Feeding a Billion: Role of the Food Processing Industry

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Objective of the presentation today is to familiarize you with the key findings / messages in the FICCI Food Report 2013

Key points covered:

- What's new in the approach this time?
- (Re) Introduce some key facts:

  "The reason we hold truth in such respect is because we have so little opportunity to get familiar with it" – Mark Twain

- Discuss key challenges and tangible / feasible ways to change the trajectory of effectively meeting the nutrition challenge

Food Processing is best placed to lead the Nutrition challenge

Farm




Processing




Intermediaries




Retail


Customers

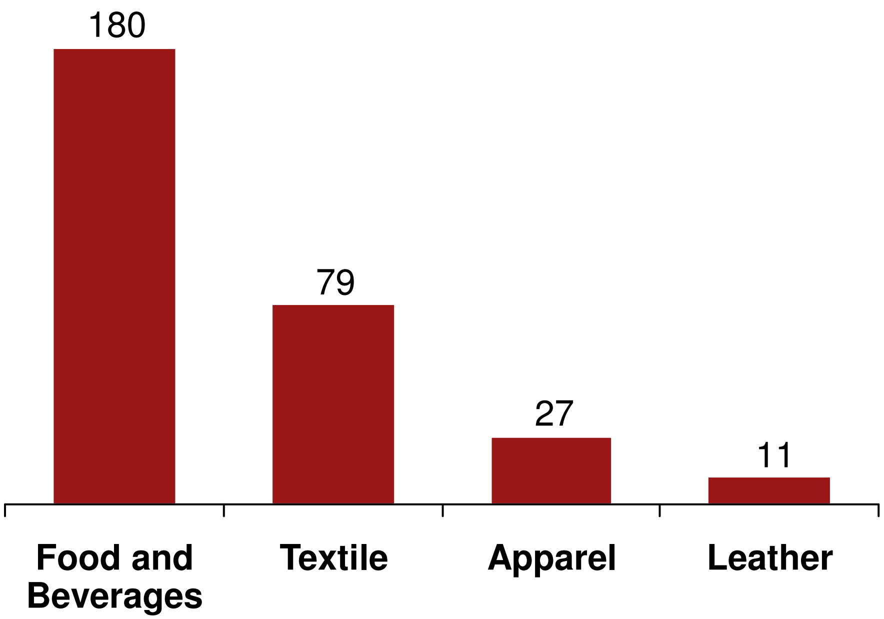



↑ Farm productivity

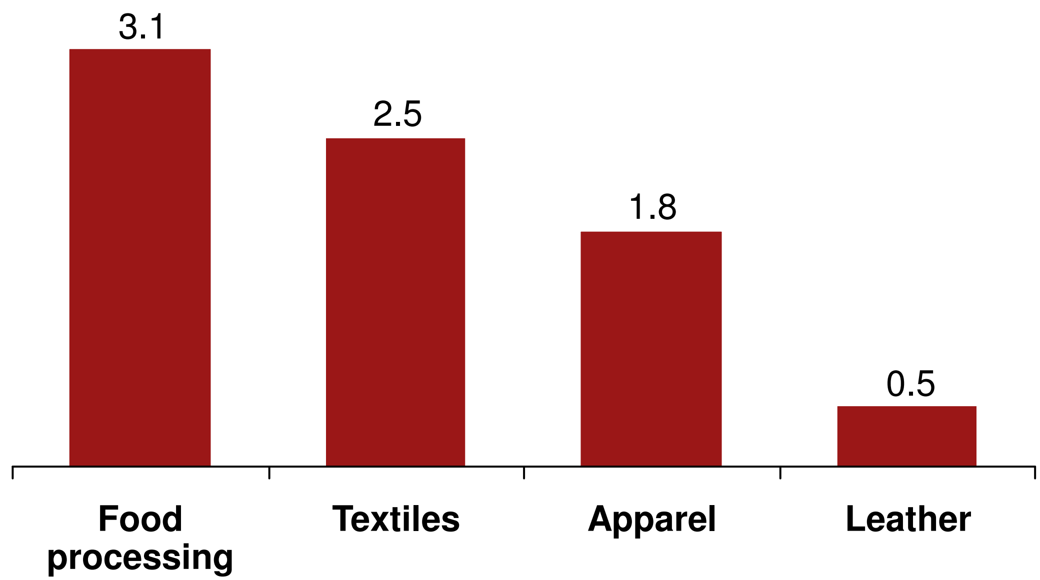
↑ Investments in cold chain, distribution infra, create market etc.

