

Agriculture

NOVEMBER
2011



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Agriculture

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- ❖ Advantage India
- ❖ Market overview and trends
- ❖ Growth drivers
- ❖ Success stories: Green Revolution, Rallis India
- ❖ Opportunities
- ❖ Useful information

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Advantage India

Robust demand

- India, the second most populated country in the world, is generating strong demand for food grains
- Along with burgeoning population, rising per capita income in both urban and rural areas is creating robust demand growth

Attractive opportunities

- Increasing demand for agricultural inputs such as hybrid seeds and fertilisers
- Promising opportunities in storage facilities; there is currently shortage of storage space to the tune of 26.4 million tonnes

2010–11E

Food grain
production:
241.6
million
tonnes

Advantage India

Competitive advantages

- High proportion of arable land (48 per cent or 159 million hectares)
- Leading producer of jute, pulses and vegetables in the world; second-largest producer of rice, wheat and paddy

Policy support

- Government is increasing Minimum Support Prices (MSPs) to ensure higher crop production
- Launched National Food Security Mission (NFSM) to increase production of rice, wheat and pulses

1960–61

Food grain
production:
69.3
million
tonnes

Source: Ministry of Agriculture, World Bank, Aranca Research
Note: E - Estimate

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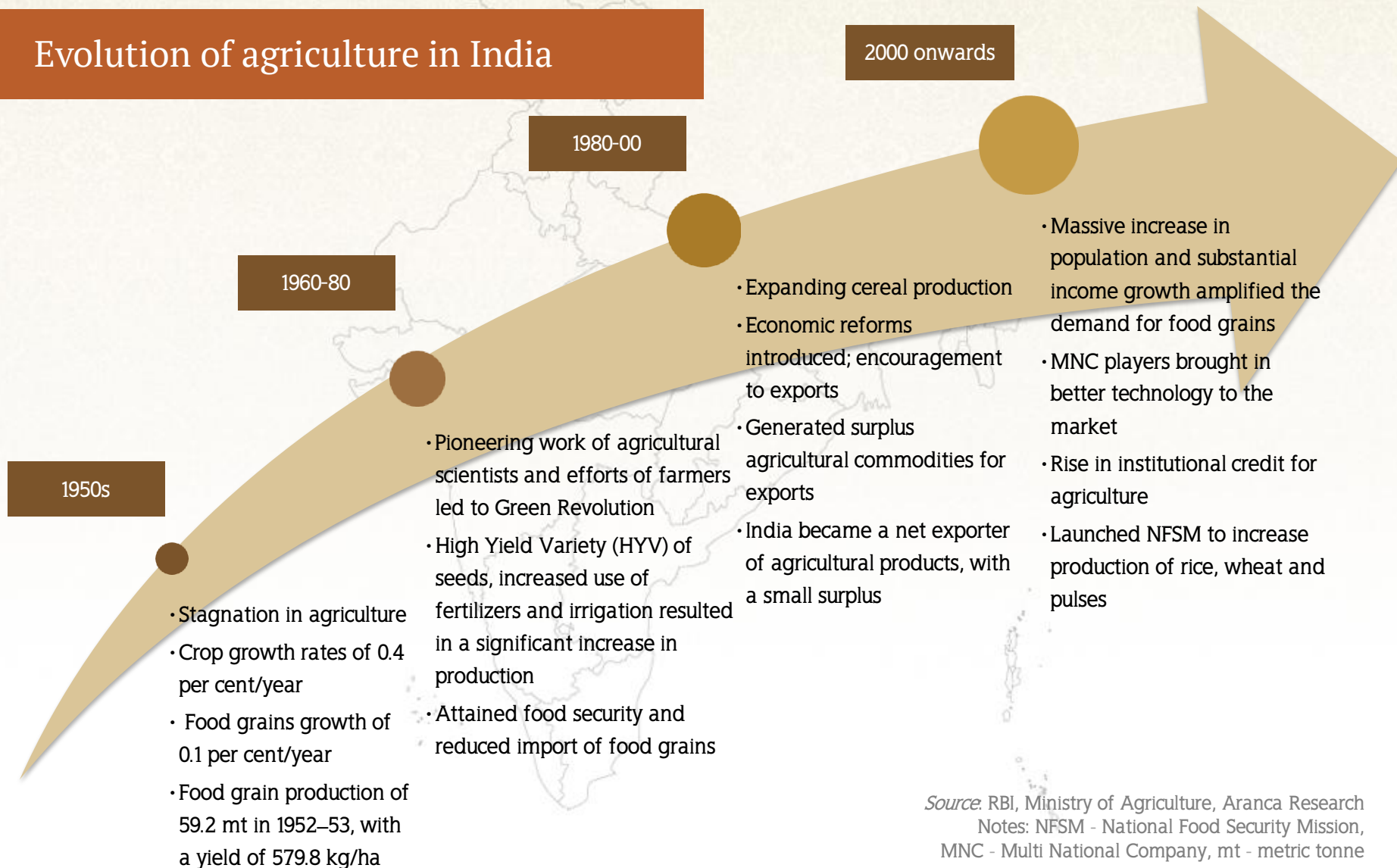
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Evolution of agriculture in India



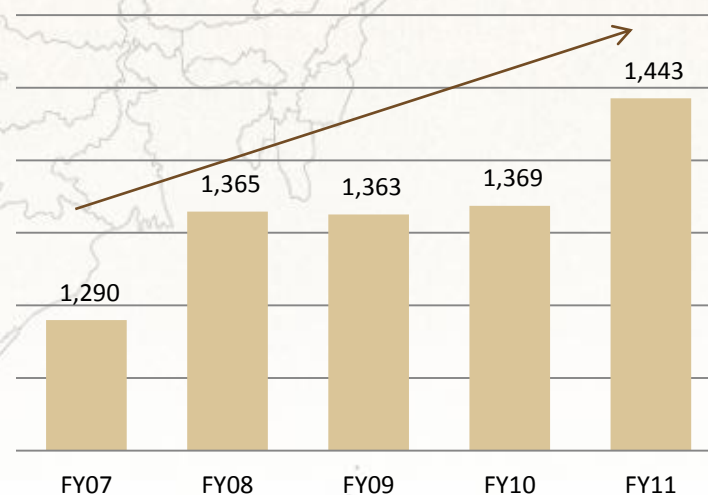
Source: RBI, Ministry of Agriculture, Aranca Research
Notes: NFSM - National Food Security Mission,
MNC - Multi National Company, mt - metric tonne

