Fertilizers

Sector Study

January 2022

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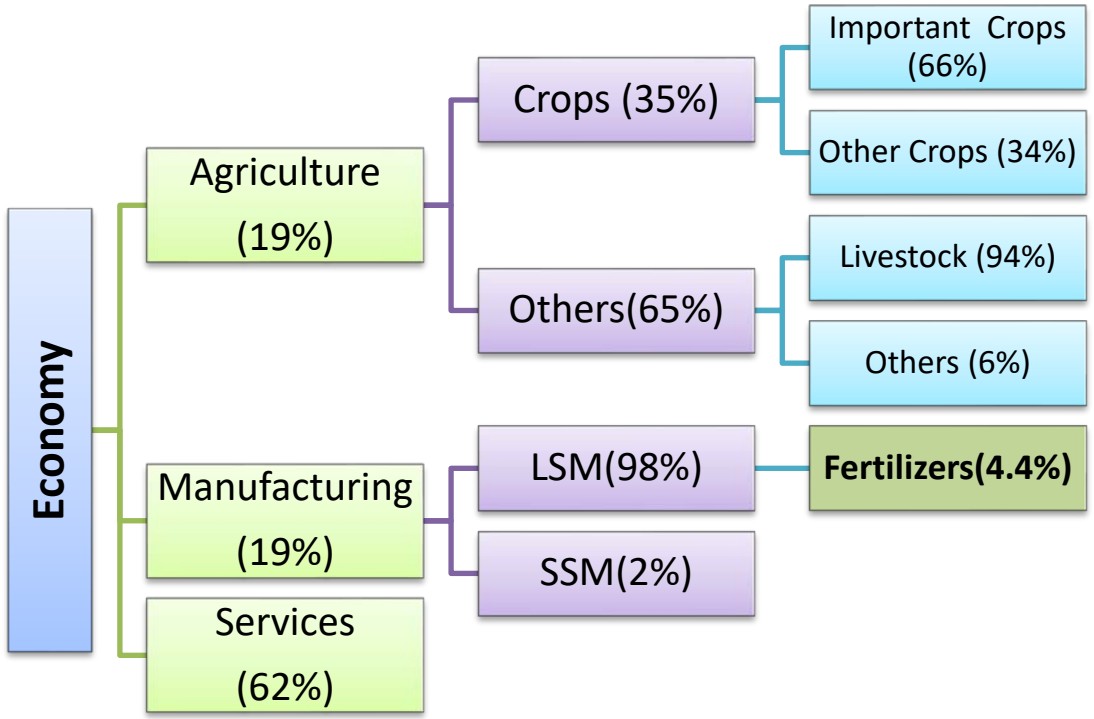
Agriculture Overview

- Pakistan's economy is divided into three segments: Agriculture, Manufacturing/Industry and Services. The overall GDP of the country recovered by ~3.9% in FY21 after a decline of ~0.4% in FY20.
- Agriculture is the largest sector of the economy in terms of labor employment. The Sector engages the largest workforce and provides raw material to a number of manufacturing/industrial sectors.
- Crops have a contribution of ~35% in the agricultural segment, out of which 66% belongs to important crops (wheat, rice, maize, cotton and sugarcane) and 34% belongs to other crops.
- The "Fertilizers" Sector is classified in the Large-Scale Manufacturing (LSM), although it is majorly driven by the agriculture, particularly crops, segment of the country.



Source: PBS

Fertilizers

Agriculture | Important Crops

- The important crops account for ~22% of the value addition in agriculture sector.
- The agriculture sector's performance during FY21 broadly stood encouraging as it met its growth target of ~2.8% The growth of important crops (wheat, rice, sugarcane, maize and cotton) during FY21 was recorded at ~5%.
- Cotton crop contributes about ~0.8% to the GDP and ~4.1% to the total value addition of the agriculture sector. In FY21, the only major crop that recorded negative growth was cotton mainly due to the decline in area sown, heavy monsoon rains and pest attacks. Cotton production reduced drastically by ~23%.
- Sugarcane is a high value cash crop and accounts for ~0.6% of GDP and ~2.9% of total value addition in agriculture. In FY21, the production of sugarcane recorded a healthy growth of ~21%.
- Wheat, the staple food crop of the country, accounts for ~8.7% of value addition in agriculture and contributes ~1.7% to GDP while maize contributes ~2.9% to value addition in agriculture and ~0.6% to GDP. In FY21, the production of wheat and maize increased by 9% and 17% respectively.
- Rice is the second main staple food crop after wheat. It contributes ~3.1% to value addition in agriculture and 0.6% in GDP. In FY21, the production of rice increased by 14%.

Production of Important Crops *(in 000 MT)*

	FY17	FY18	FY19	FY20	FY21
Cotton ('000' bales)	10,671	11,946	9,861	9,178	7,064
Growth (%)	8%	12%	-17%	-7%	-23%
Sugarcane	75,482	83,333	67,174	66,880	81,009
Growth (%)	15%	10%	-19%	0%	21%
Rice	6,849	7,450	7,202	7,410	8,419
Growth (%)	1%	9%	-3%	3%	14%
Maize	6,134	5,902	6,826	7,236	8,465
Growth (%)	16%	-4%	16%	6%	17%
Wheat	26,674	25,076	24,349	24,946	27,293
Growth (%)	4%	-6%	-3%	2%	9%

Source: PES

Fertilizers

Overview

Fertilizer Types by Nutrients

- Fertilizers are nutrients essential for the growth of plants and crops.
- There are three main types of fertilizer used by the agricultural sector. These include Nitrogenous fertilizers such as Urea and CAN, Phosphorous fertilizer such as DAP and Potassium fertilizers including NPK and NP.
- The most common type of fertilizers are nitrogenous fertilizers (mainly Urea) due to their vital properties and lower prices as compared to other types of fertilizer.

- It supports plants' rapid growth and encourages the healthy development of foliage and fruits (Urea, CAN)

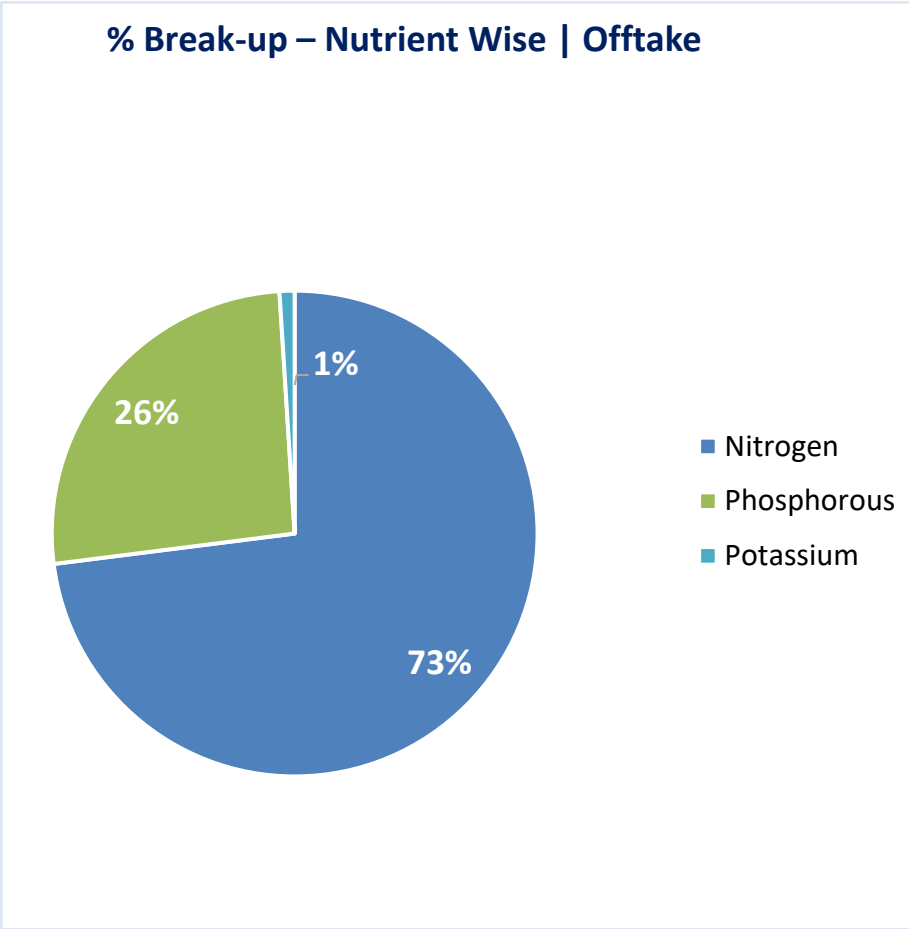
Nitrogen

- It helps a plant convert other nutrients into usable building blocks with which to grow (DAP, SSP)

Phosphorous

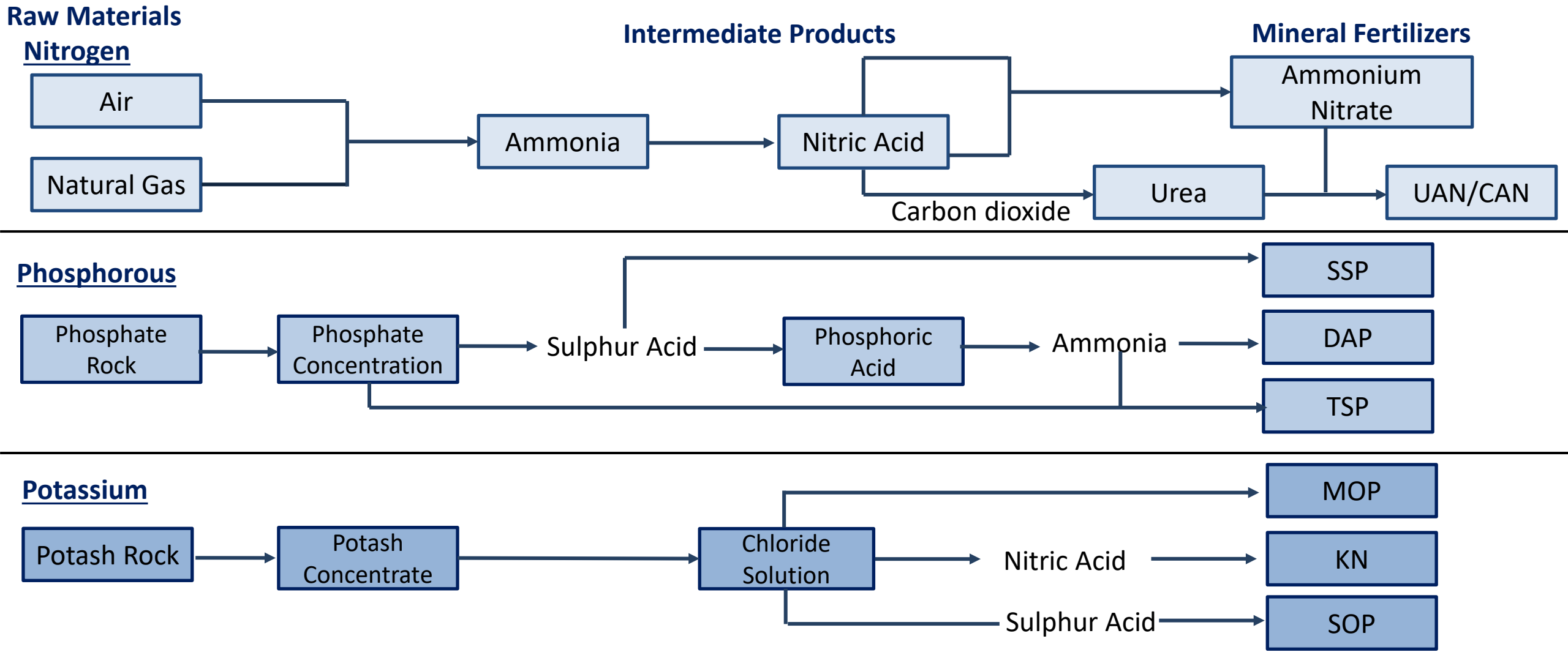
- Vital for proper growth and reproduction of plants (NPK, NP)

Potash



Fertilizers

Production Process



Fertilizers

Usage By Crops

- The amount of fertilizer to be applied on various crops depends on a number of factors including the crop to be sown, the previous crop, the organic manures that will be applied, the crop variety, the input/output price ratio, yield potential and management level.
- Farmers apply fertilizers according to their financial resources, the availability of water, the types of fertilizers available and the expected financial returns.
- On estimates, the sugarcane crop consumes the most fertilizers, while maize and pulses consume the least amount.

