POULTRY FEED

An Overview

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POULTRY FEED | BRIEF OVERVIEW

- Poultry feed is used by farmers as the main source of nutrition for poultry birds, including broilers, layers and day-old chicks (DOCs).
- Modern poultry feed is developed by specifically choosing and combining ingredients to provide a high quality diet that preserves both the health of poultry birds and increases the production of end products such as eggs and meat.
- The basic nutrients needed by poultry birds for development, reproduction, maintenance and health includes minerals, vitamin, carbohydrates, proteins and water.
- Poultry feed is made with a combination of various inputs such as soybean seeds, soybean meal, maize, fish meal, sunflower meal and rice polish.
- There are primarily four distinct types of poultry feed provided to chicken at various life stages and in three distinct forms. These are starter, grower, layer and broiler poultry feed.
- The poultry feed conversion rate is recorded around ~1.5x in Pakistan – the lower the rate, the better it is.

Source: Allied Market Research

POULTRY FEED | PRODUCT PORTFOLIO

Product Portfolio

Starter poultry feed is a protein-dense variety of chicken feed intended to fulfill baby chicks' dietary requirements. The main ingredient in it is soybean meal. It offers a high concentration of protein, i.e., around 40-48% proteins.

The grower poultry feed has lesser protein content than starter. It is used after 4-6 weeks of feeding with chick starter. The main ingredient in it is maize. That helps in preparing their body and reproductive organs for the egg-laying activities

The layer poultry feed is fed after they have started their first egg laying cycle. This poultry feed mainly constitutes of wheat. It helps in development and rapid production of eggs and has a high level calcium, which is useful for egg laying poultry birds.

Broiler poultry feed has a very high volume of protein for the rapid growth of the broiler. The feed helps the broiler develop very rapidly in 2 months. The main ingredient here is fish meal. It is enriched with proteins that helps in growth.

Source: PACRA Internal Database

POULTRY FEED | INPUTS

Maize

Maize has been globally recognized as a major energy poultry feed component. In a broiler starter diet, maize contributes approximately 65% of the metabolizable energy and 20% of the protein. It is by far the most widely used cereal grain in the diets of intensively reared poultry.

Soybean Seeds

As the key oilseed, soybean is cultivated as a commercial crop in over 35 countries. It provides a high quantity of protein subjected to various processing, such that the oil sector produces multiple types of by-products that are used in poultry feed (cakes, expellers, oilseed meal).

Soybean Meal

Soybean meal, primarily used as a protein supplement, but also as a source of metabolizable energy, is in food and poultry feed. Usually, 1 bushel of soybeans (i.e. 60lbs. or 27.2kg) yields 48lbs. (21.8kg) of meal with soybeans. After oil extraction, some, but not all, soybean meal is produced from the residue remaining.

Source: FAO

POULTRY FEED | INPUTS

Sunflower Meal

The byproduct of grinding sunflower seed for oil is sunflower meal. SFM's nutrient content varies with the method of refining that is used to remove the oil. Solvent extracted SFM has higher protein concentrations and lower oil and fiber concentrations relative to mechanical SFM extracted.

Fish Meal

Fishmeal is an excellent source of protein for poultry birds. It contains a good balance of amino acids, including methionine and lysine. In addition to high levels of essential amino acids, fishmeal has a good balance of unsaturated fatty acids, certain minerals (available phosphorus), and vitamins (A, D, and B-complex).

Rice Polish

Rice polishing is a rice milling by-product which is the cheapest source of energy and protein for feeding poultry. It makes up about 10% of the paddy and is available in vast amounts in the world's main rice growing areas. It is a decent source of protein, energy, minerals and vitamins.