Growth in GDP of agriculture ... (1/2)

- GDP of agriculture and allied sectors in India reached USD 1,443 billion in FY11
- The Indian agriculture sector recorded a 5.4 per cent growth in FY11
- Agriculture is the primary source of livelihood for more than 58 per cent of India's population

Note: GDP – Gross Domestic Product

GDP of agriculture and allied activities (USD million)



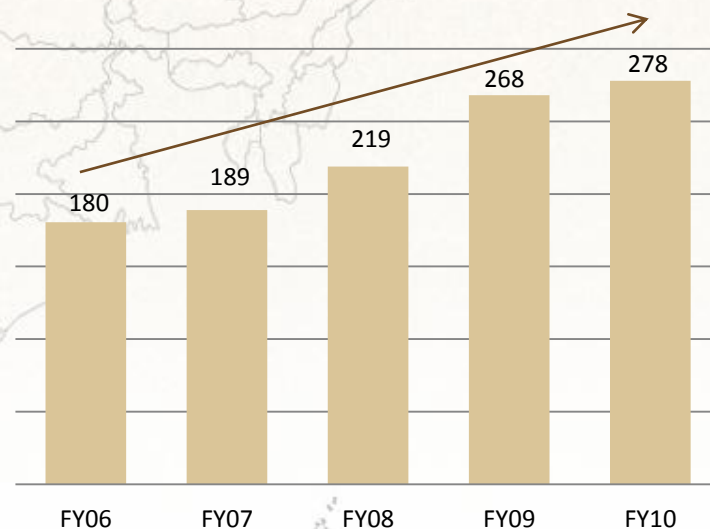
Source: Ministry of Agriculture, Aranca Research

Growth in GDP of agriculture ... (2/2)

- Agriculture accounted for 7.7 per cent of total Gross Capital Formation during FY10
- Planned outlay for various DAC schemes increased substantially to USD 35.9 billion (BE) in FY11 due to higher allocation to RKVY

Notes: DAC– Dept. of Agriculture and Cooperation,
RKVY– Rashtriya Krishi Vikas Yojana, BE – Budget Estimate

Gross Capital Formation in agriculture (USD billion)

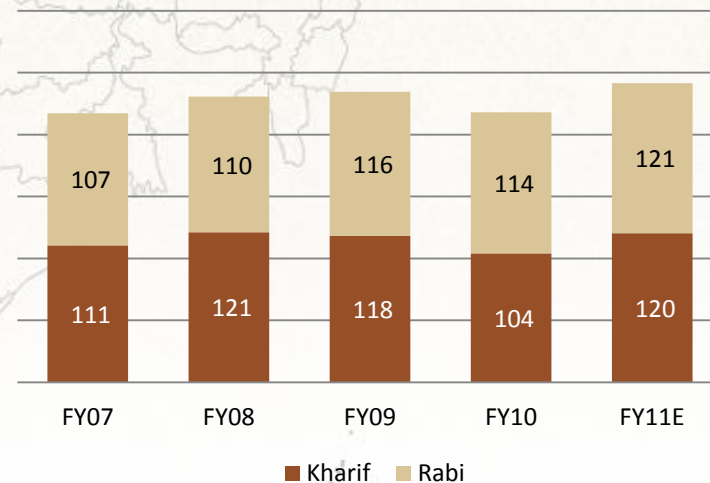


Source: Ministry of Agriculture, Aranca Research

Major seasons: Kharif and Rabi ... (1/2)

- 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

Production of food grains (million tonnes)

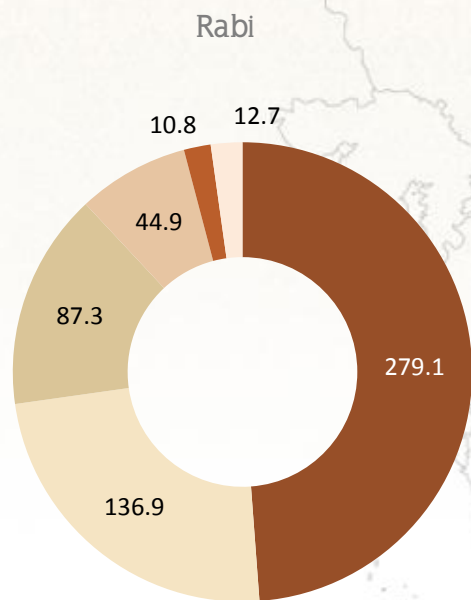


Source: Ministry of Agriculture, Aranca Research

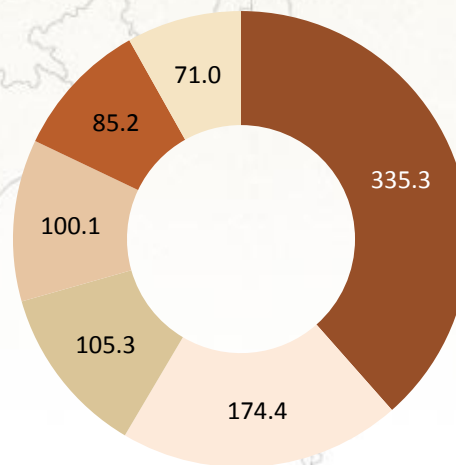
Note: E- Fourth quarter advance estimates

Major seasons: Kharif and Rabi ... (2/2)

Area sown in FY10 (lakh hectares)



