

## Indian Fertilizer Industry: Insights and Prospects

**Contact:**

**Madan Sabnavis**  
Chief Economist  
madan.sabnavis@careratings.com  
+91-22- 6837 4433

**Urvisha H Jagasheth**  
Research Analyst  
urvisha.jagasheth@careratings.com  
+91-22-6837 4410

**Mradul Mishra (Media Contact)**  
mradul.mishra@careratings.com  
+91-22-6837 4424

**Disclaimer:** This report is prepared by CARE Ratings Ltd. CARE Ratings has taken utmost care to ensure accuracy and objectivity while developing this report based on information available in public domain. However, neither the accuracy nor completeness of information contained in this report is guaranteed. CARE Ratings is not responsible for any errors or omissions in analysis/inferences/views or for results obtained from the use of information contained in this report and especially states that CARE Ratings has no financial liability whatsoever to the user of this report

### Overview

The fertilizer industry is a key industry for the Indian economy in terms of assuring food security to the country.

India is the 2<sup>nd</sup> largest consumer of fertilizers (urea accounts for over 2/3<sup>rd</sup> of the overall fertiliser consumption) and is also the 3<sup>rd</sup> largest producer of nitrogenous fertilizers (China and the US rank before India).

In terms of production of phosphatic fertilizers, India has production capacity spread across the private and co-operative sector, whereas the requirement of potash is completely met through imports.

### Types of Fertilizers

Fertilizers are materials used to provide plant with nutrients which are deficient in soils. It is a chemical product which is either mined or manufactured.

Most of the fertilizers are extracted and purified from natural deposits in the earth. Materials such as sulphomag, muriate of potash and triple super phosphate are all produced from naturally occurring minerals.

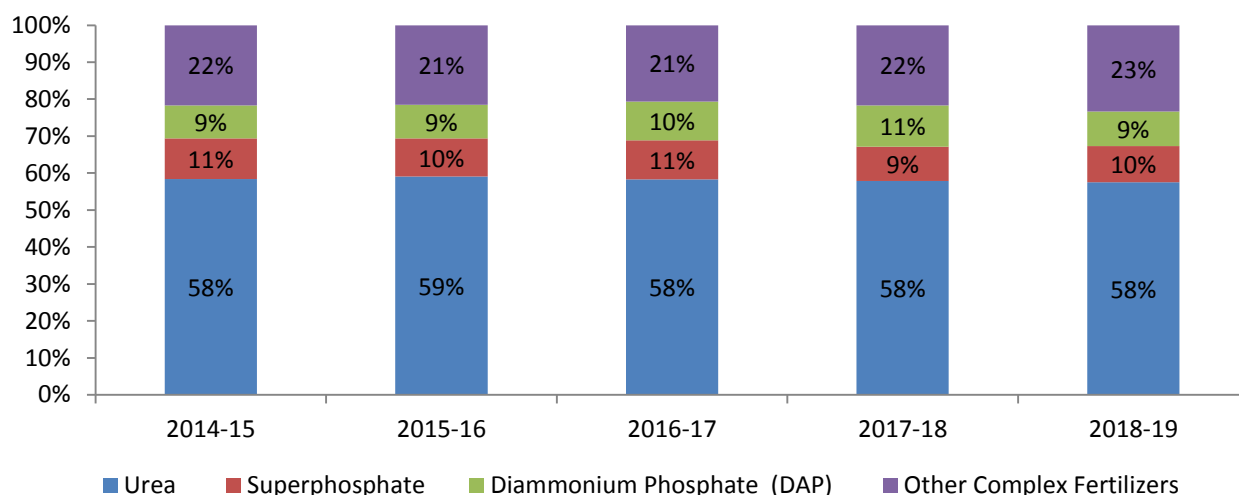
Some materials, such as urea and ammonium nitrate are synthetic, but provide plants with the same nutrients that are found naturally in the soil.

Chemicals fertilizers are classified on the basis of quantum required by the soil as Primary, Secondary and Micronutrients. Primary nutrients are further categorized on the type of nutrients they supply to the soil which are nitrogenous (responsible for strong stem and foliage growth), phosphatic (responsible for healthy growth and flower and seed production) and potassic (responsible for improving the crop's overall health and disease resistance) fertilizers. Secondary nutrients include calcium, magnesium and sulphur while micronutrients, include iron, zinc, copper, boron and chlorine. India is dependent on imports for raw materials for production of Nitrogenous & Phosphatic fertilizers.

Product wise chemical fertilizers are classified into Urea, Diammonium Phosphate (DAP), Single Super Phosphate (SSP), Muriate of Potash (MOP) and other Complex fertilizers like Calcium Ammonium Nitrate (CAN) and various grades of NPK Fertilizers (Fertilizers having different grades of Nitrogen (N), Phosphorus (P), and Potassium (K)).

In India the most widely used fertilizer in the **Nitrogenous category is Urea, DAP and MOP for Phosphorus and Potassium respectively.**

**Chart 1: Category- wise Production of Fertilizers**



Source: Department of Fertilizer, CMIE, CARE Ratings

Note: Other Complex fertilizers include NPK fertilizers, Ammonium nitrate, and Ammonium sulphate

During the FY19 India has produced 415 LMT of fertilizers. Urea dominates the total fertilizer production in the country. While India is the world’s second largest consumer of urea, the Government of India is working toward increasing the production of urea so as to end imports by 2022 and achieve self-sufficiency in urea production. Out of the total fertilizer production India produces only 9%-11% of DAP which is the second most widely used fertilizer after urea. The Government is also encouraging SSP production as it is indigenous and is also considered as a substitute to diammonium phosphate (DAP), which is largely import based and costlier.

### Production Capacity Installed

Due to the support offered by the government towards the growth of the fertilizer industry there has been a rapid build-up of manufacturing units of Urea, DAP and other complex fertilizers in the country with investments in the public, cooperative and private sectors. At present there are:

- 31 Large sized urea manufacturing units,
- 21 DAP and complex fertilizers units and
- 2 units which manufacture ammonium sulphate as a by- product.
- 105 medium and small scale units in operation producing Single Super Phosphate (SSP).