Average Fertilizer Bags (50Kg) Used Per Hectare

Crops	Provinces	Nitrogen	Phosphate	Potash
Wheat Irrigated	Punjab	2	2	1
	Sindh	3	2	1
Wheat Rainfed	Punjab	2	2	1
	Sindh	1	1	-
Paddy Rice	Punjab	2	1	1
	Sindh	3	2	1
Cotton	Punjab	3	1	1
	Sindh	2	1	1
Sugarcane	Punjab	4	2	2
	Sindh	5	2	3
Maize	Punjab	2	2	1
Pulses	Punjab	1	2	-
	Sindh	2	1	-

Source: FAO Food and Agriculture Organization

Fertilizers

Usage By Crops | Application

Wheat

- All phosphorus and potassium and half of the nitrogen is broadcast and incorporated in the soil before sowing.
- Phosphorus can be applied at the first irrigation if this was not done at sowing.

Rice

- Application of zinc sulphate (35 percent Zn) at the rate of 12.5 kg/ha after 7-10 days of transplanting.
- Nitrogen fertilizers containing nitrogen in ammoniacal form (urea, ammonium sulphate) are more beneficial for rice.

Cotton

- All P_2O_5, K_2O and 1/3 of the N should be applied at sowing by band placement.
- Then 1/3 of the N should be applied with the first irrigation and the remaining 1/3 of the N at the pre-flowering stage.

Sugarcane

- All phosphorus, potassium and 1/3 of the N should be applied at planting time in the furrows below the seed sets. Fertilizer contact with the seed sets has to be avoided.
- The remaining 2/3 of the N should be applied in two splits, i.e. 1/3 in April and 1/3 in May.

Fruit Crops

- Most of the recommendations for citrus fruits, deciduous fruits and mango are on a per plant basis. After planting the fruit tree, the application in the first year on average is 150 g N, 50 g P_2O_5 and 50 g K_2O, mixed with 10-15 kg of well decomposed FYM for every plant.

Fertilizers

Overview | Industry

- Fertilizers are an essential contributor towards the agriculture sector of the country. The sector's economic significance is high as it plays a vital role in ensuring food security across the country.
- The sector is dominated by six players which occupy almost ~95% of the market share. This makes the sector oligopolistic in nature. Out of these 6, 4 players are listed on the Pakistan Stock Exchange (PSX). These companies belong to the three Big Names of the Corporate Sector, Fauji, Engro and Fatima Group.
- The sector contributes ~4.4% to the large-scale manufacturing (LSM) sector and ~0.9% to the overall GDP of the country.
- Due to agriculture sector's immense economic significance, the government has set out relief and subsidy programs, which leads to higher demand for fertilizers.
- Crop outputs, credit disbursement of agricultural sector, government policies, weather conditions and soil health are a few of the main drivers of demand for the fertilizers sector.

Industry Snapshot	CY20	CY21
Revenue *(in PKR bln)*	330	407
Growth	6%	23%
Contribution to GDP	0.9%	0.9%
Sector Players	6	6
Structure	Oligopoly	
Annual Fertilizer Production (*in mln MT)*	8.6	8.7
Annual Fertilizer Offtake (*in mln MT)*	9.9	10.1
Fertilizer Offtake Pattern		
Urea	61%	62%
DAP	22%	18%
Others	17%	20%
Regulator	Ministry of National Food Security	
Associations	FMPAC & NFDC	

Source: NFDC, PACRA Database

Fertilizers

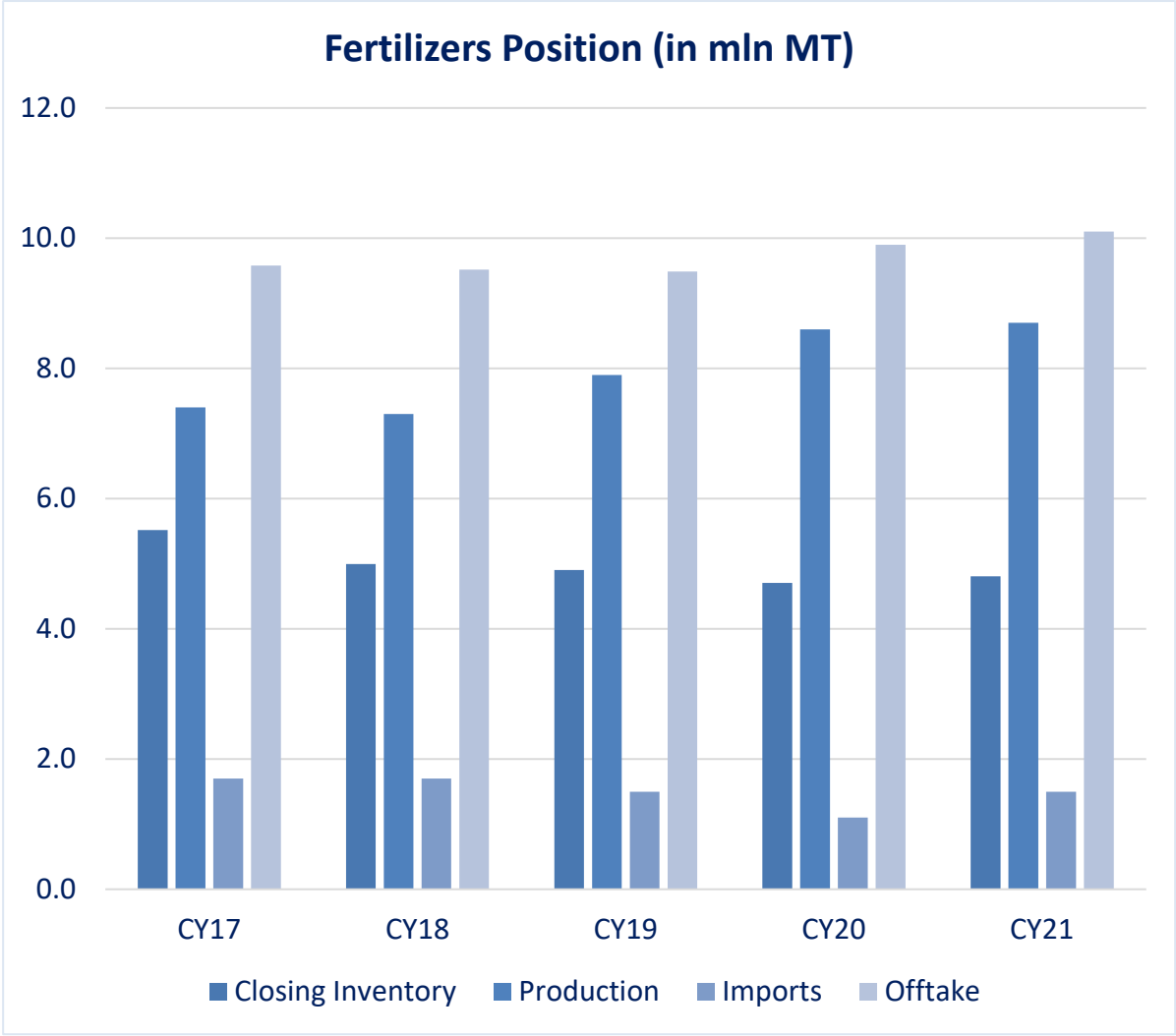
Supply & Demand

- **Production:** Pakistan's average fertilizer production for the past 5 years (CY17 to CY21) stood at ~8mln MT with a CAGR of ~1.3%. In CY21, Pakistan's annual fertilizer production clocked in around ~8.7mln MT (CY20: ~8.6mln MT), with a YoY growth of ~1%.

- **Imports:** The country's average fertilizer imports for the past 5 years (CY17 to CY21) stood at ~1.5mln MT. In CY21, Pakistan's annual fertilizer imports recorded around ~1.5mln MT (CY20: ~1.1mln MT), with a YoY growth of ~36%. The increase in imports reflects the need to maintain adequate inventory levels and combat any crisis of shortage, if they arise.

- **Offtake:** Average fertilizer offtake for the past 5 years (CY17 to CY21) stood at ~9.7mln MT with a CAGR of ~1.3%. In CY21, Pakistan's Annual fertilizer offtake was recorded at ~10.1mln MT (CY20: ~9.9mln MT), with a YoY growth of ~2%.

- **Inventory :** Average fertilizer Inventory levels for the past 5 years (CY17 to CY21) stood at ~5mln MT. In CY21, Pakistan's annual fertilizer supply hovered around ~4.8mln MT (CY20: ~4.7mln MT), with a YoY growth of ~2%. However, the stock position of urea for the upcoming season reflects shortage, with speculations about hoarding. (discussed later).