- Wheat
- Pulses
- Oil seeds
- Jowar
- Maize
- Rice



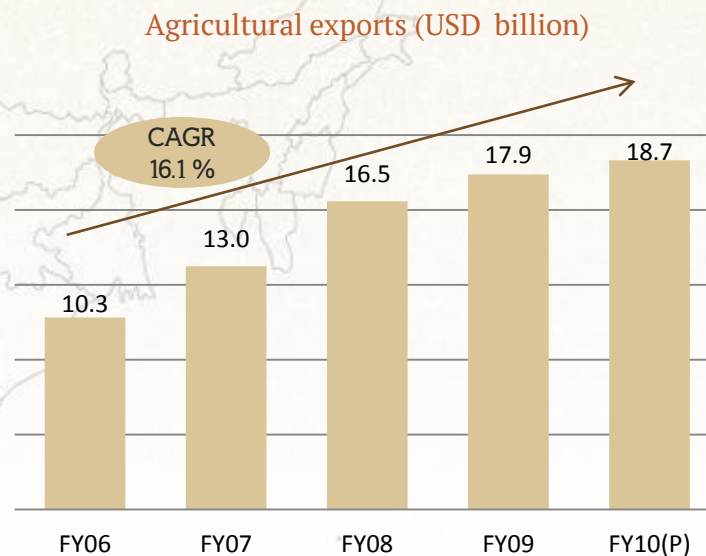
- Paddy
- Oilseeds
- Pulses
- Cotton
- Bajra
- Maize

Source: Ministry of Agriculture, Aranca Research

Exports of Indian agricultural products ... (1/2)

- India is among the 15 leading exporters of agricultural products. The country accounted for 1.4 per cent of global agricultural trade in 2009
- India's total agricultural exports increased at a CAGR of 16.1 per cent to USD 18.7 billion in FY10 (P) from USD 10.3 billion in FY06

Note: P – Provisional Estimate



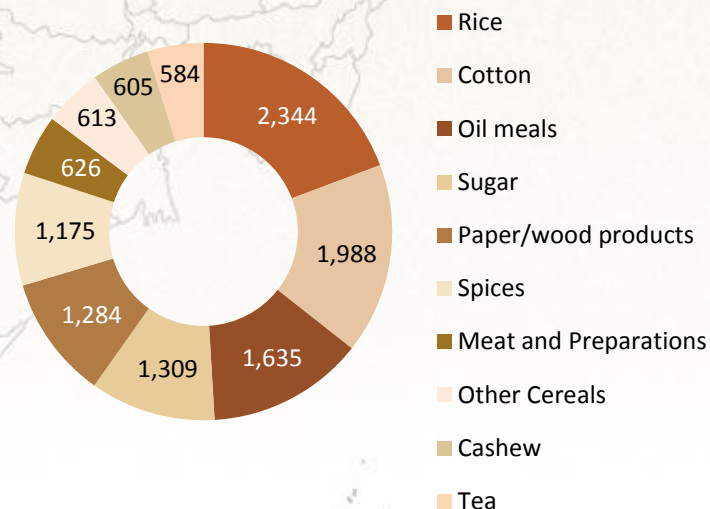
Source: Ministry of Agriculture, Aranca Research

Exports of Indian agricultural products ... (2/2)

- India exported rice worth USD 2,344.3 million in FY010 (P). Cotton and oil meals were the next largest exported commodities in terms of value
- Government allows exports of agricultural products depending on domestic availability

Note: P – Provisional Estimate

Agricultural exports from India, FY10(P) (USD million)



Source: Ministry of Agriculture, Aranca Research

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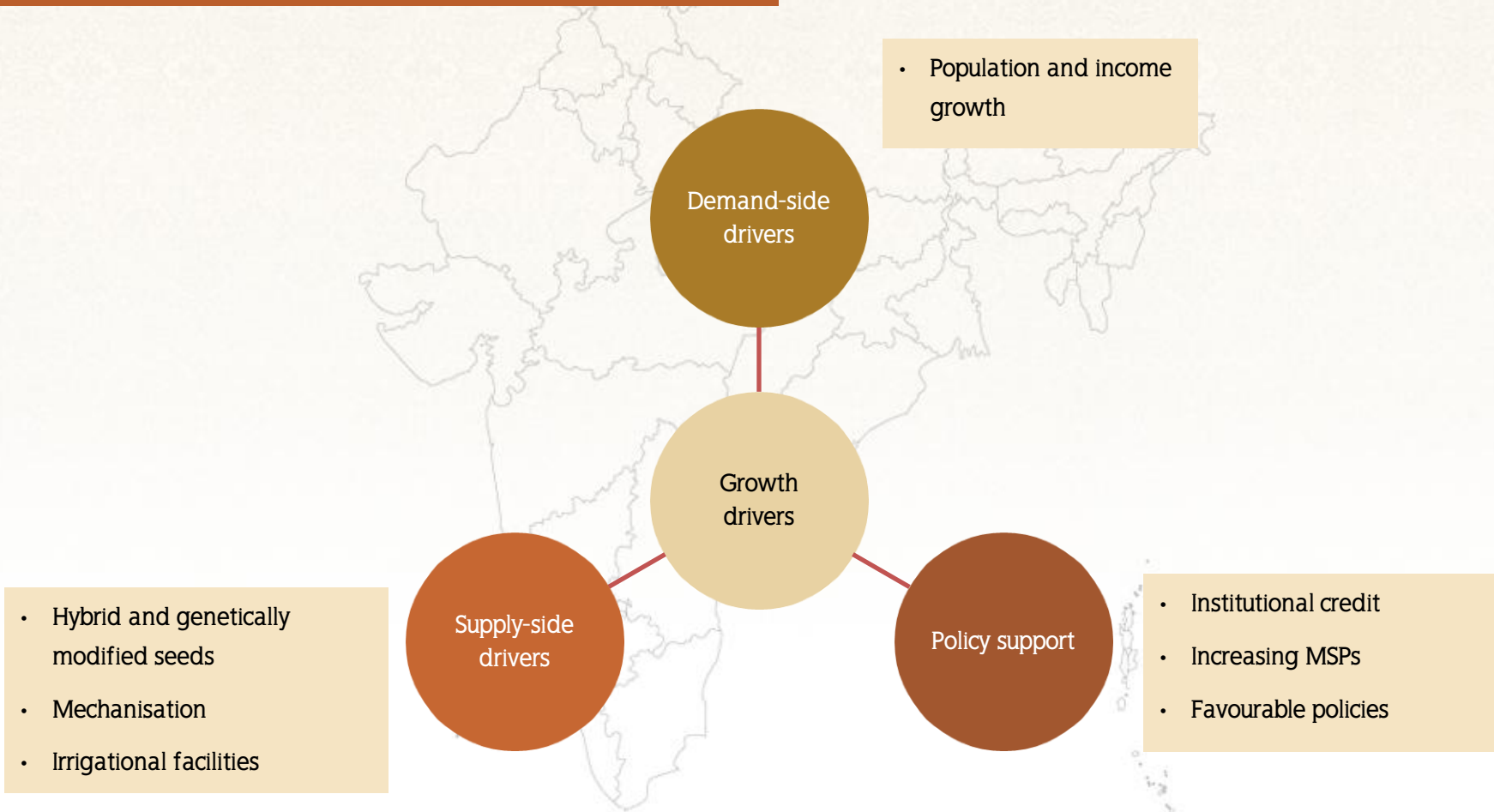
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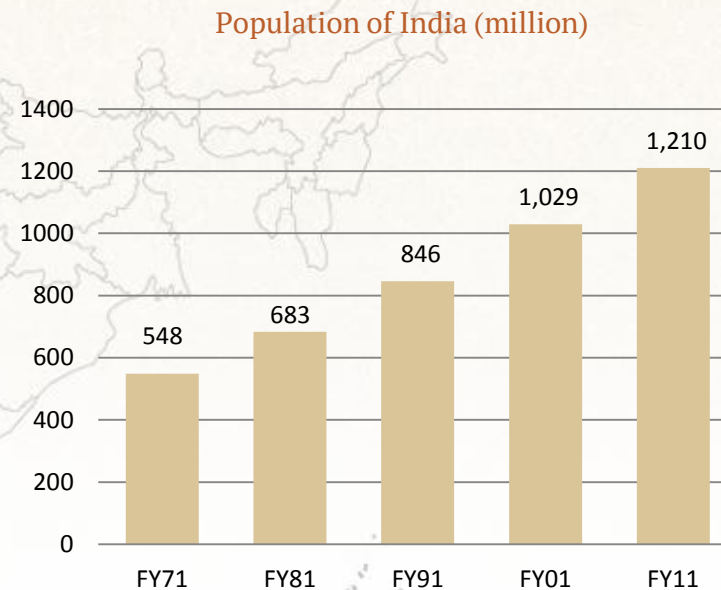
Growth drivers of Indian agriculture