**Table 1: Installed Capacity of Various Fertilizer during the reporting year 2019-20 (figures in \*LMT)**

Product	Total Installed Capacity
Urea	200.3**
DAP	73.0
Complex Fertilizers	52.3

Source: Department of Fertilizer

\*LMT stands for Lakh Metric Tonnes \*\*At present operational capacity is 200.3 LMT since FACT-Cochin and DIL Kanpur are under shut down. In the absence of domestic natural resources, complete requirement of potash is imported

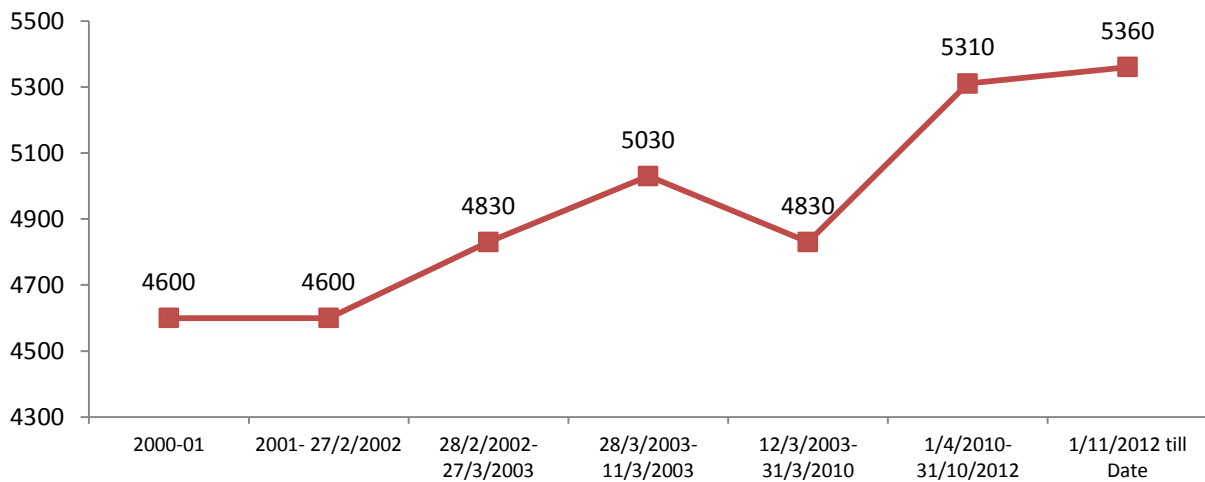
Under the New Urea Policy, the government has allowed the manufacturers of urea to produce additional quantity of urea as part of its objective to boost indigenous urea production in the country. The ceiling imposed on production beyond Re-

**Assessed Capacity** during 2016-17 has been raised so as to enable all urea units to produce additional production which otherwise they were not able to do so due to low Import Parity Price

## Urea

Urea is an inexpensive form of nitrogenous fertilizer and is synthetically produced in enormous quantities. It offers farmers highest nitrogen at the lowest price in the Indian market since it is heavily subsidized by the government. Urea contains 46% nitrogen and is the only “Controlled Fertilizer” which means the government determines /controls the MRP of Urea. The Cabinet has approved for the continuation of the urea subsidy which assures that the MRP of urea will not be changed till 2020. Currently Urea is priced at Rs 5,360 per tonne.

**Chart 2: Trends in Urea Pricing (Rs/Tonne)**

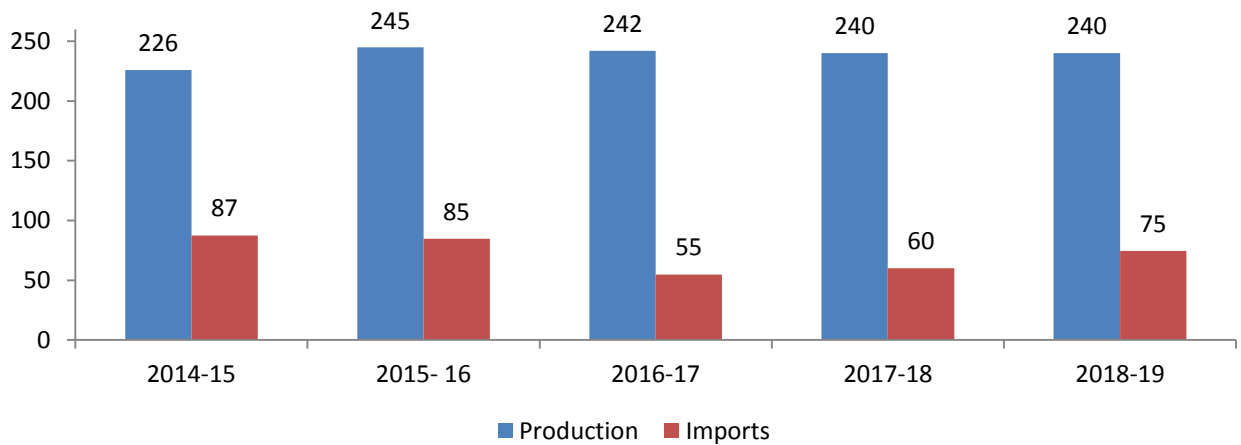


Source: Department of Fertilizer

Ever since the government has also mandated introduction of **neem coating of urea** an additional charge of an extra 5% on the MRP of Urea is charged by the fertilizer manufacturing companies. The MRP of 45 kg bag of Urea is Rs 242/bag (exclusive of charges towards neem coating and taxes as applicable) and the MRP of 50 kg bag of Urea is Rs 268/bag (exclusive of charges towards neem coating and taxes as applicable).

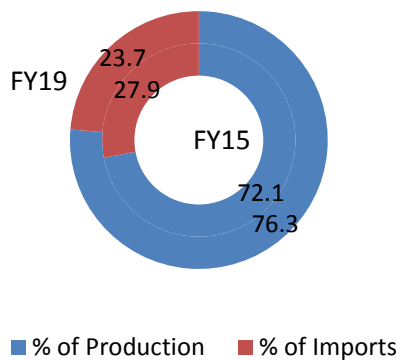
The difference between the delivered cost of fertilizers at farm gate and net market realization by the urea units is given as subsidy to the urea manufacturer / importer by the Government.

**Chart 3: Production and Imports of Urea in India (in units of LMT)**



Source: Department of Fertilizer

**Chart 4: Trend in Urea Import Substitution\***



Source: CARE Ratings

\* The inner circle depicts the urea production- import mix during FY15 whereas the outer circle depicts the trend during FY19.