Source: FAO

POULTRY FEED | PROCESS FLOW

Oil Seeds

Edible Oils Extraction Refinery

Meal

Poultry Feed Mill

Poultry Farms

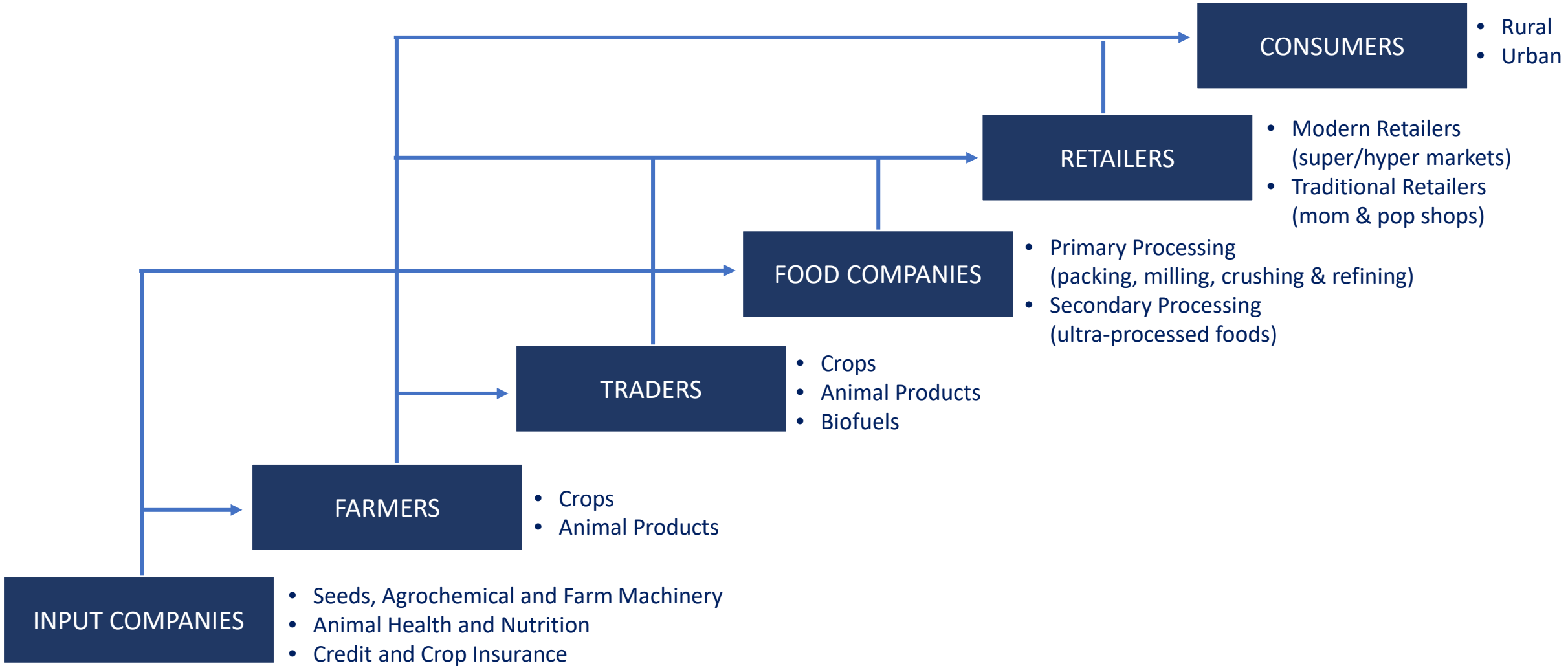
Cattle Farms

Poultry feed Industry majorly involves the following steps:

- **Step 1:** Inputs of poultry feed both domestically produce (Maize) and global imported (Soybean seeds and Soybean meal) are first collected.
- **Step 2:** These inputs are then sent to feed mills in order to form the mixture - poultry feed.
- **Step 3:** This mixture is transferred to poultry farms for consumption by poultry birds.

