

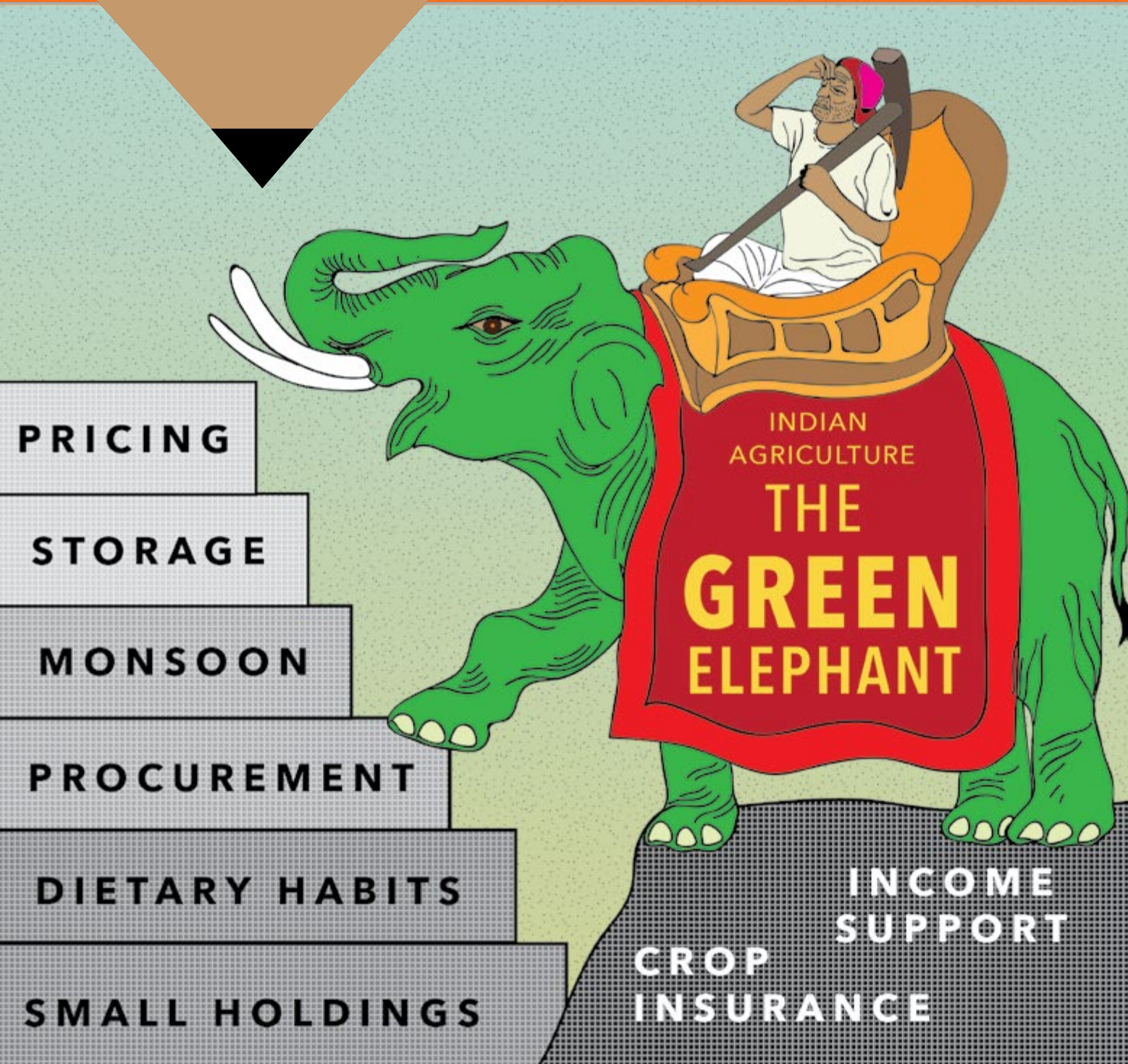
GROUND VIEW

pg 4. INDIAN AGRICULTURE THE GREEN ELEPHANT

pg 41. Interview - Ashok Dalwai, NRAA

pg 43. Interview - Pradeep Dave, PMFAI

pg 45. PhillipCapital Coverage Universe



Ground View - Previous Issues

GROUND VIEW Vol 7, Issue 1. 1 - 29 FEB 2020

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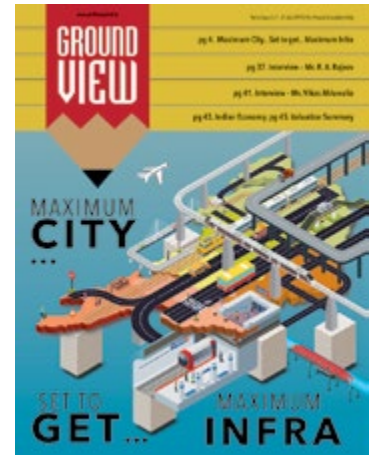
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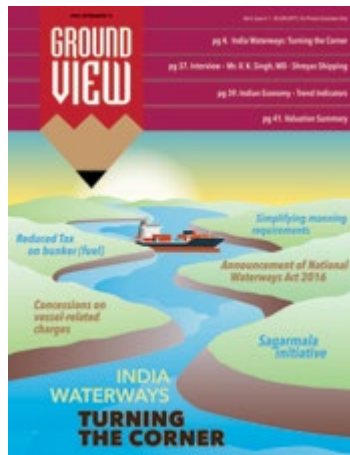
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1st Oct 2019 Issue 6



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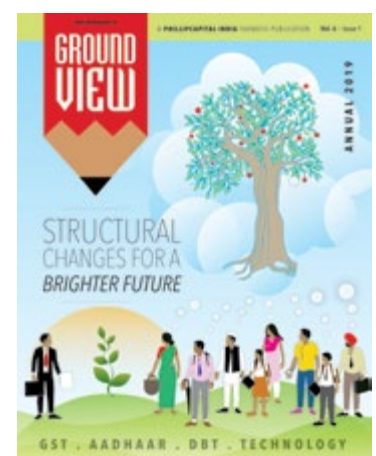
1st June 2019 Issue 4



1st May 2019 Issue 3



1st February 2019 Issue 2



1st January 2019 Issue 1

Letter from the MD

Life and food go hand in hand. One cannot exist without the other. Human civilization was largely built on the bedrock of agriculture. Its importance in India, as well as the world over, cannot be emphasized enough. It is not only important for food security, but is also a key to driver of the rural economy. A lot has been done for Indian agriculture since independence, especially during the Green Revolution of the 1960s. Nowadays, there is a quieter revolution taking place in the sector, driven by a paradigm shift in consumption patterns. But are farmers making enough? Will farming ever be a lucrative proposition, nay even a coveted one? Will India ever overcome its high dependency on the monsoon? Questions abound and the answers weren't easy to come by.

The current central government has been focused on doubling farmer incomes, so our analysts Deepak Chitroda and Surya Patra decided to take a look at how this is panning out on the ground. They talked to the entire agriculture value chain and agri-inputs sector participants. Their meetings included farmers, retailers, distributors, government agencies, associations, and company representatives spread out across Maharashtra, Punjab, Uttar Pradesh, Haryana, Karnataka, Telangana, Gujarat, and Madhya Pradesh.

Chitroda and Patra also interviewed two veterans in the field of forming government policies for agriculture and agri inputs with more than three decades of experience. Mr Ashok Dalwai is the CEO of NRAA of the Ministry of Agriculture and Farmers' Welfare, and Mr Pradeep Dave is the President of PMFAI.

This edition of Ground View ploughs into several structural changes visible in agriculture and food consumption patterns over the past few years and tries to answer some of the big questions about the future of Indian agriculture and the agri inputs industry. Happy reading!

Vineet Bhatnagar

CONTENTS



4. COVER STORY

Indian Agriculture THE GREEN ELEPHANT By Deepak Chitroda

A closer look at what is happening at the farm-level, what the farmers feel about various issues, and what the various stakeholders such as government officials and agro-chem manufacturers are saying.

41. INTERVIEW:

Ashok Dalwai, CEO, National Rainfed Area Authority (NRAA) & Doubling Farmers' Income Committee.



43. INTERVIEW:

Pradeep Dave, President, Pesticides Manufacturers & Association of India, Chairman, AIMCO Pesticides Ltd.



45. PhillipCapital Coverage Universe Valuation Summary

BY DEEPAK CHITRODA, SURYA PATRA

INDIAN AGRICULTURE
THE GREEN
ELEPHANT



The Green Revolution in India happened almost half a century ago! Yes, you read that right. The biggest paradigm shift in Indian agriculture happened that long ago and there haven't really been any revolutions since, just slow and steady progress towards self-sufficiency and world records in production of several agricultural commodities, and a just as steady escalation of problems.



Some are surmountable – such as inadequate irrigation, shrinking landholdings, over usage of urea over other nutrients, and shrinking farmer margins. And some, such as erratic and inadequate rainfall, are indirectly surmountable with planning and implementation of schemes that support farmers. This report takes a closer look at what is happening at the farm-level, what the farmers feel about various issues, and what the various stakeholders such as government officials and agro-chem manufacturers saying. The report also attempts to shine a light at how changing consumption patterns are driving a structural shift in Indian agriculture, not quite a revolution, but not a quiet change either. The new developments are bold, they are beautiful, they are daring, and there is a good chance that they will leave Indian farmers much more empowered than before.

pg. 6 **INDIAN AGRICULTURE THE GREEN ELEPHANT**
Farmers are struggling despite government's moves

pg. 20 **STRUCTURAL CHANGES**
Challenges bring in better solutions

pg. 24 **GOVERNMENT SCHEMES**
The impact of government policies

pg. 33 **AGRI INPUTS SECTOR**
Companies have already started reaping returns

Farmers are struggling despite government's moves

Ongoing policy concerns in procurement, storage, and pricing are affecting farmers

Agriculture in India is not easily lucrative

The GV team travelled and interacted with many stakeholders in India's agriculture sector to understand what is really happening on the ground. It seems that barring rich farmers in a few states, most farmers are finding it difficult to earn even reasonable returns. Farming as a business has lot of uncertainty and a major one is dependency on the monsoon. Mr Agrawal, a large distributor of agrochemicals and fertilisers from Chandigarh, said that "Farming is not an easy task. If you lose 50-70% of your produce because of rains or any other reasons, farmers can forget about profit." Mr Patel, a fertiliser distributor in Vadodara, takes up a challenging stance while talking about agriculture – "I am happy to offer you Rs 1,00,000. Will you do sowing for paddy next season? I just need a return of 10-15%," he smirks, trying to convey that farming is so fraught with risks today that a person with a non-agriculture background almost always stays away. He believes that non-farmers have misconceptions about the level of farmers' earnings and the so-called freebies that they receive from the government and other agencies.

Government support present, but not enough

There is no doubt that government support

over the last many decades, and the efforts of the farmers themselves, has helped India register a four-fold jump in food-grain production to 285mn tonnes in 2018-19. However, despite this growth, farmers find it difficult to make decent returns because of various reasons. The primary reason is heavy dependency on monsoon for a major share of water requirement, which is why erratic rainfall often reduces crop yields and production. Traditional government policies of procuring and storing only rice and wheat often limit farmers' realisation because many farmers still tend to stick to these crops mainly just because of habit, lack of education and information, and historical government focus. In fact, when the monsoon is good, the crop production is higher and farmers' realisations drop as they sell at below MSPs and do not get 'true realisation' – because of several reasons.

"If agriculture goes wrong, nothing else will have a chance to go right in our country"

– Mr M S Swaminathan, father of India's Green Revolution.



Paddy crop planting at Satara, Maharashtra

Positive structural changes

Among positive structural changes in agriculture are the gradual changes in sowing patterns; farmers are increasingly opting to grow more pulses, cereals, or horticulture crops in order to earn better returns. In Maharashtra and many southern states, sowing of fruits and vegetables is becoming very important, mainly because of shortage of rainfall and lack of good irrigation facilities. Of course, changes in lifestyle or eating habits are also structurally supporting the higher prevalence of horticulture crops. The government is focused on crops that consume less water as only about half of India's agricultural land is irrigated. Also, crop diversification supports the profitability of farmers.

No quick fixes – several questions prevail

Changes in agriculture are taking Indian agriculture and farmers in the right direction – towards better earnings. But the process is slow and there are no quick-fixes. The government will have to have a long-term outlook and provide growth visibility by leveraging various policy measures, including income-support schemes, crop insurance, major irrigation projects, soil health card, and DBT. Both structural changes and ongoing concerns have led to changes in consumption patterns and product mix over the past few years. Several questions prevail – what are the most pressing concerns? How are farmers adapting to structural changes? How are government measures really affecting farmers? What are the growth opportunities for agriculture-inputs companies? **This GV attempts to address all these questions and more. It covers the ground realities – from the farm to the firm and on to people's dining table.**

Indian agriculture overview

A brief history of agriculture in India

More than 50% of India's population still directly or indirectly depends on agriculture and allied sectors – clearly showing the importance of agriculture in India

- The known history of Indian agriculture begins as early as 9,000 BCE in north-west India with cultivation of plants and domestication of crops and animals. Double monsoons helped two harvests in a year, leading to multiple crops.
- Under the British Raj, few Indian commercial crops (cotton, indigo, opium, wheat, and rice) made it to the global market. Due to extensive irrigation with canal networks in Punjab, Narmada valley, and Andhra Pradesh, these places became centres of agrarian reforms in India. The British regime in India supplied irrigation works, but rarely on the scale required. Community effort and private investment soared as market for irrigation developed. Agricultural prices of some commodities rose to about three times between 1870-1920.
- Since India's independence, the country has built self-sufficiency in basic food crops with the government's policies (Green Revolution), reforms, and the effort of India's farmers. Five-year plans for

agriculture development, land reclamation and development, mechanisation and electrification and use of chemicals (largely fertilisers) were also initiated.

- India relied on imports and food support to cover domestic requirements before the mid 1960s.
- A severe drought in the mid-1960s led to reforms in agricultural policies via several initiatives such as the Green Revolution and adoption of high-yielding varieties of crops. In fact, several programmes were undertaken to improve food and cash crops supply – 1940s : Grow More Food Campaign; 1950s : Integrated Production Programme. Several other measures were taken to improve crop production such as Yellow Revolution (for oilseeds in 1980s), Operation Flood (dairy in 1970s) and Blue Revolution (fishing in 1970s).
- India eventually built self-sufficiency in basic food crops. Larger beneficiaries were states such as Punjab, Haryana and western Uttar Pradesh – that benefited and supported the most in the Green Revolution mainly because they had larger irrigated areas. They are now considered the country's bread basket.
- With successful productivity gains, farmers started focusing more on crops such as oil seeds, and fruits and vegetables by the 1980s along with other activities such as dairy, fishing, and livestock.
- New varieties of crops needed higher fertiliser usage, so, the government formed cooperative societies such as IFFCO.

Nowadays, the government is focusing on newer areas such as agro processing and biotechnology.

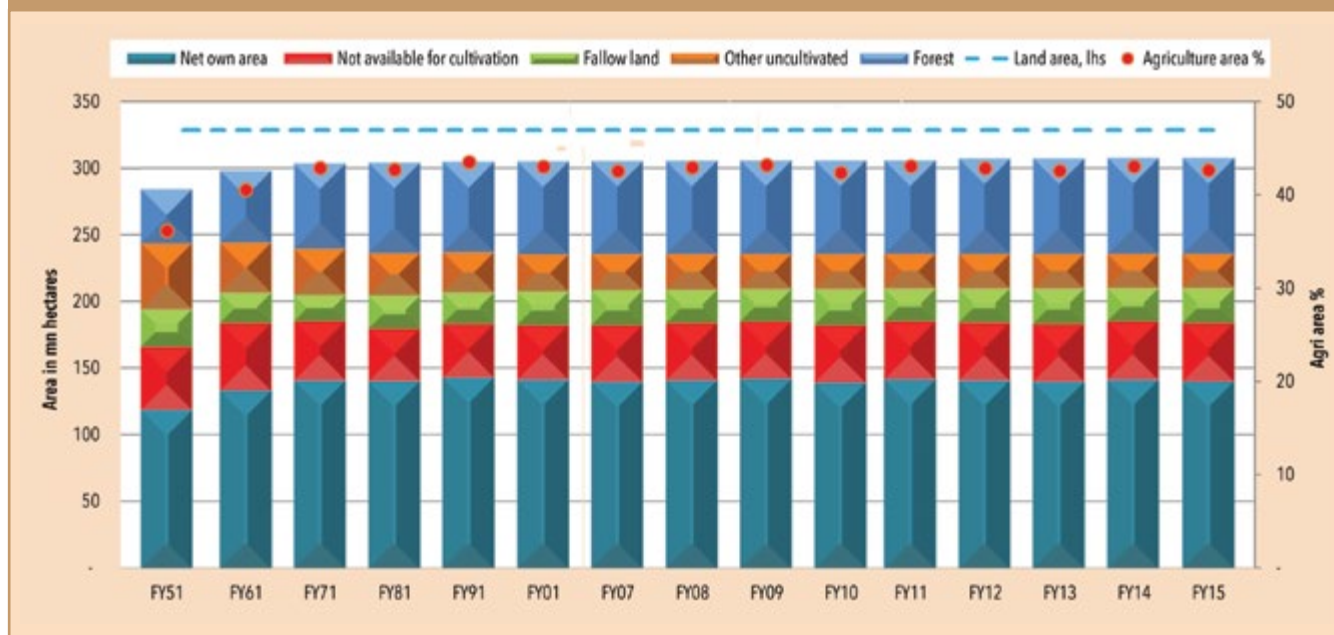
Some interesting facts

- India is still an agrarian country, if not an agrarian economy. It holds the #1 spot in arable land in the world, with a share of about 11%. It is at 7th place in terms of land area, and uses c.53% of its land for agriculture. India has the largest rural population with a global share of 26%.
- Because the share of agriculture land usage is high, there is major dependency on agriculture and its allied sectors for employment and livelihood.
- However, agriculture's share towards GDP continuously declined since independence from about 50% to about 15% presently. Rapid growth of industrialisation and focus on the service sector with an increasingly educated population are major reasons for this.
- In terms of crop production, India is only next to China with a focus on cereals (rice and wheat), oil seeds (groundnut and rapeseeds) and fruits/vegetables.
- India is the largest milk producer globally, with a share of about 20% and this is due to its #1 position in buffalo stocks (113mn; global share of 56%).
- Despite a rise in agriculture production, its share in India's GDP is continuously declining on rapid growth in services, and industrial and non-agriculture sectors.

“Agriculture will remain a necessary part of the Indian economy. Its direct and indirect dependence is significant. Today, we are eating much more affordable food, and that is only because of self-sufficiency achieved over the past few the years”

- Mr Arora, a marketing representative of a large fertiliser company in Uttar Pradesh

Planting has stagnated since 1970s at 43% of total land area



Source: Ministry of Agriculture, PhillipCapital India Research

Hurdles abound

Over the years, India has gradually become self-sufficient in crop production, from being an import-dependent country, particularly for rice and wheat. It is now one of the leading countries in many categories of food production.

Indian agriculture is more diverse than other countries in terms of soil quality, land holding sizes and cropping patterns. Also, Indian farmers depend


on monsoon as only c.48% of India’s farming land is irrigated. There has been a drought-like situation in several parts of Maharashtra over the past 2-3 years. Sometimes, unseasonal rains also destroy standing crops, leaving farmers with huge crop losses. Availability of agriculture inputs at reasonable prices and farm laborers is another complication. Farmers receiving reasonable realization is not a given, and their profitability tends to vary from season to season and year to year. “It (farming) is a very difficult business, Sir. It requires hard work, constant investment, and risk-taking ability. Lack of education and traditional land holding forces farmers to remain attached to agriculture. Forget profit, it is difficult to recover cost nowadays,” said Mr Mamniya, a distributor of agriculture inputs at Satara, Maharashtra.