Food Processing Industry already has a significant impact on the economy of the country and needs to be built on further

Output generated across key labor intensive sectors (USD billion, 2011)



Employment generated in organized & MSME sectors across industries (Millions of persons, 2011)



Significant impact on local economy

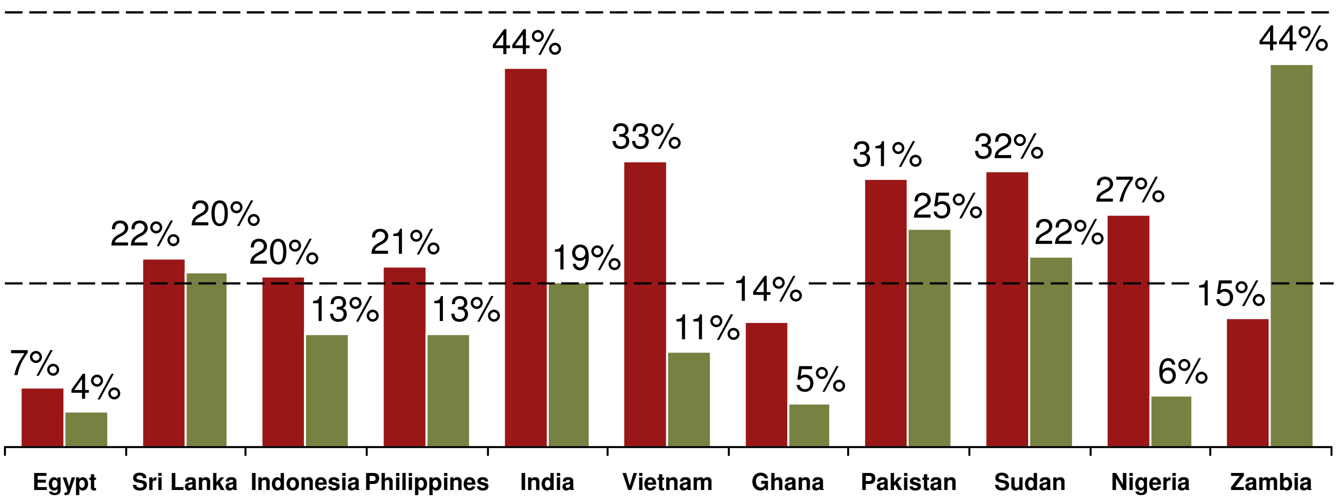
Influence / lead Farm extension services and contract farming → improved access to capital and technology → higher productivity

Forward investments in required infrastructure in storage, cold chain and transportation → wastage reduction

Source: Analyst Reports, Ministry of food processing industry – Annual report 2012-13, MSME Census, A.T. Kearney
Source: Ministry of food processing industry – Annual report 2012-13, MSME Census, A.T. Kearney

Case for change: we are amongst the most undernourished in peer group nations and face a challenge of feeding nutritious food to over a billion+ people

Share of children underweight and undernourishment in total population for select countries



GDP per capita as of 2012 (in current US$ PPP)

Egypt	Sri Lanka	Indonesia	Philippines	India	Vietnam	Ghana	Pakistan	Sudan	Nigeria	Zambia
6,420	**5,930**	**4,900**	**4,100**	**3,910**	**3,590**	**3,200**	**2,860**	**2,670**	**1,920**	**1,710**

Decreasing GDP per capita

% of underweight children under 5 — % of undernourishment in total population

- Indian economy has grown at an unprecedented rate over the past decade
- However, India is ***not on track to meet the Millennium Development Goals*** of UNICEF
- Increased lifestyle diseases – ***expected to cost the Indian economy USD 6 trillion between 2012-2030***
- ***Severe micro-nutrient deficiency***: iron, vitamins, calcium, iodine