Source: PACRA Internal Database

POULTRY FEED | SUPPLY CHAIN



Source: Springerlink

POULTRY FEED | CONSUMPTION

Pattern as per Poultry Bird's Age

LAYER

Age	Feed Consumption (g/day)
1-17 Weeks Old	13-80
18+ Weeks Old	100-500

Type of Feed	Bird's Age
Starter	0-8 Weeks
Grower	8-16 Weeks
Pre-layer	16-18 Weeks
Eggs Laying Starts	18 Weeks
Layer Till Peak	19-32 Weeks
Layer Post Peak	After 32 Weeks

BROILER

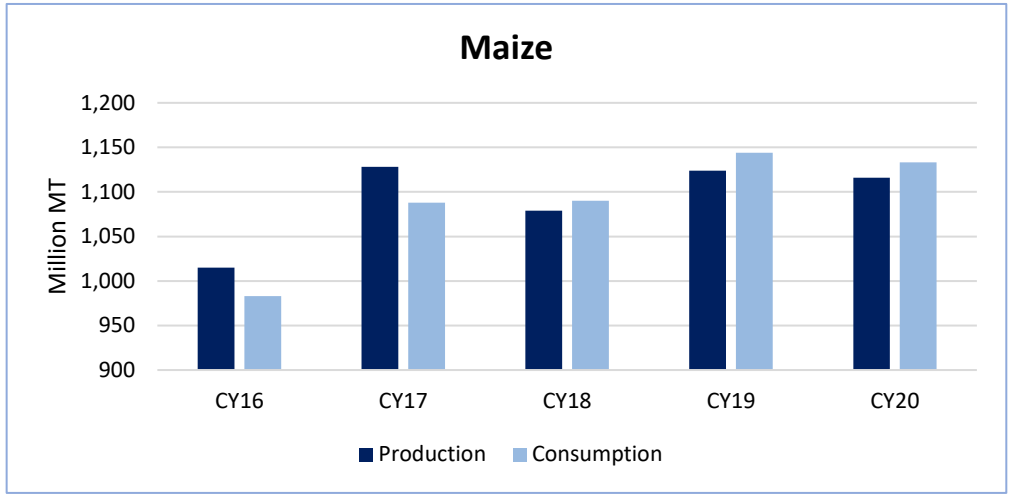
Age	Feed Consumption (g/day)
1-5 Weeks Old	10-100
5-9 Weeks Old	100-200

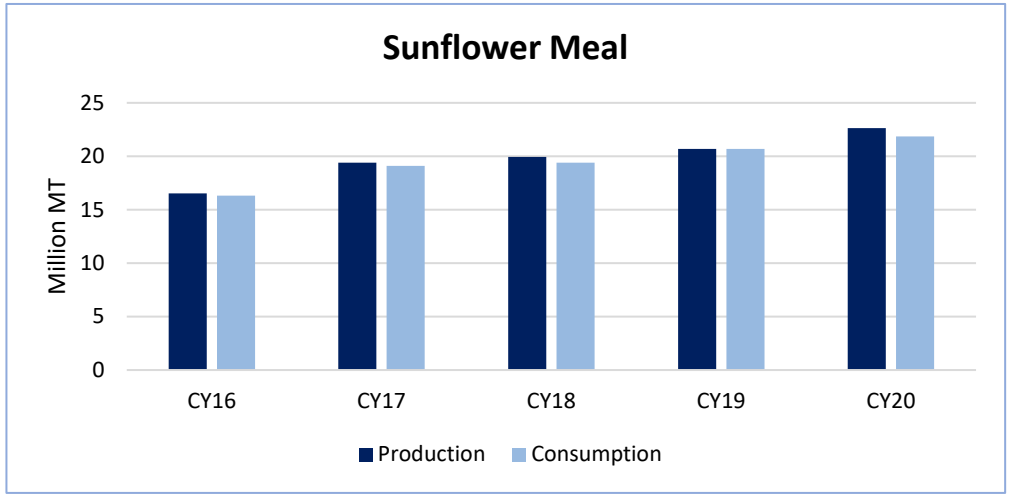
Type of Feed	Bird's Age
Starter	0-2 Weeks
Grower	2-4 Weeks
Finisher	Last 10 Days
Total Cycle	35-45 Days