A selective approach (focused on rice and wheat) and constraints such as availability of resources, regional diversity, small landholdings, and high dependence on rainfall are hurdles in the way of India’s long-term agriculture sustainability.

India's leading position in agriculture


AREA (MN HECTARES)

	India	World	% Share	Rank	India's leading position after
Total Area	329	13,490	2.4	7 TH	Russia, Canada, USA, China, Brazil, Australia
Land Area	297	13,009	2.3	7 TH	
Arable Land	156	1,424	11.0	1 ST	LEADER



POPULATION (MN)

	India	World	% Share	Rank	India's leading position after
Total	1,324	7,467	17.7	2 ND	China
Rural	867	3,371	25.7	1 ST	LEADER




CROP PRODUCTION (MN T)

	India	World	% Share	Rank	India's leading position after
Total Cereals	298	2,909	10.2	3 RD	China, U.S.A
Wheat	92	749	12.3	2 ND	China
Rice (Paddy)	164	756	21.6	2 ND	
Pulses	18	83	21.7	1 ST	LEADER




OILSEEDS

	India	World	% Share	Rank	India's leading position after
Groundnut (in shell)	7	45	16.6	2 ND	China
Rapeseed	7	68	10	3 RD	Canada, China




India's leading position in agriculture

COMMERCIAL CROPS




	India	World	% Share	Rank	India's leading position after
Sugarcane	348	1,861	18.7	2 ND	Brazil
Tea	1	6	21.2	2 ND	China
Coffee (green)	0	9	3.8	7 TH	Brazil, Vietnam, Colombia, Indonesia, Ethiopia, Honduras
Jute	2	3	57.4	1 ST	LEADER
Cotton (lint)*	6	25	24.4	2 ND	China
Tobacco Unmanufactured	1	6	12.2	2 ND	China

FRUITS & VEGETABLES (MN T)




	India	World	% Share	Rank	India's leading position after
Vegetables Primary and Melons	124	1,230	10.1	2 ND	China
Fruits Primary (excluding Melons)	88	711	12.5	2 ND	China
Potatoes	43	374	11.6	2 ND	China
Onion (Dry)	21	95	22	2 ND	China

LIVESTOCK (MN HEADS)



	India	World	% Share	Rank	India's leading position after
Cattle	186	1,489	12.5	2 ND	Brazil
Buffaloes	113	199	56.5	1 ST	LEADER
Camels	0	34	1	16 TH	Somalia, Chand, Sudan, Kenya, Niger, Mauritania, Ethopia, Mali, Pakistan, Saudi Arabia, UAE, Yemen, Mongolia, Algeria, Eritrea
Sheep	64	1,188	5.4	3 RD	China, Australia
Goats	134	1,026	13.1	2 ND	China
Chicken	775	22,563	3.4	6 TH	China, Indonesia, USA, Brazil, Iran

DAIRY PRODUCTS (MN T)



	India	World	% Share	Rank	India's leading position after
Milk	165	810	20.4	1 ST	LEADER
Eggs	5	86	5.3	3 RD	China, USA
Meat	7	331	2.2	6 TH	China, USA, Brazil, Russia, Germany

Farmers do not have much control over realisations, so they focus on costs to increase profitability

Government initiatives are not enough, politically driven

The government has come up with several policy initiatives to mitigate some of the problems surrounding Indian agriculture. However, these measures are often taken to further state and central government political agendas. What is quite clear is that half-hearted reforms only support select farming communities. "We need some visible and long-term measures. Ultimately, farmers are the best judge of any scheme. So, if we see a farmer's income is growing, then policies are good, but this should be sustainable. I believe the government's intentions in recent policies are sincere, and I hope it will benefit our farmers in the long term," said Mr Dubey, a distributor of agrochemicals in Haryana.

Mandi prices determine true earnings

To understand farmers' financial health, affordability (how much they can afford), and profitability in India, one must understand farm economics. Farmers' earnings (cash inflows) are mainly determined by mandi prices (market prices – mainly wholesale) or the MSP (Minimum Support Prices set by the government). While mandi prices generally remain in line with MSPs, with the arrival of fresh production, they tend to fall below them. Because the government procures only limited volumes (25-30%) of India's total farm production at MSPs, mandi prices determine the true earnings of farmers.



Operating costs of agriculture

Labour dominates

Operating costs are dominated by labour charges in India at c.75%, including human/machine labour and irrigation charges. Rising urbanisation, or villagers switching towards alternate employment, is continuously creating labour shortages, leading to rising wage costs. In fact, this is a common concern for the entire emerging world, which is increasing demand for pesticides (herbicides) in a big way.

India's land-holding patterns are skewed towards small and marginal holdings. These small and marginal farmers have to first look at labour costs before making decisions on other major costs such as agriculture inputs. "Small farmers have very limited cash and land areas both. That's why they can't afford tractors or technology. In any case, it makes no sense for them to spend on tractors for their small land holdings. Using labourers is the only option for them," said a marketing

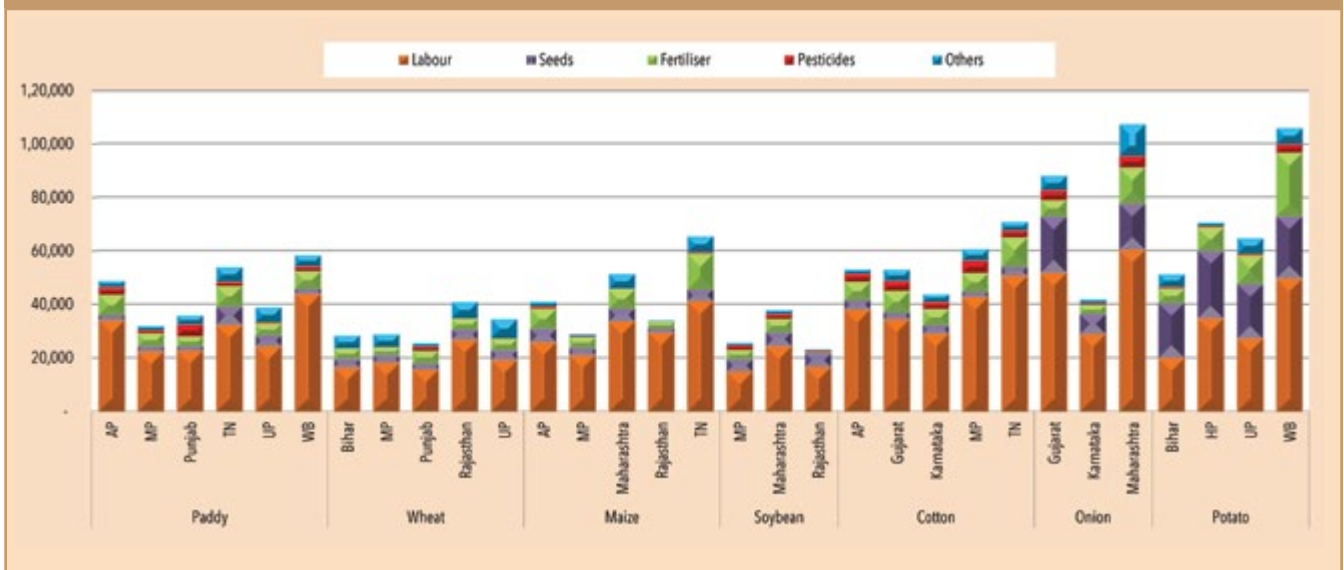
representative of Hindchem Corporation, a bio-fertiliser company based in Mumbai.

Agriculture inputs – fertilisers, agrochemicals, seeds

Agri inputs mainly cover seeds, fertilisers, and agrochemicals – together accounting for c.25% of total farming costs. While usage varies by crops and states, these inputs are largely consumed for paddy, wheat, cotton and fruits/vegetables.

- **Fertilisers** is the largest cost component at 50-55% within agriculture input costs; it holds 13-15% share in overall operating costs of cultivation. Proclivity of farmers towards urea procurement is higher than it is for complex fertilisers (NP/NPK/NPS) due to the former's lower prices – DAP is 5x more expensive than urea.
- **Agrochemicals** account for 15-17% of total agriculture inputs costs. Consumption levels in India are one of the lowest at c.300gm/ha compared to the world average of 4kg/ha. Farmers' procurement depends on multiple factors such as pest incidences, sowings areas, distribution of rainfall, and price.
- **Seeds** account for c.33% of total agri input costs.

Operating costs of cultivation for major states and their major crops



Source: Ministry of agriculture, PhilipCapital India Research

Operating costs are most important in the cost of farming, and as labour cost has the largest share in these, it plays an important role in determining profits

Crops-wise operating cost

Rice (paddy) and wheat

- Rice and wheat are part of India's primary food requirements and cover 75-77% of food grain production.
- Kharif season (monsoon plantation) is mainly identified with paddy (rice) and rabi (winter plantation) with wheat. For both seasons, major producing states are Uttar Pradesh, Punjab, Madhya Pradesh, Andhra Pradesh, and West Bengal.
- For rice cultivation in Tamil Nadu, agriculture inputs are 30% of operating costs with a major contribution from seeds. In West Bengal and Madhya Pradesh, labour costs have a larger share.
- It is different in the richer agri states. "In Punjab or Haryana, most farmers are rich. Naturally, sowing as well as agriculture inputs consumption is high. Both states can afford to use more technologies compared to any other states in India," said Mr Sharma, who works with a large agriculture inputs company in Madhya Pradesh.

Corn (maize)

- Within input costs in corn production, fertilisers account for c.20% (major consumer) vs. c.13% for rice and wheat, but pesticide usage for corn is very minimal at less than 1% of input costs.
- Over the past few years, corn is becoming an important crop after rice and wheat (c.65% share in cereals) with increasing usage in feed, food, and industrial non-food products (mainly starch).
- Feed for poultry covers a large share (c.50%) in corn consumption followed by feed for livestock.
- "Changing dietary patterns towards meat, government's emphasis towards non-traditional crops, and some contribution for ethanol fuel is supporting corn," said Mr Sharma, who works with a large agri-inputs company in MP.
- Corn is grown throughout the year, but c.75% is produced in the kharif season in Karnataka, Madhya Pradesh, Tamil Nadu, Maharashtra, and Andhra Pradesh.

- Because of high labour costs, cultivation costs in Maharashtra and Tamil Nadu are higher.

Soybean

- Soybean is considered a premium crop as it is a major source of vegetable oil and food. The government's support for oilseeds (higher MSPs) and changing food habits (mainly towards a protein-rich diet) is helping soybean production.
- It is one of the faster growing kharif crops with a production of c.14mn tonnes.
- Major producing states are Madhya Pradesh, Maharashtra, and Rajasthan.
- Farmers' operating costs of cultivation are similar to corn in Madhya Pradesh and Maharashtra.
- For soybean, seeds and fertilisers are important components for agriculture input costs, covering c.14%.

Cotton

- India is a leading producer of cotton. It is largely a kharif crop with a 6-8-month maturity cycle and its sowing depends on factors such as soil, temperature, climate and irrigation.



Cotton crop was ready to harvest in Anand, Gujarat

- “Cotton is a very dynamic crop. Frost is its enemy; it needs temperatures of 21-30 degree celsius,” said Mr Patel, a large agriculture-inputs dealer in Anand, Gujarat, a state that is India’s leading cotton-producer (one-third share) followed by Maharashtra, Andhra Pradesh, Karnataka, Tamil Nadu and Madhya Pradesh. “Gujarat is the most preferred state to produce cotton because it has the right temperature, soil, availability of water and agriculture inputs. Gujarat’s leadership in textiles is highly dependent on its cotton production,” said Mr Patel.
- Cotton has the second-highest pesticide consumption after paddy, covering about 6% of agriculture input costs.



Many farmers were enquiring about pesticides products at Kisan fair Pune, Maharashtra.

Onion

- Recently, onion prices went through the roof. “Excess rainfall damaged standing crops in larger areas, creating shortages. Prices will come down once domestic supply stabilises and imports begin (were to start by January),” said a Nagpur-based onion farmer at the Kisan Fair 2019 in Pune.
- India is the second-largest onion-growing country in the world with a production of c.23mn tonnes; production is round the year.
- Onions are majorly harvested after the rabi season (March to May) and major states producing states are Maharashtra, Karnataka, Madhya Pradesh and Gujarat – these cover c.65% of India’s production.
- In onions, seeds are a major contributor to operating costs

with a share of 19%, second-highest after potato.

Potato

- Potato used to be called a poor man’s friend and has been grown for 300+ years. It is known for its widespread availability, affordability, and its usage in various Indian dishes.
- It grows throughout the year (Kharif: September to November. Rabi: December to March), but rabi harvesting covers a major share.
- India is the third-largest potato producing country in the world, at 52mn tonnes.
- Three states – Uttar Pradesh, West Bengal and Bihar – produce c.70%.
- Potato is a high consumer of agriculture inputs with seeds having a major share at about 32%.

Benefits of MSPs are very limited

The Commission of Agriculture Costs & Prices (CACP) in the Ministry of Agriculture recommends MSPs for 23 crops (kharif and rabi). The aim is to keep MSPs at 1.5x production costs, taking into account the demand and supply situation. However, this methodology has been criticised. “Current MSP methodology does not reflect the present situation of farmers. CACP only undertakes projections based on state-wise and crop-specific estimates based on Ministry of Agriculture data. And, this data is three years behind, which means the cost escalation in inputs for farmers is not reflected in MSP,” said Mr Rao, a marketing officer at the Adventz Group.

The government maintains that it reviews MSPs every sowing season to ensure that farmers receive adequate realisations. The CACP determines production costs of crops based on A2+FL (A2 = cost of agriculture inputs, hired labour, fuel, irrigation and other inputs costs. FL = value of unpaid family labour) and C2 (comprehensive costs covering interest cost, rental cost, owned land and fixed capital costs, above A2+FL). Government aims to keep MSPs at 1.5x of A2+FL cost rather than C2 or comprehensive cost.

So, observing incidence of crop losses caused by uneven rainfall, continuous rise in input costs, and limited compensation via crop insurance, it seems like farmers' realisations are limited. Keeping MSPs at A2+FL cost does not seem to be compensating farmers adequately.

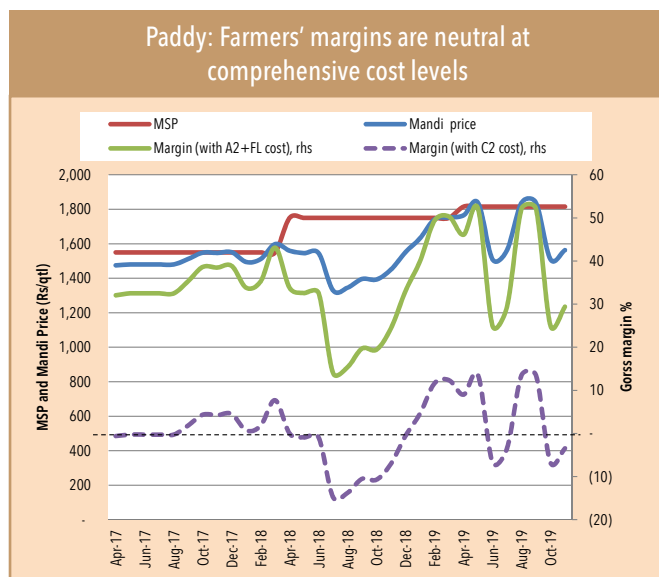
"Agriculture is the prime source of income for us. Our aim is to get some profit so that we can plan future sowing. Rising costs and no compensation for losses forces us to take loans at high costs. If there are two or more back-to-back poor seasons, then our high-interest loans keep on rising," said a small farmer in Uttar Pradesh who was busy with wheat and potato sowing.

Analysis of A2+FL and C2 costs with MSP and mandi prices

Looked at two major crops – rice (kharif) and wheat (rabi). Aim was to determine farmers' gross earnings.

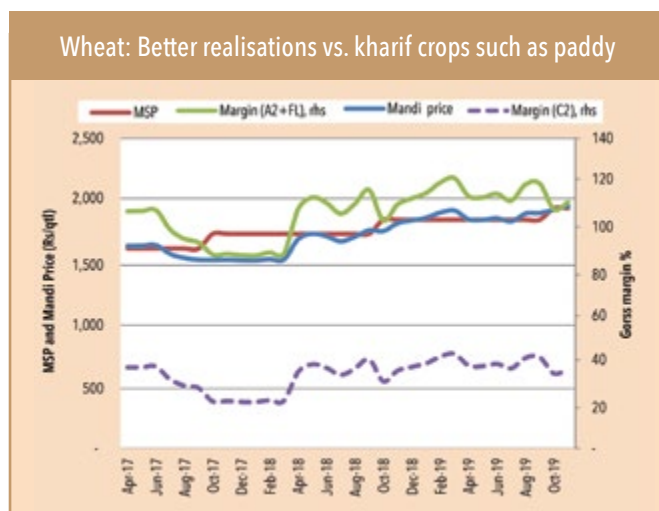
Paddy

- Mandi price for paddy remained below MSP for most months over the past three years. At mandi prices, farmers' gross margins considering A2+FL costs are at 35% in the past three years.
- Paddy is considered to be a risky crop due to its high dependency on monsoon, and therefore, farmers' earnings are highly determined by monsoon prospects. Untimely rain increases the chances of crop damages.
- Considering comprehensive cost, farmers are not making any profit on an average for the past three years. This seems to reflect the general picture of farmers' earnings for paddy crops. However, it will vary from state to state and sowing areas. For example, farmers in Punjab/Haryana or western Uttar Pradesh will not be affected much, and earn a reasonable profit because irrigated farms stand at +90% in these states compared to India's average 48%.



Wheat

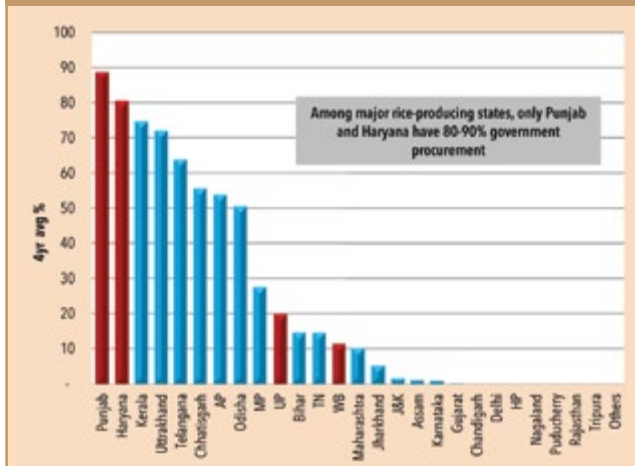
- The prospects of this crop largely depend on moisture levels in the soil. A normal monsoon or an extended monsoon (beyond September) during kharif season increases the yield and profitability of wheat.
- Chances of crop losses are limited vs. kharif season – due to limited dependence on monsoon.
- MSPs have remained above mandi prices over the past three years.
- At mandi prices, farmers' gross margins considering all comprehensive (C2) costs were at about 35% in the past three years, but considering costs at A2+FL, they increased to 100% of mandi prices.