Notes: MSP – Minimum Support Price

Population and income growth driving demand ... (1/2)

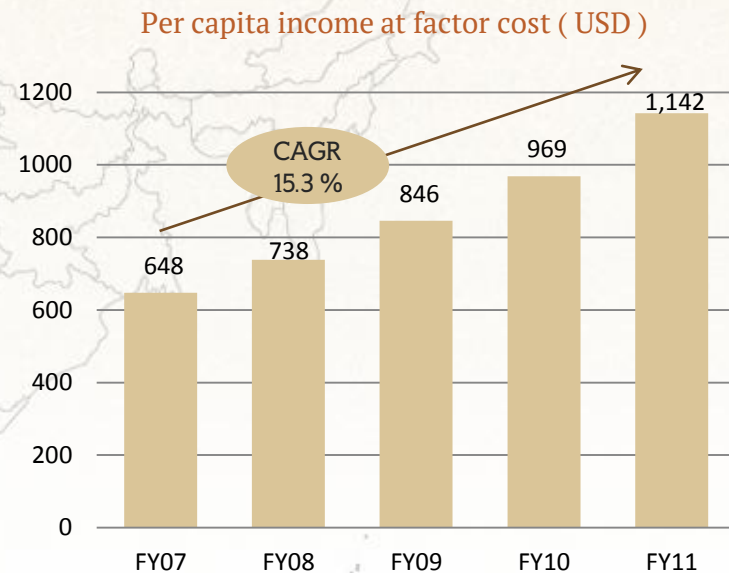
- India, the second-largest populated country, has to meet the food needs of around 1170 million people
- This need is an inherent demand driver of agricultural growth in the country



Source: Census of India 2011, Aranca Research

Population and income growth driving demand ... (2/2)

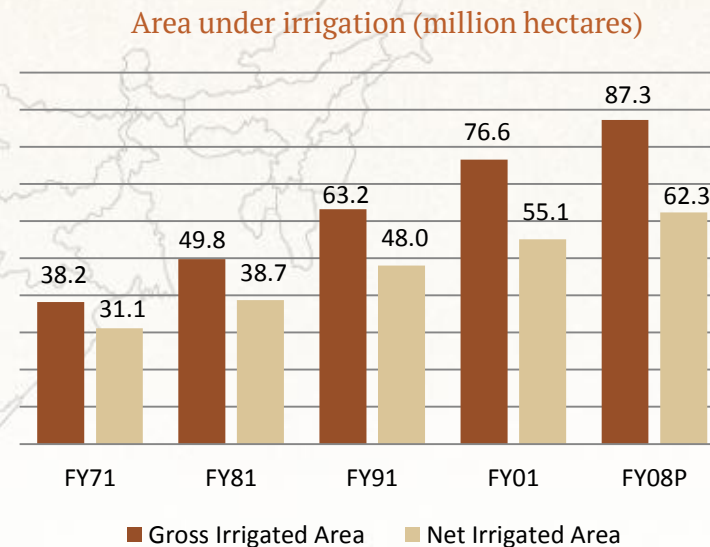
- Rising per capita income is creating stress on India's agricultural production
- India's per capita income has increased at a CAGR of 15.3 percent to USD 1,142.4 in FY11 (from USD 647.5 in FY07)



Source: World Bank, Aranca Research

Growing area under irrigation ... (1/2)

- India's irrigation potential increased to 108.2 million hectares in March 2010 from 81.1 million hectares in FY92
- Major/medium/minor irrigation projects are estimated to have created an irrigation potential of 9.82 lakh hectares during FY10