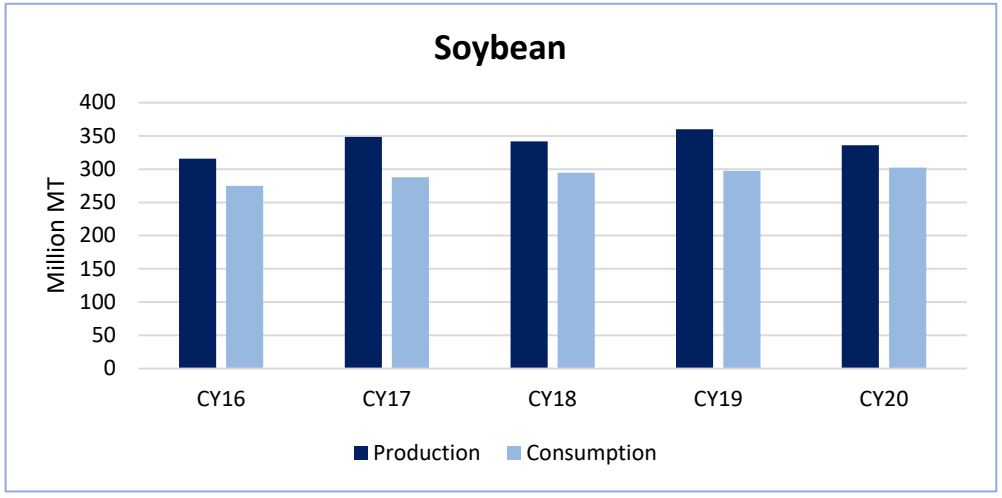
Source: PACRA Internal Database

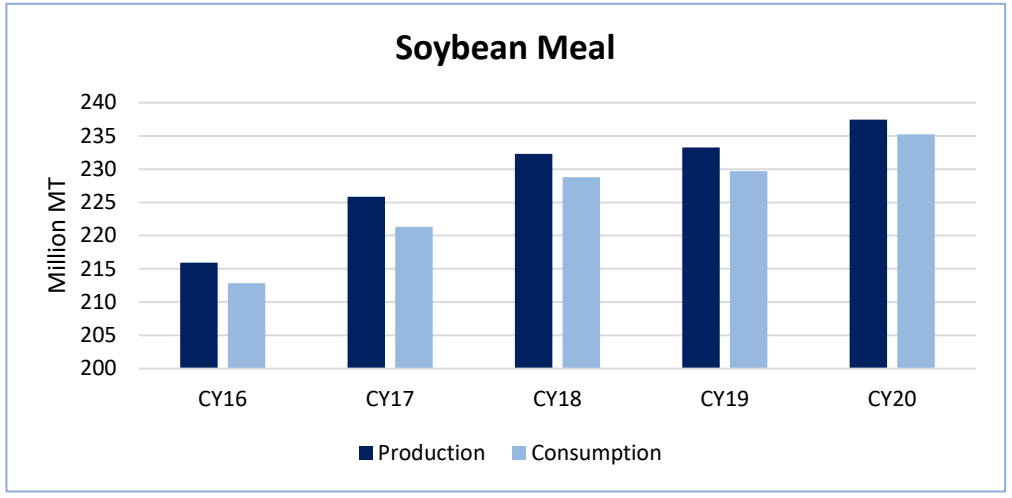
POULTRY FEED | GLOBAL MARKET

Key Inputs – Production and Consumption









Source: USDA

POULTRY FEED | DOMESTIC MARKET

An Overview

- Pakistan's poultry feed turnover was recorded at PKR~396bln in FY20 (PKR~400bln in FY19) down by 1% primarily because of the fall in demand due to COVID-19.
- The sector is fragmented; there are a total of ~150 registered feed mills, and ~200 unregistered feed mills catering Pakistan's feed sector.
- Over PKR~190bln worth of agricultural produce and agricultural by-products are currently being used in poultry feeds (becoming part of the larger agriculture value chain).
- The county's installed production capacity was recorded around 8mln MTs in FY20 (~8mln MTs – FY19). Average utilized capacity for FY20 is estimated around ~43% (~43% in FY19). On the other side, the annual feed consumption has fallen by around ~17% in FY20 (in MTs), creating a supply surplus situation for the Sector.
- Poultry feed's key ingredient, maize, is grown only in the province of Punjab, which is highly dependent on the nature of climate whereas other key inputs like soybean seeds and soybean meal are mostly imported from other countries.
- Poultry Feed is mostly used in controlled sheds where 90% of the sales is made on credit, thus all sector players are subject to credit risk from their customers.