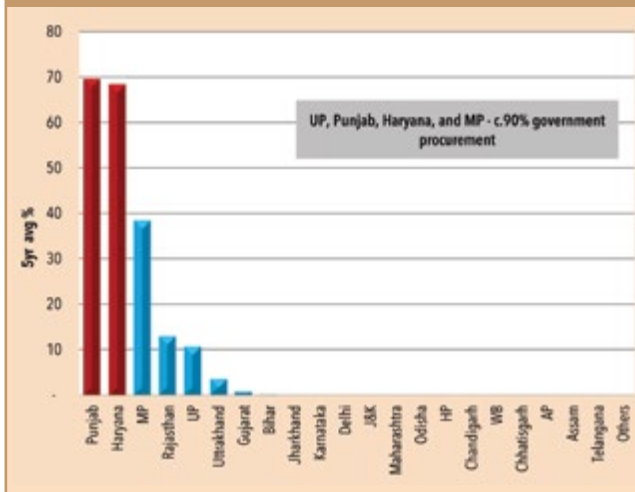
The storage of wheat in Amritsar, Punjab market

Government procurement works in Punjab and Haryana



Among major rice-producing states, only Punjab and Haryana have 80-90% government procurement

Wheat procurement works best in Punjab, Haryana, and to an extent MP



UP, Punjab, Haryana, and MP - c.90% government procurement

Source: Ministry of agriculture, PhillipCapital India Research

Storage and procurement: Important for farmers' profitability

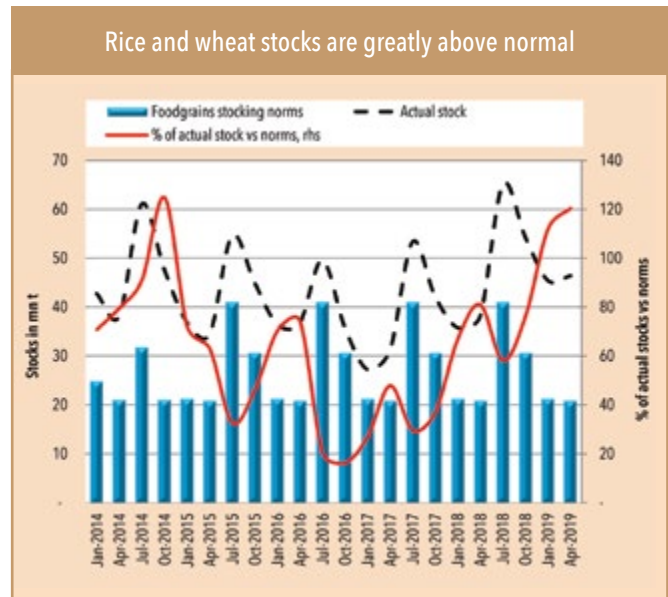
Government procurement and storage of crops plays an important role in determining farmers' true realisations, as mandi prices are often below MSPs. Traditionally, government procurement is largely focused on traditional crops such as rice and wheat, mainly to have food security in the country.

Government data suggests that procurement is only 20-25% of production and largely only in select states such as Punjab and Haryana. "Punjab or Haryana, both are traditionally high crop producing states – whether it is wheat or rice. So, procurement is also high and storage facilities are also built by government agencies such as Food Corporation of India (FCI) or state agencies," said Mr Dubey, a marketing representative working with a large fertiliser company in Haryana.

Government agencies (FCI and state agencies) largely store rice and wheat in order to maintain buffer inventories for food security, demand/supply management, and controlling prices. Continuous bumper harvesting of rice and wheat over the past few years has forced government agencies to store inventories that are much above (1.2x) set norms of about 20mn tonnes..

Government procurement process not easy for farmers

- The government has many criteria to buy at MSPs from farmers – the most important one is quality. Farmers have to visit dedicated procurement centres (additional freight costs).
- Procurement is for food grains mostly, farmers producing a variety of crops need to spend additional money on freight.
- Sometimes, farmers are also forced to sell at mandi price because they have to repay a loan taken from the buyer itself (loan against crop produce).
- The role of MSPs becomes less relevant with selective procurement (beyond rice/wheat). So, farmers don't have much choice and are forced to sell non-



traditional crops such as grains/fruits/vegetables at mandi prices to get quick money and start preparing for the next season.

Poor procurement and selective crops storage indicate poor management by the government.



Farmers gathered to sell pulses at Mandi in Madhya Pradesh

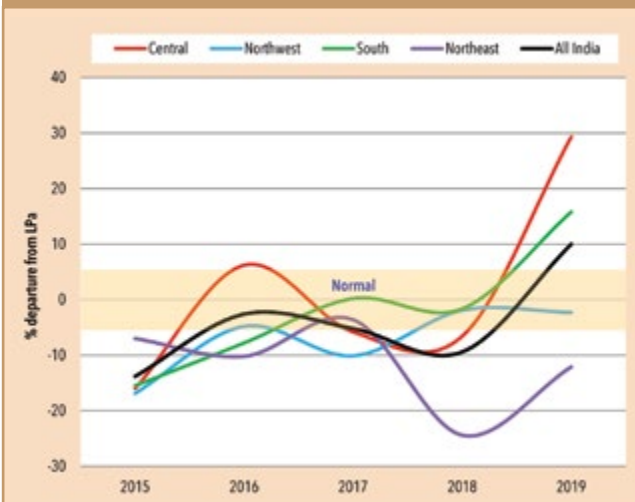


Banana crop was at flowing stage in Nagpur, Maharashtra

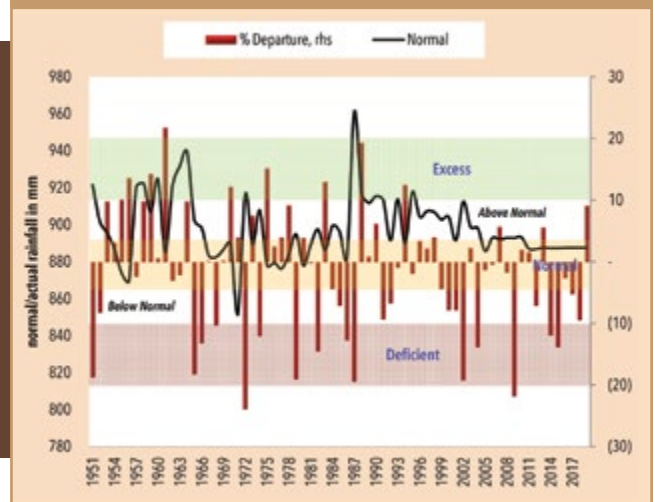
Monsoon still remains the key driver for successful farming

It has been over seven decades since independence, and Indian agriculture still largely depends a lot on the monsoon season for its water supply. Many experts attribute this to very little investment in irrigation projects, growing population and industrialization, and increasing cropping areas. Within the season, distribution of rainfall plays an important role in determining the success of that year's crop.

Regional rainfall performance has been above normal in 2019, led by central and south regions



Performance of rainfall remained below normal or deficient in recent years



Source: Ministry of agriculture, PhillipCapital India Research

Challenges bring in better solutions

Structural drivers are supporting growth, despite near-term challenges

India's core advantages of higher topographical diversity, soil, and climate makes it one of the most agriculture-conducive countries in the world. The small-sized farming, different cropping patterns across the country and farmers' multi-tasking ability makes India a leader in agriculture. However, farming has also become challenging over the past few years due to mismanagement of resources, policies, and climate change. "There is no doubt that agriculture is the prime driving force of rural India. While the last few years have been challenging for farmers, the government's current focus towards farming will surely support them. In fact, this has helped us to grow faster in terms of revenue and profit," said Mr Shinde, a product development manager with a large fertiliser company based in Pune, speaking to the GV team at a Kisan Fair.

Despite all its inherent positives, it is fairly well known that Indian farming and its farmers are facing many challenges; a key one is earning reasonable profits or recovering costs. Dr Ashok Dalwai, CEO of Doubling Farmers Income Committee of Government of India, believes that there are problems on both sides – production and post production. "The first is addressed via high MSPs and the second via marketing efforts. Some changes are visible, but it will take time," he said. Mr Dalwai's comments are in line with the government's efforts to encourage better agriculture growth and its approach of making structural changes in the sector.

"We (farmers) are also businesspersons – we shift to crops where returns are higher. Also, we gauge water availability, MSP, and mandi prices before sowing," – Mr Rai, a farmer and agriculture inputs dealer in Amritsar, Punjab.

Here are some of the structural changes that are panning out in the sector:

Focus on less water consuming crops

One of the main disadvantages of Indian farming has been dependence on monsoon water. In the past two decades, we have seen that every 2-3 years, there has been a drought-like situation or below-normal rainfall compared to periods in the 1980s or 1990s, which were more stable. As uncertainty of monsoons often puts sowing and crop-production at risk, farmers need to find options to improve production and yields. Focussing on less water-dependent crops is an ideal option.

The government has been advising farmers to select crops with minimum water requirements. "I am planting more oilseeds (soybean) rather than wheat and rice over the past two years, as water availability is very limited," said a farmer from Latur, Maharashtra, who seemed quite satisfied with this gradual shift in his sowing pattern, which he believed has helped him improve yields and realisations.

Mr Darak, a senior marketing representative of Hifield-AG Chem India, a small agrochemicals company based out of Aurangabad believes that fruits, vegetables, and cereals are the best options for farmers. "Water plays an important role in farming; deficient rainfall over the past two years forced farmers to adopt different cropping patterns requiring less water." Historically, farmers have been quite inclined towards sticking to traditional crops due to well-known procedures in terms of sowing, costs, realisations, and credit management. Often, farmers only stick to crops sown by neighbouring farmers so that profits/losses are similar. However, as Mr Darak points out, – "Now, farmers are more aware of newer products, methods, and crops. They are happy to take up new

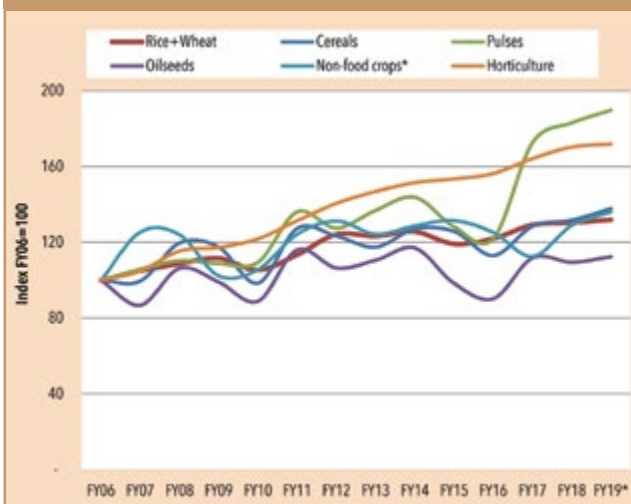


A large vegetable market in Nashik, Maharashtra

challenges. One more reason for accepting change is the uncertainty of rainfall – farmers have to find some solution if rainfall is not great.”

Changing lifestyle and eating habits

Key crop-production trends indicate increasing focus on pulses and horticulture



Source: Ministry of agriculture, PhillipCapital India Research

Many agencies are expecting India’s population to be c.1.8bn by 2050, which would entail a c.70% rise in food demand. In addition, rising income levels of the middle-class population is supporting changing food-consumption patterns. People are moving towards animal products (poultry, meat, and eggs), fruits, and vegetables vs. cereals earlier.

Kisan Fair, India’s largest agri show, saw 150,000 agriculturists and over 500 companies attending in 2019. At the event, the main reasons for changing food consumption patterns emerged as alterations in lifestyle and eating habits. Many agriculture inputs companies emphasized at the Kisan Fair that demand for horticulture, livestock, and fisheries products should overtake cereals (rice, wheat)

Changing food consumption pattern

Food groups	1983	2011	% change
Fruits	3.3	11.9	261
Edible oil	4.5	8.7	93
Milk	45.0	64.9	44
Meat, fish and eggs	5.4	7.5	39
Vegetables	47.9	56.2	17
Sugar	11.4	10.0	(12)
Pulses	11.8	10.0	(15)
Cereals	168.0	133.4	(21)

Change in intake of dietary nutrients

Food groups	1983	2011	% change
Fat (g/capita/day)	29.3	44.5	51.9
Beta-carotene (µg/capita/day)	1,358.0	1,676.0	23.4
Calcium (mg/capita/day)	489.0	579.0	18.4
Zinc (mg/capita/day)	8.4	9.9	17.9
Calories (kcal/capita/day)	2,153.0	2,104.0	(2.3)
Protein (g/capita/day)	60.8	56.5	(7.1)
Iron (mg/capita/day)	40.6	35.9	(11.6)
Cereals	168.0	133.4	(21)

Source: Indian National Science Academy research paper survey, PhillipCapital India Research, consumption in kg/capita/year

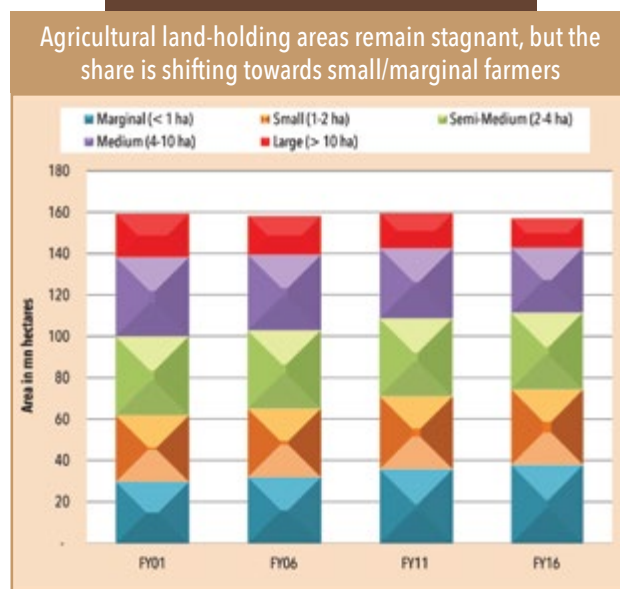
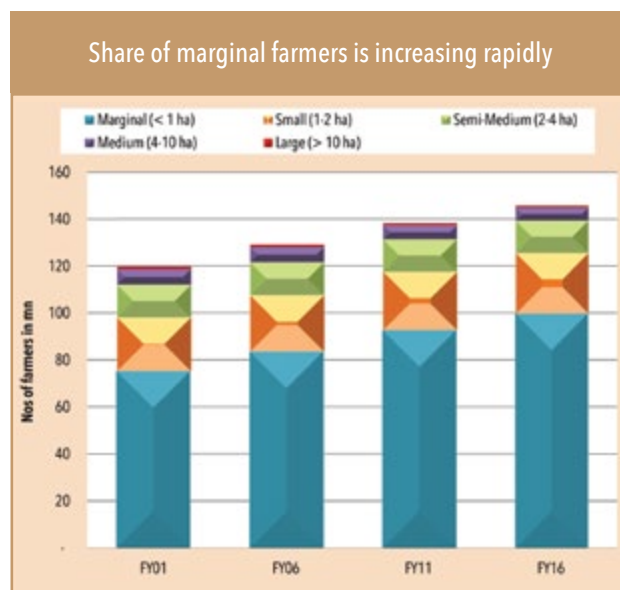
demand in the medium to long term. A research paper published by IARI (Indian Agriculture Research Institute) supports this contention. The paper says that from 1983 to 2011, consumption of cereals declined by 21% – from 168kg to 133kg per capita per year. In the same period, consumption of milk increased by 44%, meat by 40%, fruits by a whopping 260%, vegetables by 17%, and edible oils by 79%.

Land holdings are shrinking

While India's agricultural land mass has remained stagnant over the past few decades, share of small and marginal farmers' holdings (<2 hectares) is continuously rising. By 2016, their share was c.90%; therefore, government policies and reforms are formed keeping the

interest of these farmers in mind.

"Inheritance issues have led to division of land holdings into smaller and smaller holdings," said Mr Nimbalkar, a farmer from Nashik, Maharashtra, who holds c.4 acres of inherited agricultural land. Another farmer from Nagpur, Mr Kamble, who has about 2 acres, believes that smaller holdings support non-traditional crops such as fruits and vegetables and sometimes even oilseeds, better than traditional crops do. "Profits are much better in fruits and vegetables compared to rice, wheat or sugarcane. In fact, I am exporting fruits such as grapes to generate better returns," said Mr Kamble

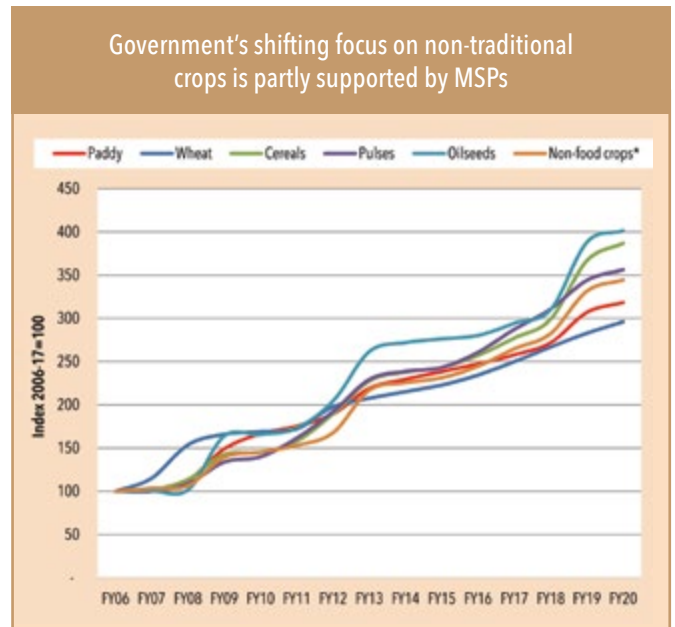


Source: Ministry of agriculture, PhillipCapital India Research, * ha: hectares

Government has increased support for non-traditional crops

The government support has always been important for the development of agriculture. However, the government has limited ability to procure crops and this becomes very important when MSPs falls below mandi prices. In this situation, farmers end up making lower realisations. They have only a limited window to offload their produce and prepare for the next season. Traditionally, the government's share of procurement is just about 25%, and that too in rice and wheat. That means that farmers have no choice but to sell at mandi prices.

“Government only focuses on traditional crops, as those are essential items for food security. Majority of procurement happens in Punjab and Haryana because both states have better storage facilities,” said Mr Verma, a



large distributor of agriculture inputs in Uttar Pradesh. Farmers end up selling at mandi prices in most states. “Over-supply of rice/wheat has forced the government to encourage cereals/pulses/oilseeds by raising MSPs, so that farmers receive better returns,” he added. MSPs trends over the past few years support this shift.

A farmer from Anand, Gujarat was preparing for the second crop after planting bananas





A group of small and marginal farmers from Nashik, Maharashtra, at the Kisan fair held in Pune

The impact of government policies

Benefits have started flowing, but at a gradual pace

Implementation is the key

Government policies have been designed to raise agriculture production and productivity with the objective of improving the income and standard of living of farmers. The focus is on expansion of cultivated areas, land reforms, support prices, public storage, procurement, distribution, trade protection, and availability of credit. These policies have largely benefited farmers, but now, with gradual and structural changes in agriculture and the economy, farmers seem to be struggling to earn reasonable realisations.

Continuous farmer agitations, especially in Madhya Pradesh, Maharashtra, Punjab, Haryana, Gujarat, Uttar Pradesh and Tamil Nadu, have prompted the government to take several measures to improve

the income levels of farmers. A major scheme that is being implemented is PM-KISAN, a flagship scheme of the central government, which aims to support farmers' incomes so that they can buy agriculture inputs with greater ease. State governments (Telangana, Andhra Pradesh and Odisha) also announced similar policies to support farmers' income such as Rythu Bandhu, Rythu Bharosha and Kalia. Other major supporting initiatives include crop insurance (revamped), emphasis on irrigation, wider penetration of soil health cards and Direct Benefit Transfer (DBT) in fertilisers. These policies are aimed at strengthening the long-term sustainability of agriculture with better usage of agriculture inputs, diverse cropping areas, and securing and sustaining farmers' incomes.

Another important factor or 'compulsion' for the government to support farming communities is the large vote bank that they represent. Indian farmers cover c.15-20%

“The bigger question is implementation. I am very hopeful that over the long term, farmers start getting benefits. Looking at all schemes holistically, I believe southern states will benefit the most because of higher cash crops and expansion of irrigated areas,”

- Mr Rane, COO of Indofil Industries.



of the voting population directly, while the rural population contributes c.70%, which means that a large share of population is directly or indirectly involved in agriculture and allied sectors. The political parties have to prioritise farmer communities for winning elections. Historically, all political parties (state or central) have announced incentives to farmers by way of one-time loan waivers or incentives to support farmers' incomes. But those benefits always provided only limited and short-term benefits to farmers.