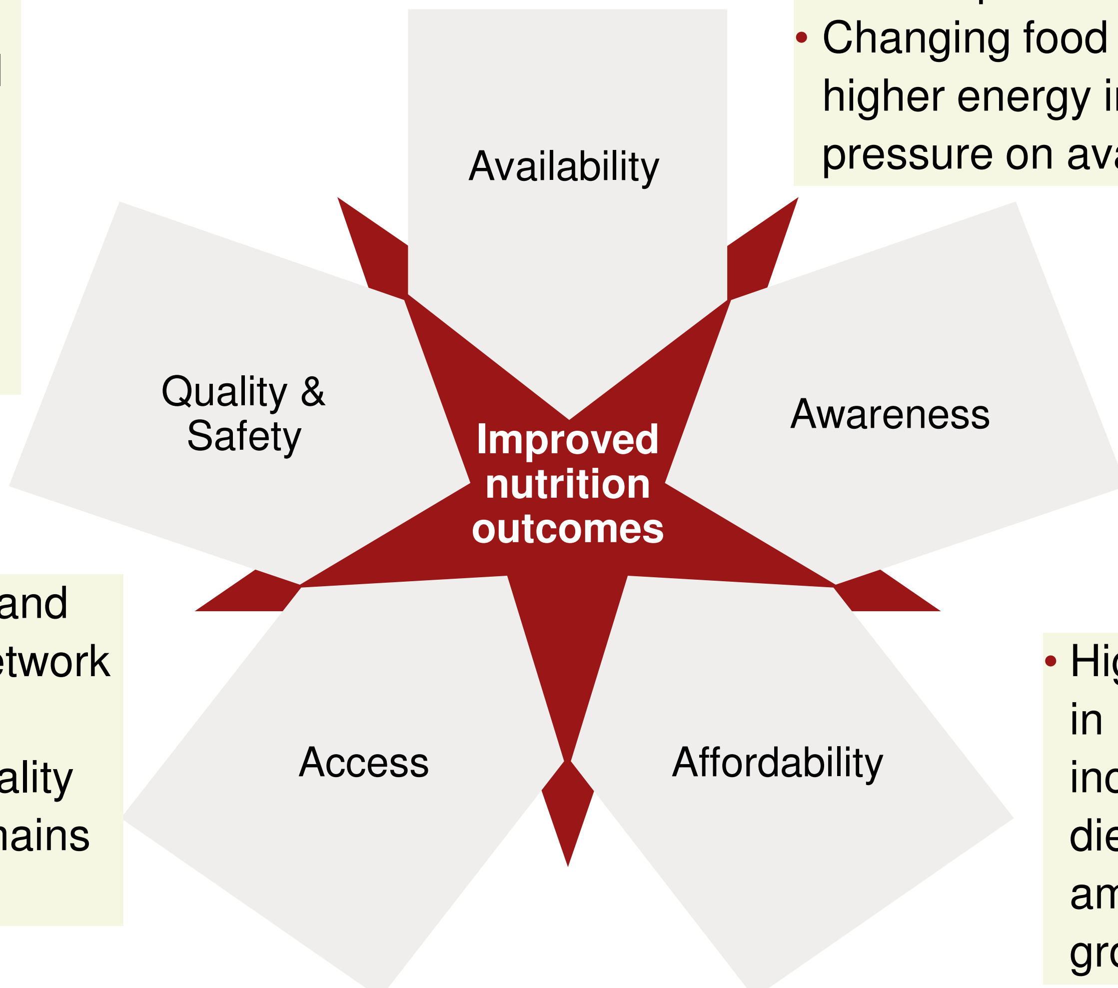
Source: Dupont Food Security Index 2012, UN and World Bank data, A.T. Kearney analysis

The issues pertaining to nutrition emanate from high problems in availability, affordability, quality & safety and awareness

Issues pertaining to Food Nutrition

- Loss of nutrient value during processing and distribution
- High adulteration, abuse of substances, poor hygiene and safety practices

- Disparity in Income levels and consumption limits real availability
- Changing food mix and need for higher energy intake will add pressure on availability



- Lack of awareness on nutrition recommendation leading to consumption of imbalance diet

- Network of traditional and modern distribution network ensures access
- However, ensuring quality and safety in PDS remains a challenge

- Higher spending on food in proportion of household income, leading to limited diet diversification amongst lower income groups

Source: A.T. Kearney

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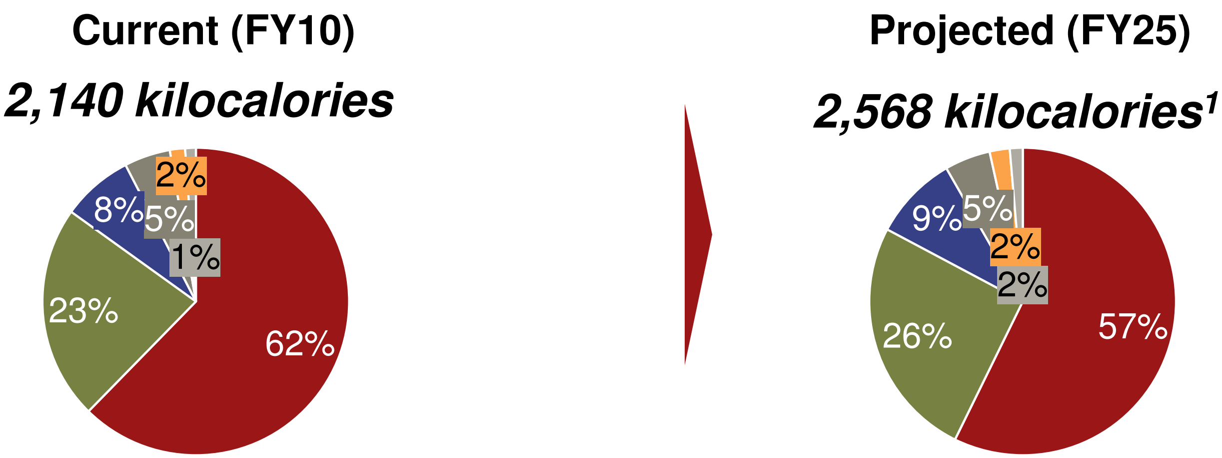
Food supply needs to evolve to meet the demand, in line with changing food habits and growing demand for food products