PARAMETERS	FY19	FY20
Revenue (PKR bln)	400	396
Contribution to Nominal GDP	1.1%	0.9%
Feed share in poultry input cost	75%-80%	75%-80%
Registered Players	150	150
Unregistered Players	200	200
Association	PPA	PPA
Installed Annual Capacity - mln MT	8	8
Production – mln MT*	3.4	3.4
Utilized	43%	43%

**Production and utilization percentage is estimated using average data of 5 Sector Players*

Source: PPA, PACRA Internal Database

Poultry Feed Usage

- Total poultry feed consumption for FY20 was recorded at ~6.6mln MTs (~7.9mln MTs in FY19), down by ~17% YOY.
- The highest decline is attributed to commercial layer feed consumption which dropped by ~40% in FY20 YoY basis. Broiler feed consumption, on the other hand, took a dip of ~7% in FY20.
- Among poultry birds, commercial layers have the highest per bird consumption of feed. While poultry feed consumption per broiler is quoted around 3.5Kgs, poultry feed consumption per commercial layer is around 40Kgs.

Poultry Birds Units-FY20	
Broiler Farming	
Grand Parent – 000	375
Parent Stock-mln	13
Broiler-mln	1,520
Layer Farming	
Parent Stock – 000	850
Commercial Layer-mln	42

Annual Average Feed Consumption (KGs) | FY20	
Broiler Farming	
Per Grand Parent Stock	100
Per Parent Stock	64
Per Broiler	3.5
Layer Farming	
Per Parent Stock	40
Per Commercial Layer	40

Feed Usage					
Broiler Farming	**FY16**	**FY17**	**FY18**	**FY19**	**FY20**
Grand Parent Stock – 000 Tons	36	36	35	33	38
Parent Stock – 000 Tons	780	780	787	800	820
Broiler – 000 Tons	5,600	5,600	5,177	4,331	4,032
Layer Farming					
Parent Stock – 000 Tons	46.3	37.9	38.7	32	34
Commercial Layer – 000 Tons	3,000	3,313	3,037	2,800	1,680
Total Feed	9,463	9,767	9,075	7,996	6,604

Source: The Economic Survey of Pakistan, PPA

POULTRY FEED | DOMESTIC MARKET

Price Dynamics

INPUT PRICES

Inputs - $/MT	FY19	FY20	1QFY21	2QY21
Maize	217	168	156	192
Soybeans seed	371	377	396	486
Soybeans meal	347	371	380	483
Fish meal	1,487	1,441	1,479	1,459
Sunflower Meal	768	802	867	890

Input Price Change - Jul'20-Dec'20	
Maize	+23.1%
Soybean Seeds	+22.7%
Soybean Meal	+27.1%
Fish Meal	-1.4%