Various measures by state and central governments indicate a long-term visibility in agriculture, but their implementation is the key.

Income support schemes

Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)

Objective

- To supplement the financial needs of landholding farmers. To provide help for procuring inputs that would ensure proper crop health and appropriate yields.
- Will support farmers in becoming less dependent on money lenders for financing farming activities.
- Exclusions: (1) Institutional land holders. (2) Farmer families holding institutional land. (3) If one or more family member have been former and present holders of constitutional posts, or former and present ministers/members of Loksabha/Rajya Sabha/state legislative assemblies/mayors/chairperson of district panchayats.

Benefits

- It aims to disburse Rs 6,000 to farmers' families (family – spouse and minor children) in three equal instalments wherein farmers can procure various inputs for better crop health and improve yields.
- Farmers need to enroll with state government agencies with Aadhaar authentication. Benefits are directly transferred to farmers' bank accounts.
- First instatement was for Dec 2018 to Mar 2019. According to Mr S Singh, a district officer from Mathura in the Uttar Pradesh Agriculture Department, 70% of India's farmers have received second and third instalments too. He said that the government was in the process of integrating various details in the system and this would take time as the verification process was being carried out. This suggests that disbursement under PM-Kisan could improve once data integration is complete; this should take about 6-12 months.

“Aadhaar wasn’t needed for the first instalment, but the government has made it compulsory to authenticate Aadhaar from the second one; maybe due to the elections. Aadhaar is delaying the process”

– Mr S Singh, a district officer from Mathura in Uttar Pradesh agriculture department who is directly involved in implementing various state and central government schemes.

Budget:

- The central government’s PM-Kisan is the most talked-about and large scheme that aims to improve farmers’ income with a budget of Rs 750bn.

Beneficiaries

- The numbers of beneficiaries as on 18 December 2019 were 88.8mn. Similarly, the number of first, second, third, and fourth instalments paid by the government to beneficiaries were 84.53/75.89/62.12/30.91mn.
- UP had the highest disbursement with a share of c.23% followed by Maharashtra, Rajasthan, MP, AP, Bihar, Karnataka, and Gujarat with a combined share of c.46%. Uttar Pradesh had seen large enrolment compared to other states mainly due to better cooperation of the state government and a higher farmer base in the state.

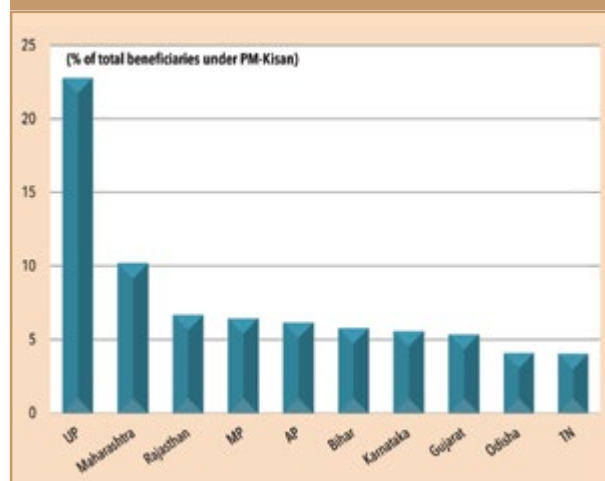
Ground realities

- Based on the number of beneficiaries by the second week of February, disbursement amount was c.Rs 337bn. Since the start of the PM-Kisan scheme, total disbursement amount has been c.Rs 533 bn against a budgeted amount of Rs 750bn.
- The Minister of Agriculture and Farmer Welfare, Mr Narendra Singh Tomar, explained the reasons for slow spending in the Lok Sabha saying – “It

is an ongoing scheme. The actual utilisation of funds may be varying depending upon verification. The actual fund position shall be ascertained by reconciliation after end of FY20. The onus lies with state governments to identify beneficiaries and upload their details on the PM-KISAN portal”.

- Another major reason for slow disbursement was that the list of beneficiaries are based on FY16 agri-census data, which does not include joint land holdings. Integrating the total number of beneficiaries will take time.
- Farmers in Maharashtra, Punjab, and Gujarat said they received their first instalment, but only a few received subsequent payments. “I received Rs 2,000, but nothing after that,” said a farmer from Latur, Maharashtra, at the Kisan Fair in Pune. A farmer from Nagpur said, “It is a good scheme, but payment should be done within a fixed timeframe. We need money before sowing. I believe the first instalment came easily because of elections”.
- Farmers from Punjab and Gujarat were slightly more positive about the scheme saying it helps them to reduce fertiliser costs and that it covers some of the kharif losses.
- UP is the biggest agricultural state with 24mn farmers and as such, its number of beneficiaries are higher vs. other states.

Top-10 state-wise shares of beneficiaries under PM-Kisan



Source: pmkisy.gov.in, PhillipCapital India Research



Chief Minister of Telangana, Mr K C Rao launching Rythu Bandhu scheme

Rythu Bandhu scheme (Telangana)

Objective

- In line with PM-KISAN, a few state governments also ran income-support schemes. The most popular and successful among them is considered to be Telangana's Rythu Bandhu (Agriculture Investment Support Scheme) run since kharif FY19.
- The scheme aims to support buying of agriculture inputs, encourage investments in agriculture and support crop production. For buying seeds, fertilisers, pesticides, labour and other investments.

Benefits

- The Telangana state government enhanced income assistance to Rs 5,000/acre/season for 2019-20 from Rs 4,000 in 2018-19.
- Amount is distributed through 'order cheque' (direct bank transfer) before the kharif season (April/May). If beneficiary amount exceeds Rs 50,000, then two cheques are distributed (the amount beyond Rs 50,000 is provided through another cheque).
- The scheme is implemented by the state agriculture department (district collectors) based on updation and purification of land records by revenue departments.
- The disbursement happens before the sowing starts for kharif (in April-May) under the supervision of district collectors, joint commissioners, DAOs, and RDOs.

Budget:

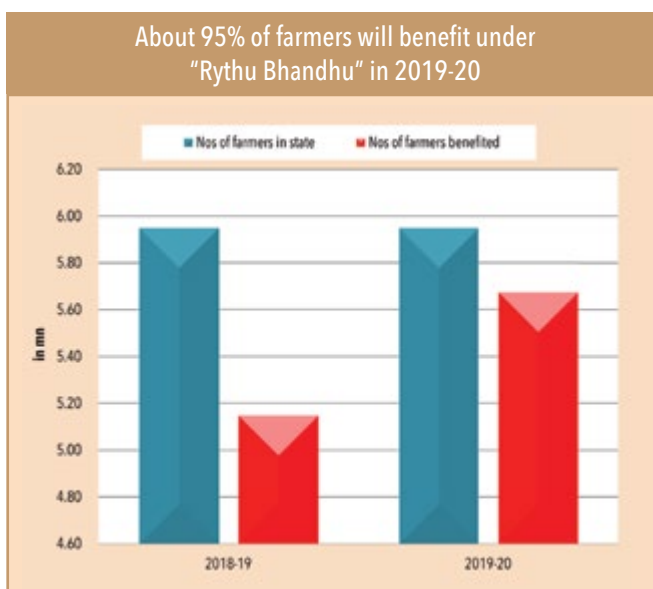
- Implemented from 2018-19 kharif season with a budget allocation of Rs 120bn in Telangana.
- Similarly, Telangana government extended assistance to 98% of farmers and is likely to disburse about Rs 145bn against an allocation of Rs 128bn for 2019-20.

Beneficiaries

- c.87% of Telangana farmers benefited from this scheme in 2018-19 of the total 5.95mn and it is estimated to have spent Rs 102bn compared with a budget allocation of Rs 105bn.
- The scheme seems to be more successful compared to any other support schemes – state government records show that of the c.5mn farmers in the state in 2018-19, c.87% have benefited.

Ground realities

- "It is the best scheme so far. About 90-95% of farmers benefited. My fertiliser cash sales have gone up as farmers are spending directly; better than they did with credit facilities," said Mr Ramamurthy, a large wholesale and retail distributor of fertiliser in Nalgonda district in Telangana.
- A farmer holding about 50 acres of agriculture land at Mahabubnagar district in Telangana was also happy



Source: pmkisy.gov.in, PhillipCapital India Research

with Rythu Bandhu. "A good policy for us. In my area, most of us are benefiting. Our credit dependency has reduced substantially," he said. He also said that another way could also work better, "Income support is good, but a small portion of farmers may misuse the cash. It is better to get higher crop realisation. Madhya Pradesh state's Bhavantar Bhugtan Yojana was a good example wherein we get the price difference between MSP and mandi prices. So, our realisation for selling crops is not affected."



Chief Minister of Andhra Pradesh, Mr Y S Jagan Mohan Reddy, with a farmer for launch of Rythu Bharosa scheme

Rythu Bharosa scheme (Andhra Pradesh)

Objective

- The YSR Rythu Bharosa scheme was implemented by the Andhra Pradesh government from October 2019 (rabi 2019) for providing financial assistance to farmer families, including tenant farmers, across the state – to help in timely sourcing of quality inputs and services for better crop productivity. A scheme similar to Rythu Bandhu, its aims are also similar. It will be implemented for five years vs. four years earlier.
- This scheme is a replacement of the TDP government's 'Annadata Sukhibhava'.
- Exclusions: Institutional land holders, farmer's families belonging to former/present constitutional post (more or less similar to PM-Kisan).

Budget, benefits, and beneficiaries

- The assistance is Rs 13,500 per year per farmer family in which the state government's contribution is Rs 7,500 and the rest is from the PM-KISAN scheme disbursement of Rs 6,000.
- The state government is expecting about 5.3mn farmer families to benefit in Andhra Pradesh. An amount of Rs 72bn is estimated to be disbursed by the state (44% share) and the central government (56%).
- The numbers of families under the scheme are 5.3mn (6.7mn farmers) and the AP government has allocated Rs 88bn for the scheme. The estimated cost of disbursement is c.Rs 72bn, which includes PM-Kisan allocation of Rs 32bn.

Ground realities

- The state government seems to be in the process of fully implementing the scheme, but it will take some time to benefit farmers. "The policy is just renamed by the state government by linking with PM-Kisan. It has just started and success rate is about 30-40% in our area due to the government's budget constraints," said Mr Rao, a market development officer at Adventz Group at Hyderabad. Mr Reddy, a large farmer from Telangana holding some agriculture land in Andhra Pradesh, echoes Mr Rao, "I have got some share of PM-Kisan, but not all instalments. The scheme is good, but implementation is taking time".

Krushak Assistance for Livelihood and Income Augmentation – KALIA (Odisha)

- The KALIA scheme was launched in December 2018 by the Odisha government to support small, marginal, and landless farmers in the state.
- Objectives: To improve poverty.

- The total cost of the scheme is Rs 100bn with financials support such as: (1) Rs 10,000 per family in rabi and kharif seasons to about 3mn farmers. (2) Rs 12,500 assistance to about 1mn landless agriculture households for agriculture activities. (3) Life insurance of Rs 0.2mn and additional personal accident cover of Rs 0.2mn to about 5.7mn households of cultivators and landless agricultural laborers. Government will also share part of the premium paid. (4) Interest free crop loans to vulnerable landless laborers, cultivators, share croppers and agriculture families identified by gram panchayats – up to Rs 50,000 at 0% interest.

Bhavantar Bhugtan Yojana (BBY) scheme (Madhya Pradesh)

- Madhya Pradesh launched BBY in October 2017 to compensate farmers in the event of a fall in crop prices. The scheme was initially extended to eight crops – largely oilseeds and pulses – as government procurement is very limited in these compared to rice and wheat.
- Farmers are compensated if selling price is lower than MSP.
- The compensation is determined on model price (market price within the state and outside the state).
- If farmers' selling price is less than MSP but higher than model price, then the difference between MSP and actual price is paid. If selling price is less than MSP/model price then the difference between MSP and model price is paid.



Crop Insurance: Pradhan Mantri Fasal Bima Yojana (PMFBY)

Objective

- To provide insurance cover and financial support to farmers in the event of crop failure because of natural calamities, pests, and diseases. Stabilize farmers' incomes, encourage them to adopt innovative and modern agriculture practices, and ensure flow of credit to the agriculture sector.
- PMFBY has made several improvements over previous schemes such as National Agricultural Insurance Scheme and Modified National Agricultural Insurance Scheme. It has no upper limit for government subsidy (premium paid) compared to older schemes.

Benefits

- Insurance charges paid by farmers (of sum insured or the actual rate, whichever is less) for kharif crops (food and oilseeds) are 2%, for rabi crops (food and oilseeds) these are 1.5%, and 5% for kharif/rabi crops (commercial and horticulture crops).

Budget:

- PMFBY was implemented in February 2016 with an initial budget of Rs 55bn in FY17. The revised budget allocation was Rs 136bn for FY20 and Rs 157bn for FY21.

Irrigation schemes: Moving towards a long-term solution

Beyond income support policies, the ones that were most discussed dealt with expanding irrigation areas. Historically, the government was only focusing on small and medium projects with development of surface water; major investments were made only from the public sector. Now, it is focusing on comprehensive areas such as micro and drip irrigation, with support from the state governments and the private sector.



Irrigation: Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)

- Government launched PMKSY by formulating ongoing schemes of Accelerated Irrigation Benefit Programme (AIBP) of Ministry of Water Resources (MoWR), River Development and Ganga Rejuvenation (RD&GR), Integrated Watershed Management Programme (IWMP) of Department of Land Resources (DoLR) and the On Farm Water Management (OFWM) of Department of Agriculture and Cooperation (DAC).
- Vision: Extending coverage of irrigation 'har khet ko pani' and improving water usage efficiency 'more crop per drop' with a focus on solutions in water source creation, distribution, management, field application, and extension activities.
- AIBP is focusing on faster completion of ongoing major and medium irrigation projects.
- PMKSY of MoWR and RD&GR are focusing on creating water sources through minor irrigation including repairs, restoration, and renovation of water bodies, strengthening carrying capacities, etc.
- DoLR is responsible for water harvesting structures such as dams, nala bund (water retaining structure), farm ponds, and tanks.
- DAC is focused on programme management, preparation of the state/district irrigation plan, approval of annual action plan, and monitoring.

Mr S Singh of the Department of Agriculture at Mathura, UP, believes that only 50% agricultural land is irrigated. "This is major concern for farmers, who are then left with no option but to rely on the monsoon. Past policies were only focussed on smaller irrigation projects that had an efficiency of only 30-40%".

PMKSY seems to be providing some solution by addressing the problem of efficient usage of water



and expanding irrigated areas. The government combined four ongoing programmes or polices under PMKSY so that water efficiency can be improved ('more crop per drop') with a vision to extend irrigation areas under a vision of "Har Khet Ko Pani", primarily focusing on extending areas. There are several projects underway via central funding and assistance and through states governments – to expand the irrigation areas and reduce monsoon dependency. Under the 'more crop per drop' by AIBP, the central government has sanctioned about Rs 18bn in FY20 (sanction in the past four years has been c.Rs 104bn for 255 projects) with small and medium projects (around 43) covering all major states. The government aims to cover about 2mn hectares of potential irrigation areas under this.

Some major irrigation projects

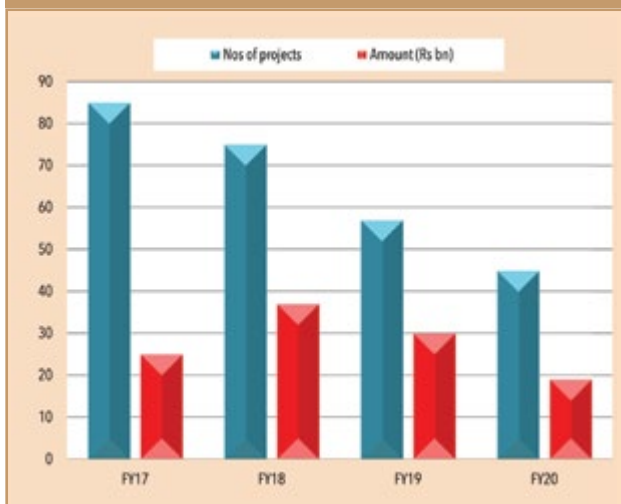
Two most important and large irrigation projects are under development in Telangana and Andhra Pradesh at an estimated combined cost of about Rs 1,350bn.

- o **The Kaleshwaram Lift Irrigation Project (KLIP)** in Telangana is the longest in Asia at 1,832kms to be built at cost of about Rs 800bn. The state government expects this project to add 0.8mn hectares of irrigated area, covering c.3mn hectares in the state. It is to be completed by 2022-23. The additional areas should cover the state's entire water requirement by covering all districts. The project has several phases and was inaugurated in June 2019. The state government has spent about Rs 480bn (c.60%) by the end of FY19 and is presently seeking central support for further funding.
- o **Polavaram project** in Andhra Pradesh on the Godavari River will be developed at a cost of Rs 550bn adding c.300,000 hectares of irrigation areas with increasing water supply for the state. Interestingly, the project

A fertiliser retailer at Anand, Gujarat, taking fingerprints for his Point-of-Sale (PoS) machine transactions



Projects sanctioned under PMKSY (AIBP)



Source: pmksy.gov.in, PhillipCapital India Research

will support other nearby states such as Odisha and Chhattisgarh as water saved will be shared with them (6.5TMC). The progress of the project was affected due to floods last year and the newly elected government in the state reviewed the cost and started the project activity. It is supported by central government funding; the state government believes it will complete the project by 2021. "This project should be a game changer in AP. Water from the Godavari will also support Krishna and Rayalaseema areas," said Mr Rao, a market development officer at Adventz Group, who was quite positive on the development of the Polavaram project. "About 90% of areas to be covered under irrigation compared to about 40-45% at present in AP. It is good for farmers and companies like us. Larger irrigation areas will surely help more sowing. This will improve consumption of agri inputs," he added.

Other schemes

Soil Health Card (SHC) scheme

- SHC is a printed report that has the status of soil in terms of 12 parameters – such as primary and secondary nutrients status (N, P, K, S), micro nutrient status (Zn, Fe, Cu, Mn, Bo) and physical parameters (pH, EC and OC).

A group of farmers from Nashik, Nagpur and Kolhapur with PhillipCapital's analyst Deepak Chitroda



- Launched by the government in 2015 to adopt comprehensive soil health management practices, optimizing water resources, etc.
- SHCs are issued to farmers carry crop-wise recommendation for nutrients and fertilizers.
- Aim is to improve productivity by using the right agriculture inputs.
- Samples are collected across soil-testing labs, examined by experts, and recommendations are provided to farmers.

Direct Benefit Transfer (DBT) for fertiliser

- DBT was implemented in 2016 with pilot projects in select districts across India. The objective was to install Point of Sale (PoS) machines at each retail outlet (about 225,000) where fertilisers were sold.
- Phase 1 of selling fertilisers through PoS machines was implemented on a pan-India basis – where subsidy is transferred to fertiliser companies after PoS authentication at the retail counter.
- The Indian government is in the process of working on methods/procedures to transfer subsidy directly to farmers' bank account under phase 2, so that fertiliser companies are free from the subsidy regime.

National Agriculture Market (e-NAM)

- National Agriculture Market (e-NAM) is an online trading platform for agriculture commodities facilitating farmers, traders and buyers.
- Launched in April 2016. Since then, the government has integrated 585 wholesale regulated markets (APMCs).
- Small Farmers Agribusiness Consortium (SFAC) is the lead agency for implementation of e-NAM under the Ministry of Agriculture.
- The objective promotes uniformity in agriculture marketing with integration of APMCs (Agriculture Produce Market Committees) across the country through a common online market platform.
- Total volumes were 258mn tonnes – with a value of Rs 708bn by June 2019.

Companies have already started reaping returns

Structural changes support consumption of agri inputs

Indian agriculture is highly dependent on the monsoon, whose progress and distribution plays a key role in determining crop production and farmers' incomes. The performance of the kharif season sets the outlook for agriculture and its allied sectors. Kharif planting starts with south-west monsoons in June.