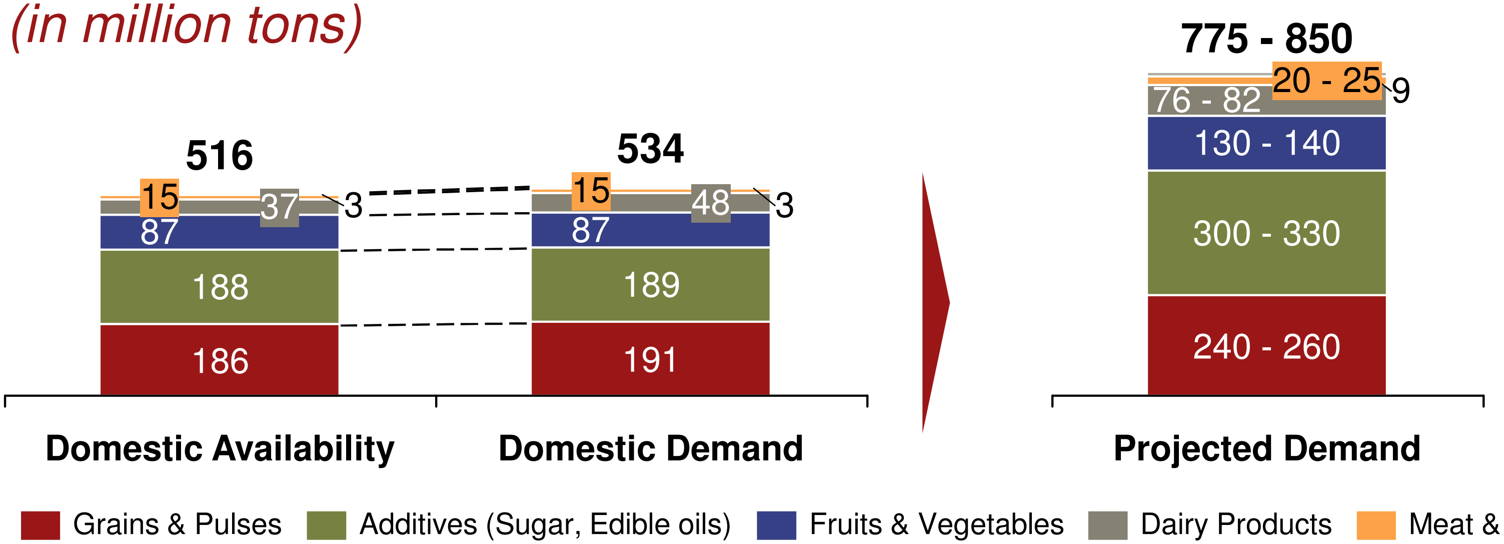
Share of daily energy consumption

(% of kcal)



Current supply and expected evolution of demand

(in million tons)



- India's food mix will continue to move away from grains and pulses towards Dairy, F&V, Meat and Edible Oil
- Aggregate energy intake levels will increase
- Supply of food products needs to evolve to meet increasing demand

1. ~20% increase in per capita energy levels based on similar experience in developing countries during high growth periods

Source: FAO Food Balance 2009, NSSO 66th Round data, A.T. Kearney analysis

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There are significant risks to availability for grains and pulses, edible oils and dairy to meet the demand in 2025

Growth needed and risks to availability in 2025

● → High risk
○ → Low risk

	Growth in domestic availability needed till 2025	Historical growth (most recent eq. time period)[1,2]	Risk to availability in 2025	Key challenges
Grains & Pulses	25 – 35%	~27%	◕	• Moderating yield and cultivated area growth
Edible oil	190 – 210%	~60%	●	• Limited incentives to improve low domestic production due to cost-effectiveness imports
Fruits & Vegetables	65 – 70%	~110%	◔	• Low absolute productivity; growth in cultivated land at risk from push for food security
Dairy Products	55 – 60%	~85%	◑	• Moderating yield growth – need to fundamentally change low-input-low-output model
Meat & Poultry	50 – 60%	~200%	◔	• Supply gap for livestock feed; land risks from crops

1. Historical growth rates for a 20 year period pro-rated to a 15 year period for Fruits & vegetables (FY92 – FY12), Grains & Pulses (FY91 – FY11) and Dairy Products (FY91 – FY12), for a 10 year period for edible oils (FY01 – FY11) and a 5-year period for meat & poultry (FY07 – FY12)
2. Production growth taken as proxy for food availability growth i.e. assuming diversion to non-food uses and exports is roughly unchanged and a share of production

Source: FAO Food Balance 2009, Economic Survey 2012-13, NCAER-SEA Conference 2013, Business Monitor International Agribusiness Review, A.T. Kearney analysis