Domestic urea production has grown at a stable rate of 1.5% CAGR during FY 2015-19. Urea production was the highest during FY16. Domestic production of urea has been increasing as the government is providing incentives to manufacturers to produce beyond the re-accessed capacity under the covenants of the New Urea Policy.

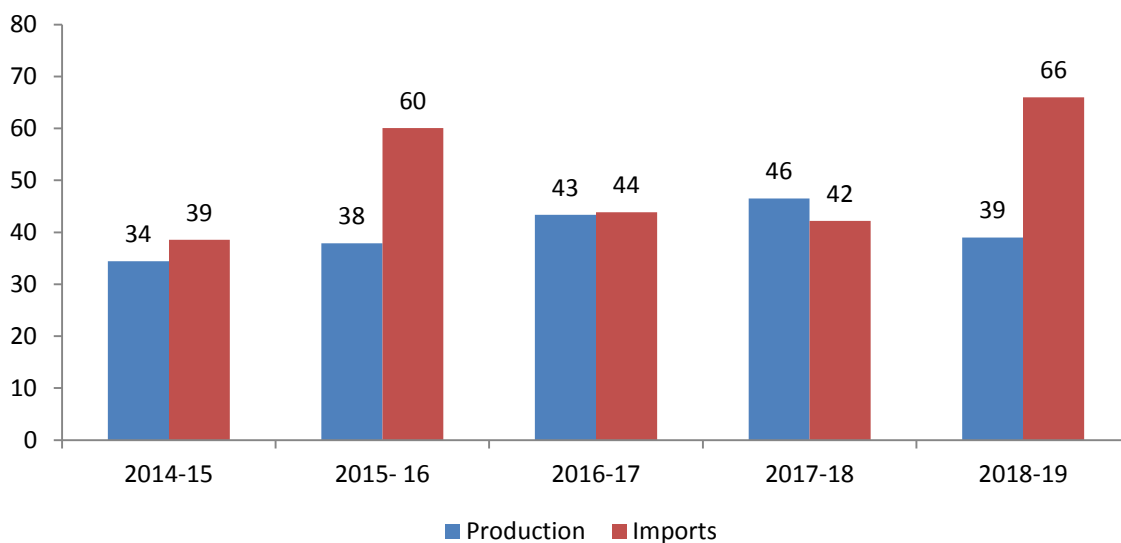
India plans to eliminate urea imports by 2022. In chart 4 we have analysed import dependence of urea (imports as a proportion of production plus imports). Import dependence has come down from it being 27.9% during FY15 import dependence to 23.7% during FY19. Production has increased from 72.1% during FY15 to 76.3% during FY19. India imports urea from China Oman and Iran.

### Diammonium Phosphate (DAP)

Diammonium Phosphate (DAP) is a concentrated fertilizer with high phosphorus and nitrogen content. It can be applied directly to all kinds of soil of a mixture with other fertilizers. The best effects are achieved when applied prior to sowing. Around of 50%-60% of India’s DAP needs are usually imported. DAP and its blends are used on a range of broad-acre

farming crops such as cereals, sugar cane, sowing pastures, dairy pastures, fodder crops and also in horticultural crops; for example, vegetables and tree crops.

**Chart 5: Production and Imports of DAP in India (in units of LMT)**



Domestic DAP production has grown at a CAGR of 3.1% during FY15-19. Increase in production can be attributed to the fall in raw materials\* used to manufacture DAP which had led to an increase in production by 14.4% and 7.3% during FY17 and FY18. Imports of DAP have increased by 14.4% during FY15-19.

In the previous fiscal, production fell by 16.2% on account of higher raw material prices. Phosphoric acid prices had increased by 26% and the industry felt it was better/cheaper to import the final product rather than to manufacture it domestically.

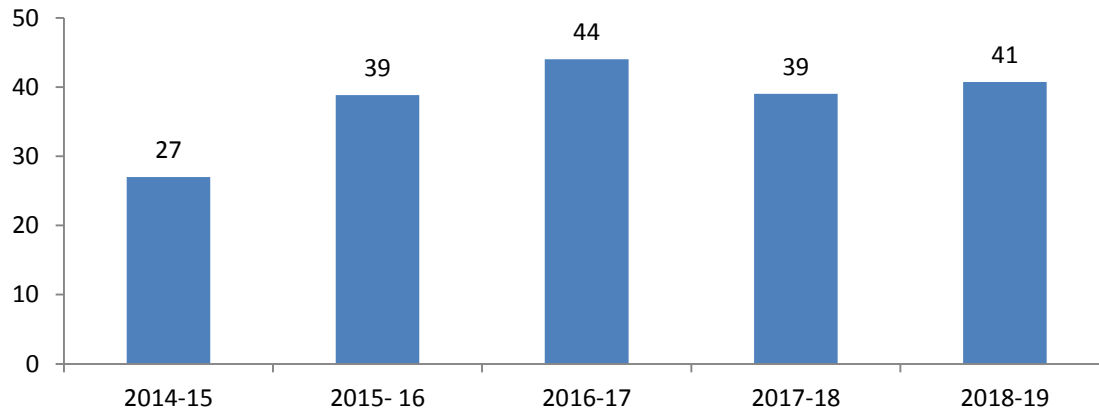
Imports had increased sharply by 57.1%. India mainly imports DAP from China, Saudi Arabia, USA and Jordan.

\*(prices phosphoric acid and rock phosphates had fallen during April 16-March 18)

### SSP

SSP is an indigenous, phosphatic multi-nutrient fertilizer, which contains 16% phosphate, 11% sulphur, 16% calcium and some other essential micro-nutrients. SSP was once the most commonly used fertilizer, but other phosphorus (P) fertilizers have largely replaced SSP because of its relatively low P content. Because of the simple production technique, it is one of the cheapest chemical fertilizers available. It is more suited for crops like oilseeds, pulses, horticulture, vegetables, sugarcane, etc and for sulphur deficient soils.