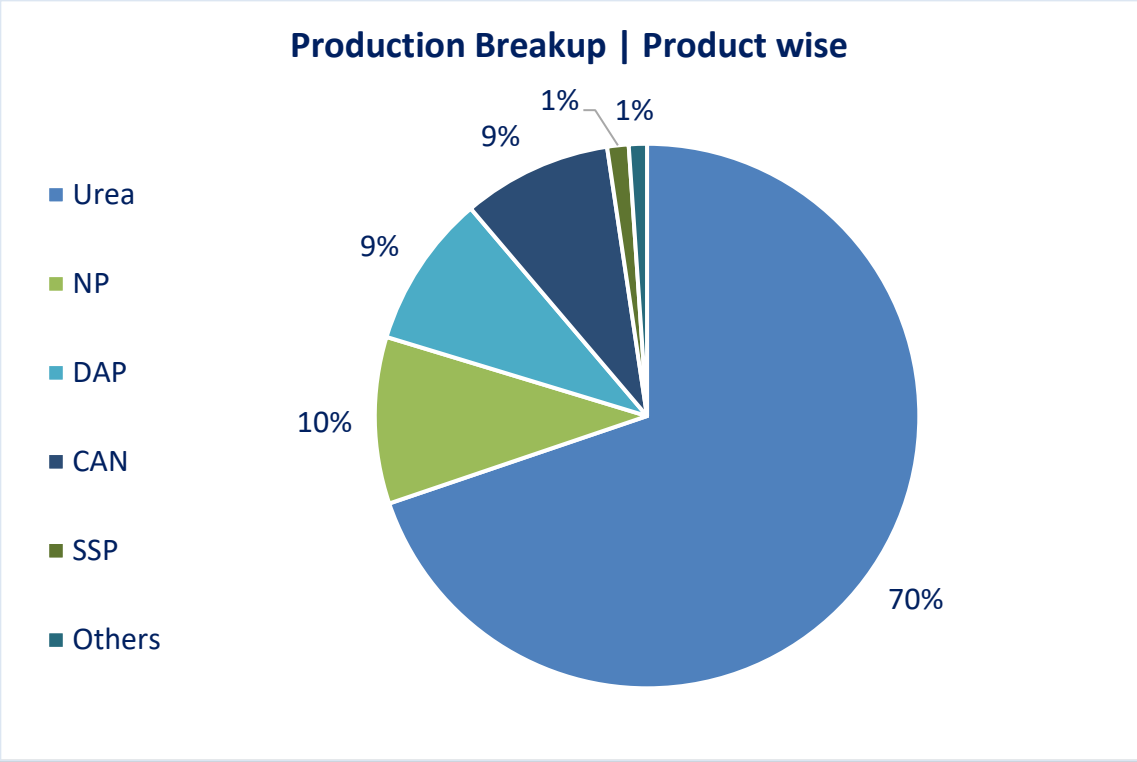
Source: NFDC

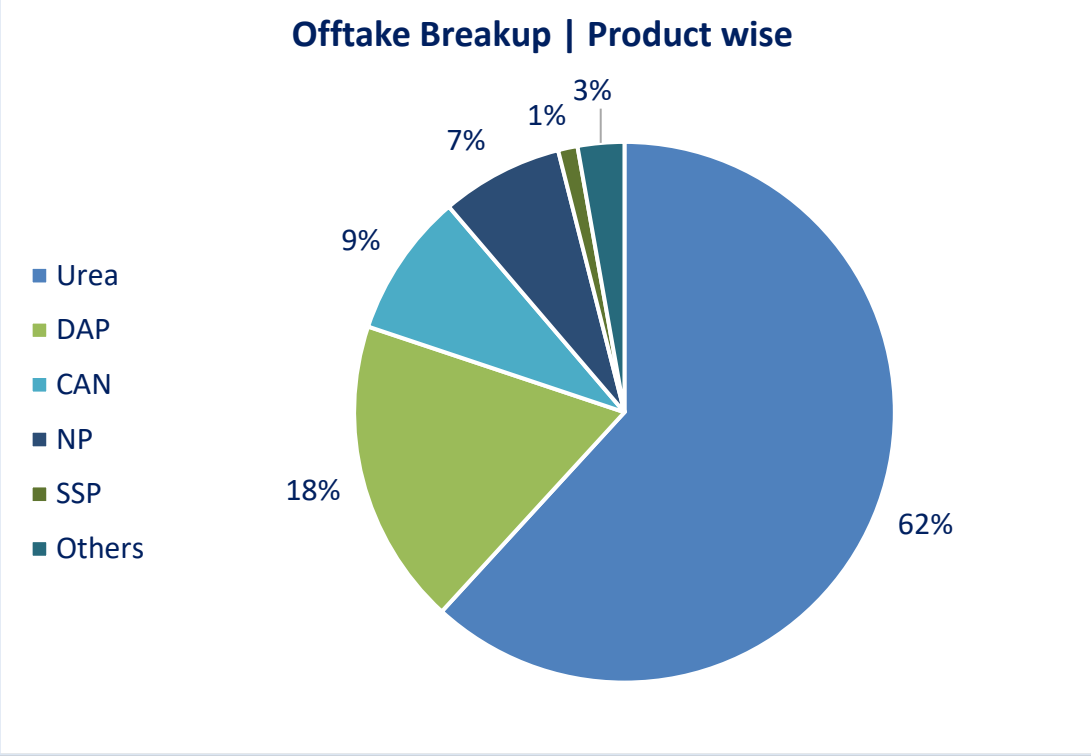
Fertilizers

Product wise Breakup

- **Production:** Urea accounts for ~70% of the country's fertilizer production. DAP contributes around 8 – 10 % of the country's fertilizer production because all Sector players, except FFBL, are involved in import of DAP. Other fertilizers such as CAN, NPK, NP, SSP collectively account for 15 – 20 % of the country's annual fertilizer production.

- **Offtake:** On the offtake front, urea accounts for almost ~62% of the country's total fertilizer offtake followed by DAP (~18%). The remaining fertilizers contribute the rest.





Source: NFDC

Fertilizers | Urea

Dynamics | Annual

- Urea is the most widely used fertilizer, belonging to the nitrogenous category, which accounts for 60-65 % of the country's offtake on average.
- **Availability:** Average Urea Availability for the past 5 years (CY17 to CY21) stood at ~6.3mln MT. In CY21, Pakistan's annual urea availability was recorded around ~6.4mln MT (CY20: ~6.3mln MT), with a YoY increase of ~1%.
- **Production:** Average Urea production for the past 5 years (CY17 to CY21) stood at ~5.9mln MT. In CY21, Pakistan's annual urea production recorded at ~6.1mln MT, with a YoY decrease of ~0.4%. The decrease in production reflects insufficient availability of indigenous gas.
- **Offtake:** Average Urea offtakes for the past 5 years (CY17 to CY21) stood at ~6mln MT. In CY21, Pakistan's annual fertilizer offtake was recorded around ~6.2mln MT (CY20: ~6.0mln MT), with a YoY increase of ~4%.
- **Closing Inventory**: CY21 ended with low inventory levels, that is, ~0.17mln MT, which reflects shortage for the remaining rabi season. One of the reasons attributed is the high delta between local and International price of urea which gave rise to speculations about hoarding issues (artificial shortage), as dealers (arti) are not willing to sell at given local price.

Urea Annual Position *(in 000 MT)*					
	CY17	**CY18**	**CY19**	**CY20**	**CY21**
Opening Inventory	1,085	381	199	203	310
Production	5,653	5,602	6,113	6,137	6,115
Imports		105		0	0
Availability	**6,738**	**6,088**	**6,312**	**6,340**	**6,425**
Less					
Offtake	5,797	5,877	6,109	6,030	6,254
Exports	560	12	0	0	0
Closing Inventory	**381**	**199**	**203**	**310**	**172**

Source: NFDC

Fertilizers | Urea

Price Dynamics

- **Local Prices**: Local urea prices are a function of three major components (i) Gas price (ii) GIDC impact and (iii) Sales Tax Allowance. While changes in gas prices are a full pass through element, the GIDC cost is partially passed through and partially absorbed by the fertilizer manufacturers. Similarly, a change in Input Tax allowance impacts the price of urea per bag.
- Local Urea prices operate at a discount to the international urea price. The delta between international and local urea price increased to ~181% in CY21 (CY20: ~57%) due to tightened supply situation globally and available in-house capacity, on the contrary.
- In CY21, the local urea price reached around PKR~1,774/bag (CY20: PKR~1,708/bag), with a YoY growth of ~4%. Meanwhile, imported Urea CFR price clocked in around PKR~4,988/bag (CY20: PKR~2,683/bag), with a sharp YoY rise of ~86%.

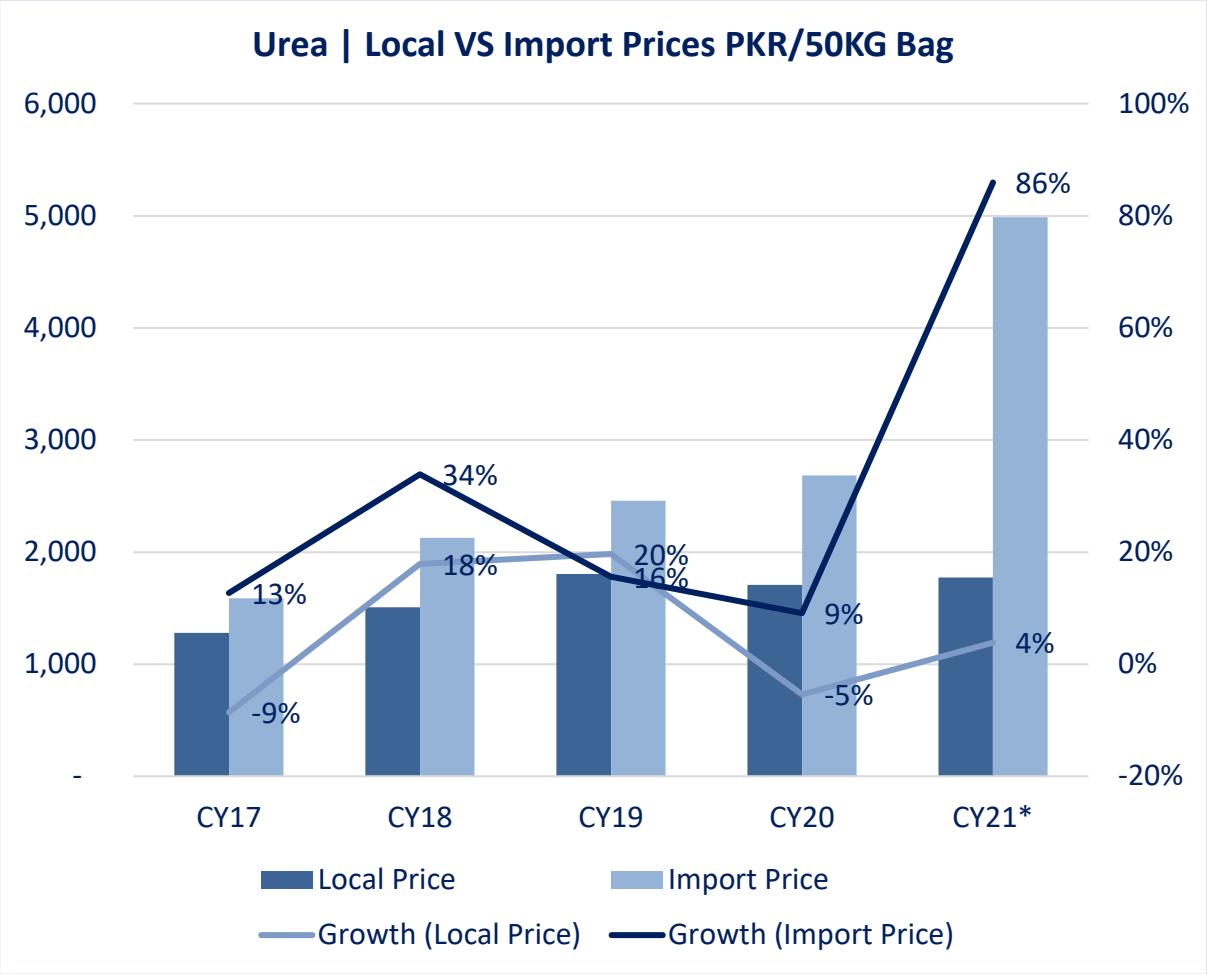
- **International Price** In CY21, the average International urea price reached to USD~439/MT (CY20: USD~252/MT), soaring high by ~74%.
- International prices of urea witnessed an upward trend, the major factor being high input cost and tightened supply. This has resulted in a widening gap between local and International prices leading to stock holding issues in the domestic market creating shortage of urea supply to the farmers.

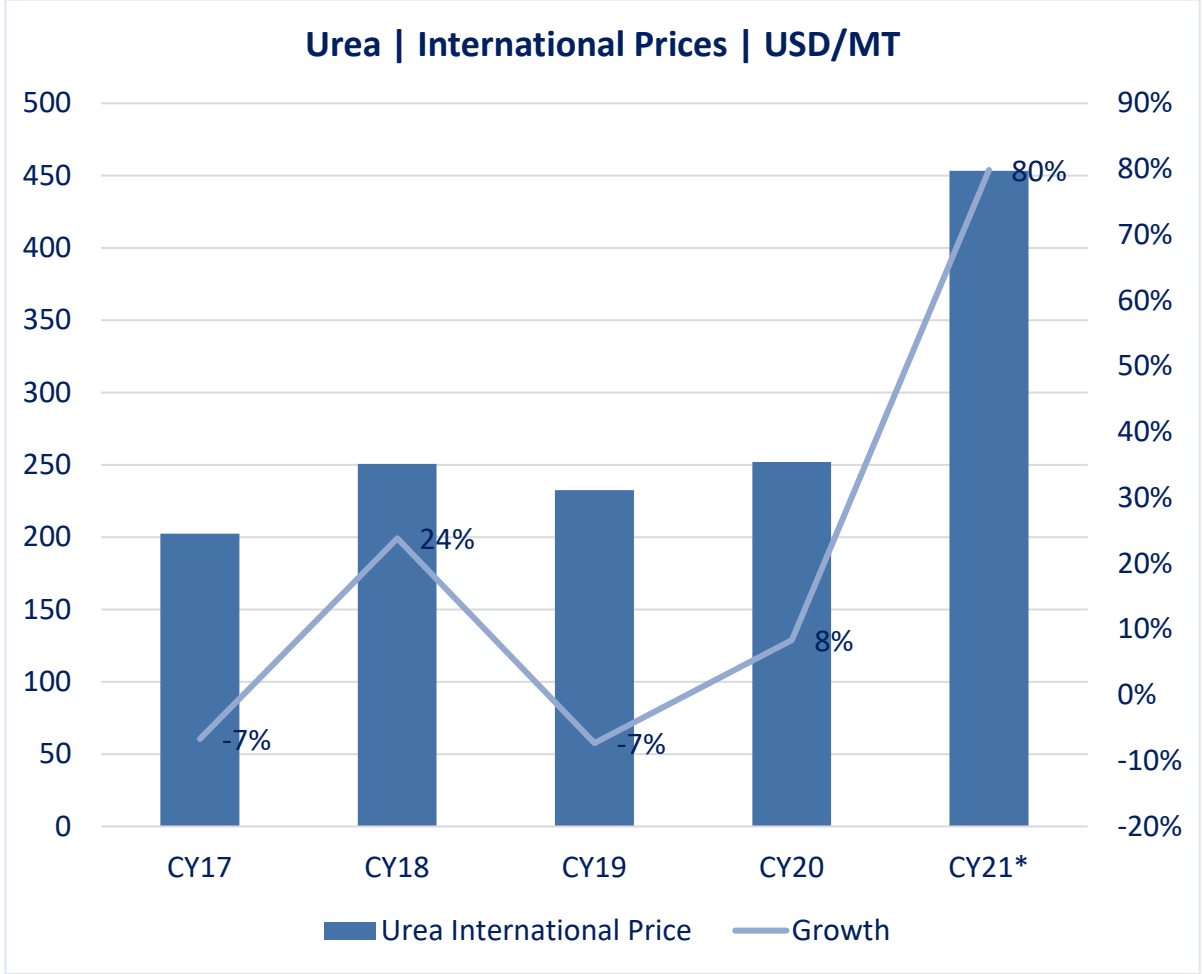
**Estimated Averages based on 11MCY21 Data*