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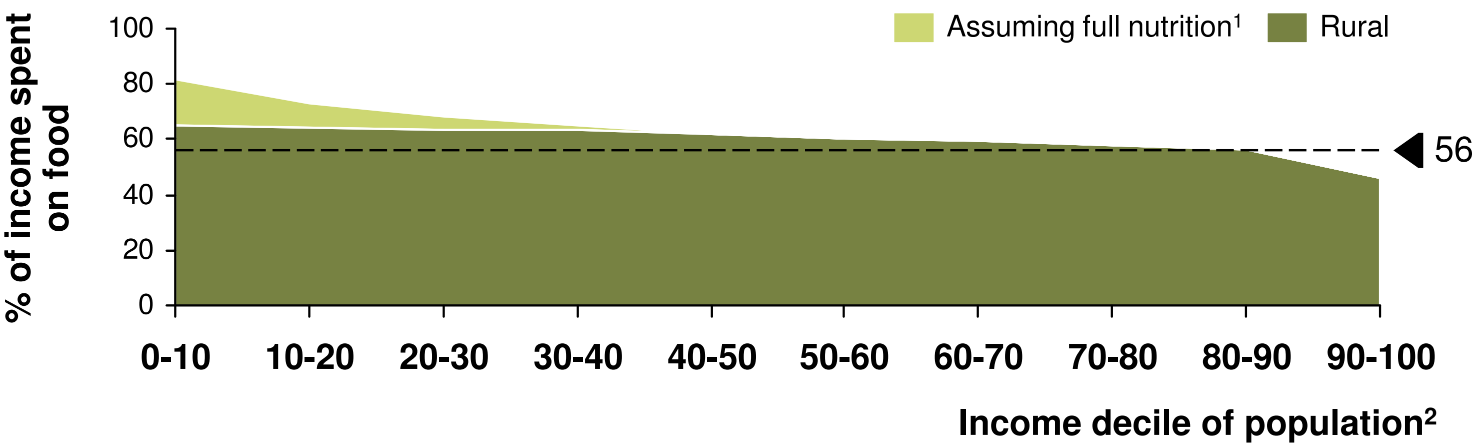
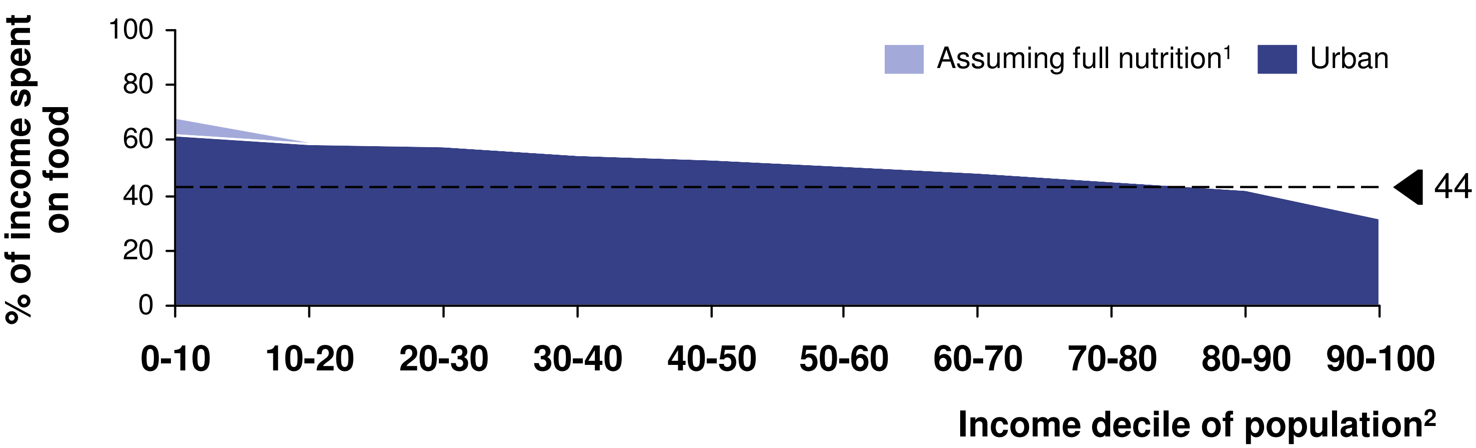
Affordability is an important issue amongst lower income groups with share of food as high as ~ 65% in total consumer spending

Share of Food in consumer spending across income class





- Food spending contributes to 45 – 56% of household spending in India, as against 20 – 40% for countries like Brazil and China

1. Full nutrition level assumed to be 2,400 kilocalories for rural and 2,100 kilocalories for urban demographic for an adult male
2. 90-100 represents highest average income level and 0-10 represents lowest

Source: NSSO Survey of Consumer Expenditure 2011-12, Nutrition Intake in India 2009-10, A.T. Kearney analysis

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There are eight challenges across the food value chain that need to be addressed to resolve issues pertaining to nutrition