Different crops are sowed in the two seasons, kharif and rabi, but share of production is largely equally distributed between them in terms of food grain (rice, wheat, cereals and oilseeds). Kharif predominantly includes paddy (rice), bajra with major cereals such as ragi and small millets, pulses (maize, urad, moong, groundnut), some fruits/vegetables, and common crops such as cotton and sugarcane.

The consumption prospects of agriculture inputs are highly correlated to crop dynamics and the monsoon's performance. For agrochemicals, kharif is important because paddy and cotton cover a large share of pesticides demand.

Monsoon becomes somewhat more important for non-urea fertilisers than urea, but it is more or less evenly distributed over the two seasons. "Ultimately, fertilisers are a nutrient and necessary for plant growth. Demand is affected to some extent for complex grades due to higher MRPs, but not urea," said Mr Arora, a senior marketing officer at one the largest P&K fertiliser groups in India.

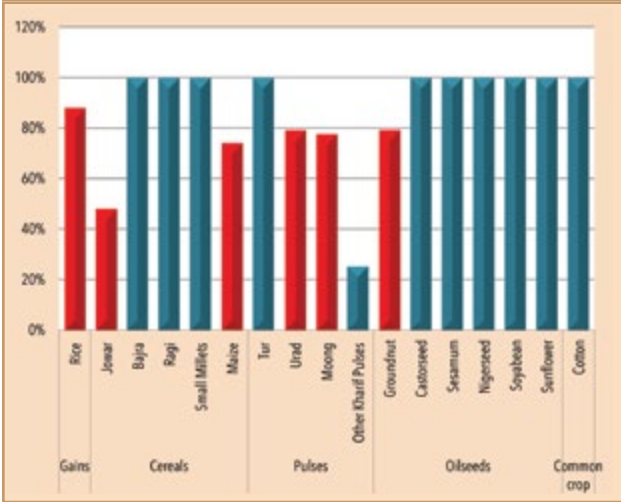


A fertiliser trading company, Richfield Fertilisers based out of Nashik, Maharashtra was displaying various grades of water-soluble fertilisers at the Kisan fair in Pune

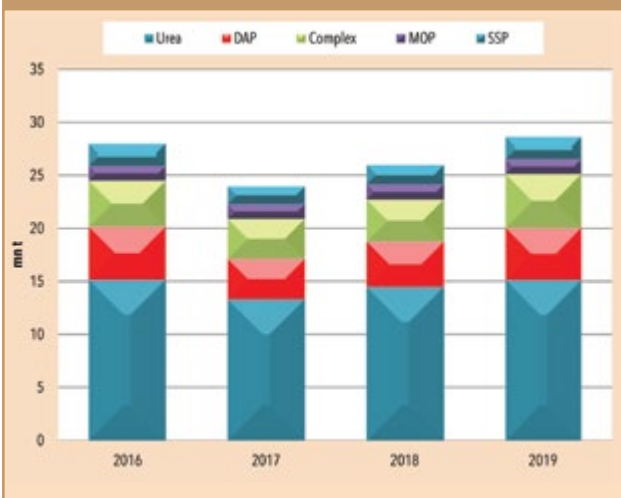
"Paddy and cotton constitute 60-70% of pesticide consumption, so kharif season is very important to our industry, ...Pesticides are consumed at a later stage of sowing. Erratic rainfall discourages farmers from using agrochemicals,"

- Mr Rane, Indofil Industries Ltd.

Production share of major crops: Kharif vs. rabi



Fertiliser consumption share is almost 50% in kharif



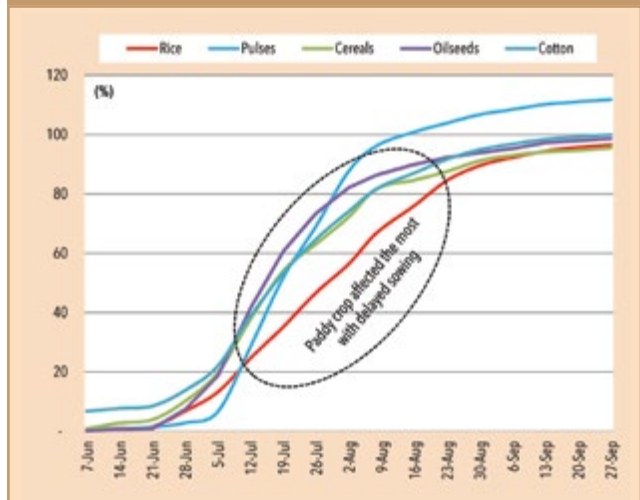
Hindchem Corporation, an agrochemicals company based out of Mumbai. Like Hindchem, other large companies saw sales volumes dropping. Insecticides products were hit due to less pest incidences and herbicides/fungicides products were dented by lesser sowing areas.

Fertiliser consumption for kharif improved for major products such as urea (+3% yoy) and DAP (+2% yoy). It was stable for other complex grades and potash consumption. "Farmers buy 50-60% of their (fertiliser) requirement ahead of the (sowing) season. Poor monsoon has limited impact on consumption, unless channels inventories are high. Continued fall in MRPs and healthy inventories support a rise in sales," said Mr Khare, former chairman of Madras Fertiliser.

Delayed monsoon affected kharif sowing areas in 2019



Paddy sowing area affected the most in 2019



Source: pmkisy.gov.in, PhillipCapital India Research

Agri input consumption in Kharif 2019 hurt by erratic monsoon

2019 kharif saw erratic monsoon, delayed start by a month, and a one-month extension. Farmers started with limited kharif sowing areas, which gradually improved after August. By the end of the season (September), planting areas had reached 100% with support from cereals, cotton, and oilseeds, but there was major decline in areas from the main (usual) kharif crops – paddy and pulses.

Erratic weather affected the consumption of agriculture inputs, particularly, agrochemicals. "This time kharif impacted us a lot. Late and untimely rain with poor distribution dented our volumes by 20-25%," said Mr Sharma, a sales manager at

Source: Ministry of agriculture, PhillipCapital India Research

Rabi is doing exceptionally well

While the progress of the Rabi (winter sowing) season and its performance largely depends on the distribution of the monsoon, planting, and harvesting during kharif. Rabi mainly covers wheat, cereals (barley), pulses and some fruits/vegetables. Mr Agarwal, one of largest distributor of fertiliser and agrochemical in Amritsar, Punjab, explained – “Normal or extended monsoon always helps larger sowing areas for rabi crops because soil contains higher moisture, supporting all winter crops.”

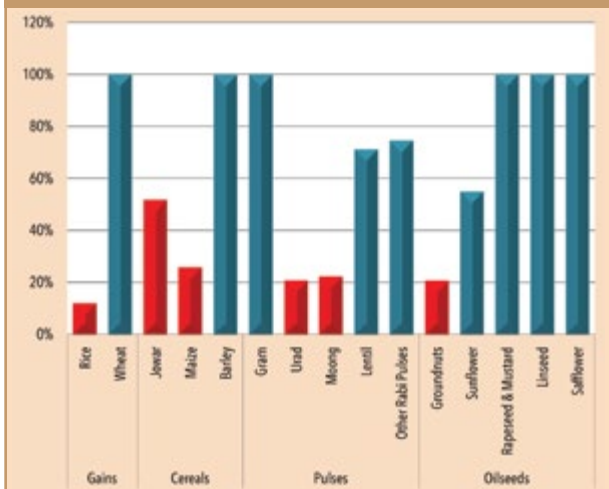
Normally, sowing is done by October and harvesting is complete by February/March across various states. In this season, agriculture inputs consumption is at lesser risk, as rabi demand is already pre-determined based on kharif's

performance. “Our fertiliser consumption in rabi season is similar to what it is in kharif. For pesticides, rabi contributes 20-30% of our annual sales. This time, rabi off take has been exceptionally good. Our volumes are 10-15% higher than last year,” said Mr Agarwal. Mr Agarwal said that kharif crops paddy and cotton determine 60-70% consumption of pesticides. Good volume growth so far in the rabi season clearly suggests pesticide consumption will be higher this year in the rabi season compared to last year's rabi.

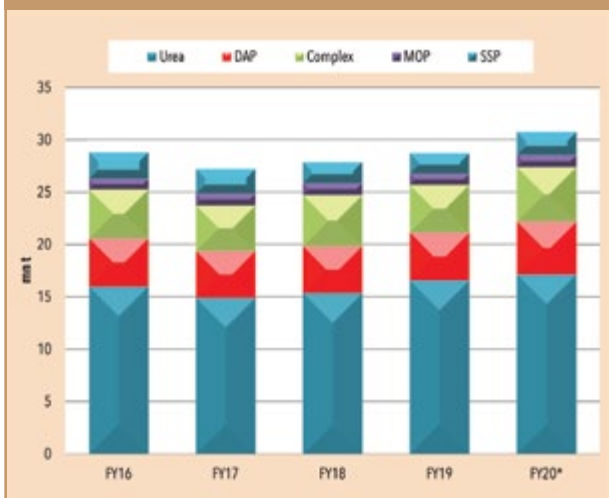
Rabi season is almost over. So far, planting areas improved by 10% to 66mn hectares this year, touching 104% by the end of January 2020 compared with 95% in the previous year. All major crops, including wheat, pulses (gram, lentil), cereals (corn, jowar, and barley), oilseeds (mustard) and fruits/vegetables (onion/potato/grapes/apple/chilly) have seen sowing areas growing by 6-15% compared to last year. An extended monsoon also helped to have water storage at 91 BCM (billion-cubic meters), much above the 10-years average and compared to 2018, and is likely to support farmers for double planting ahead of kharif 2020.

The bumper sowing supported consumption of agriculture inputs. So far, fertiliser (urea, DAP, complexes, MOP and SSP) consumption grew by 20% to 18mn tonnes in the first three months (Oct to Dec 2019) of rabi compared to 2018. Pesticides sales volumes also improved by 10-15% compared to last year's rabi. “The season (rabi) is good. Herbicides and fungicides have seen 10-15% growth so far and we expect it to grow much higher,” said Mr Gupta, a large dealer of pesticides in Bhopal, Madhya Pradesh.

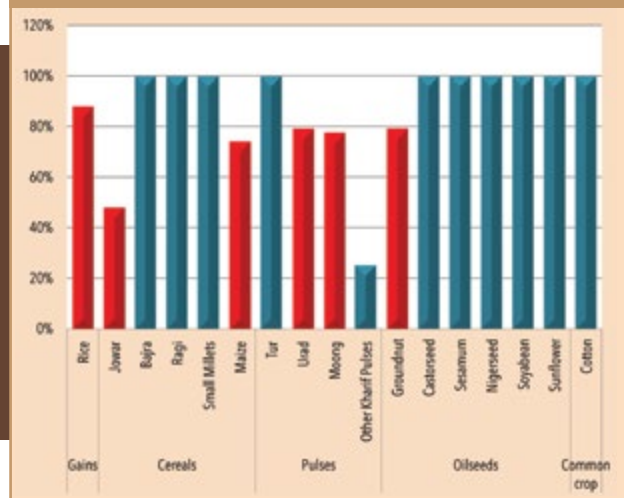
Production share of rabi crops



Fertiliser consumption in rabi



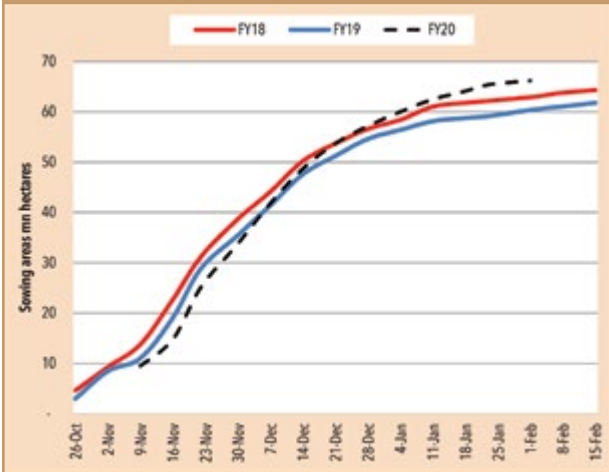
Production share of kharif crops



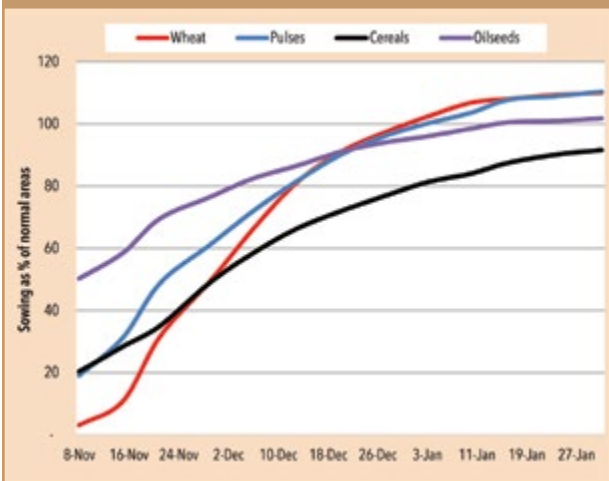
Source: Ministry of agriculture, PhillipCapital India Research, Bar in red are common crops for kharif and rabi

Source: Ministry of agriculture, PhillipCapital India Research

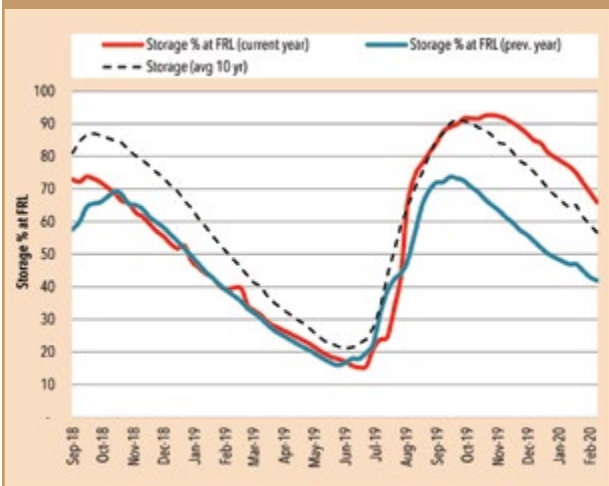
Rabi sowing is progressing much better compared to the last two years



Major rabi crops' sowing as % of normal areas



Water storage levels are above the 10-year average levels



IFFCO, India's largest fertiliser manufacturer and a multi-state cooperative society, displaying DAP and other complex grades at the Kisan fair in Pune

Better rabi is driving consumption

Good water reservoir levels with higher moisture content in the soil have supported consumption of agriculture inputs so far this year. It also supported companies in recovering some sales-volume losses incurred in kharif 2019.

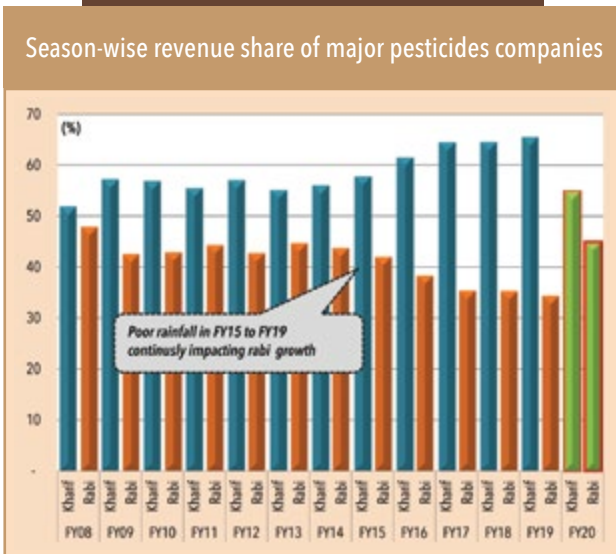
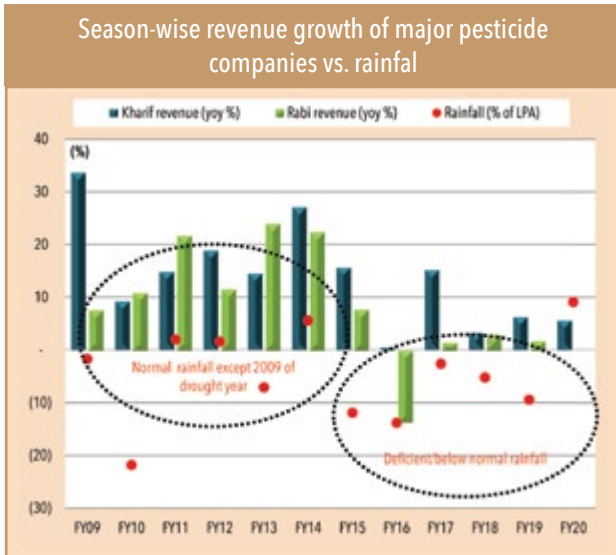
"Rabi has been exceptionally good so far. Crop production and yields should be much better for farmers," said Mr Pradeep Dave, Chairman of AIMCO Pesticide Ltd and President of Pesticide Manufacturer & Formulators Association of India (PMFAI). "See, kharif covers 60-65% of pesticide consumption. It was a not a good season for the industry, but now a good rabi is helping to recover some of the losses," he added.

If we look at domestically driven agrochemical companies' revenue in FY16-20 in the light of rainfall, revenue growth of both kharif and rabi have remained negative or in single digits, primarily due to deficient or below-normal rains. Similarly, normal rainfall in FY09-15 (even though FY10 was a drought year) supported 10-25% revenue growth in kharif and rabi seasons.

Rabi's revenue share in pesticides was 45% in FY09-14, which gradually declined to 35-40% due to poor rainfall. However, it appears that this trend may change as monsoon has been above normal in 2019 after five years. Mr Rane of Indofil Industries point to better water levels (stored) this year, which should prove supportive in case of delayed rains this year.

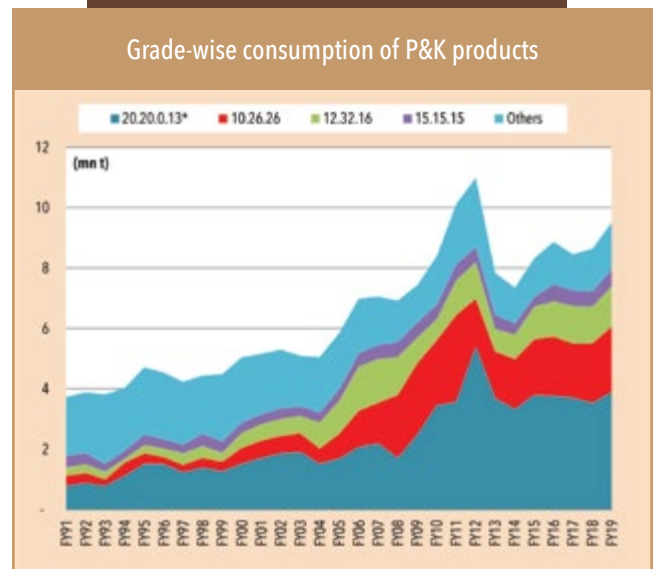
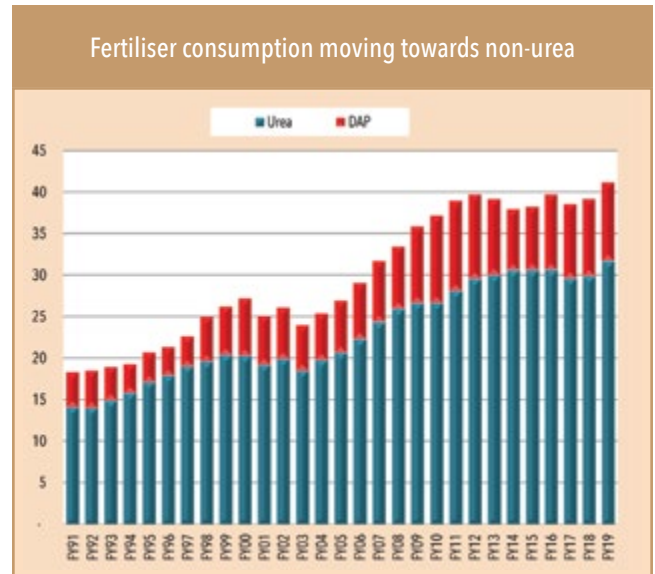
“The past 3-4 years have been challenging for the pesticides industry mainly due to the rains,”

- Mr Pradeep Dave, Chairman of AIMCO Pesticide Ltd and President of Pesticide Manufacturer & Formulators Association of India (PMFAI).