Source: NFDC

Fertilizers | Urea

Price Dynamics

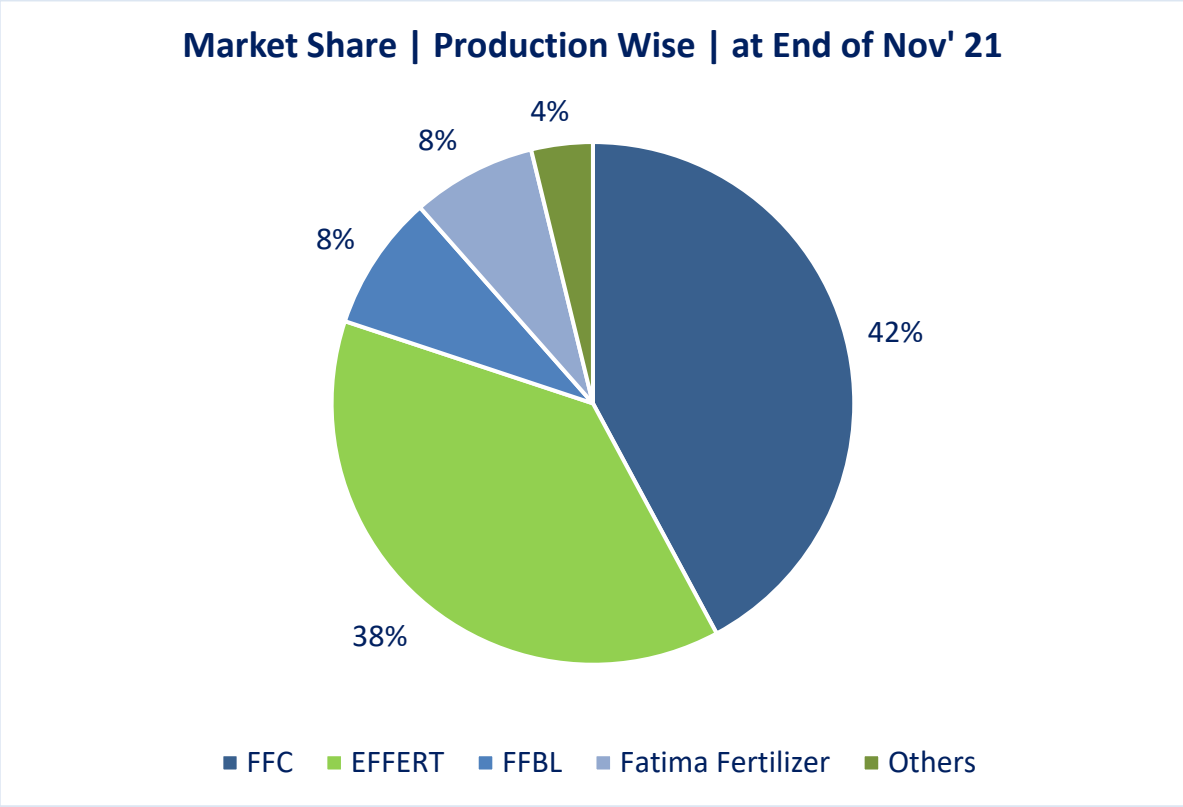


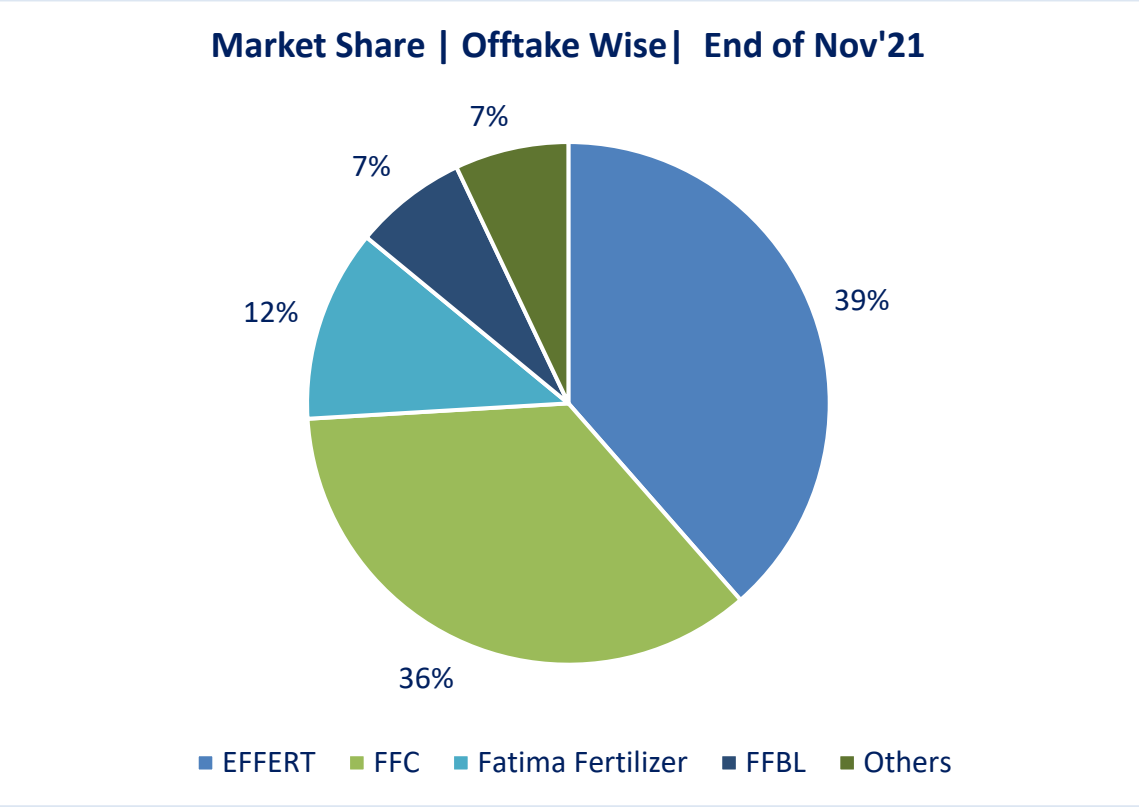


**Estimated Averages based on 11MCY21 Data*

Fertilizers | Urea

Market shares





- FFC Leads the market with a share of ~42% in terms of production of Urea. Following it is EFFERT and FFBL, sustaining the 2nd and 3rd position (in production and offtake of Urea respectively).
- EFFERT Leads the market the market with a share of ~39% in terms of offtake of Urea. Following it is FFC and Fatima Fertilizers , sustaining the 2nd and 3rd position.

Fauji includes both FFC and FFBL

Source: NFDC

Fertilizers | Urea

Outlook

- Urea is almost equally used in both crop seasons of the country, i.e., Rabi (Oct-Mar) and Kharif(Apr-Sep).

- **Availability:** During the on-going Rabi season (Oct'21-Mar'22), the availability of urea has fallen short to meet the country's demand. Reportedly, this has resulted on account of middlemen speculating for exorbitant prices leading to non-availability of urea to farmers. It is to be noted that almost every year, the shortfall in urea supply is met either through imports or supply of RLNG to Fatima and Agritech's plants, when capacity on system gas is not sufficient. Lately, in Dec'21, the GoP also agreed to put FFBL plant on priority list for the supply of gas from SSGC network in order to cope up with reducing urea inventory issue in the country. The ECC has also approved import of 50k tons of urea in Jan'22, which will help in managing the shortfall for this season.

- Overall, the negative season inventory estimates (NFDC - Dec'21) do not take into account ECC's import decision and GoP's decision on supply of urea produce from FFBL plant. Hence, the actual closing inventory position (Mar'22) is expected to change.

Urea Position *(000 MT)*	Kharif (Apr - Sep) 2020	Rabi (Oct - Mar) 2020-21	Kharif (Apr - Sep) 2021	*Rabi (Oct - Mar) 2021-22
Opening Inventory	622	567	286	388
Imports	0	0	0	0
Production	3,097	3,017	3,055	3,310
Availability	**3,719**	**3,584**	**3,342**	**3,698**
Offtake/ Demand	3,152	3,298	2,953	3,742
Closing Inventory	**567**	**286**	**388**	**-44**

Source: NFDC

Fertilizers | DAP

Dynamics | Annual

- DAP belongs to the phosphorous category of nutrients and is the second most widely used fertilizer in the country following urea. DAP is majorly imported except for Fauji Fertilizer Bin Qasim Limited (FFBL) which is the only local producer of DAP.

- **Availability :** Average DAP availability for the past 5 years (CY17 to CY21) stood at ~2.4mln MT. In CY21, Pakistan's annual DAP availability recorded around ~2.3mln MT (CY20: ~2.3mln MT), with a marginal increase of 0.5%.

- **Production:** Average DAP production for the past 5 years (CY17 to CY21) stood at ~0.8mln MT. In CY21, Pakistan's annual fertilizer production stood at ~0.8mln MT (CY20: ~0.7mln MT). with a YoY increase of ~8%.

- **Imports:** Average DAP imports for the past 5 years (CY17 to CY21) stood at ~1.4mln MT. In CY21, Pakistan's annual DAP imports recorded around ~1.4mln MT (CY20: ~0.9mln MT). with a YoY increase of ~43% due to the base effect of significantly lower imports in CY20.

- **Offtake**:. Average DAP offtakes for the past 5 years (CY17 to CY21) stood at ~2.1mln MT. In CY21, DAP offtake was recorded at ~1.8mln MT (CY20: ~2.1mln MT), with a YoY decrease of ~15%. The decrease reflects slower offtake due to an upsurge to exceptionally high prices in CY21.