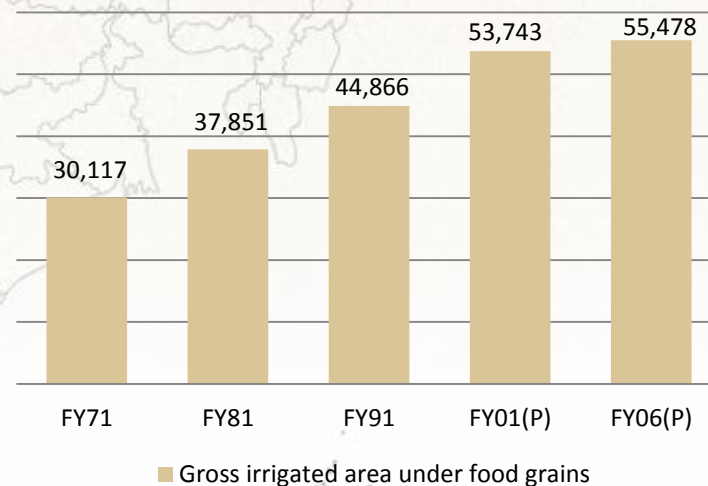
Source: Ministry of Agriculture, Aranca Research

Note: P is Projected

Growing area under irrigation ... (2/2)

- Rice and wheat are the most irrigated crops in India
- Gross irrigated area under food grains is estimated to have grown to 55.5 million hectares in FY06
- Dependency on monsoons is declining gradually

Gross irrigated area under food grains ('000 hectares)

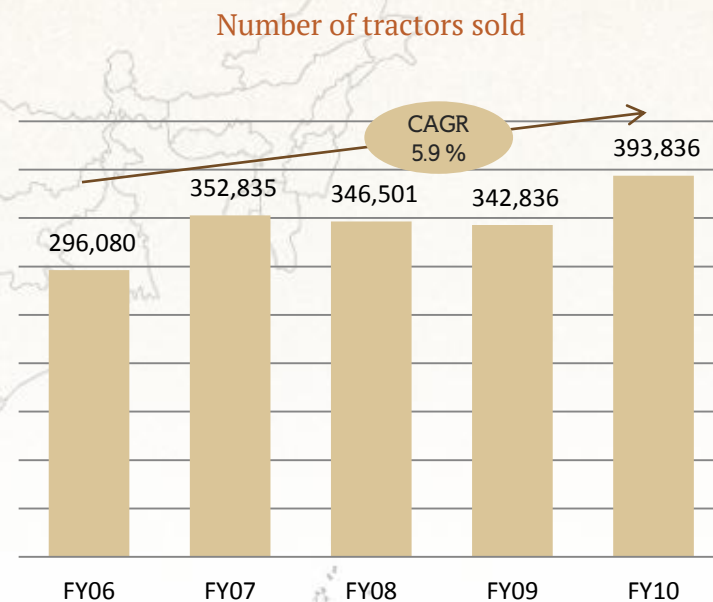


Source: Ministry of Agriculture, Aranca Research

Note: P is Projected

Increasing mechanisation of farming ... (1/2)

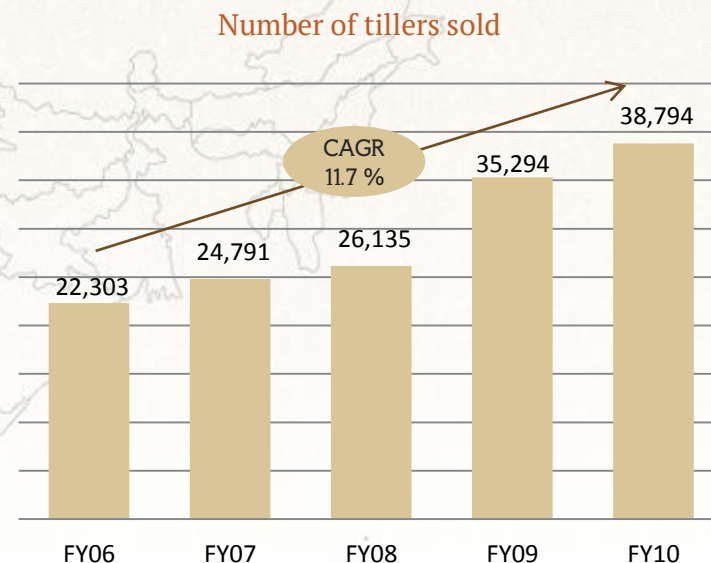
- Mechanisation helps in increasing productivity and reducing production cost
- Sale of tractors and tillers reflect the increasing level of mechanisation in farming. Sale of tractors increased at a CAGR of 5.9 per cent during FY06-FY10



Source: Annual report on Agriculture 2010-11, Aranca Research

Increasing mechanisation of farming ... (2/2)

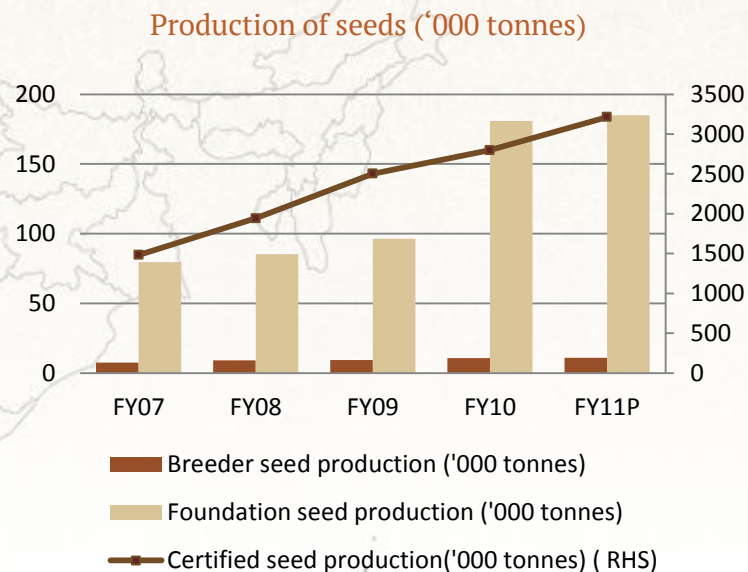
- Sale of tillers increased at a CAGR of 11.7 per cent during 2006–10
- Government has set up Farm Machinery Training and Testing Institutes to train farmers on the operation and maintenance of agricultural equipment