Note: The exchange rate have remained constant

OUTPUT PRICE

Poultry Feed	FY19	FY20	1QFY21	2QFY21
Sale Price PKR/Kg	2,376	2,569	3,085	3,530

Price Increase 1QFY21-2QFY21	
Poultry Feed	14.4%

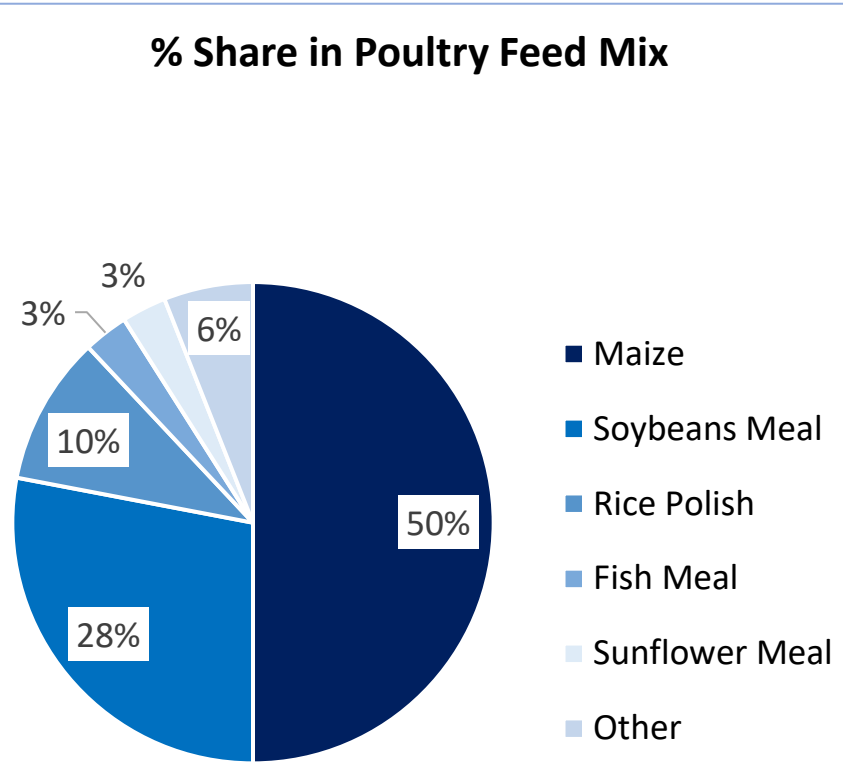
- The sale price of poultry feed in 1HFY21 rose by ~14.4% whereas a greater rise in input prices as compared to sale price of poultry feed was observed. This reflects that the margins for period following FY20 were compressed.

Source: World Bank, Sector sources

Inputs – Cost Break-Up

- Poultry feed mix comprises various ingredients, however, the key ingredients in mixture are maize and soyabean meal having a share of 50% and 28% respectively.
- It can observed that the cost of these ingredients as a percentage of feed mix for FY20 remained consistent with previous year. However later, for 1HFY21 the cost of maize and soybean meal represented significant fluctuations.

Cost as % of Feed Mix (PKR/kg)						
Inputs	**FY16**	**FY17**	**FY18**	**FY19**	**FY20**	**1HFY21**
Maize	12	12	15	18	18	19
Soybeans Meal	11	12	14	17	17	24
Rice Polish	2	2	2	2	2	2
Fish Meal	2	2	2	2	2	2
Sunflower Meal	1	1	1	1	1	1
Other	3	3	3	3	3	3
Total Cost	31	32	37	43	43	51



Source: Agriculture Marketing Information Service, Index Mundi and Sector Sources

POULTRY FEED | DUTY STRUCTURE

PCT	Description	Custom Duty	
		FY19	FY20
23.08	Vegetable materials and vegetable waste, vegetable residues and byproducts, whether or not in the form of pellets, of a kind used in animal feeding	11%	11%
23.09	Preparations of a kind used in animal feeding.	20%	20%
84.36	Machinery for preparing animal feeding stuffs	0%	0%

Tax Structure	
	FY20
Sales Tax (Soyabean Meal)	17%
Sales Tax-Sunflower meal, rapeseed meal, Canola meal	Exempt
Sales Tax (Poultry feed)	Exempt
Minimum Tax	O.75%

- There is no change in duty and tax structure of poultry feed sector since the previous Sector Research.