DAP Annual Position *(in 000 MT)*					
	CY17	**CY18**	**CY19**	**CY20**	**CY21**
Opening Inventory	82	237	255	580	116
Production	809	687	813	739	797
Imports	1,691	1,549	1512	971	1,388
Availability	**2,582**	**2,473**	**2,580**	**2,290**	**2,301**
Less					
Sales	2,345	2,218	2,000	2,174	1,854
Closing Inventory	**237**	**255**	**580**	**116**	**447**

Source: NFDC

Fertilizers | DAP

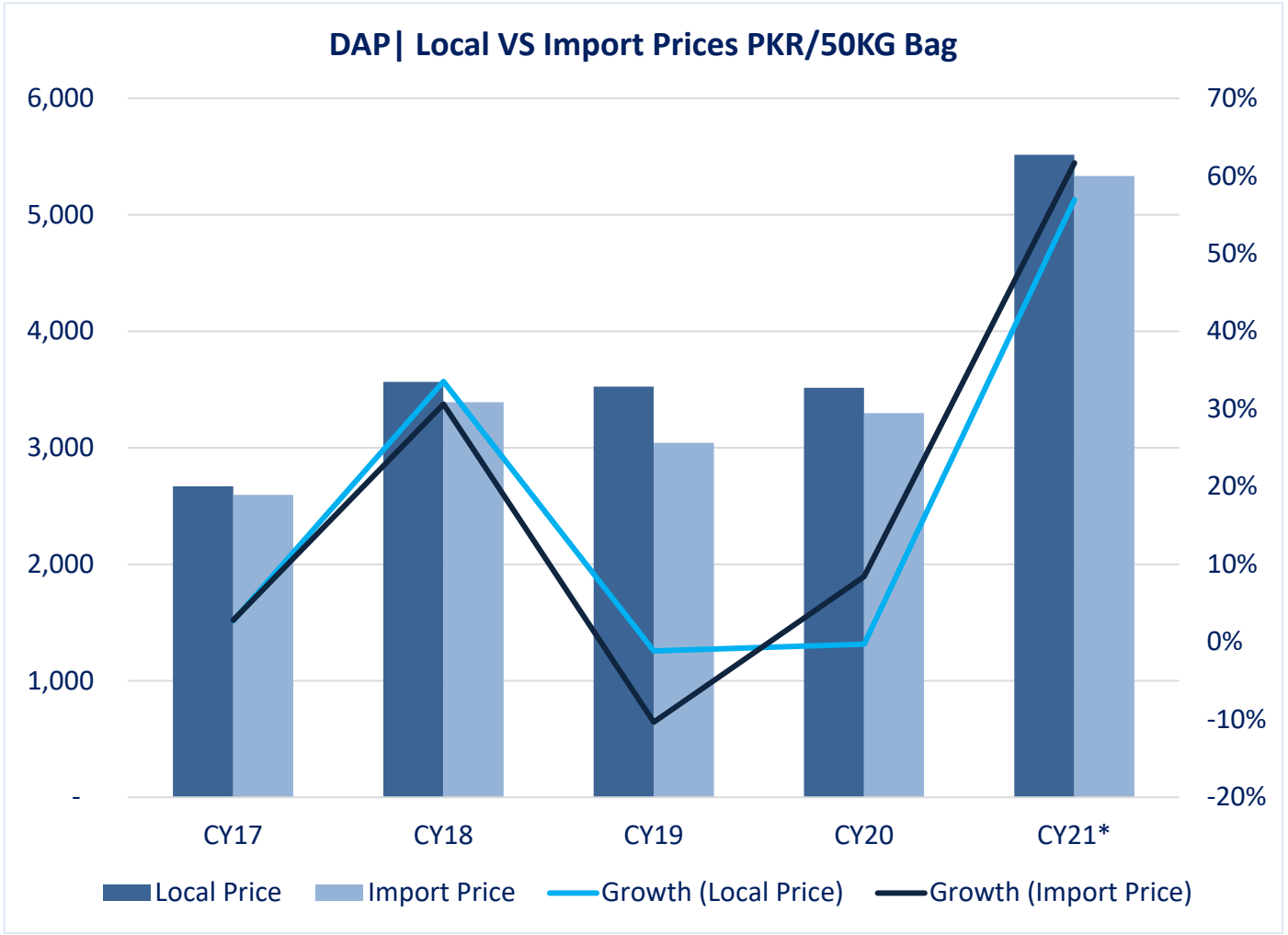
Price Dynamics | Local

- **Local Prices:** As DAP is majorly imported, changes in International prices exert a direct impact on the local prices.

- In CY21, average local DAP price was estimated around PKR~5,516/bag (CY20: PKR~3,515/bag), with a YoY growth of ~56%. Similarly, Import price of DAP, averaged around PKR~5,333/bag (CY20: PKR~3,298/bag), a YoY increase of ~61%.

- DAP is one of the most widely used fertilizers following urea. However, its inevitably higher prices result in its disproportionate application by farmers. Earlier in CY21, the GoP announced a subsidy of PKR~1,000 per bag of DAP, at the time per price per bag averaged around PKR~4,000. However, a sharp rise in the price afterwards has nullified the impact of subsidy to the farmers.

- Unlike urea, the locally produced DAP sells at a higher price than the imported DAP. This is majorly because of the high cost of raw material for DAP and exchange rate fluctuations. During CY21, the delta between imported and local price of DAP reduced to ~3% (CY20: ~6%).

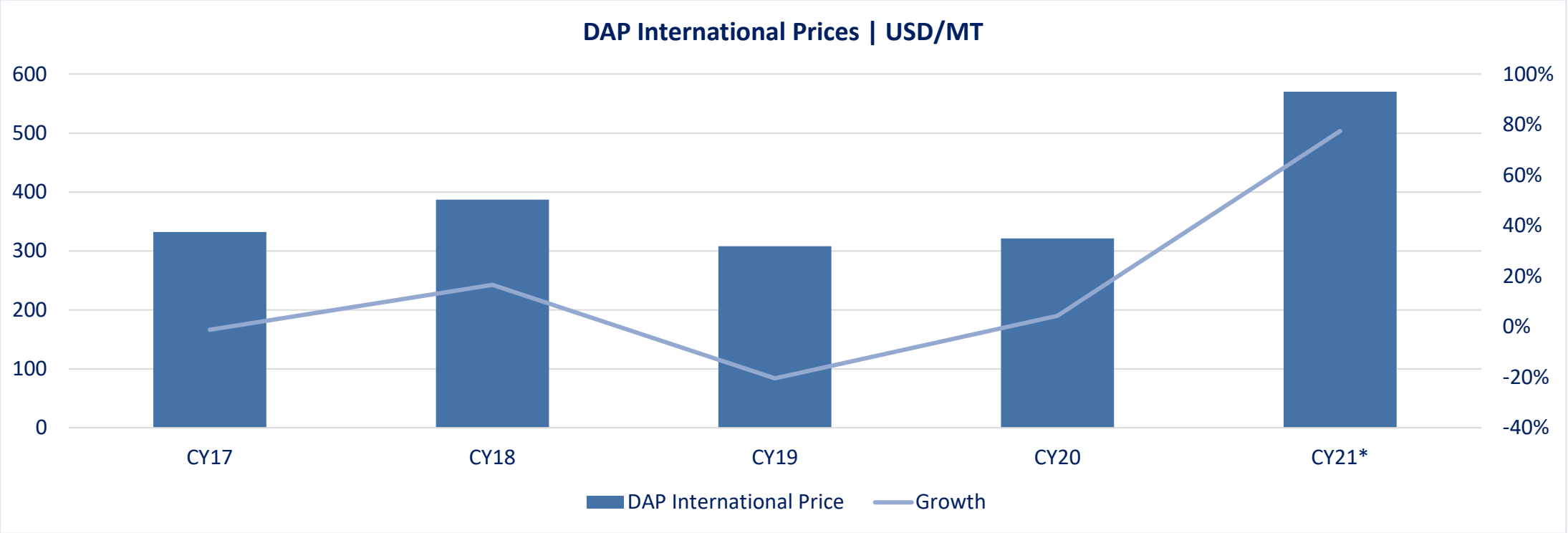


**Estimated Averages based on 11MCY21 Data*

Source: NFDC

Fertilizers | DAP

Price Dynamics | International

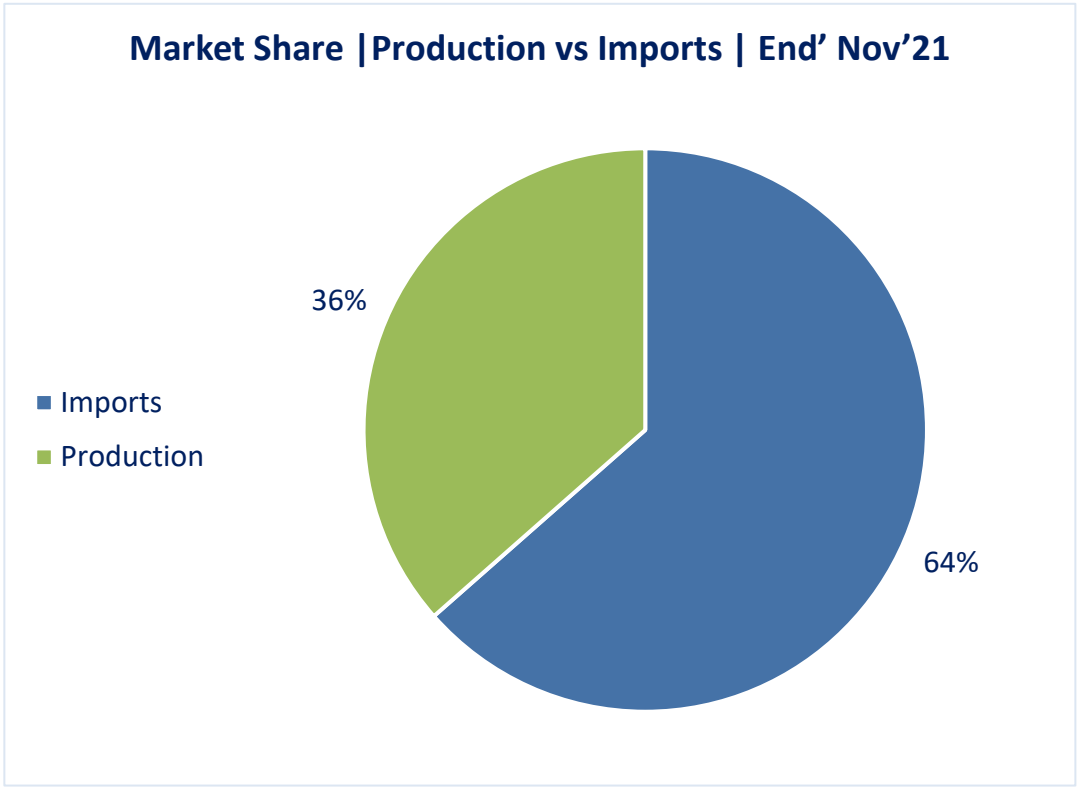


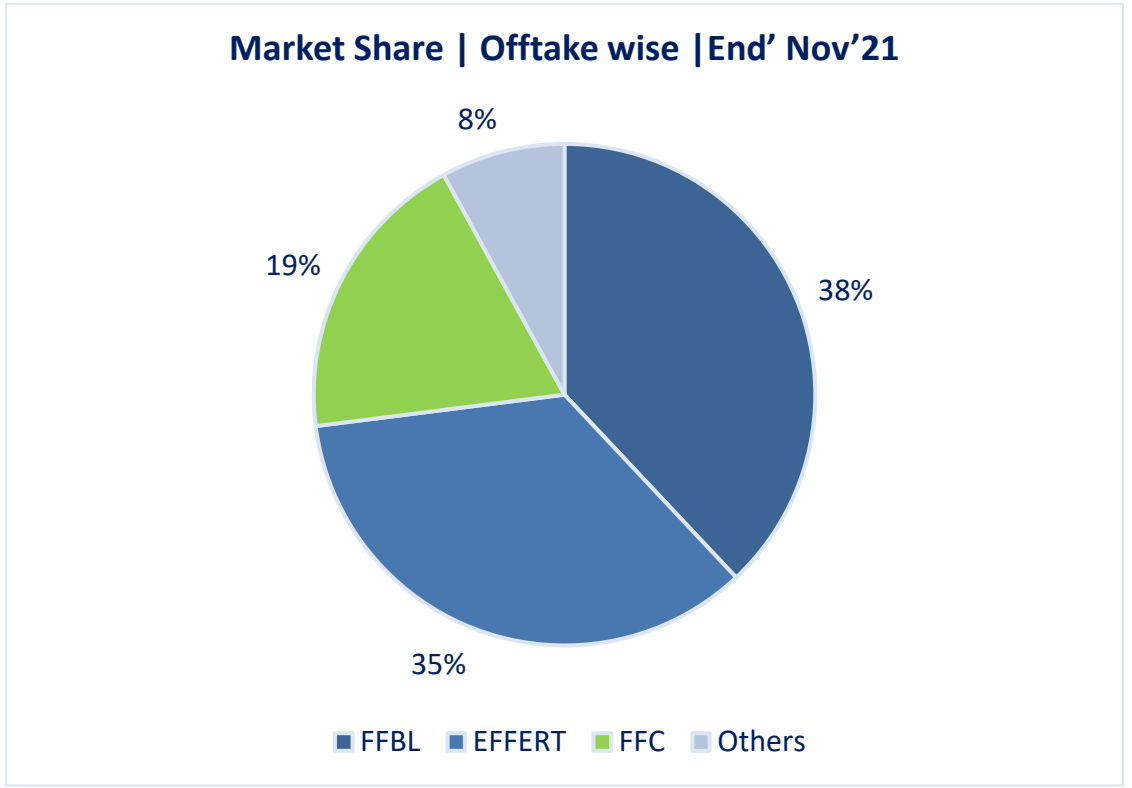
- **International Prices:** In CY21, average International DAP price was estimated around USD~571/MT (CY20: USD~321/MT), recording a sharp increase of ~77%. International prices of DAP witnessed a spike, the major factor being high input cost amid demand revival in major economies following the outbreak of COVID-19. Prices have been driven by surging energy costs, supply curtailments, and trade policies.