Source: Annual report on Agriculture 2010-11, Aranca Research

Improved yield and resistance from hybrid seeds ... (1/2)

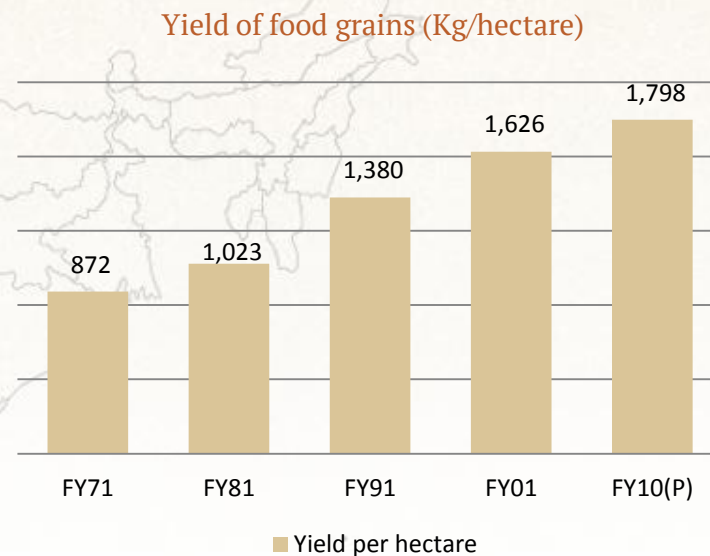
- Usage of hybrid seeds has been increasing due to their high yield and resistance
- The Indian seed industry's size is estimated at around USD 1.6 billion in FY10
- Usage of hybrid seeds has been more prevalent in cash crops than food crops



Source: Ministry of Agriculture, Aranca Research

Improved yield and resistance from hybrid seeds ... (2/2)

- Usage of hybrid seeds has doubled the yield of food grains to 1,798kg/hectare in FY10 from 872kg/hectare in FY71
- Government is encouraging private seed companies by providing a subsidy of 25 per cent of the capital cost subject to a maximum of USD 50,000 per unit

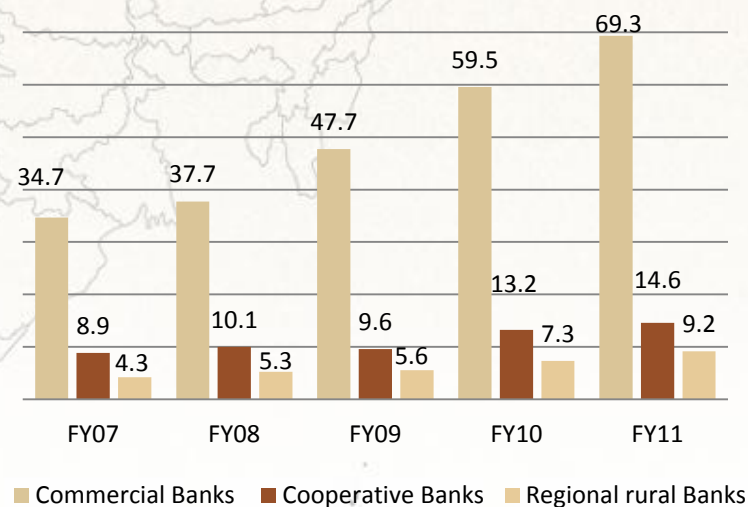


Source: Ministry of Agriculture, Aranca Research

Institutional credit to agriculture on a rise ... (1/2)

- Institutional credit to agriculture sector increased at a CAGR of 18.1 per cent during FY07–11
- Farmers are allowed to avail crop loans at an interest of 7 per cent; a 2 per cent interest subvention is granted for timely repayment from FY11

Institutional credit to agriculture (USD billion)

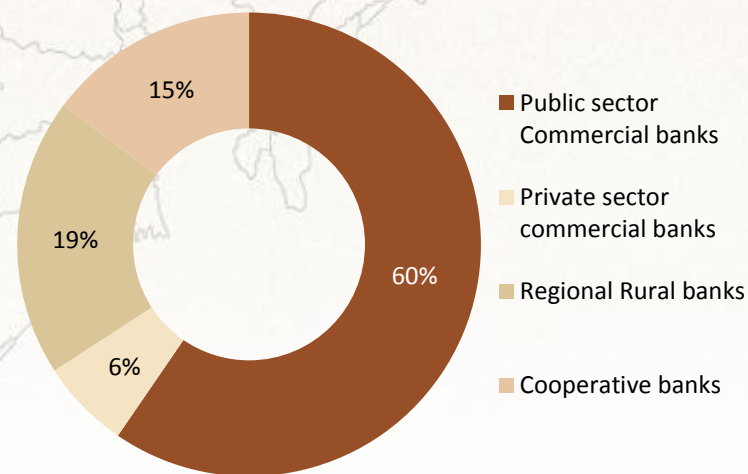


Source: Ministry of Agriculture, Aranca Research

Institutional credit to agriculture on a rise ... (2/2)

- 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 to farmers to provide timely and adequate credit support to farmers