Chart 6: Production of SSP in India (in units of LMT)



Source: CMIE, Department of Fertilizers

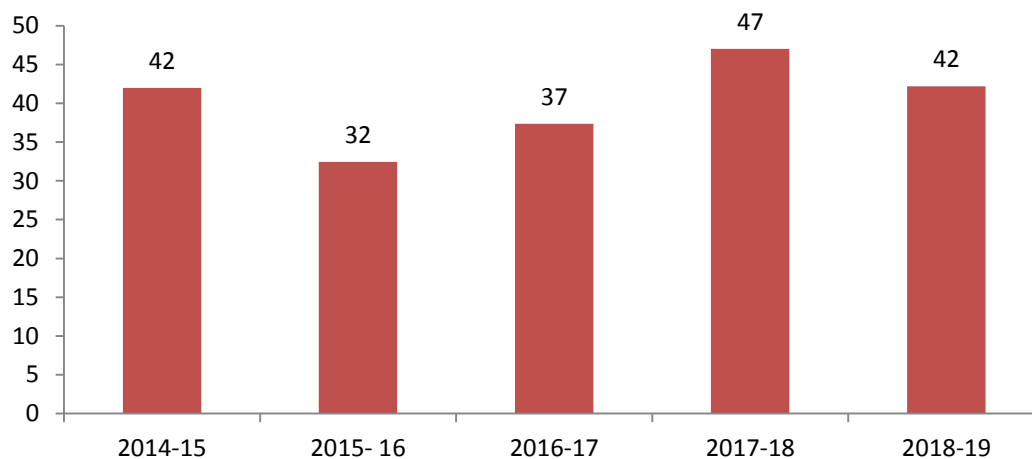
SSP production has grown at a rate of 10.8% during FY15-19. Initially it was mandatory for SSP manufacturers to utilize minimum 50% of their recognized production capacity or produce 40 LMT, whichever is lower, per year to become eligible for subsidy under the Nutrient Based Scheme (NBS). However, this norm was lifted on March 10<sup>th</sup>, 2016. Hence, there has been an uptick in production from FY16 onwards.

SSP was a preferred fertilizer in the previous fiscal when prices of DAP had increased due to the increase in its cost of production.

## MOP

Potassium chloride (commonly referred to as Muriate of Potash or MOP) is the most common potassium source used in agriculture, accounting for about 95% of all potash fertilizers used worldwide. Its nutrient composition is approximately: Potassium: 50% Chloride: 46%. The demand for MOP in India is entirely met by imports.

Chart 7: MOP imports by India (in units of LMT)



Source: Department of Fertilizers

India imports MOP from Russia, Jordan, Israel, Canada, CIS + Belarus, Germany and Lithuania. MOP is used extensively to fertilizer pastures, sugar cane, fruit trees, vegetables, and other field crops. Imports have fallen by 10.2% during FY19.

## Production, Imports and Sales during in current financial year- Q1-FY20

**Table 2: Production, Imports and Sales of Key Fertilizers (in units of LMT)**

	Q1-FY19	Q1-FY20	Change (y-o-y)
Overall Fertilizer Production	99.6	98.4	-1.1%
Overall Fertilizer Imports	63.2	51.5	-18.4%
Urea Production	60.6	55.7	-8.1%
Urea Imports	21.4	13.8	-35.5%
Urea Sales	62.5	65.0	4.0%
DAP Production	8.1	11.7	45.0%
DAP Imports	20.6	18.8	-9.0%
DAP Sales	18.6	35.0	87.5%
MOP Imports	13.0	13.4	2.5%
MOP Sales	7.4	5.8	-21.3%

Source: Department of Fertilizers, CMIE, Office of the Economic Adviser

The fertilizer industry as a whole was impacted during the quarter due to delay in monsoons and lower sowings.

**Overall production** of fertilizers during the quarter has remained static and declined by 1.1%. Imports too have fallen sharply by 18.4%.

Production and imports of **urea** has decreased on account off fall in consumption due to neem coating of urea. Temporary shutdown of the MFL (Mangalore Fertilizers Ltd) urea plant during the quarter also affected production to an extent. Offtake during the quarter on the other hand was positive.

Softening of raw material prices and a low base has aided in an increase in **DAP** production by 45%. Increase in production has led to a decline in DAP imports. Increase in DAP production can also be attributed to restocking activities untaken by DAP manufacturers.

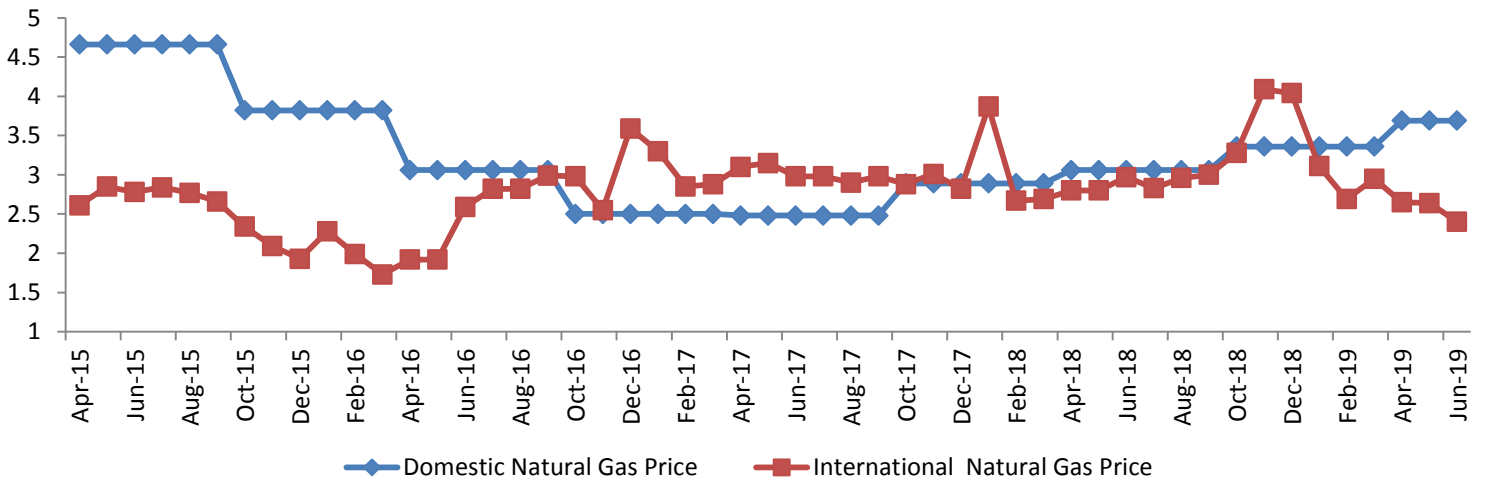
The availability of urea declined by 15.5% during the quarter but availability of DAP and MOP increased by 110.5% and 15.6%.