Key challenges to be addressed to resolve issues pertaining to nutrition

	Key challenges	Availability	Awareness	Affordability	Quality and Safety
1	Slowdown in farm production growth ▶	✓		✓	
2	Limited alignment / clarity on production incentives ▶	✓		✓	
3	Low coverage of organized procurement	✓		✓	✓
4	Poor procurement and supply chain infrastructure		✓	✓	✓
5	Low value-added in processing	✓	✓	✓	✓
6	Limited ability to control quality & safety				✓
7	Limited availability of skilled resources	✓		✓	✓
8	Low consumer awareness		✓		✓

▶ ✓ Challenges due to issues pertaining to nutrition

These challenges have varying degree of relevance across different food segments

Key challenges for the food industry and relevance across food segments

Stage	Key challenges	Grains & Pulses	Dairy	F & V	Meat & Poultry	Edible Oils
Farming & production	1 Slowdown in farm growth	●	◕	◑	◑	●
Farming & production	2 Clarity on incentives	◕	◔	◔	◔	◕
Procurement & supply chain	3 Coverage of organized procurement	◔	◕	◕	◑	◔
Procurement & supply chain	4 Procurement and supply chain infrastructure	◔	◕	●	●	◔
Processing	5 Low value-added in processing	●	◑	○	○	◔
Consumption	8 Consumer awareness	◔	◕	●	●	◔

Challenges that run across Farming & production, Procurement & supply chain and Processing (challenges 1–5):

6 Ability to control quality & safety

7 Availability of skilled resources

● High Relevance ○ Low Relevance

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Several initiatives are required based on four broad solution themes to mitigate these challenges

Solution Themes and Initiatives to mitigate challenges in Food Value Chain

Solution Theme	Initiatives
Greater Private Public Partnership	• Enhancing private participation in production • Leveraging private public partnership to enhance productivity • Enhancing commercial viability of production • Enhancing focus on high nutrient product
Policy and Regulatory Support	• Develop consolidated policy for food and food processing • Simplifying regulatory environment • Revamping food safety laws focusing on enforcement
Higher Transparency	• Enhancing transparency of price, volume & inventory in wholesale markets
Innovation and Skill Development	• Investing in R&D to improve yields and reduce wastage • Focusing on implementation of skill development programs • Creating market demand through higher awareness of quality and nutrition

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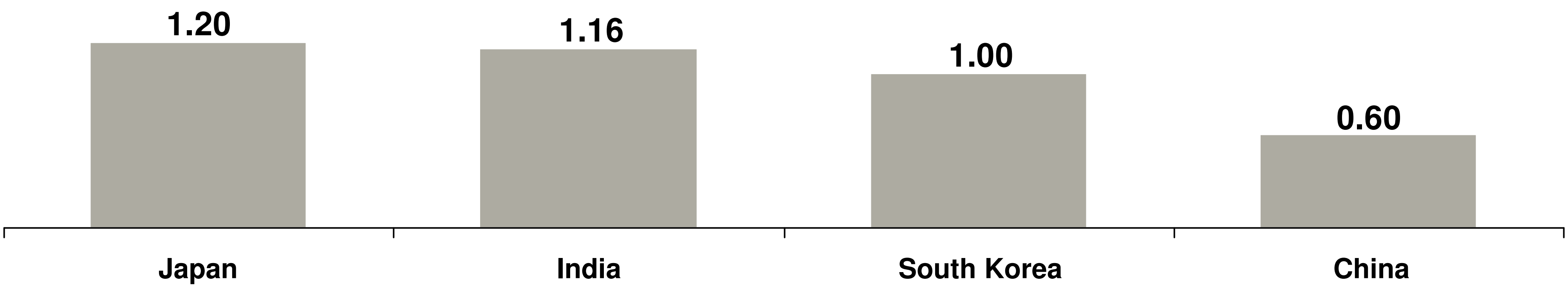
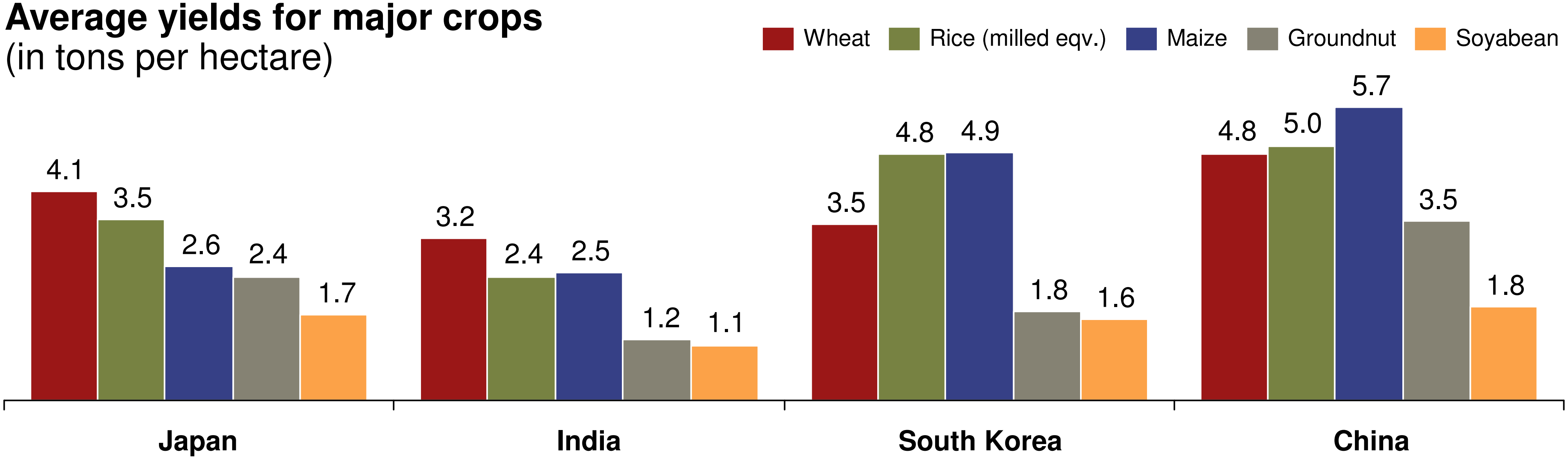
Average landholding size in Asian economies and comparison of yields for major crops