Per cent of farmers financed by banks in FY10

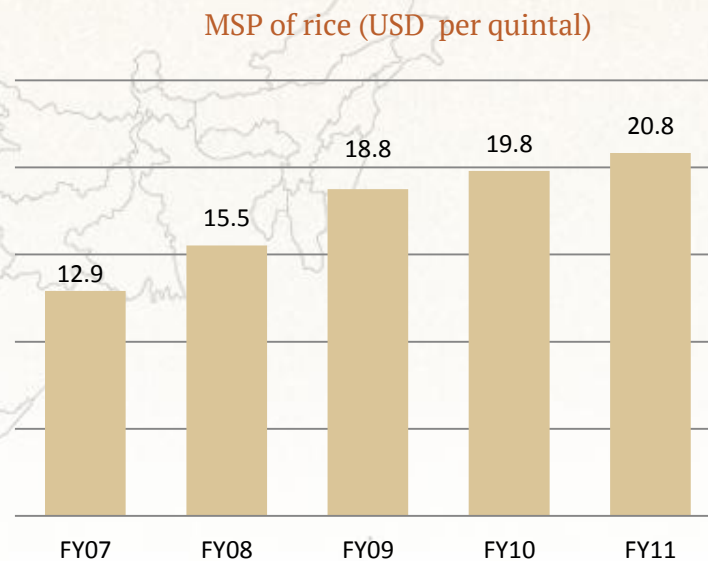


Source: Annual report on Agriculture 2010-11, Aranca Research

Rising MSPs incentivise farming ... (1/2)

- The Indian government increases MSPs regularly to incentivise farmers to enhance production of crops and ensure there is adequate supply
- MSP for rice increased 5 per cent to USD 20.8 per quintal in FY11 from USD 19.8 per quintal in FY10

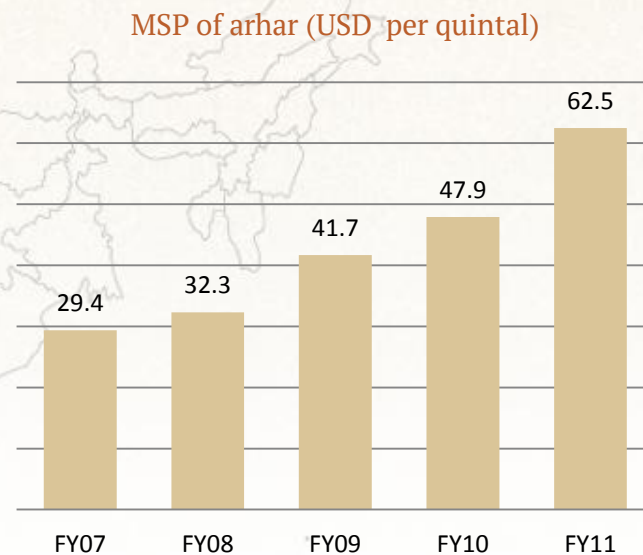
Note: MSP is minimum support price



Source: Economic Survey, 2010-11, Aranca Research

Rising MSPs incentivise farming ... (2/2)

- Government has increased the MSP of pulses significantly in the past three years to reduce the supply shortage
- MSP for arhar increased more than 100 per cent to USD 62.5 per quintal in FY011 from USD 29.4 per quintal in FY07



Source: Economic Survey, 2010-11, Aranca Research

Favourable policies are supporting the sector growth

National Food Security Mission (NFSM)

- National Food Security Mission was launched in FY08 with an outlay of USD 1.2 billion during the 11th Five year plan
- It aims at enhancing the production of rice, wheat and pulses by 10 million tonnes, 8 million tonnes and 2 million tonnes by FY12

Rajiv Krishi Vikas Yojana (RKVY)

- Rajiv Krishi Vikas Yojana was launched in FY08 with an outlay of USD 5.3 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 is allowed under automatic route in storage and ware housing including cold storages

Pulses villages

- Government has launched an initiative to spend USD 65.1 million to promote 60,000 'pulses villages' in rain fed areas for increasing crop productivity and strengthening market linkages

Source: Ministry of Agriculture, Union Budget 2011-12, Aranca Research

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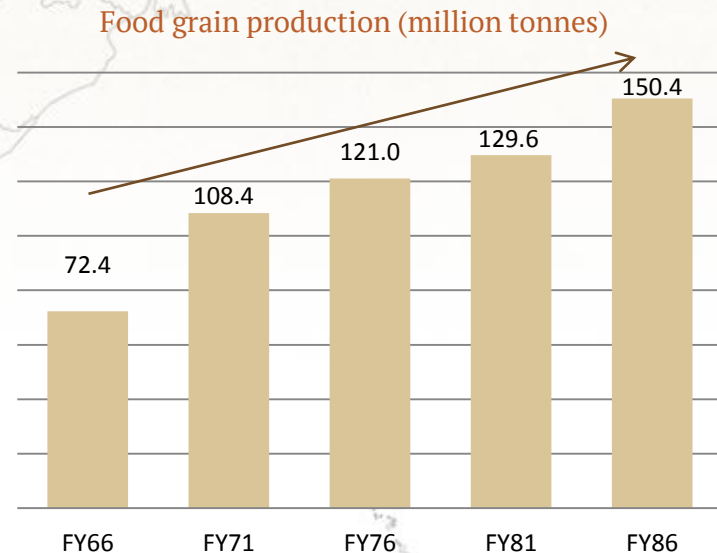
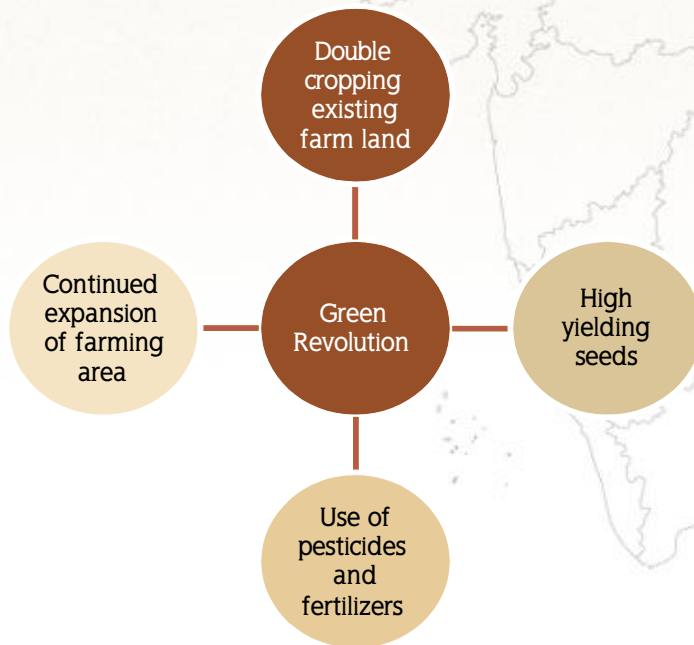
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Green revolution: India becomes self-sufficient in food grains