## Trend in prices of key input raw materials

India imports the raw materials needed for manufacturing fertilizers. Natural gas is used as feedstock for the manufacturing of urea and accounts for 50%-80% of the raw material cost. The fertilizer industry is the leading consumer of domestic natural gas. Additional requirement of natural gas is plugged through imports of natural gas in the form of RLNG. Out of 31 urea plants in India, 28 are gas based and 3 are naphtha based. Natural gas is preferred as:

1. It is intrinsically hydrogen rich and therefore contributes more hydrogen compared to other feedstock on a unit weight basis.
2. The heavier feedstock like coal and oil are more complex to process and therefore the capital costs are higher compared to natural gas.

Chart 8: Trend in Domestic and International Natural Gas Prices (USD/mmBtu)

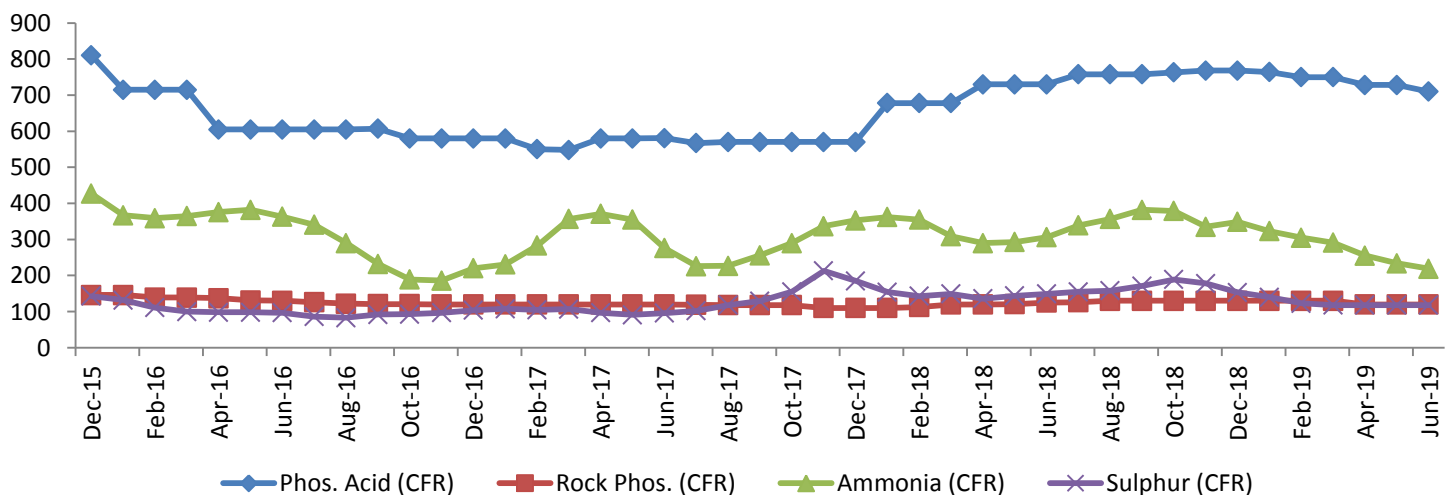


Source: PPAC and EIA

As per the New Domestic Gas Policy, the government revises the domestic natural gas price every six months i.e. April-September and October-March. Currently (H1-FY20) the price for gas produced from local fields has been revised to USD 3.69/mmBtu which is 9.8% increase from USD 3.36/mmBtu.

Henry Hub prices rose sharply during November 2018 as natural gas inventories were at their lowest levels for October since 2010 and the anticipation regarding a colder than expected winter caused an unexpected spike in the natural gas price by 24.7% during November 2018 on an m-o-m basis in the US markets. Now in 2019, even with inventories being at their all-time low, Henry hub prices have plunged. This is mainly because of increase in gas production on an on-going basis. Prices of R-LNG are usually governed by market dynamics and are linked with the global crude oil prices.

Chart 9: Prices of other key Raw Materials used for Fertilizer Production (USD/MT)



Source: Department of Fertilizer



Raw material prices increased on a whole during FY19 as plant closures in China and higher global demand impacted the availability. Prices of phosphoric acid, rock phosphates, ammonia and sulphur had increased by 25.5%, 9.7%, 6.2% and 11.2% respectively.

But, in the new/current fiscal year (FY20), prices of phosphoric acid, rock phosphates, ammonia and sulphur have decreased by -1.1%, -1.6%, -20.4% and -17.5% during Q1-FY20 (y-o-y), respectively which is a relief for fertilizer manufacturers. The softening of phosphoric acid prices is due to an excess of supply in the markets.

### Government Initiatives and Subsidies offered towards the Fertilizer Sector

The fertilizer industry is highly regulated and monitored by the government. According to the FY20 Budget Rs 79,996 crores is allocated for the fertilizer industry, to be given of as subsidies. The difference between the cost of production which is higher than the price at which the fertilizer is sold to the beneficiary, is reimbursed by the Government in the form of subsidies.

The MRP of Urea is fixed as it is controlled by the **Central Government**. This is not the case with decontrolled fertilizers where manufacturers can price the product freely.

**Table 3: Allocation of the Subsidy within the Fertilizer Sector (figures in Rs crore)**

	2019-20 (BE)	Change (y-o-y)
Urea Subsidy	53,629	19.2%
Nutrient Based Subsidy	26,367	5.1%
Total	79,996	14.1%

Source: Budget

The fertilizer subsidy has been incrementally increased by Rs 10,000 crores for FY20. Within the subsidy as well, Rs 53,629 crores has been earmarked as the urea subsidy and the remaining Rs 26,367 crores is earmarked for the Nutrient based subsidy.

The increase in allocation by 14.1% is to further help the sector in increasing the efficiency of subsidy transfers to the farmers through direct benefit transfer (DBT). The industry has received Rs 10,000 crores under the special banking arrangement in March 2019, though there is a significant subsidy backlog of around Rs 30,000 crores for the industry.