Average landholding size for Asian economies[1]
(in hectares)



Average yields for major crops
(in tons per hectare)



1. Landholding size for India as per Agriculture Census 2011, for other countries estimates are from 1995 to 2000

Source: FAO Production Yearbook, FAOSTAT, India Agriculture Census 2011, A.T. Kearney analysis

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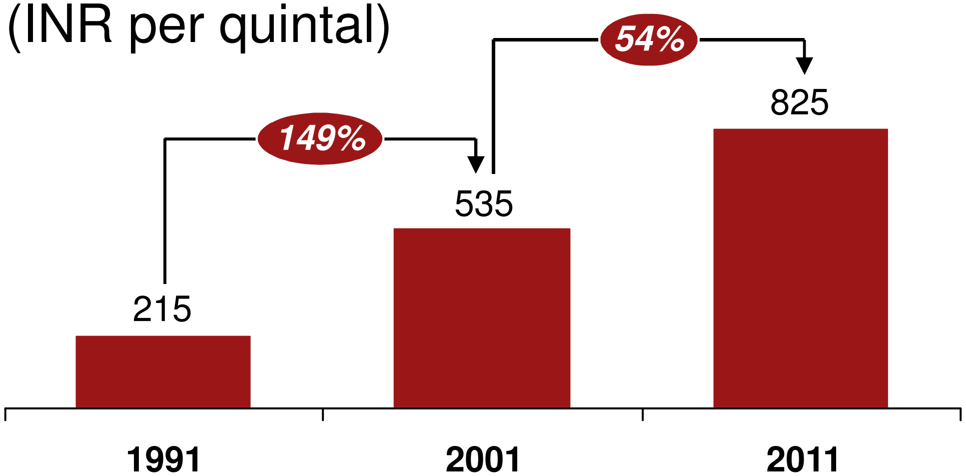
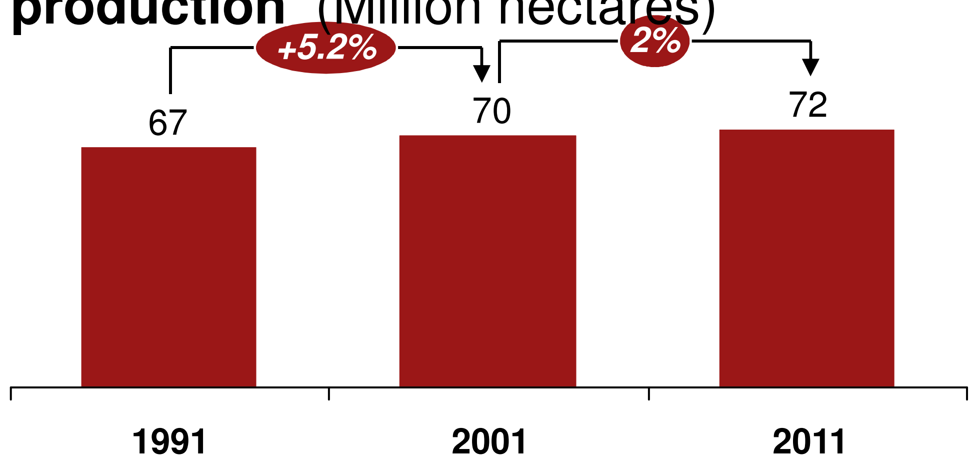
Trend in Minimum Support Price and Production for Foodgrains and Oilseeds