**Estimated Averages based on 11MCY21 Data*

Fertilizers | DAP

Market shares





- DAP is majorly imported except by Fauji Fertilizer Bin Qasim Limited (FFBL) which is the only local producer of DAP.
- In term of offtake, FFBL leads the market with a share of ~38%. Following it is EFFERT and FFC sustaining the 2nd position (in terms of offtake of DAP).

**Estimated Averages based on 11MCY21 Data*

Source: NFDC

Fertilizers | DAP

Outlook

- **Availability:** The estimated DAP availability for (Oct'21-Mar'22) is ~1.3mln MT, which is sufficient to meet the demand for the on-going Rabi season.
- The closing inventory of DAP at the end of on-going Rabi season (Mar'22) is estimated around ~301mln MT, sufficiently higher than the previous Rabi season. This is majorly on account of carried forward stocks from the Kharif season due to higher imports.
- DAP Imports during the on-going season are estimated to be around ~0.3mln MT (Apr-Sep'21 : ~0.8mln MT), with a dip of ~31% from the previous Rabi season, due to sufficient DAP stocks carried forward from the Kharif season.
- **Offtake:** The offtake of DAP for the on-going Rabi season is expected to be around ~1mln MT leaving inventory levels of ~0.3mln MT. However, considering the exorbitant price of DAP, the offtake may reduce, going forward.

DAP Position *('000' MT)*	Kharif (Apr - Sep) 2020	Rabi (Oct - Mar) 2020-21	Kharif (Apr - Sep) 2021	*Rabi (Oct - Mar) 2021-22
Opening Stock	497	260	37	568
Imports	516	512	892	355
Production	409	374	430	381
Total Availability	**1,422**	**1,146**	**1,359**	**1,304**
Offtake	1,162	1,109	791	1,003
Closing Inventory	**260**	**37**	**568**	**301**

**Estimated*

Source: NFDC

Fertilizers

Business Risk | Overview

Demand Supply Gap:

Despite achieving self-sufficiency in production capacity of urea, a shortage of indigenous gas creates a demand supply gap time and again which results in either the need to import urea at higher prices or use imported LNG to meet urea demand (fatimafert & agritech).

GIDC:

The fertilizer sector was subject to GIDC of PKR~300 per mmbtu for feed gas and PKR~150 per mmbtu for fuel gas prior to Jan'20. In CY20, the government reduced the GIDC rate from PKR~400/bag to PKR~5/bag which led to a reduction in urea prices. However, as per the Order of supreme court, manufacturers are now liable to settle the outstanding GIDC payable as at 31st July,20 (Discussed in detail later)

Increased Input Costs – Gas Prices

The key input raw material for urea production is natural gas, which is used both as fuel and feed stock. Any increase in gas prices is fully passed on by the manufacturers.

Blocked Subsidy and Sales Tax Disparity

The Industry is facing challenge in the form of prior subsidy receivable from the GoP. In addition, there is a disparity in the sales tax on fertilizer products. Output tax is ~2% while the input tax ranges from 5%-15%. The resulting sales tax refund remains pending for the industry.

Source: NFDC

Fertilizers

Business Risk | GIDC & Gas Rates

- Fertilizer Industry uses gas as both feed stock and fuel (for electricity generation, steam).
- Under Fertilizer Policy, 2001, Engro and Fatima were granted gas on concessionary rates for a period of twenty years., which ended in July 2021.

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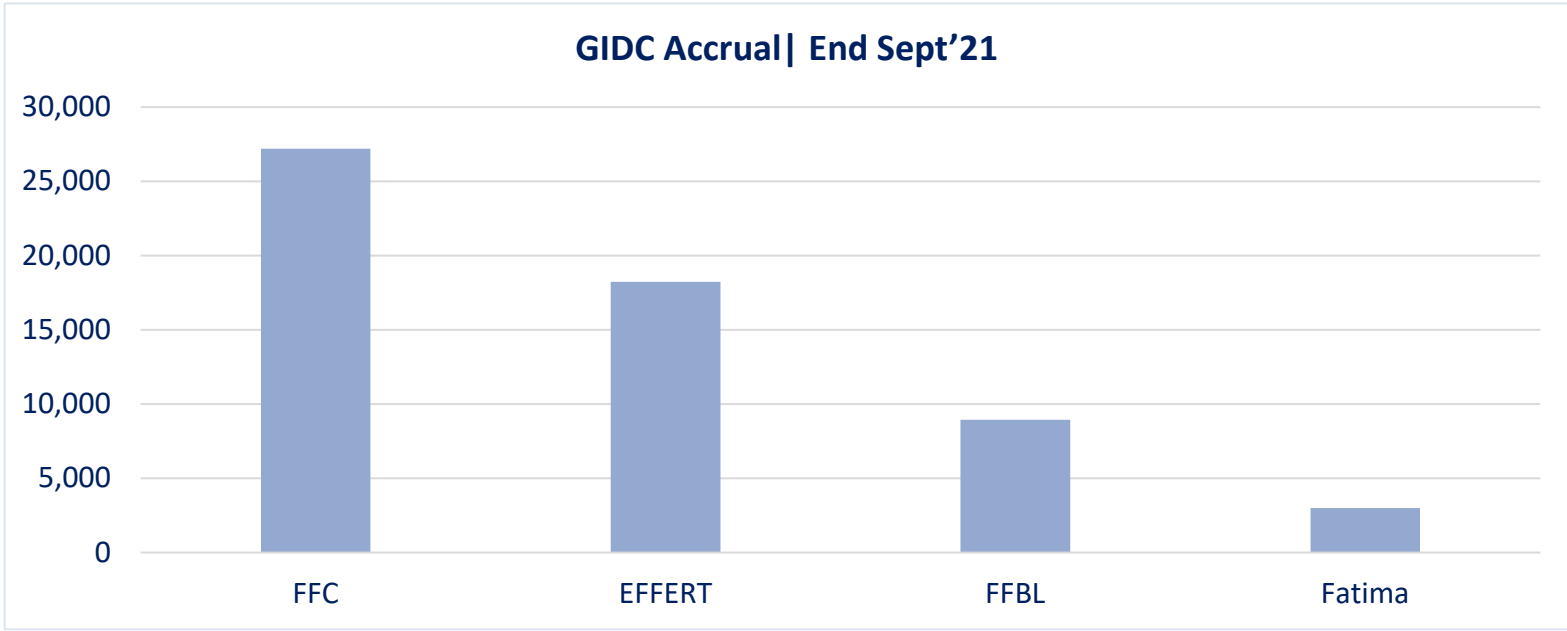
- Following the expiry of the gas sale agreement (Concessionary), the government has revised the gas sale price at PKR~302/mmbtu.

(in mmbtu)		FY20	FY21	FY20	FY21
Supply Network	Company	Feed stock		Fuel Stock	
SNGPL	Engro Fertilizers	USD 0.70	USD 0.70	PKR 1,023	PKR 1,023
Mari	Fatima Fertilizers Company Limited	USD 0.70	USD 0.70	PKR 1,023	PKR 1,023
Mari	Fauji Fertilizer Company Limited	PKR 302	PKR 300	PKR 1,023	PKR 986.65
SNGPL	Pak Arab Fertilizer	PKR 302	PKR 302	PKR 1,023	PKR 1,023
SSGC	Fauji Fertilzer Bin Qasim Company Limited	PKR 302	PKR 300	PKR 1,023	PKR 986.65



**Estimated*

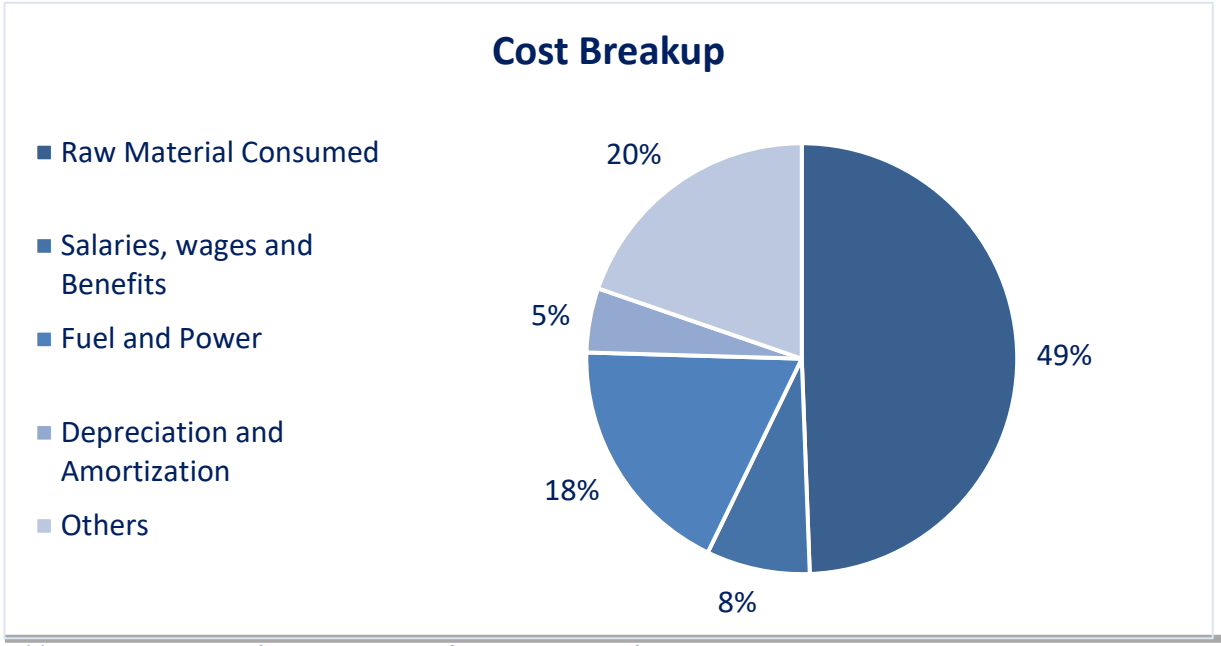
Source: OGRA, PACRA Database

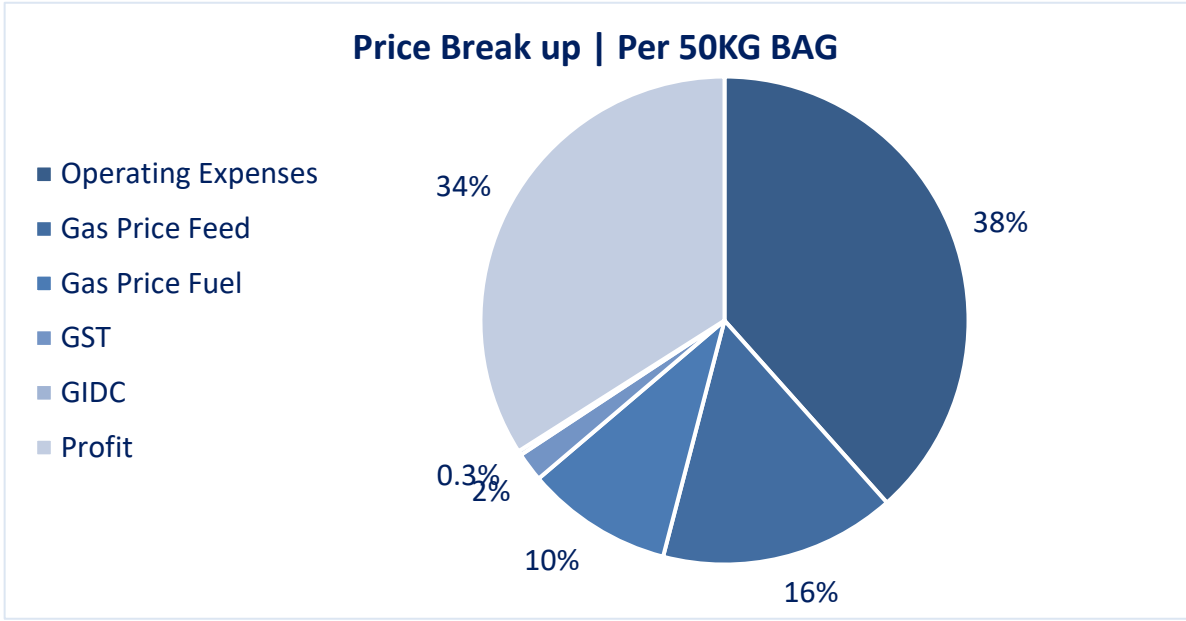
Business Risk | Price and Cost Structure

- **Cost Break up:** The largest contributor to the industry's direct cost is raw material (majorly natural gas) with a share of ~49%. Meanwhile, salaries and wages have a share of ~20% and fuel and power has a share of ~5% in total direct costs.