**Table 4: Break-up of the subsidy paid by the Government during last 3 years (figures in Rs crore)**

Year	Indigenous Urea	Imported Urea	Indigenous P&K	City Compost	Imported P&K	Total
2016-17	40,000	11,257	11,843	1	7,000	70,100
2017-18	36,974	9,980	14,337	7	7,900	69,198
2018-19	32,190	17,155	14,820	10	9,260	73,435

Source: PIB

**Nutrient Based Subsidy:** Government of India is implementing the Nutrient Based Subsidy (NBS) policy w.e.f. 1<sup>st</sup> April 2010. The NBS deals with 22 grades of decontrolled fertilizers namely DAP, MAP, TSP, DAP Lite, MOP, SSP, Ammonium Sulphate and 15 grades of complex fertilizers. These fertilizers are provided to the farmers at the subsidized rates based on the nutrients (N, P, K & S) contained in these fertilizers. Additional subsidy is also provided on the fertilizers fortified with secondary and micronutrients as per the Fertilizer Control Order such as Boron and Zinc.

The subsidy given to the companies is fixed annually on the basis of its nutrients content (i.e. Nitrogen, Phosphate, Potash and Sulphur) on per kg basis which is converted into subsidy per tonne depending upon the nutrient content in each grade of the fertilizers. Under this scheme, Maximum Retail Price (MRP) of fertilizers has been left open and manufacturers/marketers are allowed to fix the MRP at reasonable level. These rates are determined taking into account the international and domestic prices of P&K fertilizers, exchange rate, inventory level in the country.

**Table 5: Rates of Nutrients under NBS (Rs/kg)**

Nutrient Type	2018-19	2019-20	Y-O-Y change	
			2018-19	2019-20
Nitrogen (N)	18.9	18.9	-0.5%	0.0%
Phosphorus (P)	15.2	15.2	26.7%	0.0%
Potash (K)	11.1	11.1	-10.4%	0.0%
Sulphur (S)	2.7	3.6	20.5%	31.9%

Source: PIB

For FY20, the government has revised the nutrient based subsidy rate only for sulphur by increasing it by 31.9% while keeping the rates for nitrogen, phosphorus and potassium unchanged. It is estimated that the subsidy on phosphatic and potassic fertilisers during the current financial year would cost Rs 22,876 crores.

**New Urea Policy 2015:** The **New Urea Policy** was introduced with the main purpose to ensure the maximum production of indigenous urea by promoting the use of energy efficiently which would help rationalize and bring down the subsidy burden. The NUP focuses on making the domestic urea sector become globally competitive in terms of energy efficiency. It is expected that there would be reduction in the subsidy burden of the government in two ways –

- Reduction in specific energy consumption norms and
- Import substitution on account of higher domestic production.

The Union Government also subsidizes the urea manufacturing units for the cost of transportation to facilitate the availability of urea at the same maximum retail price all over the country.

**Energy Consumption Norms under New Urea Policy 2015:** Government of India introduced the New Urea policy in May, 2015 and the policy was effective from June 1st, 2017 onwards. As per the norms issued by the fertilizer ministry, all the gas-based urea manufacturing plants are divided into three groups and a specific energy norm is fixed for each plant.

**Table 6: Energy consumption norms**

Energy Consumption (G Cal per MT)	Revised energy norm under NUP	
	June 1st, 2015 to March 31st 2018	April 1st 2018 to March 31st 2019
Group 1	5.0-6.0	5.5
Group 2	6.0-7.0	6.2
Group 3	7	6.5

Source: PIB

Operational efficiencies are attained through efficient energy norms. If fertilizer producers operate well under norms, continues to generate energy savings and those who are not would see surge in their cost as government would provided subsidy based on the norms specified. Hence, resort to capital intensive energy saving projects

As per the notice issued in March 2018 the target energy norms as per NUP-2015 will be continued for 5 years w.e.f. 1<sup>st</sup> April, 2020. The extension is expected to ensure easy availability of urea to farmers throughout the country and help maximize the indigenous urea production.

**Neem Coating of Urea:** As per notification Vide Department of Fertilizers dated on 25.05.2015 all the urea producers in the country had to mandatorily produce 100% of their total production of subsidized urea as neem coated urea (NUC). Neem coating of urea is the most cost effective way to preserve the nitrogen component in the fertilizer. It is estimated that spraying of neem oil slows the release of nitrogen by 10-15%, thus, in effect, reducing the urea requirement to that extent. NUC was introduced so that it could save a substantial chunk of the fertilizer subsidy.

A study conducted by the Department of Agriculture, Cooperation & Farmers Welfare (DAC&FW) have found positive effects of neem coating of urea such as

- Improvement in soil health.
- Reduction in costs with respect to plant protection chemicals.
- Reduction in pest and disease attack.
- An increase in yield of paddy to an extent of 5.8%.
- An increase in yield of sugarcane to extent of 17.5 %
- An increase in yield of maize to the extent of 7.1%.
- An increase in yield of Soybean to the extent of 7.4%.
- An increase in yield of Tur/Red Gram to the extent of 16.9%.

Neem coating also had an additional positive impact – plugging the diversion of the subsidized urea towards non-agricultural purposes.

In light of the positive results realised due to neem coating of urea, the Government also decided to bag urea in 45kg bags instead of the usual 50 kgs in order to reduce consumption.

**Gas Pooling for the Fertilizer (Urea) Sector:** Under this policy from July 1<sup>st</sup> 2015 onwards the Government of India has been pooling the price of Domestic Gas with Re-Gasified LNG which is imported. The intent is to help provide natural gas at uniform delivery price to all Natural gas grid connected Urea manufacturing plants. The cost of gas, which is the most important component for production of urea, varies from plant to plant owing to differential rates at which imported LNG is contracted as well as cost of transportation. Gas pooling of gas is to help bring down the cost of fuel for manufacturers.

As part of the plan, an Empowered Pool Management Committee was formed with representatives from the ministry of petroleum & natural gas, department of fertilizer, department of expenditure, and GAIL (India). The committee approves the plant-wise gas supplies to be made under the gas pool mechanism. The department of fertilizer will also determine the total requirement of natural gas. The Ministry has proposed making GAIL the pool operator-, to arrange imports after considering domestic availability and averaging both the prices.

**Direct Benefit Transfer in the Fertilizer Industry:** Under the DBT scheme the subsidy will be released to the fertilizer companies instead of the beneficiaries, after the sale is made by the retailers to the beneficiaries. Prior to the introduction of DBT in the fertilizer industry the subsidy was given on the dispatch of the materials from their respective factories. After a few revisions on the disbursement of the fertilizers the subsidy was getting paid at a railhead point or any approved godown of a district.

Now under the proposed new system payment of subsidy is to be based on weekly settlement of claims from actual sales data captured on POS machines after the sale is made by the retailers to the beneficiaries on submission of claims generated in the web-based online Integrated Fertilizer Monitoring System (iFMS) by fertilizer companies. The DBT scheme should help curb the issues relating to diversion and smuggling of urea.