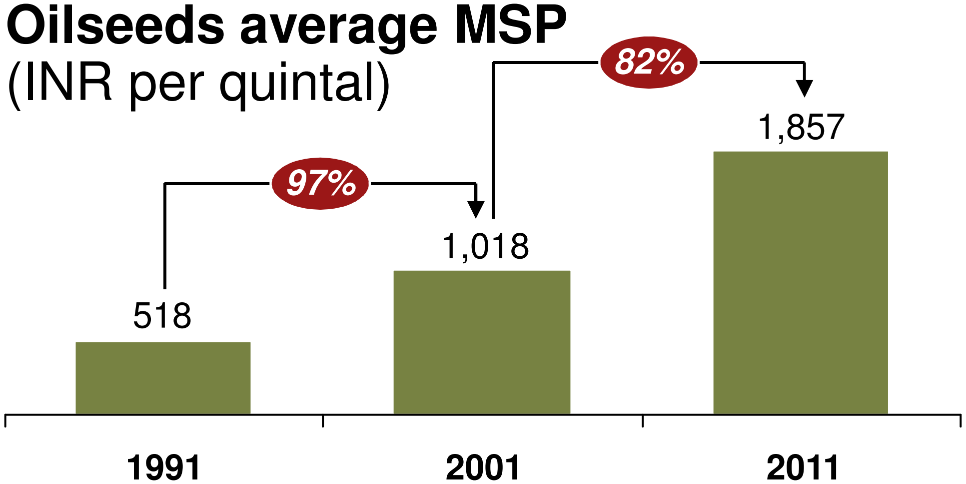
Rice and wheat average MSP
(INR per quintal)



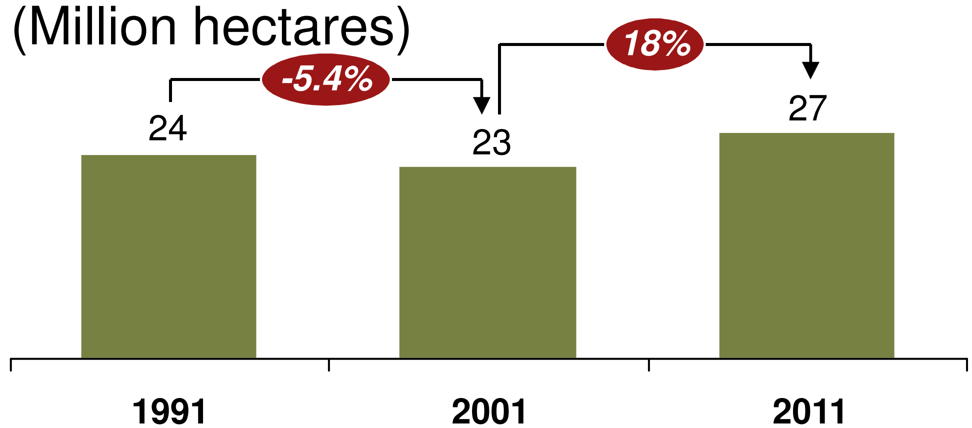
Rice and wheat area under production (Million hectares)



Oilseeds average MSP
(INR per quintal)



Oilseeds area under production
(Million hectares)



Source: Economic Survey of India 2012-13, Directorate of Economics & Statistics India, A.T. Kearney analysis

The Indian Food Processing industry has an important role in the food value chain

Role of Food Processing Industry in Food Value Chain

Traditional Role | Impact on Other Areas

Primary Processing	• Cutting, Cleaning and Refrigeration
Secondary Processing	• Grain milling, manufacture of fruit pulps, frozen meat, packaged milk
Tertiary Processing	• Manufacture of fruit jams and juices, biscuits, milk products, ready to eat meals, protein supplements, confectionary
Farming and Other Food Production	• Food processing companies are strengthening their backward integration through agriculture extension initiatives – Drives higher productivity in the farming sector
Procurement	• More scientific methods can be adopted for sorting and grading • Higher involvement in procurement will aid in higher price realization, through elimination of non value add activities
Supply Chain	• Increasing importance of food processing industry will accelerate investments in storage and transport capabilities – Enables lowering wastage, improving nutrient retention

These initiatives will aid in addressing various challenges across the food value chain

Key Initiatives	Challenges Addressed
Enhance private participation in production	Slowdown in farm production growth, Limited alignment of production incentives to goals
Leverage private-public partnerships to enhance effectiveness of farm extension services	Slowdown in farm production growth
Enhance commercial viability of organized supply chains	Slowdown in farm production growth, Low value-added in processing
Enhance focus on high nutrition products	Low value-added in processing
Develop consolidated policy for food and food processing	Addresses all challenges
Simplify regulatory environment	Limited coverage of organized procurement
Revamp food safety laws focusing on enforcement	Limited ability to control quality & safety
Enhance transparency of price, volume & inventory in wholesale markets	Limited coverage of organized procurement
Invest in R&D to improve yields and reduce wastage / nutrient drop	Slowdown in farm production growth, Low value-added in processing
Focus on effective implementation of skill development programs	Limited availability of skilled resources
Create market demand through higher awareness of quality and nutrition	Low consumer awareness