Consumption of agriculture inputs clearly show that changes are visible

For instance, fertiliser consumption saw a CAGR of 3% in the past three decades, largely driven by urea, but interestingly, within non-urea grades, three popular grades (20-20-0-13, 10-26-26 and 12-32-16) saw a higher CAGR of 6%. “NPKs are becoming popular. Lower prices compared to DAP and extra nutrient content is supporting their growth. Also, consumption of fruits/vegetables and pulses is rising, helping better growth for non-urea products,” said Mr Sharma, a marketing manager of Indian Potash, the largest fertiliser importing company in India.



Source: Ministry of fertiliser, PhillipCapital India Research

Source: Ministry of fertiliser, PhillipCapital India Research

Long-term driving factors for agriculture inputs consumption

Will the government’s various measures to improve farmers’ income indirectly aid agriculture inputs companies in the short term or longer term?



A distributor of GSFC Ltd at Vadodara, Gujarat, was unloading DAP and other complex grades at his godown

Agrochemicals consumption touched c.US\$ 2.8bn, 9% CAGR in a decade

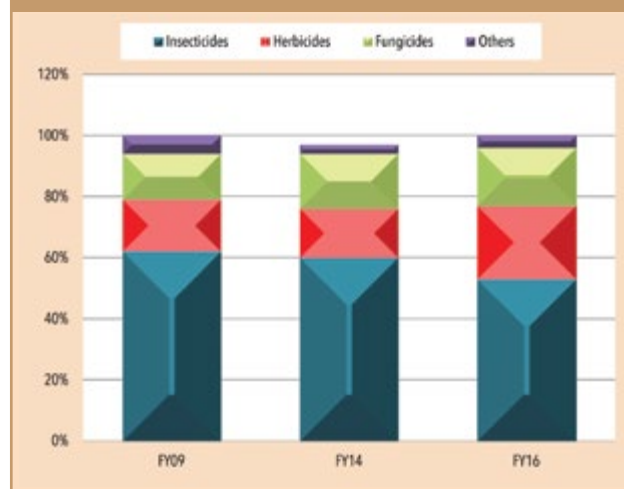
The usage of herbicides and fungicides products is rising and moving in line with global trends. "Labour cost is the major reason for the increase in herbicides, but weather and cropping patterns have also contributed to this rise," said Mr Rane of Indofil Industries.

The consumption of agriculture inputs is rising, but also shifting towards quality products or bio products with increasing awareness among farmers to improve yield and crop production. A gradual shift towards specialty crops and the government's efforts to support farmers clearly suggests better growth prospects for agriculture inputs over the medium to long term. "There is no option for us but to grow, as India is the lowest consumer of pesticides and fertilisers among comparable countries. Policies and technologies should be the key drivers," said Mr Dave of PMFAI.

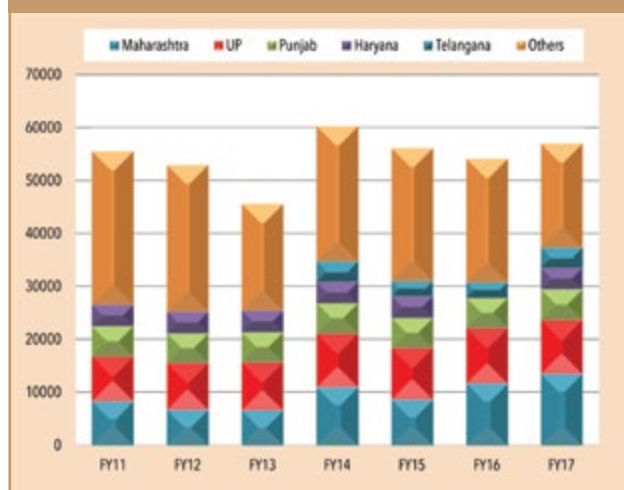
Other changes also support growth

Beyond government factors, other structural changes that support the consumption of agrochemicals are climate change, rising population, farm labour shortage, adoption of farm technologies, and most important, exports opportunities for pesticide companies. "Exports are a big opportunity for India for faster growth. China's zero-growth approach has started benefiting India,"

India's agrochemicals products: Category-wise share



State-wise consumption of pesticides by volumes



Source: Ministry of fertiliser, PhillipCapital India Research

said Mr Sharma, a marketing officer at one of the largest pesticide exports companies in India. The Indian agrochemicals market is valued at US\$ 5.0-5.5bn; exports are valued at c.US\$ 3.0-3.5bn. Exports have seen 10% CAGR over the past five years with their share moving close to 50%. Many global agrochemicals companies are gradually shifting their outsourcing businesses to India, largely due to China's green initiatives over the past few years.

"Innovators always look at reliability, quality of products, and assurance while outsourcing manufacturing, and India is seen as the best fit to take over from China," said Mr Sharma. Certainly, India has become a strong partner with innovators considering its core advantages in terms of manufacturing capability, R&D facilities, skilled manpower, and support and trust of global innovators for outsourcing opportunities. In fact, results are visible – one has to just see some of the companies' exports growth. For example, PI's export revenue CAGR was 29% vs. domestic revenue CAGR at 9% over the past decade. Similarly, UPL's was 15% vs 12%.

The China angle

In addition to China deliberately slowing down industries detrimental to its environmental health, the US-China trade war and erratic weather dented the global agrochemicals market over the past few months. However, the recent US-China trade situation is likely to improve in coming months. The US is the largest exporter of agri products to China (c.50% share of soybean). With the signing of Phase-One of the trade deal last month, US agriculture exports have the potential to grow 5x because of China in the next two years, which should improve consumption of US agrochemicals and indirectly support the growth of Indian exporters.



A dealer in Gujarat was busy selling fertilisers and pesticides due to better rabi demand

Annexure : Major pesticides used in India

	Molecules	Manufacturer	Brands	Crops	Pests/Weeds/Fungi
INSECTICIDES	Chlorantraniliprole 18.5% SC	FMC, Dupont	Coragen	Sugarcane, Pulses, Soybean, Rice	Shoot Borer, Heliothis, Spodo
	Chlorantraniliprole 0.4% GR	Dupont	Fertera	Rice, Sugarcane	Stem borer
	Cartap 4% GR	CFL, Nagarjuna	Padan, Caldan	Rice, Sugarcane	Stem borer
	Acephate 75% WP	UPL, Rallis	Lancer, Asataf	Cotton, Paddy	Sucking Pest, BPH (in tank mix)
	Monocrotophos 36% SL	UPL	Phoskill	Cotton, Vegetables	Sucking Pest
	Pymetrozine 50% WG	Syngenta	Chess	Rice	BPH
	Emamectin Benzoate 5% SG	Crystal	Proclaim, Missile	Pulses, Soybean	Lepidopteran
	Phorate 10% GR	IIL	Thimet	Rice	Stem borer
	Flubendiamide 39.35% SC	Bayer	Fame	Rice, Pulses	Leaf folder, Lepidopteran
	Imidacloprid 17.8% SL	Bayer	Confidor	Cotton, Mango	Sucking Pest, Hopper
HERBICIDES	Glyphosate 41 SL	Excel	Glycel	Non crop , Plantation	All Weeds
	Bispyribac Sodium 10% SL	PI	Nominee Gold	Paddy	Post emergent -All weeds
	Imazethapyr 10% SL	Adama	Persuit	Soybean, Pulses	Post emergent -All weeds
	Paraquat 24 SL	Syngenta	Gramoxone	Non crop , Plantation	All Weeds
	Pretilachlor 50 EC	Syngenta	Rifit	Rice	Pre- Grasses, BLW
	Metribuzin 70 WP	Bayer, Ralis	Sencor/ Tatametri	Sugarcane, Potato	All Weeds
	Sodium Acefluorfen 16.5%+Clodinafop 8% EC (Iris)	UPL	IRIS	Soybean, Pulses	All Weeds
	Piroxofop-propinyl 15 WP (Clodinafop)	Syngenta	Topic	Wheat	Phalaris
	Glyphosate 71% SG.	Excel	Mera 71	Non crop , Plantation	All Weeds
	Tembotrione 34.4% SC	Bayer	Laudis	Maize	Grasses , Sedges
FUNGICIDES	Trifloxystrobin 25 +Tebuconazole 50 WG	Bayer	Nativo	Rice,Chili	Blast / Crop Excellence
	Carbendazim 12+Mancozeb 63 WP+ST	UPL	Saaf	Rice,Cotton	Blight, Leaf spot
	Mancozeb 75 WP-foliar +ST	Indofil	Indofil M45	Potato, Apple, Grapes	Blight, Leaf spot, Downy
	Propiconazole 25 EC	Crystal	Tilt	Wheat, Paddy	Rust, Discolouraion
	Sulphur 80 WG	Sulphur Mills	Cosavet	Mango, Tea	Plant vigour, Powdery
	Azoxystrobin 11 +Tebuconazole 18.3 SC	Adama	Custodia	Rice	Sheath blight, Crop Excellence
	Propineb 70 WP	Bayer	Antracol	Grape, Rice	DM, PM & Brown Spot
	Tricyclazole 75 WP	Indofil	Indofils BAAN	Rice	Blast
	Carbendazim 50 WP+ST	Crystal	Bavistin	Rice, Cotton	Sheath Blight, Leaf spot
	Azoxistobin 25 SC	Syngenta	Amistar	Tomato, Vegetables	Blight, PM & Crop Excellence



INTERVIEW -Ashok Dalwai

An informative interview with Mr Ashok Dalwai threw some light on the state of ongoing government schemes and the structural changes in the consumption patterns of fertilisers and agrochemicals. Dr Dalwai (IAS batch 1984) has served in different capacities at field and policy formulation stages in Odisha, Karnataka, and with the central government. Presently, he is a CEO of National Rainfed Area Authority (NRAA) in the Ministry of Agriculture and Farmers' Welfare and also CEO of the Doubling Farmers' Income Committee. He explained how the government is working closely with farmers to improve their income levels and how its several policies support farmers. He believes the benefits of these measures should be visible ahead, especially with the integration of ongoing and new schemes. In fact, some structural changes are already visible for agri inputs, he believes, driven by policies and consumption patterns.

Q: What is the outlook for Indian agriculture, considering continuous government emphasis on improving farmers' incomes? Are Indian farmers becoming progressing?

The trend is positive. Several parts of the country have had excessive rainfall and that is going to support

planting and crop production this year. Overall, we should see not only better kharif output, but also strong rabi output, much better than last year. Several reforms have been initiated over the past four years at both production- and post-production levels. Post-production becomes very important because incentives to farmers come at this stage, including marketing and logistics. On the marketing side, one act was discussed with several state governments in terms of amending it – the APMC Act – and the committee is already set up.

The Maharashtra government is looking at transforming agriculture, and has rolled out a few reforms including a new marketing act, Contract Farming Act, Promotion of Farmer Producer Organizations (FPOs), Gramin Agriculture Markets (GAMs), and exports policy for quality crops. All these measures are catching momentum and should support farmers. If farmers start earning more, then they will reinvest. More marketing support for these farmers will help them to earn better realisations and improve their income levels.

Q: What is your view on ongoing and newer government policies? Have those started benefiting farmers?

There is greater government support for reforming agriculture. A consistent improvement in MSPs (Minimum Support Price) and moving towards better procurement is supporting farmers. In 2018, the government adopted a new MSP policy to give a minimum 50% profit margin for farm produce, which resulted in MSPs going up for all 20-25 notified commodities; this helped farmers.

Procurement by the government has also increased. In the last four years, procurement quantities of pulses increased by 20% whereas oilseeds procurement went up by 8-11%. Whatever lag is there in existing policies will be addressed by the government in a phased manner.

Post-harvest management across the agriculture subsectors is gaining momentum. There is some shift towards horticulture. Its productivity has gone up and area under cultivation touched 26mn hectares. Fishery is another segment that is growing very fast.

The government has already announced 10,000 Farmer Producer Organisations (FPOs) by 2022, which will help address structural weakness in our country (FPOs are farmers' collectives comprising small and marginal farmers; these collectives help farmers to improve production, procurement, and marketing of crops). With improved productivity, the government's focus will be on exports. For the first time, India has a dedicated agriculture-exports policy; it was released last year. The focus is on cluster development (identifying areas, crops, and promotion), exploring newer seeds, planting materials, and technologies.

Q: What about agriculture input deficiencies prevailing in the system?

Over the past 40-50 years, soil became nutrient deficient because of poor cultivation practices. More nutrients were extracted from the soil than needed. We require soil-health management to overcome the deficiency of primary, secondary and micro nutrients. With soil health cards (SHC), the focus will move towards better usage of N, P, and K. Historically, Indian soil was deficient in N, but that has reduced now. We need balanced usage now, with better secondary and micro nutrients.

Q: Do you see any improvement in the consumption of fertilisers with the SHC policy?

We are now focusing on educating farmers. The focus is to educate them by reaching out at all levels, i.e., every district and village. An educated farmer will demonstrate to others and this will further support the success of SHC. In soil, organic carbon content is very important; it should be around 1.0-1.5%. It is currently at 0.3-0.5%, well below the acceptable limit, and it is a cause for concern. So balanced nutrient requirement has a lot of scope for improvement. The government has already started promoting organic farming and also provided subsidies for micro-nutrient usage in fertilisers.

Q: What kind of initiatives have the government taken to promote balanced usage in fertilisers?

The government has already moved in that direction. The present form of DBT (Direct Benefit Transfer) has the perspective to ensure that companies

get subsidies based on actual sales. It has more transparency and accountability. Lots of initiatives are taken by the government to educate farmers on DBT over the past few months. Hence, there is very high visibility for implementing DBT in the true sense, anytime. Yes, it is a complicated subject in terms of integrating databases. The government will take a call considering all permutations and combinations in a certain time frame.

Q: Do you think that the government is moving towards decontrolling urea prices, because cheaper urea is the main reason for limited usage of P&K fertilisers? How do you see usage of agrochemicals ahead?

Decontrolling prices is a very complicated subject for the government. Historically, it has taken some steps to encourage the usage of P&K – such as allowing exports, NBS (Nutrient Based Subsidy policy) for P&K, neem-coating, etc. and these measures to some extent benefited the industry. Yes, on agrochemicals, India is one of the lowest users, and we need to think of Integrated Pest Management (IPM). The usage of the biological method should be encouraged more. In fact, usage of biological products is picking up, and this should also be encouraged, but at a low price to farmers. The new pesticide-management bill will also address some points – such as lower prices, quality of products, investment in R&D, and manufacturing facilities.

Q: How are the Indian agriculture sector's long-term growth prospects?

The aim of the government is to boost farmers' income. The amount distributed to farmers goes to agriculture and indirectly to the rural economy, boosting India's growth. As more farmers are integrated with the markets on both the pre- and post-production side, the sector will see a proportionate rise in opportunities and growth. Gradual adoption of technology, micro irrigation, etc., will create demand for agriculture-allied sectors. We are moving towards digitalisation (here it means delivery of services to farmers in various forms of farm activities), so as more farmers are integrated into new and ongoing policies, benefits will be visible across the value chain over a longer period.

An interview with Mr. Pradeep Dave revealed the present state of rabi consumption, how government schemes are benefiting the agrochemicals sector, and its outlook.

Mr Dave, a chemistry graduate with more than four decades of experience in the pesticides industry, is the President of Pesticides Manufacturers & Association of India and the Chairman of AIMCO Pesticides Ltd, a Mumbai-based company with a revenue of Rs 1.97bn. Mr Dave is also on the governing body of the Institute of Pesticide Formulation Technology (IPFT), established by the Ministry of Chemicals and Fertilisers. PMFAI represents over 250 pesticides manufacturers, formulators, and traders. Mr Dave was positive about the ongoing rabi season and talked about visible changes happening in the agrochemicals sector. He was very optimistic about agrochemical consumption over the medium to long term, with opportunities from off-patent products, support from various policies, and increasing awareness of farmers towards newer products and technologies.

Q. What is your sense for the kharif season? Do you see crops production declining significantly compared with the last season?

Yes, we saw erratic monsoon starting with deficient rains, but ending with surplus in major parts of the country, especially in central India, causing crop damages. Most kharif crops are likely to see a 5-12% decline in production, except cotton, which is likely to see an increase of about 23%.

Q. What is your view on the ongoing rabi season? How much can it compensate for kharif losses?

Rabi is going great. Extended rainfall has supported high reservoir levels, creating favorable conditions for rabi crops. More than half of 120 important reservoirs have water levels exceeding 80% of their capacity. This brightens the outlook for winter crops, which are mostly river-fed. The planting areas are already exceeding last year's levels for most the crops. Cold weather conditions in northern areas will boost



yields and crop production to a new high. There were late rains in some parts of the country, especially in Maharashtra and Karnataka, where sowing has been delayed a bit. But, output in these areas, especially of pulses and oilseeds, is expected to be bumper – due to right moisture content in the soil.

Recently, Gujarat, Rajasthan and nearby areas were affected by locust attacks. The government and agrochemicals industry is working together to eradicate this menace. Our PMFAI members are actively involved in controlling the menace and supporting farmers. As far as the agriculture inputs industry is concerned, this rabi season is likely to revive demand for fertilisers and agrochemicals. Prolonged summer crop in 2019 also pushed the sale of fertilizers and agrochemicals to October, though the first half of the fiscal was bad.

Q. Are MSPs really helping farmers – because government procurement is only about 25-30% and it is largely towards rice and wheat?

MSP is an important policy that determines floor prices of major crops over the years and protects farmers from middlemen and fluctuating market conditions, because it provides them an assured market in addition to a minimum assured return. However, there are some lacunae – MSP does not consider the value of the land and interest on own capital invested by farmers. It only provides a return of 50% over the paid-out costs of inputs, interest on borrowed capital, and family labour. Also, the government does not consider domestic demand, global prices, and exports competitiveness. Benefits of the scheme do not reach all farmers and is not available for all crops – which is another problem. A regular hike in MSPs is certainly a good pro-farmer move by the government to increase farmers' incomes.

Q. What is your opinion on government policies or schemes already announced – such as PM Kisan and Crop Insurance?

A direct income support of Rs 6,000 per year under PM-Kisan is a good initiative supporting small and marginal farmers. Yes, the amount is small, but as it goes directly to farmers, it will provide timely help to them. Let us hope that the government increases it a bit. Crop insurance introduced in 2016 is certainly a good support for farmers suffering from crop damages. The insurance charges range from 1.5-5.0% of the sum insured, which seem fair. However, the question is what percentage of farmers are enrolled into the scheme, particularly small and marginal farmers. The answer is – a very low percentage. To achieve good success, a lot of awareness among farmers is needed.

Q. What are the new trends or technologies in agriculture adopted or likely to be adopted by farmers in coming years, and what is the impact on the agrochemicals industry?

It is an ongoing process. Farmers are gradually moving towards newer technologies or differentiated products, as awareness and income increases. So, adopting newer, safer and low-dose technologies or molecules is a continuous process that is taking place in the agrochemicals sector.

Q. What is the future trend of the organic or bio market?

There has been a significant rise in the number of biological control agents registered for use in India. The government is also promoting increased usage of biological products for plant protection. Bio category covers a small portion of the crop protection market at 3%, but it is steadily growing. Organic farming is not always an option to meet the food security of a nation. It is very labour intensive and requires high-quality organic inputs. Countering the incidence of pest attacks and meeting required plant nutrients for achieving desired output is another challenge. Crop yield in organic farming, compared to modern or conventional is farming, is very low – and cannot lead to food security, which is a proven fact. Finally, organic farming products (final produce) are available to ordinary people or the middle class at premium prices, which is not affordable to them.

