board and Registration Committee**
  Machinary Store Building,
  N.H.IV Faridabad
  Phone: 0129 -2413002

- **Coconut Development Board**
  Kera Bhavan, SRVHS Road, Kochi
  Kerala–682011
  Phone: 0484-2376265, 2377267, 2376553
  Fax: 0484-2377902
• National Dairy Development Board (NDDB)
  PB No 40, Anand–388 001
  Phone: 02692-260148/260149/260160
  Fax: 02692-260157
• National Horticulture Board (NHB)
  Ministry of Agriculture, Government of India
  85, Institutional Area, Sector-18
  Gurgaon–122015, Haryana
• National Oilseeds and Vegetable Oils Development Board
  (NOVOD)
  86, Institutional Area, Sector-18
  Gurgaon–122015, Haryana

Councils

• Indian Council of Agricultural Research (ICAR)
  Krishi Bhavan, New Delhi 110 114
  Phone: 91-11-25846010
AIBP: Accelerated Irrigation Benefit Programme

Breeder seeds: Seeds move from germ-plasm (research) stage to breeder stage

CAGR: Compound Annual Growth Rate

Certified/quality seeds: Foundation seeds are further multiplied to get certified seeds, which are sold to farmers

FMTTI: Farm Machinery Training and Testing Institutes

Foundation seeds: Breeder seeds are multiplied as foundation seeds

FY: Indian Financial Year (April to March) – FY12 implies April 2011 to March 2012

KCC: Kisan Credit card

MSP: Minimum Support Prices

NFSM: National Food security mission

NMAM: National Mission on Agricultural Mechanisation

PGN: Plant Growth Nutrients
RKVY: Rashtriya Krushi Vikas Yojana is a central government scheme providing funds to state governments to spend on agriculture.

Wherever applicable, numbers have been rounded off to the nearest whole number.
## Exchange Rates

### Exchange rates (Fiscal Year)

<table>
<thead>
<tr>
<th>Year</th>
<th>INR equivalent of one USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004-05</td>
<td>44.81</td>
</tr>
<tr>
<td>2005-06</td>
<td>44.14</td>
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<tr>
<td>2006-07</td>
<td>45.14</td>
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<tr>
<td>2007-08</td>
<td>40.27</td>
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<tr>
<td>2008-09</td>
<td>46.14</td>
</tr>
<tr>
<td>2009-10</td>
<td>47.42</td>
</tr>
<tr>
<td>2010-11</td>
<td>45.62</td>
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<tr>
<td>2011-12</td>
<td>46.88</td>
</tr>
<tr>
<td>2012-13</td>
<td>54.31</td>
</tr>
<tr>
<td>2013-14</td>
<td>60.28</td>
</tr>
</tbody>
</table>

### Exchange rates (Calendar Year)

<table>
<thead>
<tr>
<th>Year</th>
<th>INR equivalent of one USD</th>
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</thead>
<tbody>
<tr>
<td>2005</td>
<td>43.98</td>
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<tr>
<td>2006</td>
<td>45.18</td>
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<tr>
<td>2009</td>
<td>48.42</td>
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<tr>
<td>2010</td>
<td>45.72</td>
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<tr>
<td>2011</td>
<td>46.85</td>
</tr>
<tr>
<td>2012</td>
<td>53.46</td>
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<tr>
<td>2013</td>
<td>58.44</td>
</tr>
<tr>
<td>Q12014</td>
<td>61.58</td>
</tr>
</tbody>
</table>

Average for the year
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