- Green revolution started around 1965 in India, especially in the states of Haryana and Punjab, to increase the production of food grains
- Green revolution helped the country to reduce imports and become self-sufficient in food grains
- Food grain production increased to 150.4 million tonnes in FY86 from 72.4 million tonnes in FY66
- Dependency on monsoons has reduced and irrigation facilities have improved



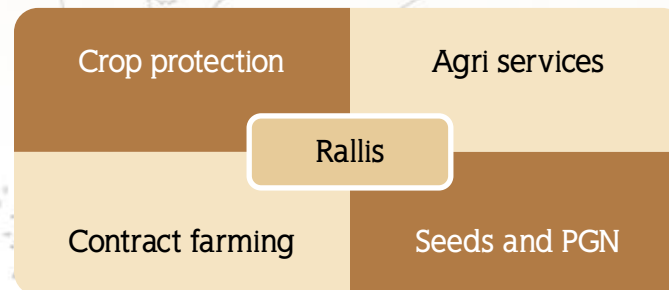
Source: Handbook of Indian Statistics, Aranca Research

Rallis India: Leading player in agricultural inputs ... (1/2)

Salient characteristics

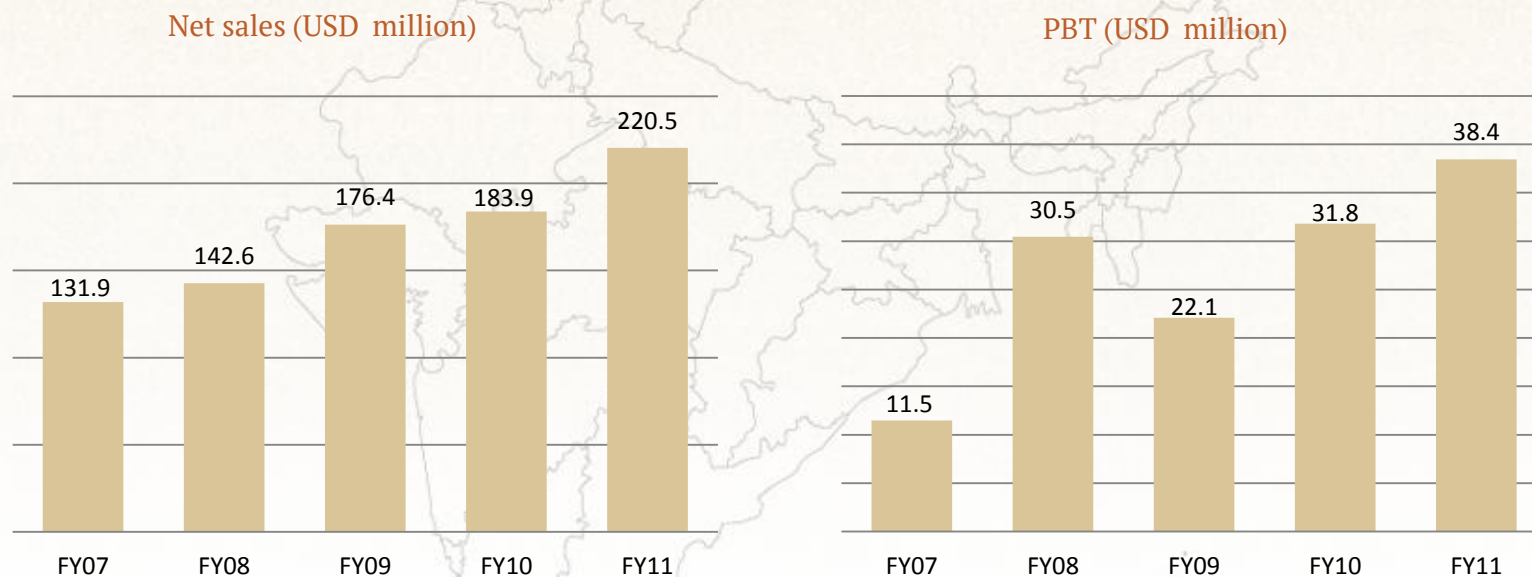
- Rallis is a leading player in the agricultural inputs business and the largest player in agri chemical business
- Crop protection is the major segment for the company and plans to expand its presence in seeds and PGN
- As part of the plan, it acquired a research-led seeds company 'Metahelix' and launched 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



Note: PGN - Plant Growth Nutrients

Rallis India: Leading player in agricultural inputs ... (2/2)



Source: Company Annual Report, Aranca Research

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Opportunities

Farm management services

- New agri business, which provides inputs such as seeds, fertilisers 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 availability of land under cropping against growing population makes agricultural inputs crucial
- Huge opportunity exists in the country for agri input segments like seeds and plant growth nutrients
- In India, commercial seeds only account for minor percentage (25per cent) and huge demand is expected for quality branded seeds

Logistics

- India has a storage capacity shortage of around 26.4 million tonnes currently.
- 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: Rallis annual report, FCI, Aranca research

Note: FCI - Food corporation of India

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Industry Associations ... (1/2)

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**
Machinery 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

Industry Associations ... (2/2)

- **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

Glossary

- **RKVY** : Rashtriya Krushi Vikas Yojana is a Central government scheme providing funds to state governments to spend on agriculture
- **FMTTI** : Farm Machinery Training and Testing Institutes
- **NFSM** : National Food security mission
- **KCC**: Kisan Credit card
- **MSP** : Minimum Support Prices
- **Breeder seeds** : Seeds move from germplasm (research) stage to breeder stage
- **Foundation seeds** : Breeder seeds are multiplied as foundation seeds
- **Certified/quality seeds** : Foundation seeds are further multiplied to get certified seeds, which are sold to farmers
- **PGN** : Plant Growth Nutrients
- **USD**: US Dollar– Conversion rate used: USD 1 = INR 48
- **FY**: Indian financial year (April to March)– FY11 implies April 2010 to March 2011
- Wherever applicable, numbers have been rounded off to the nearest whole number

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