Q. What is your view on the consumption trend for agrochemicals? Have seen a declining trend?

No, the consumption of pesticides is always going rising as India's consumption is one of the lowest in the world at 0.65 kg/ha vs. the world's average of 3 kg/ha. Only 25-30% of India's cultivated area uses agrochemicals for crop protection. Also, pests and diseases on an average eat away about 20-25% of the total food produced. India is losing agricultural production worth of Rs 1.48tn annually due to damage from pests, weeds, and plant diseases. Overall food crops compete with around 30,000 species of weeds, 3,000 species of nematodes, and 10,000 species of plant eating insects. Therefore, agrochemicals act as key inputs for crop protection and improve yields. As agriculture production demand increases with a growing population (to reach 1.5bn by 2030), usage of agrochemicals will increase.

Q. How do you see the agrochemicals sector growing in the coming 2-3 years, and how can farmers benefit from it?

The Indian agrochemicals sector is dominated by generic products – with more than 80% molecules non-patented. However, there is strong opportunity for the sector, as multiple agrochemicals worth US\$ 4.1bn are going off-patent, which would pave the way for many new generic molecules to be introduced within a span of 2-3 years. This would support farmers in improving production and yield.

PhillipCapital India Coverage Universe: Valuation Summary

Name of company	Sector	CMP ₹	Mkt Cap ₹ bn	Net Sales (₹ mn)		EBIDTA (₹ mn)		PAT (₹ mn)		EPS (₹)		EPS Growth (%)		P/E (x)		P/B (x)		EV/EBITDA (x)		ROE (%)			
				FY20E	FY21E	FY20E	FY21E	FY20E	FY21E	FY20E	FY21E	FY20E	FY21E	FY20E	FY21E	FY20E	FY21E	FY20E	FY21E	FY20E	FY21E	FY20E	FY21E
Maruti Suzuki	Automobiles	6,283	1,908	750.3	832.7	81.1	102.7	61.8	81.6	205	270	-17.6	32.0	30.7	23.3	3.8	3.5	23.4	18.3	12.5	15.0	11.9	14.5
Bajaj Auto	Automobiles	2,890	820	306.2	352.9	52.9	60.0	51.4	58.2	178	201	18.7	13.1	16.3	14.4	3.3	2.9	15.1	13.1	20.4	19.9	21.1	20.7
Mahindra & Mahindra	Automobiles	457	576	482.6	510.1	68.8	70.9	42.6	43.5	36	37	-21.5	2.1	12.7	12.5	1.4	1.3	8.2	7.8	11.2	10.6	10.2	9.7
Tata Motors	Automobiles	129	429	2839.0	2981.2	303.3	353.2	27.3	52.2	8	16	-109.6	91.1	15.2	7.9	0.7	0.6	3.3	3.5	4.4	7.8	2.2	3.1
Hero MotoCorp	Automobiles	2,052	414	304.9	332.7	45.6	50.2	34.1	36.6	171	183	0.7	7.5	12.0	11.2	2.7	2.4	8.9	8.1	22.7	21.8	27.5	21.8
Ashok Leyland	Automobiles	70	216	177.0	201.4	12.7	17.5	4.7	8.0	2	3	-76.8	70.0	43.4	25.5	2.8	2.9	18.3	13.7	6.4	11.2	6.4	11.0
Bhaarat Forge	Automobiles	435	207	84.2	87.5	12.2	13.5	6.1	6.7	13	14	-41.9	8.4	33.0	30.5	3.5	3.2	18.6	16.7	10.5	10.5	8.3	9.5
Apollo Tyre	Automobiles	143	81	169.0	177.5	19.8	21.3	6.1	6.1	11	11	-31.1	0.8	13.5	13.4	0.8	0.7	6.0	5.5	5.8	5.5	4.4	4.2
Escorts	Automobiles	780	105	60.4	66.1	7.0	8.4	5.2	6.1	44	51	9.9	17.1	17.9	15.3	2.7	2.3	14.4	11.4	14.8	14.8	13.8	14.3
Ceat	Automobiles	1,021	42	70.1	73.0	7.0	7.4	3.0	3.1	75	76	2.0	2.1	13.7	13.4	1.4	1.3	8.8	9.5	10.0	9.4	8.6	7.4
Hindustan Unilever	FMCG	2,175	4,747	397.5	499.8	101.7	133.3	71.2	96.9	33	41	13.7	25.4	66.0	52.7	56.7	12.4	46.1	34.6	86.0	23.5	68.4	35.7
ITC	FMCG	198	2,477	474.9	510.6	184.0	196.2	148.8	160.2	12	13	19.4	7.7	16.3	15.1	3.8	3.5	13.0	12.0	23.5	23.1	23.8	23.4
Nestle	FMCG	15,779	1,557	122.8	137.6	27.7	31.7	18.9	22.5	196	233	17.7	18.7	80.4	67.7	75.1	60.1	56.2	48.9	93.4	88.8	36.0	44.3
Dabur India	FMCG	496	897	90.6	101.1	19.3	21.7	16.1	18.2	9	10	5.9	12.9	54.4	48.2	13.5	11.7	46.2	40.6	24.8	24.3	26.7	26.1
Godrej Consumer Prod	FMCG	561	603	102.1	112.2	23.0	26.1	15.6	18.1	15	18	-25.3	15.9	36.7	31.7	7.5	7.0	27.0	23.6	20.5	22.1	16.9	18.4
Britannia	FMCG	2,970	722	115.2	129.1	18.7	21.6	14.1	16.7	59	69	21.6	18.3	50.6	42.8	16.5	13.0	38.5	32.9	32.5	30.5	30.5	29.3
Marico Industries	FMCG	299	390	75.5	82.4	15.0	16.2	10.6	11.5	8	9	-5.5	8.6	36.5	33.6	11.7	10.8	25.6	23.6	31.9	32.3	34.8	34.6
Colgate	FMCG	1,285	358	46.2	50.4	12.6	14.0	8.0	8.9	29	33	7.4	10.7	43.7	39.5	24.5	24.4	28.1	25.3	56.0	61.9	51.8	57.5
Glaxo Smithkline Cons	FMCG	9,445	401	48.4	0.0	12.6	0.0	12.5	0.0	297	-	27.3	-100.0	31.8	-	8.3	-	27.9	-	26.1	-	-	27.2
Emami	FMCG	257	118	27.8	30.0	7.6	8.3	3.7	5.1	8	11	18.8	37.7	31.3	22.7	5.3	4.8	15.0	13.4	16.9	21.0	17.9	22.4
Bajaj Corp	FMCG	192	29	8.9	9.7	2.6	2.7	2.3	2.4	16	16	4.2	2.6	12.3	12.0	6.3	5.9	11.1	10.9	51.3	49.3	48.1	48.7
Agro Tech Foods	FMCG	641	16	8.4	9.2	0.6	0.8	0.4	0.5	16	20	11.9	27.3	41.1	32.3	3.8	3.5	24.4	18.1	9.3	10.8	10.0	11.6
Titan Company	Retail	1,255	1,136	207.9	244.7	22.7	27.9	14.6	18.1	16	20	1.3	24.0	76.1	61.4	15.9	13.8	49.0	39.6	20.9	22.5	24.8	26.7
Jubilant Foodworks	Retail	1,757	232	40.0	47.8	6.6	8.4	4.2	5.5	32	42	25.7	31.7	55.7	42.3	14.1	11.1	34.5	26.4	25.3	26.3	27.5	28.9
Trent*	Retail	737	266	35.8	48.0	5.6	7.8	1.1	2.5	-	-	-	-	-	-	-	-	51.3	38.1	5.0	10.1	9.8	8.5
ABFRL*	Retail	251	198	90.3	102.6	13.9	16.5	0.2	2.2	-	-	-	-	-	-	-	-	16.7	14.1	1.2	14.2	10.7	13.1

PhillipCapital India Coverage Universe: Valuation Summary

Name of company	Sector	CMP ₹	Mkt Cap ₹ bn	Net Sales (₹ mn)		EBITDA (₹ mn)		PAT (₹ mn)		EPS (₹)		EPS Growth (%)		P/E (x)	P/B (x)	EV/EBITDA (x)		ROE (%)		ROCE (%)		
				FY20E	FY21E	FY20E	FY21E	FY20E	FY21E	FY20E	FY21E	FY20E	FY21E			FY20E	FY21E	FY20E	FY21E		FY20E	FY21E
FLFL*	Retail	349	69	63.3	72.5	11.5	13.4	1.7	2.3							7.7	6.5	8.4	10.2	12.4	11.6	
V-Mart*	Retail	2,231	41	17.5	21.3	2.2	2.7	0.6	0.8							20.6	16.8	12.8	15.3	16.7	13.7	
ShoppersStop*	Retail	380	34	34.7	38.6	6.2	7.2	0.0	1.4							8.4	6.9	1.0	23.2	12.8	16.7	
Thangamayil	Retail	451	6	17.5	20.6	1.1	1.2	0.5	0.7	37	49	68.5	32.5	12.1	2.7	2.1	6.9	5.6	21.9	23.4	20.0	17.5
KDDL	Retail	265	3	6.7	7.4	0.9	1.0	0.1	0.2	7	16	-60.5	109.0	35.5	1.6	1.5	5.4	4.7	4.6	9.0	5.5	6.4
Asian Paints	Paints/Tiles	1,798	1,746	208.0	235.0	42.8	49.7	28.1	33.4	29	35	30.4	18.9	61.4	15.6	13.4	40.5	34.6	25.4	25.9	25.0	25.8
Kajaria Ceramics	Paints/Tiles	524	86	29.9	32.9	4.5	5.1	2.8	3.0	17	19	19.2	8.5	30.2	4.8	4.3	18.7	16.3	16.0	15.4	15.5	15.4
Somany Ceramics	Paints/Tiles	169	11	17.8	19.7	1.7	1.9	0.5	0.7	11	16	-0.6	50.6	15.6	1.1	1.0	9.3	8.0	7.0	9.5	7.5	8.9
Havells India	Con Elec/Dur	613	398	104.2	118.1	11.4	13.8	8.0	9.4	13	15	1.5	17.5	47.7	8.2	7.4	34.7	28.8	17.2	18.1	15.9	17.0
Volta	Con Elec/Dur	679	224	77.7	87.6	6.9	8.1	5.8	7.0	17	21	11.3	21.4	38.8	5.0	4.4	32.1	27.1	12.8	13.8	14.0	14.8
Polycab	Con Elec/Dur	1,063	164	95.1	106.9	11.5	12.6	7.7	8.4	52	57	44.7	9.9	20.6	4.1	3.4	14.2	12.9	19.8	18.2	22.7	19.6
V-Guard Industries	Con Elec/Dur	203	88	28.1	31.8	2.9	3.4	2.2	2.6	5	6	32.2	19.1	39.6	8.1	6.8	29.6	25.2	20.5	20.5	21.3	21.5
Finolex Cables	Con Elec/Dur	325	50	30.2	32.3	3.9	4.3	3.6	3.8	24	25	4.8	6.1	13.8	1.8	1.7	12.4	11.3	13.3	12.8	13.6	13.1
Orient Electric Ltd	Con Elec/Dur	262	57	22.7	26.8	2.1	2.7	1.2	1.6	5	7	66.4	35.7	48.3	14.0	10.8	27.9	21.2	29.1	30.4	37.7	37.3
KEI Industries	Con Elec/Dur	491	43	50.5	59.2	5.3	6.4	2.7	3.5	35	45	51.0	28.0	14.1	3.7	2.8	9.3	7.7	26.3	25.5	21.5	22.4
Bajaj Electricals	Con Elec/Dur	403	44	52.0	54.4	2.0	2.5	0.1	1.0	1	10	-93.8	867.6	391.8	3.0	2.9	27.2	20.3	0.8	7.1	4.4	6.9
JC-Hitachi	Con Elec/Dur	2,929	80	25.5	29.0	2.2	2.6	1.3	1.6	48	58	49.3	21.5	62.7	10.9	9.1	35.5	30.2	17.5	17.6	20.9	22.1
Indo Count Industries	Consumer-Ot	54	11	22.2	23.0	2.7	2.8	1.8	1.5	9	8	102.1	-16.1	5.8	1.1	1.0	5.7	5.4	19.3	14.2	15.1	12.3
Orient Paper & Indus	Consumer-Ot	21	5	6.7	7.4	1.0	1.2	0.6	0.8	3	4	-40.6	36.7	7.4	0.3	0.3	4.7	4.1	4.2	5.4	4.0	5.2
HDFC Bank	Banks	1,178	6,476	560.8	659.2	485.4	554.8	266.8	332.3	49	61	26.6	24.5	24.0	3.8	3.3	13.3	11.7	16.7	18.1	2.0	2.2
ICICI Bank	Banks	497	3,343	331.5	386.2	283.2	324.3	106.4	175.1	16	27	215.8	64.2	30.2	2.8	2.5	11.8	10.3	9.5	14.3	1.1	1.7
Kotak Mahindra Bank	Banks	1,620	3,062	134.6	151.0	99.0	111.8	63.8	72.5	33	38	31.1	13.7	48.4	6.3	5.5	30.9	27.4	13.9	13.8	2.0	2.0
State Bank of India	Banks	303	2,751	100.4	104.5	640.7	607.1	149.1	256.1	17	29	1,703.1	71.8	18.1	1.3	1.2	4.3	4.5	7.3	11.6	0.4	0.7
AXIS Bank	Banks	697	1,988	247.3	284.9	229.8	239.7	47.4	107.4	17	38	-7.8	125.5	41.6	2.3	2.1	8.6	8.3	6.2	11.7	0.6	1.3
IndusInd Bank	Banks	1,104	777	120.9	139.2	109.8	122.1	54.3	67.8	77	96	24.0	24.8	14.4	2.0	1.8	7.1	6.4	15.7	16.5	1.9	2.0
Bank of Baroda	Banks	76	348	280.0	320.8	199.2	217.0	6.4	49.3	1	11	-1.5	668.5	55.1	0.5	0.5	1.7	1.6	1.1	7.4	0.1	0.4

PhillipCapital India Coverage Universe: Valuation Summary

	CMP	Mkt Cap	Net Sales (₹ mn)	EBIDTA (₹ mn)	PAT (₹ mn)	EPS (₹)	EPS Growth (%)	P/E (x)	P/B (x)	EV/EBITDA (x)	ROE (%)	ROCE (%)										
Canara Bank	₹	₹ bn	143.7	175.9	109.6	129.6	19.0	32.3	17	29	271.2	70.6	8.4	4.9	0.4	0.4	1.4	1.2	5.6	8.2	0.3	0.4
Yes Bank	35	89	83.6	84.2	52.4	43.1	-21.2	2.5	-5	1	-172.9	-111.9	-6.4	54.0	0.4	0.4	1.7	2.1	-7.6	0.8	-0.6	0.1
Indian Bank	74	45	76.1	86.1	62.6	62.5	12.5	27.7	21	46	211.8	122.0	3.5	1.6	0.2	0.2	0.7	0.7	6.9	13.2	0.4	0.9
DCB Bank	162	49	12.7	14.5	7.2	8.1	3.6	4.5	12	14	12.0	22.6	13.7	11.2	1.4	1.2	6.8	6.0	11.0	11.9	1.0	1.1
HDFC Limited	2,176	3,795	125.2	141.1	123.0	141.3	77.7	117.0	45	68	-19.3	50.5	48.2	32.0	4.1	3.8	30.9	26.9	14.0	13.7	2.0	2.0
Muthoot Finance	880	346	64.2	71.4	45.6	49.8	32.6	35.5	80	88	53.2	8.9	10.9	10.1	2.8	2.3	7.6	7.0	28.7	25.3	-	-
Shriram Transport Fin	1,196	285	83.3	91.0	64.3	69.9	31.4	34.0	138	150	22.3	8.5	8.7	8.0	1.5	1.3	4.4	4.1	18.3	17.2	-	-
Cholamandalam Invest	307	249	38.0	44.4	25.3	29.0	13.9	16.1	17	20	13.4	16.2	17.8	15.3	3.0	2.6	9.9	8.6	19.4	18.1	-	-
LIC Housing Finance	320	167	50.2	58.5	43.3	50.6	24.1	35.4	48	70	-0.9	46.8	6.7	4.6	0.9	0.8	3.9	3.3	14.0	17.9	1.2	1.6
Mah & Mah Finance	343	217	53.6	58.0	33.7	35.4	11.5	13.4	19	22	-26.5	17.4	18.4	15.7	1.8	1.7	6.5	6.1	10.1	10.9	-	-
Manappuram Finance	163	139	17.1	20.8	22.4	25.0	15.0	17.0	18	20	61.2	13.6	9.2	8.1	2.4	1.9	6.2	5.6	29.0	26.0	-	-
Indiabulls Housing Fin	280	136	51.9	62.8	51.6	60.5	32.9	42.6	77	100	-19.5	29.3	3.6	2.8	0.7	0.6	2.6	2.2	19.0	22.1	2.4	2.9
Shriram City Union Fin	1,428	94	36.5	39.7	23.0	25.4	11.0	11.6	167	176	11.5	5.3	8.5	8.1	1.3	1.2	4.1	3.7	16.4	15.1	-	-
Repco Home Finance	284	18	4.9	5.4	4.1	4.6	3.0	3.2	48	51	29.3	4.3	5.9	5.6	1.0	0.8	4.3	3.9	18.2	16.1	2.6	2.5
Magma Fincorp	44	12	12.4	12.7	6.1	6.4	1.1	1.8	4	7	-64.0	67.1	10.7	6.4	0.4	0.4	2.0	1.9	4.1	6.5	-	-
Hindustan Zinc	172	743	203.2	218.8	99.4	106.2	76.2	73.5	18	17	-4.2	-3.6	9.6	9.9	2.1	2.1	5.8	5.4	21.6	20.8	20.5	19.3
JSW Steel	236	582	741.6	829.7	124.1	156.7	26.1	36.8	11	15	-65.2	40.7	21.6	15.4	1.6	1.5	8.8	7.1	7.2	9.5	9.4	11.2
Vedanta	114	435	860.1	889.7	213.9	221.2	63.0	53.5	17	14	-6.6	-15.1	6.7	7.9	0.7	0.7	4.0	3.8	9.8	8.5	6.8	6.1
Tata Steel	382	438	1420.3	1456.1	176.5	236.3	43.4	53.0	38	46	-58.3	22.0	10.1	8.3	0.6	0.6	8.2	5.8	6.1	7.1	6.7	7.1
Hindalco	156	353	1215.9	1267.7	140.0	148.3	46.6	53.1	21	24	-15.1	13.9	7.4	6.5	0.6	0.5	5.6	5.1	7.6	8.0	6.9	7.1
NMDC	91	288	118.6	134.2	65.3	71.7	50.3	55.1	16	18	8.5	9.5	5.5	5.1	1.0	0.9	3.7	3.4	17.6	17.6	18.0	17.9
Jindal Steel & power	154	165	414.4	457.2	79.9	95.8	-5.7	8.5	-6	9	-39.0	-250.3	-26.2	17.4	0.5	0.5	6.5	5.0	-1.8	2.6	5.4	7.2
SAIL	36	151	630.3	690.5	55.6	87.6	-4.6	17.7	-1	4	-116.9	-482.8	-31.7	8.3	0.4	0.4	11.4	7.1	-1.2	4.3	3.7	6.6
NALCO	34	64	87.3	87.8	4.5	7.7	1.6	3.3	1	2	-90.9	109.0	39.7	19.0	0.6	0.6	8.1	5.9	1.5	3.3	1.3	2.8
Pennar Inds.	23	4	22.0	23.7	1.8	2.0	0.6	0.7	4	5	-13.6	6.0	5.3	5.0	0.5	0.4	4.2	4.0	8.7	8.7	12.7	11.9
Larsen & Toubro	1,188	1,676	1515.0	1718.3	178.7	201.0	105.9	110.8	75	79	13.6	4.5	15.8	15.1	2.8	2.2	16.4	14.5	17.6	14.9	6.9	7.2
ABFRL*	251	198	90.3	102.6	13.9	16.5	0.2	2.2									16.7	14.1	1.2	14.2	10.7	13.1