DBT has now been rolled out on nationwide basis and fertilizer companies have started aligning their sales through the mechanism as well. DBT in fertilizer is meant to transfer subsidies to manufacturers upon authentication of purchase by farmers which can help restricting diversion, prevent leakages, and bring about greater transparency, accountability and efficiency in the system.

In the current financial year (FY20), the government has just introduced the second phase of DBT. So far 5.4 crores soil health cards (SHC) have been loaded which have recommendations on the type of balanced nutrition the crop needs. The farmers' soil health cards have been linked so as to provide customized nutrient application suggestions. Under DBT 2.0 the government wants to utilize the data for real-time for balanced nutrition application and also explore the option of directly transferring the subsidy to the farmer's account.

**Revision of Dealer Margins:** The government had revised dealer margins to be paid to urea distributors by 97%. The revised rate was effective from 1<sup>st</sup> April, 2018 onwards. The margin was increased to **Rs 354/MT**. Prior to the revision, the government used to pay Rs 180/MT to the private agencies and co-operatives & Rs 200/MT to institutional agencies. The increased margins were only to be paid if the sale was directed via the POS machine through the DBT mechanism. The revision was likely to benefit approximately 23,000 dealers across the country by enhancing their financial viability post DBT implementation of the fertilizer subsidy.

**Revival of closed fertilizer plants:** The government is reviving 5 closed fertilizer plants - 4 of Fertilizer Corporation of India Limited (FCIL) in Talcher, Ramagundam, Gorakhpur and Sindri and 1 of Hindustan Fertilizer Corporation Ltd. (HFCL) in Barauni. This is being done by setting up new ammonia-urea plants with a capacity of 12.7 LMT (Lakh Metric Tonne) per annum. The Government expects that with the commissioning/ start of the above plants, can increase significantly the indigenous urea production leading to substantial reduction in imports.

So far the Ramagundam plant is scheduled to be commissioned in the third quarter of FY20 and work has already started at Talcher, which will be the first coal gasification project in Odisha. The Talcher plant will produce urea and synthetic gas from coal and petroleum coke. All other fertilizers units are going to be gas based.

**Table 7: Revival plan and expected date of operation of the 5 sick urea units**

Units	Location	Expected period to be operational
Ramagundam	Telangana	Dec-19
Gorakhpur	Uttar Pradesh	Feb-21
Barauni	Bihar	May-21
Sindri	Jharkhand	May-21
Talcher	Odisha	Sep-23

Source: CARE Ratings

Post the commissioning of all the above plants the domestic indigenous urea production is slated to rise by 63.5 LMT/year.

## Joint Ventures Agreements in the Fertilizer Sector

The Government of India is encouraging fertilizers companies to establish joint ventures abroad in countries which are rich in fertilizer resources for production facilities with buy back arrangements and to enter into long term agreements for supply of fertilizers and fertilizer inputs to India. Fertilizers companies need natural gas, ammonia, phosphoric acid, rock phosphates, and sulphuric acid as raw materials for production of fertilizers.

**Table 8: Existing Joint Venture Projects**

Sr. No.	JV Project-Country	JV participants with equity %	Product and the Project status
1	Oman India Fertilizer Co.(OMIFCO), Oman	Oman Oil Co. (OOC-50%), IFFCO (25%) & KRIBHCO (25%)	16.52 lakh MT Urea & 2.48 lakh MT Ammonia. Production started in the year 2006.
2	ICS Senegal, Senegal	ICS Senegal and IFFCO consortium	5.5 lakh MT phosphoric acid. Production already started.
3	JPMC-IFFCO JV, Jordan	JPMC & IFFCO	4.8 lakh MT Phosphoric acid. Commercial production started in December 2014.
4	IMACID, Morocco	OCP-Morocco, Chambal & TCL – 33% each	4.25 lakh MT phosphoric acid. Production started in year 1997-98.
5	Tunisia-India Fertilizer Company (TIFERT), Tunisia	GCT (Tunisia), CFL (Now CIL) & GSFC (India)	3.60 lakh MT of Phosphoric acid. Commercial production started in April 2014.

Source: Department of Fertilizer

Among many fertilizer Joint Venture Projects being considered in the department, following 03 are in advanced stages

**Table 9: Joint Venture agreements under consideration/implementation**

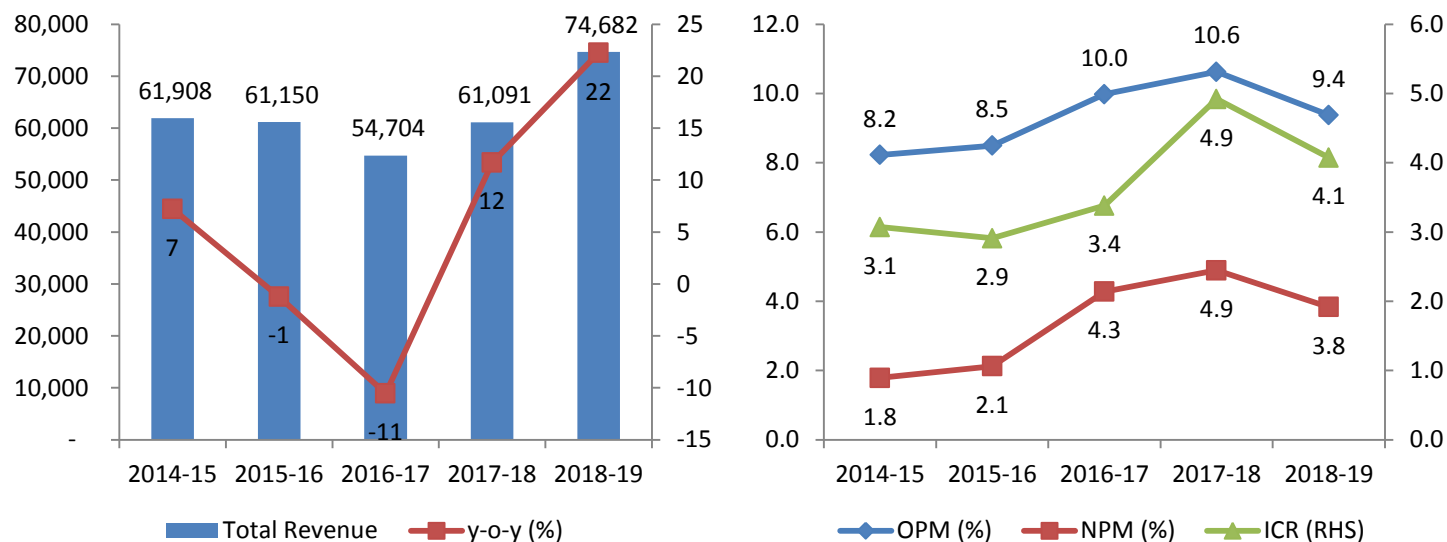
Sr. No	Country	Entities	Product	Offtake Agreement
1	Iran	RCF, GNFC and GSFC from Indian side and one prospective partner from Iran	Urea and Ammonia	8.25 LMT per annum Ammonia and 12.7 LMT per annum Urea
2	Russia	NMDC, RCF, FACT, KRIBHCO, NFL and ACRON (Russia)	Potash	30 % stake in the fertilizer project
3	Canada	RCF, FACT and ENCANTO (Canada)	Potash	1.8 Million tonnes per annum for 17 years