- The Cost of Urea manufacturing is a function of three major components (i) gas price (ii) GIDC and (iii) Taxes. While changes in gas prices are a full pass through element, the GIDC cost is partially passed through and partially absorbed by the fertilizer manufacturers. Similarly, a change in Input Tax allowance directly impacts the price of urea per bag.

- **Price Breakup:** The cost profit ratio for PKR/50 KG bag of Urea is 34:66. Average local urea price is PKR~1,774/50 KG, out of which ~38% cost belongs to expenses (direct and indirect), ~16% to gas price as feedstock, 10% to gas price as fuel, 2% to GST and ~0.3% to GIDC.





***Conversions Used for estimations of Cost Breakup of 50 KG bag of Urea*

Fertilizers

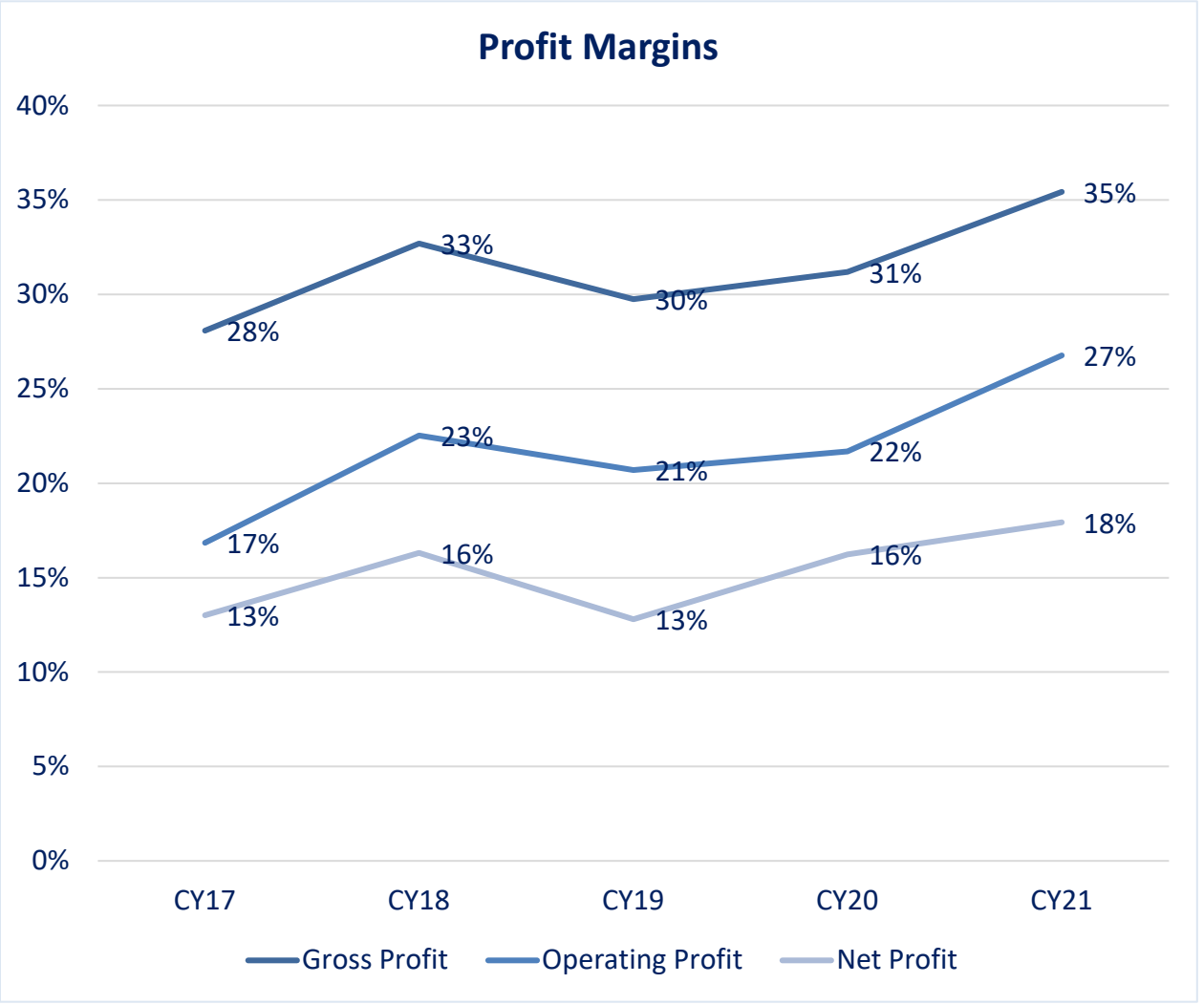
Business Risk | Margins

- **Margins:** The Sector is denoted by healthy margins at gross and net levels with gross margins average above ~30% in the last five years. The sector's margins have further improved from CY19 to CY21, owing to reduced tax rates, unchanged/reduced gas rates and reduction in GIDC payable.

- During CY21, the sector's gross margins improved to ~35% (CY20: ~31%), with a YoY increase of ~4%. The increase is attributable to reduction in gas rates.

- The average operating margins (CY17 – CY21) hover around ~22%. In CY21, the operating margins improved to ~27% (CY20: ~22%), with a YoY increase of ~5%, which can be associated with reduced selling and administrative cost.

- The average net margins (CY17 – CY21) of the sector are recorded around ~15%. In CY21, the sector's net margins improved to ~18% (CY20: ~16%), with a YoY increase of ~2%, due to reduced interest expense.



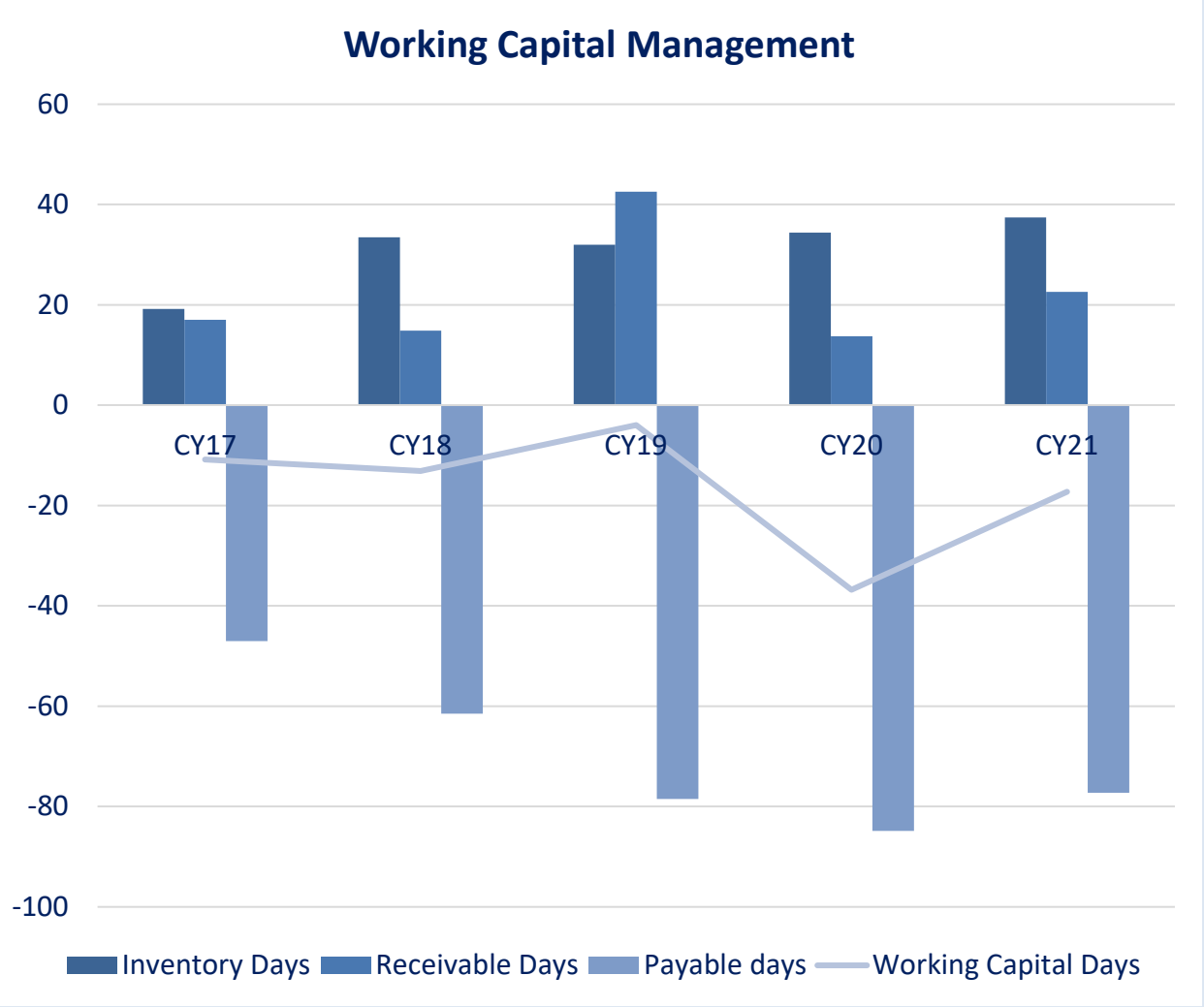
*Working reflective of November 30, 2021 OGRA Notification
**Financials of four major players EFFERT, FFC, FFBL & FATMA has been used

Source: PACRA Database

Fertilizers

Working Capital Management

- The working capital requirements of fertilizers sector are majorly financed through internal cashflows.
- The sector's net working capital cycle remained relatively stable from CY17-CY19, However, during CY20, it reduced drastically and turned negative to -37 days. This was due to the impact of GIDC Payable, as the account payable days increased significantly. In CY21, the working capital days improved by ~20 days, due to reduced payable days (CY21: ~77 days; CY20: ~85 days).
- The average inventory of the sector hovers at ~31 days, which slightly increased to ~37 days in CY21 (CY20:~34 days).
- The average receivable days of the sector hovers at ~22 days, which increased to ~23 days in CY21 (CY20: ~14 days).