PhillipCapital India Coverage Universe: Valuation Summary

Name of company	Sector	CMP ₹	Mkt Cap ₹ bn	Net Sales (₹ mn)		EBIDTA (₹ mn)		PAT (₹ mn)		EPS (₹)		EPS Growth (%)		P/E (x)		P/B (x)		EV/EBITDA (x)		ROE (%)		ROCE (%)	
				FY20E	FY21E	FY20E	FY21E	FY20E	FY21E	FY20E	FY21E	FY20E	FY21E	FY20E	FY21E	FY20E	FY21E	FY20E	FY21E	FY20E	FY21E	FY20E	FY21E
Siemens	Cap Goods	1,304	472	136.8	143.4	15.5	16.7	11.9	13.2	33	37	41.4	11.6	39.1	35.1	5.1	4.6	27.3	25.0	13.1	13.1	11.1	12.3
ABB India	Cap Goods	1,185	253	73.2	74.1	5.3	6.3	3.8	4.7	18	22	67.1	22.1	65.9	54.0	7.1	6.5	44.6	37.2	10.8	12.0	7.8	12.0
Hindustan Aeronautics	Cap Goods	686	233	189.5	200.0	43.2	45.5	23.8	25.0	71	75	31.9	5.0	9.6	9.2	1.8	1.6	5.7	4.8	19.1	17.6	12.3	11.5
Bharat Electronics	Cap Goods	74	185	125.1	148.7	27.7	32.0	18.4	21.5	8	9	-4.4	16.9	9.8	8.4	1.8	1.6	5.9	4.9	18.6	19.5	16.6	17.5
BHEL	Cap Goods	31	109	260.9	302.0	13.7	26.1	6.3	14.6	2	4	-43.2	132.4	17.0	7.3	0.3	0.3	3.7	1.0	2.0	4.5	2.2	4.1
Cummins India	Cap Goods	511	142	54.6	60.7	6.9	8.1	6.8	7.6	24	27	-7.3	13.6	21.1	18.6	3.3	3.2	19.7	16.7	16.1	17.2	14.3	15.9
Thermax	Cap Goods	923	110	61.3	59.4	5.0	5.2	3.6	3.7	30	31	11.6	2.7	30.4	29.6	3.4	3.2	21.3	20.2	11.3	10.7	10.6	10.2
KEC International	Cap Goods	310	79	127.8	138.4	13.4	14.6	6.5	7.3	25	28	75.6	12.0	12.2	10.9	2.8	2.2	7.6	6.6	22.6	20.1	15.7	15.0
Kaipataru power	Cap Goods	332	52	126.9	137.0	16.0	16.6	5.6	6.4	36	41	24.9	15.2	9.2	8.0	1.5	1.2	5.5	4.2	15.8	14.7	12.8	13.3
Engineers India	Cap Goods	70	45	30.9	33.3	3.9	4.3	4.4	4.6	7	7	17.2	4.9	10.1	9.6	1.8	1.7	4.9	4.2	18.1	17.6	23.3	20.7
Bharat Dynamics	Cap Goods	274	52	28.9	23.1	5.3	4.1	4.1	3.4	22	18	-2.4	-18.6	12.2	15.0	2.0	1.9	8.1	8.1	16.4	12.5	15.2	11.7
Cochin Shipyard	Cap Goods	339	45	32.5	42.2	6.3	8.5	5.9	6.8	45	52	21.7	16.3	7.6	6.5	1.2	1.1	3.5	3.8	15.8	16.5	15.5	16.2
GE T&D	Cap Goods	121	32	45.7	46.8	5.0	4.7	3.0	2.9	12	12	20.6	-3.0	10.2	10.5	1.9	1.7	4.5	4.5	18.7	15.9	23.3	19.0
Praj Indus.	Cap Goods	95	18	12.1	14.2	1.0	1.4	0.8	1.2	5	6	39.5	41.5	21.1	14.9	2.2	2.0	18.1	12.8	10.6	13.6	10.9	14.2
VA Tech Wabag	Cap Goods	188	11	27.4	32.2	2.5	2.8	1.1	1.3	20	24	17.7	22.2	9.5	7.8	0.9	0.8	5.4	4.6	9.2	10.3	7.5	7.7
Ultratech Cement	Cement	4,220	1,236	498.6	614.2	93.9	111.3	38.2	50.4	132	175	49.5	32.0	31.9	24.2	3.3	2.9	15.2	12.6	10.3	12.1	8.2	9.2
Shree Cement	Cement	22,671	834	56.5	62.6	7.4	7.9	1.0	1.6	3	5	443.6	51.2	67.67	44.76	135.5	135.7	117.7	109.9	2.0	3.0	3.4	3.8
Ambuja Cement	Cement	205	417	271.0	288.5	46.0	46.4	21.0	19.6	11	10	-10.1	-6.5	19.4	20.8	1.7	1.6	6.7	7.4	8.7	7.6	9.6	8.7
ACC	Cement	1,321	252	153.4	162.4	21.0	23.1	13.8	14.0	73	74	-9.4	1.4	18.0	17.8	2.2	2.0	9.4	8.6	11.9	11.1	12.0	10.7
Dalmia Bharat	Cement	782	154	105.4	124.4	21.9	25.8	4.0	4.9	21	26	12.0	22.4	37.4	30.5	1.4	1.3	8.9	7.7	3.7	4.3	4.1	4.8
JK Cement	Cement	1,388	108	55.2	63.0	11.0	13.1	3.9	4.3	50	56	48.0	10.5	27.5	24.9	3.6	3.2	12.8	10.3	13.0	13.0	8.9	8.7
HeidelbergCement Indi	Cement	201	45	22.4	23.1	4.6	4.8	2.3	2.7	10	12	2.7	21.3	20.1	16.6	3.3	2.7	9.5	8.3	16.2	16.4	12.5	12.5
Star Cement	Cement	86	36	19.6	24.2	4.2	4.8	2.5	2.8	6	7	-14.3	11.2	14.2	12.7	1.9	1.7	9.0	8.1	13.1	13.0	12.6	12.1
JK Lakshmi Cement	Cement	308	36	41.7	43.0	6.7	7.9	2.2	3.3	18	28	352.5	50.0	16.7	11.1	2.2	1.9	7.9	6.2	13.4	17.3	11.5	14.5
India Cement	Cement	96	30	56.5	62.6	7.4	7.9	1.0	1.6	3	5	443.6	51.2	28.8	19.0	0.6	0.6	8.7	8.0	2.0	3.0	3.4	3.8
Sanghi Cement	Cement	33	8	10.6	15.3	2.1	2.8	0.6	0.3	3	1	21.7	-49.9	12.8	25.5	0.5	0.5	10.8	8.2	3.7	1.8	4.1	3.5

PhillipCapital India Coverage Universe: Valuation Summary

Name of company	Sector	CMP ₹	Mkt Cap ₹ bn	Net Sales (₹ mn)		EBIDTA (₹ mn)		PAT (₹ mn)		EPS (₹)		EPS Growth (%)		P/E (x)		P/B (x)		EV/EBITDA (x)		ROE (%)			
				FY20E	FY21E	FY20E	FY21E	FY20E	FY21E	FY20E	FY21E	FY20E	FY21E	FY20E	FY21E	FY20E	FY21E	FY20E	FY21E	FY20E	FY21E	FY20E	FY21E
Mangalam Cement	Cement	244	7	12.1	12.6	2.1	2.2	0.9	1.0	33	37	-998.6	14.3	7.4	6.5	1.1	1.0	4.6	4.7	14.7	15.1	11.8	11.8
Iata Consultancy	IT Services	2,000	7,668	1578.2	1720.8	421.7	469.1	328.2	360.7	88	96	4.3	9.9	22.9	20.8	8.6	7.6	18.1	16.2	37.7	36.4	35.6	37.4
Infosys Technologies	IT Services	732	3,192	912.2	1007.5	227.4	255.5	168.6	181.1	40	43	12.1	7.4	18.4	17.1	5.2	4.7	13.2	11.5	28.5	27.3	27.0	28.6
HCL Technologies	IT Services	534	1,501	705.3	780.4	165.1	183.7	108.2	117.6	40	43	6.7	8.6	13.4	12.3	2.8	2.4	9.2	8.3	21.1	19.4	20.4	18.3
Wipro	IT Services	221	1,281	606.8	636.8	127.9	137.0	98.9	105.3	17	18	15.9	6.5	12.8	12.0	2.3	2.1	9.6	8.9	18.4	17.5	16.4	16.8
Tech Mahindra	IT Services	744	715	370.5	397.1	59.5	66.2	42.3	43.3	49	50	-1.4	2.2	15.3	15.0	3.0	2.7	12.3	11.0	19.8	18.1	14.0	13.5
L&T Infotech	IT Services	1,910	338	107.4	122.0	20.0	23.3	14.9	16.9	86	97	-1.6	13.0	22.3	19.7	6.2	5.2	16.7	14.2	27.9	26.4	25.9	24.3
L&T Technology Serv	IT Services	1,621	173	56.2	63.3	11.3	12.3	8.2	8.9	79	85	6.9	8.2	20.5	19.0	6.1	5.0	15.4	14.0	29.6	26.4	29.6	27.9
Mindtree	IT Services	944	158	77.4	86.0	10.5	13.1	6.1	8.0	37	49	-18.5	30.8	25.2	19.3	4.8	4.1	14.9	11.9	18.9	21.1	18.2	20.7
NIIIT Technologies	IT Services	1,690	110	41.8	47.2	7.3	8.8	4.5	5.5	72	88	9.5	21.0	23.3	19.3	4.3	3.7	13.6	10.8	18.3	19.4	19.4	20.0
Persistent Systems	IT Services	696	53	35.0	37.3	5.7	6.1	3.6	3.8	47	50	4.9	7.6	14.9	13.9	2.2	2.0	8.0	7.2	14.8	14.4	14.1	14.4
Cyient Limited	IT Services	425	47	44.7	46.8	6.2	7.4	4.1	4.5	37	41	-15.3	8.6	11.3	10.4	1.8	1.6	6.9	5.6	15.6	15.2	14.4	14.5
Intellect Design Arena	IT Services	116	15	16.7	19.2	2.1	2.6	1.2	1.5	9	11	-7.5	23.2	12.6	10.2	1.4	1.2	8.1	6.6	-	-	11.6	15.2
Majesco	IT Services	366	11	11.1	12.5	1.3	1.5	0.8	1.0	28	35	46.9	21.9	12.9	10.6	1.4	1.2	5.3	3.9	10.7	11.6	9.2	9.7
Sun Pharma	Pharma	373	909	324.6	358.4	73.3	83.4	43.4	53.4	18	22	13.7	22.9	20.6	16.8	2.0	1.8	12.4	10.4	9.6	10.7	8.5	9.5
Dr Reddy's Labs.	Pharma	2,927	490	172.4	183.5	41.0	42.0	22.7	24.1	133	142	20.7	6.4	22.0	20.7	3.1	2.7	12.3	11.6	16.1	13.1	11.5	9.6
Divi's Laboratories	Pharma	2,107	570	54.8	65.6	19.0	23.5	13.3	16.2	50	61	0.6	21.7	42.1	34.6	7.0	6.0	30.0	24.1	16.7	17.5	-	-
Cipla	Pharma	402	329	170.4	182.7	34.6	35.1	17.5	18.4	22	23	20.4	5.1	18.4	17.5	2.0	1.8	10.0	9.4	10.6	10.2	-	-
Lupin	Pharma	640	293	162.1	162.1	26.6	27.9	9.2	11.7	20	26	18.3	26.7	31.4	24.8	2.0	1.9	13.5	12.0	6.4	7.6	-	-
Biocon	Pharma	287	350	66.7	86.6	18.1	24.1	9.3	13.3	8	11	-33.9	42.8	36.8	25.8	4.7	4.0	20.1	15.2	12.3	15.0	11.8	14.5
Aurobindo Pharma	Pharma	506	304	225.4	244.1	46.2	51.3	27.3	30.5	47	52	10.0	11.7	10.8	9.7	1.8	1.5	7.4	6.2	16.5	15.7	16.1	15.9
Cadila Healthcare	Pharma	260	265	140.4	153.0	26.5	30.0	14.3	16.9	14	17	-20.1	18.1	18.6	15.7	2.3	2.1	12.5	10.8	12.0	12.8	7.8	8.6
Ipsca Laboratories	Pharma	1,361	179	44.1	50.8	9.3	11.0	6.3	7.7	50	61	36.8	22.0	27.3	22.4	4.6	3.8	19.2	15.9	16.9	17.1	15.4	16.2
Glenmark Pharma	Pharma	278	80	104.8	115.8	16.9	19.4	6.8	8.3	24	29	3.1	22.1	11.6	9.5	1.2	1.1	6.4	5.4	10.2	11.2	8.3	8.9
Adani Ports & SEZ	Infrastructure	342	709	122.7	162.0	79.7	103.8	47.5	54.1	23	27	7.8	13.9	14.6	12.8	2.6	2.2	12.0	10.3	18.1	17.4	10.2	11.0
PNC Infratech	Infrastructure	171	44	50.6	59.5	8.0	8.3	4.8	4.8	19	19	47.7	-0.9	9.2	9.2	1.7	1.4	5.9	5.7	20.4	16.9	20.1	16.6

PhillipCapital India Coverage Universe: Valuation Summary

Name of company	Sector	CMP ₹	Mkt Cap ₹ bn	Net Sales (₹ mn)		EBIDTA (₹ mn)		PAT (₹ mn)		EPS (₹)		EPS Growth (%)		P/E (x)	P/B (x)	EV/EBITDA (x)		ROE (%)		ROCE (%)			
				FY20E	FY21E	FY20E	FY21E	FY20E	FY21E	FY20E	FY21E	FY20E	FY21E			FY20E	FY21E	FY20E	FY21E		FY20E	FY21E	
NCC	Infrastructure	36	22	90.6	110.1	11.1	12.9	4.6	5.3	8	9	-24.3	15.6	4.7	4.0	3.8	3.3	9.0	9.6	10.8	11.3		
KNR Construction	Infrastructure	265	38	25.6	30.8	5.6	5.5	2.9	2.5	21	18	8.5	-12.5	12.9	2.2	1.9	7.0	6.4	18.5	13.8	16.9	13.2	
Ashoka Buildcon	Infrastructure	90	26	42.1	48.4	5.5	6.1	3.4	3.8	12	14	3.6	14.3	7.5	6.6	5.8	5.4	13.3	13.3	12.6	12.9		
IRB Infrastructure	Infrastructure	84	30	70.6	60.5	30.4	22.3	7.4	1.2	21	4	-12.6	-83.3	4.0	23.8	0.4	0.4	5.6	8.0	10.2	1.6	4.5	2.4
Sadbhav Engineering	Infrastructure	71	12	23.1	30.2	2.9	3.6	0.9	1.2	5	6	-53.1	11.6	13.8	12.4	0.6	0.7	9.7	7.9	4.1	5.3	4.0	4.9
Ahluwalia Contracts	Infrastructure	350	24	17.7	21.2	1.9	2.7	0.9	1.5	13	23	-23.2	68.5	26.0	15.5	2.8	2.4	11.9	8.2	11.6	16.9	13.5	18.7
ITD Cementation	Infrastructure	53	9	28.8	34.6	2.8	3.5	0.7	1.0	4	6	-18.4	44.9	13.5	9.3	0.8	0.8	4.8	4.2	6.3	8.4	9.1	10.5
Container Corp Of India	Logistics	510	313	65.9	75.4	16.0	19.0	9.5	12.5	16	20	-22.0	31.5	32.7	24.9	3.0	2.9	19.4	16.1	9.2	11.5	9.2	12.0
VR Logistics	Logistics	230	21	21.5	23.5	3.2	3.6	1.0	1.2	11	13	11.1	19.3	20.4	17.1	3.0	2.7	7.6	6.6	14.6	15.6	13.5	13.3
Allcargo Logistics	Logistics	109	27	72.3	77.4	5.2	5.6	1.8	2.2	7	9	-25.2	23.6	14.8	11.9	1.3	1.2	6.5	6.1	8.5	9.8	8.1	8.8
Gateway Distriparks	Logistics	117	13	12.4	13.4	2.6	2.8	0.7	0.9	7	8	-12.1	16.6	17.0	14.6	0.9	0.9	6.9	6.3	5.1	5.8	8.1	7.0
Navkar	Logistics	28	4	5.7	6.2	1.8	1.8	0.6	0.7	4	5	8.2	22.4	7.3	6.0	0.2	0.2	4.9	4.7	3.2	3.8	3.9	4.2
Godrej Properties	Real Estate	1,003	256	19.8	13.7	1.6	4.7	2.0	2.1	9	9	-20.3	3.5	114.0	110.2	8.6	8.0	182.3	62.3	7.6	7.2	18.6	18.2
Oberoi Realty	Real Estate	510	188	22.9	32.2	11.8	16.2	8.4	10.7	23	29	3.8	27.2	22.0	17.3	2.1	1.9	16.3	11.9	9.6	10.7	9.2	13.1
Phoenix Mills	Real Estate	856	131	23.9	21.2	12.1	11.2	7.1	6.0	46	39	14.4	-15.3	18.6	21.9	3.5	3.3	14.6	15.6	18.7	15.2	9.7	8.2
Shobha	Real Estate	297	28	42.9	49.4	42.9	49.4	42.9	49.4	5	5							1.2	1.0	174.7	178.7	182.7	189.1
UPL	Agri Input	520	408	354.5	391.4	70.6	79.1	23.7	30.5	31	40	-28.3	28.6	16.8	13.1	2.5	2.2	9.2	8.0	12.6	14.5	7.5	9.8
PI Industries	Agri Input	1,531	211	33.6	44.6	7.2	9.7	4.7	6.5	34	47	15.0	38.2	44.8	32.4	7.9	6.5	29.3	21.5	17.6	20.1	18.7	21.6
Coromandel Inter	Agri Input	616	179	127.5	136.4	16.5	18.0	10.1	10.8	35	37	13.5	6.5	17.8	16.7	4.2	3.5	12.3	11.1	23.9	20.7	39.3	34.7
Chambal Fertiliser	Agri Input	141	60	123.8	129.1	19.1	18.3	10.5	8.8	25	21	32.9	-16.3	5.6	6.7	1.5	1.3	7.4	7.2	27.3	19.0	22.5	20.1
SRF	Sp Chemicals	3,894	228	78.9	92.8	15.6	19.2	8.3	10.4	142	177	24.7	24.8	27.5	22.0	4.7	3.9	16.8	13.4	17.0	17.8	11.0	12.3
Aarti Industries	Sp Chemicals	976	171	46.2	54.8	10.2	12.5	5.8	7.1	33	41	7.3	21.2	29.2	24.1	5.4	4.5	18.5	15.1	18.8	18.9	-	-
Atul	Sp Chemicals	5,144	154	43.1	49.5	9.6	10.9	6.4	7.3	217	248	51.5	14.0	23.7	20.8	4.6	3.8	15.3	12.8	19.3	18.2	-	-
Vinati Organics	Sp Chemicals	940	103	10.6	13.6	4.1	4.9	3.4	3.7	61	73	19.4	19.3	15.4	12.9	3.6	2.9	24.5	19.9	23.4	22.2	-	-
Camlin Fine Sciences	Sp Chemicals	71	9	10.2	13.0	1.3	2.1	0.5	1.0	4	8	343.2	99.5	17.8	8.9	2.1	1.7	9.3	5.6	14.0	22.0	-	-

Source: PhillipCapital India Research Estimates

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