Source: Department of Fertilizer

### Financials of 20 Fertilizer Companies

Financial health of fertilizer manufactures largely depends on the sowing season (kharif or rabi), vagaries of rainfall, status of subsidy outgo and the existing channel inventory level.

**Chart 10: Total Revenue and y-o-y change**    **Chart 11: Operating and Net Profit Margins (in %) and Interest coverage ratio**



Source: Ace Equity, CARE Ratings

#### Revenue

Implementation of DBT (which was launched officially Pan-India March 2018 onwards) has led to an increase in the revenue by 12% during FY18 as all the sales were officially recorded and streamlined via the POS machines, curbing any pilferages and misuse. Stabilisation of the system during FY19 has led to an increase in revenue by 22%. Till date (June 2019), 671 Lakh Metric tonnes (LMT) of Fertilizers has been sold through the PoS devices.

#### Profitability

Increase in key input costs especially of natural gas and phosphoric acid during FY19 led to a decline in the profitability of fertilizer manufacturers.

DBT has also led to faster subsidy clearance which has also led to an improvement in the profitability of the companies. There has also been an improvement in the Interest Coverage Ratio FY18 onwards indicating a possible reduction the working capital pressures of these companies.

#### Challenges

**Zero Budget Natural Farming:** Zero Budget Natural Farming (ZBNF) is a set of farming methods where the cost of growing and harvesting plants is zero. This means that farmers need not purchase fertilizers and pesticides in order to ensure the healthy growth of crops. Several States, including Andhra Pradesh and Himachal Pradesh, have been aggressively driving a shift towards this model. This could pose a threat to the chemical fertilizer industry as during the FY20 budget announcement the finance minister propagated to resort to Zero Budget farming. As per the most recent economic survey, 1.6 lakh farmers follow zero-budget natural farming.

**Increase in borrowings:** The fertilizer industry faces a common issue of not getting the entire subsidy amount on time due to budget constraints. This is leading to an increase the borrowings which have translated in the deficiency of the working capital. Subsidies of almost Rs 30,000 crore are yet pending to be disbursed by the government (we also need to keep in mind the budgeted subsidy amount to be disbursed during FY20 is Rs 79,996 crores only).

**Inverted Duty Structure:** Raw materials such as naphtha and ammonia are being charged at 18% which is creating an inverted duty structure especially for urea manufacturers. An increase in credit accumulation is putting pressure on the working capital requirements.

## Conclusion/ Outlook for FY20

FY20 commenced on a subdued note with a delay in the monsoons which has considerably affected/delayed the kharif season sowing.

Nevertheless going forward, **we expect the overall fertilizer production is to grow by 1-2% by the end of FY20.** Production grew by 0.3% during FY19.

- We expect production to pick up August 2019 onwards, post the announcement of the nutrient based subsidy rates and once the monsoon deficit reduces (the cumulative monsoon deficit has been reducing and it has come down from it being 19% to 9%).
  - o Decontrolled fertilizer usage is also to increase on the back of the introduction of the second phase of DBT.
  - o Implementation of DBT 2.0 can help in overcoming the issue of skewed fertilizer application on an inter-regional, inter-state and inter-district level.
- Softening of raw material prices and a stable rupee is also to augment production going forward.
- With the commissioning of the Gandepan-III urea plant and with the Ramagundam urea plant coming on board during Q3-FY20, production of urea is also poised to increase.

## Appendix

### What is Zero Budget Natural Farming?

Zero budget natural farming (ZBNF) was propagated by Maharashtra agriculturalist Subhash Palekar, who developed it in the mid-1990s as an alternative to the Green Revolution's methods driven by chemical fertilizers and pesticides and intensive irrigation.

According to Mr Palekar, the rising cost of these external inputs (fertilizers and pesticides) was a leading cause of indebtedness and suicide among farmers, while the impact of chemicals on the environment was irreversible. ZBNF promotes the application of jeevamrutha — a mixture of fresh desi cow dung and aged desi cow urine, jaggery, pulse flour, water and soil — on farmland. This is a fermented microbial culture that adds nutrients to the soil, and acts as a catalytic agent to promote the activity of microorganisms and earthworms in the soil. A similar mixture, called bijamrita, is used to treat seeds, while concoctions using neem leaves and pulp, tobacco and green chillis are prepared for insect and pest management.

The ZBNF method also promotes soil aeration, minimal watering, intercropping, bunds and topsoil mulching and discourages intensive irrigation and deep ploughing instead of commercially produced chemical inputs and the need to spend money on chemical fertilizers and pesticides — or take loans to buy them.


**CORPORATE OFFICE:**

**CARE Ratings Limited** (Formerly known as Credit Analysis & Research Ltd)

Corporate Office: 4th Floor, Godrej Coliseum, Somaiya Hospital Road, Off Eastern Express Highway,  
Sion (East), Mumbai - 400 022; CIN: L67190MH1993PLC071691

Tel: +91-22-6754 3456 | Fax: +91-22-6754 3457

E-mail: [care@careratings.com](mailto:care@careratings.com) | Website: [www.careratings.com](http://www.careratings.com)

Follow us on  [/company/CARE Ratings](https://www.linkedin.com/company/CARE-Ratings)  
 [/company/CARE Ratings](https://www.youtube.com/company/CARE-Ratings)