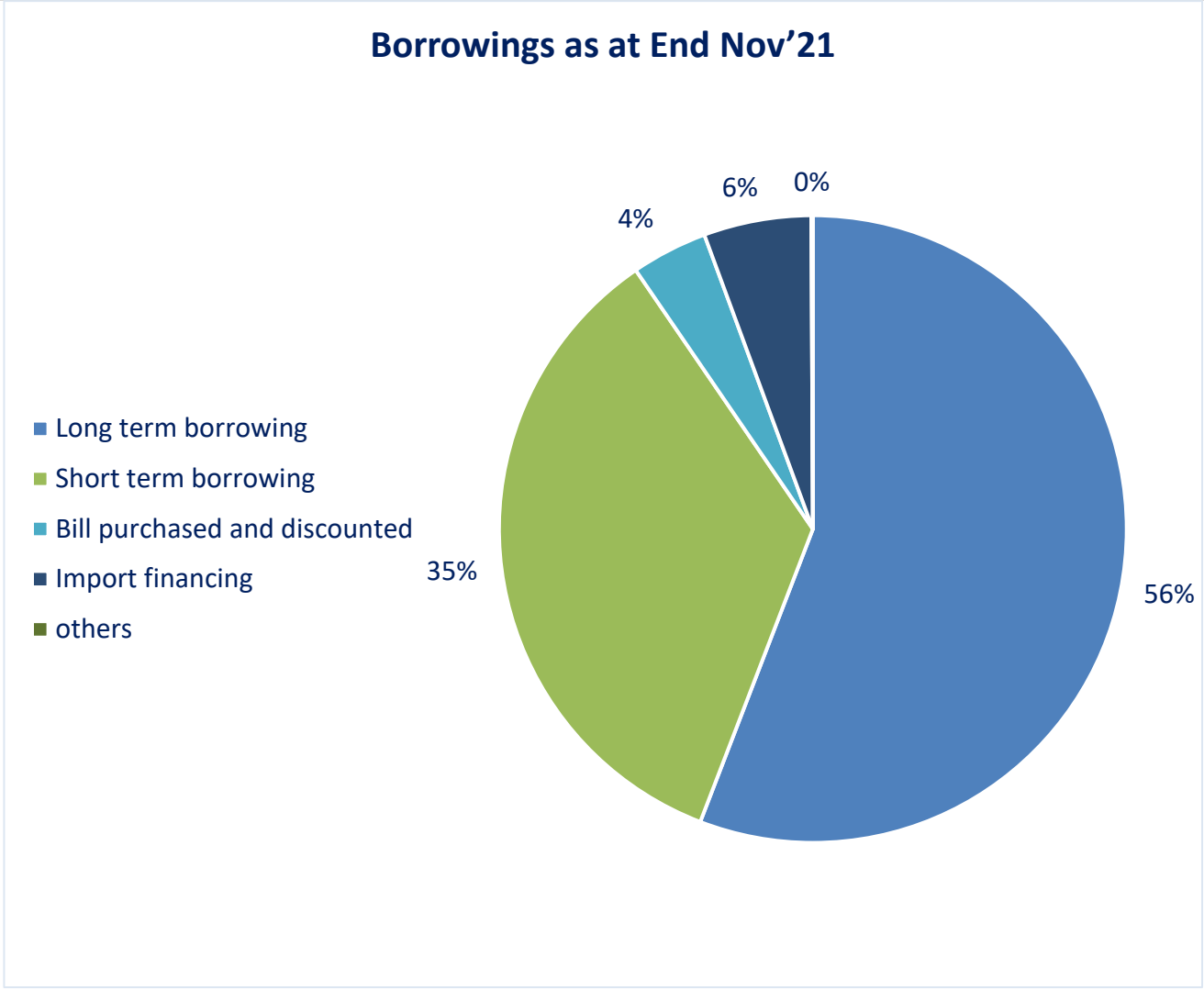
*Financials of four major players EFFERT, FFC, FFBL & FATMA has been used

Source: PACRA Database

Fertilizers

Borrowing Mix

- The total borrowing for the sector as at End-Nov'21 stood at PKR~124,755mln as compared to PKR~124,299mln as at End-Nov'20, with an YoY increase of ~3%.
- The largest component of the debt mix is Long Term Borrowings (LTBs) amounting to ~56% of the total borrowing, while the portion of Short Term Borrowings (STBs) is ~35%.
- The sector can be characterized as moderately leveraged as historical five years debt to equity ratio of the sector was around ~42%, which has further improved to ~35% in CY21 (CY20: ~40%).
- The average interest cover of the sector is recorded around ~7 times (based on last 5 years), depicting sound financial muscle of the sector players. It has further strengthened in CY21 to ~12x (CY20:~5 times).

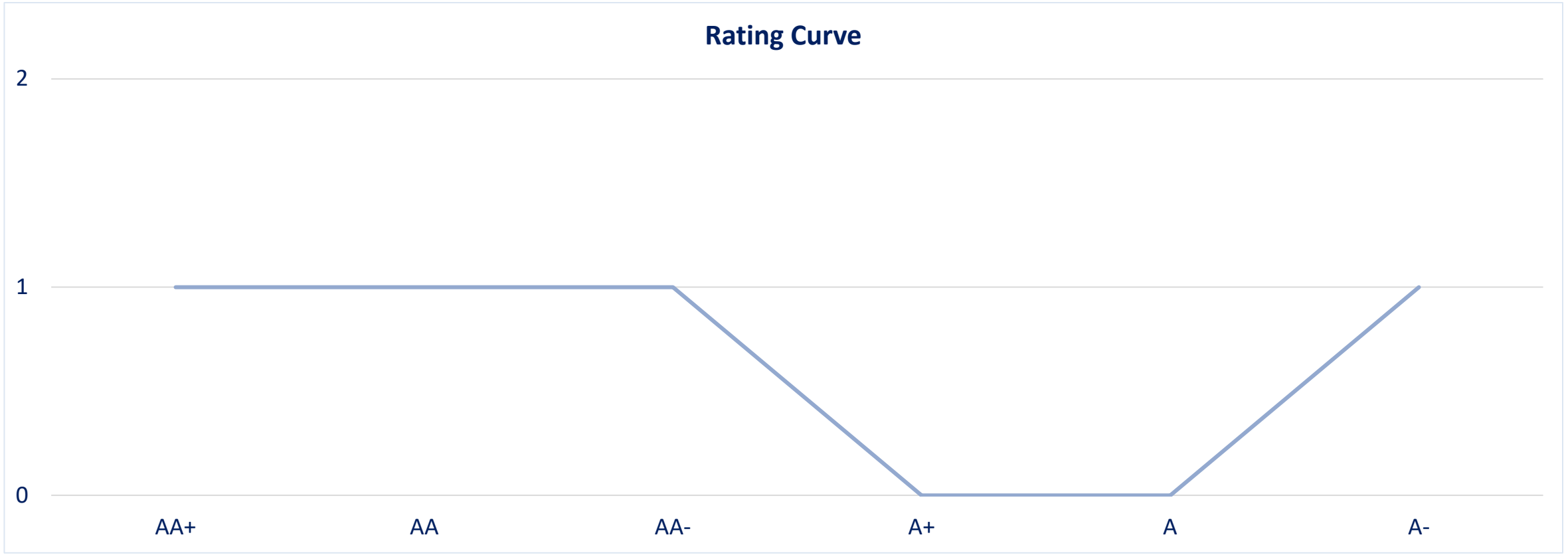


Source: SBP, PACRA Database

Fertilizers

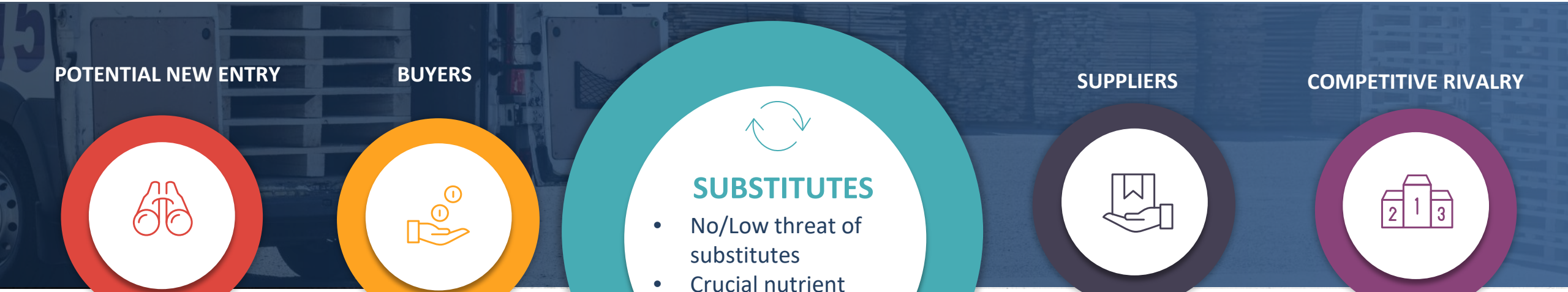
Rating Curve

- PACRA rates 4 clients in the fertilizer sector.
- Rating Bandwidth of the sector ranges from AA+ to A-.
- The Total Market capitalization of fertilizers sector was PKR~516bln as at January 06, 2022.



Fertilizers

Porters 5 Forces Model



POTENTIAL NEW ENTRY

- Low threat to Entry
- High Capital cost of plant development
- Limited supply of major raw material
- Shortage of Natural Gas
- Strong dealer network

BUYERS

- Low power
- Prices mainly decided by large players

SUBSTITUTES

- No/Low threat of substitutes
- Crucial nutrient

SUPPLIERS

- Medium power
- Many raw materials imported
- Strategic partnership with local suppliers
- No control over gas supply

COMPETITIVE RIVALRY

- Low
- Top 5 players make ~95% of the sector
- Large player enjoys economies of scale

Fertilizers

SWOT Analysis

Strengths

- Availability of land and raw material
- Low cost skilled and unskilled labor
- Capital intensive sector
- GOP subsidy support
- Demand Potential
- Strong dealership and distribution network
- Diversified portfolio (Urea, DAP, CAN)
- Producing more than 100% of the installed capacity.

Weaknesses

- Reliance on depleting natural resources
- DAP- price elastic product
- Gas supply and international price dependency
- GIDC Challenge
- Dependency upon irrigation facilities and rainfall
- Lack of knowledge of farmers

Threats

- Uncertain government policies
- PKR devaluation leading to increased costs
- Import of Urea and other fertilizers
- Shortage of Gas, especially in winters
- Fuel price hike
- Challenging farm economies

Opportunities

- Growing population and food consumption
- Agriculture based economy
- Government support programs for farmers
- Alignment of gas pricing to fertilizer policy
- Pakistan GDP recovery and reduced finance costs

leading to opportunities for investment

- Development of value chains
- Capacity of horizontal & vertical integration
- Reduced corporate tax rates

Fertilizers

Outlook: Stable

- The fertilizer sector is an essential contributor towards the agriculture sector of Pakistan's economy, contributing ~4.4% to the large-scale manufacturing (LSM) sector and ~0.9% to the overall GDP.

- The sector is characterized with low to medium business risk. Although, 54% of the direct cost depends upon the availability of natural gas (used as feed [~49%] and fuel [~5%]), the sector's vital importance for the food security of the country keeps its demand risk almost negligible.

- Overall, Pakistan's urea production capacity has achieved sufficiency in meeting the country's demand, however, indigenous gas supply is a major issue which time and again necessitates the need to either import urea or run RLNG based domestic plants to bridge the demand supply gap. During the current Rabi season of (Oct'21-Mar'22), urea inventory levels went lower than the buffer needed, due to which the GoP has again allowed import of urea**.** On January 6, 2022 a meeting of the Economic Coordination Committee (ECC) allowed import of 50,000 MT of urea on G2G basis from China on an urgent basis. Meanwhile, DAP Inventory levels remain sufficient to meet the country's demand for the upcoming season.

- During the outgoing year – CY21, urea price in the International market soared to an all time high by ~80%, while local prices remained largely stable in comparison. The widening delta between International and local prices is considered one of the reasons why stock shortages were created in the local market. However, with the GoP's import decision, probe into shortage issues, and priority order given to local plants for gas supply, the shortage issues are expected to subside in the short term.

- DAP International prices grew steadily in CY21 and the same was likewise reflected in the local prices, which created a mismatch in its offtake as its affordability for the farmers became low.

- In terms of financial risk, the sector is characterized with strong credit profile and low risk level. Margins of the Sectors have further fortified in CY21 on gross and net levels. The capital structure of the sector has also further strengthened with lower debt mix. The financial risk profile is expected to remain stable, going forward.

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