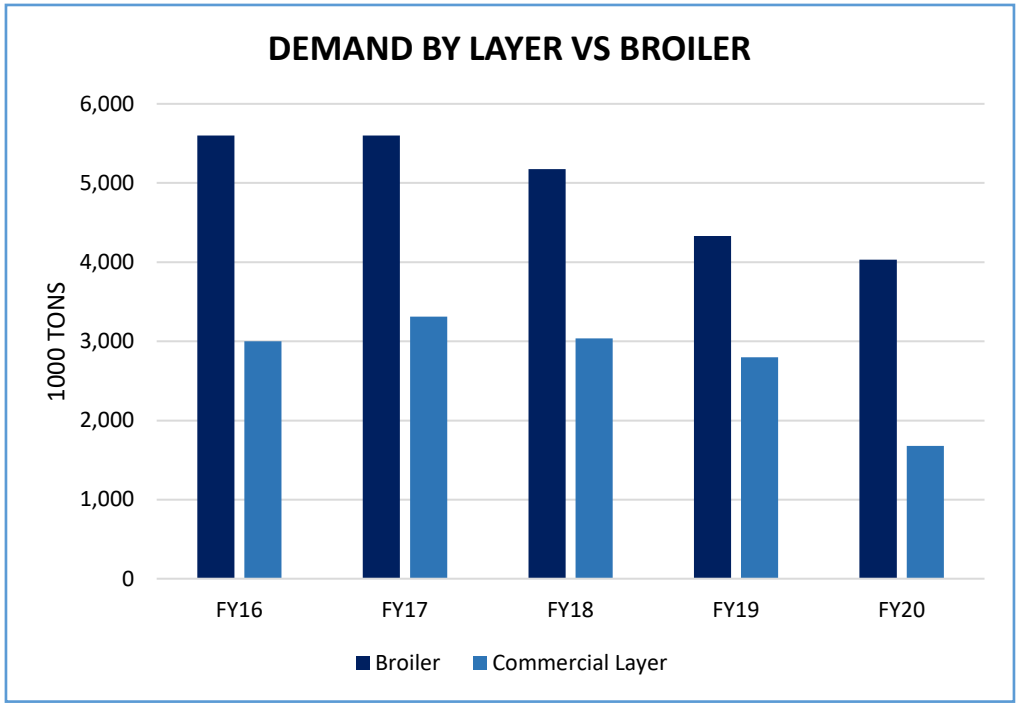
Source: SBP

Business Risk – Demand Side

The business risk of poultry feed sector can be divided into operating risk and sales risk.

- **Operating Risk:** This risk particularly refers to the difficulties relating to the operations of the poultry feed players which can hamper the profitability and performance of the sector. Poultry feed sector inputs include both local inputs and imported inputs. The Sector's costs are therefore subject to exchange rate volatility and international poultry feed prices to the extent of the imported raw materials. Other unavoidable factors include rising inflation rates alongside import duties and sales tax structure of the sector which also indirectly impacts the profit making capacity of the sector players. This risk is further discussed in detail in the next sheet.

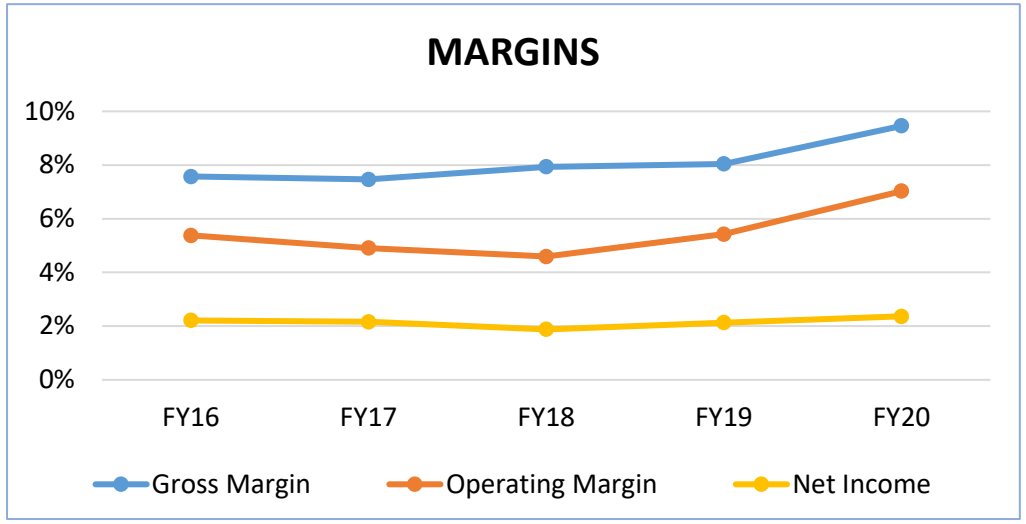
- **Sales Risk:** This risk is focused on the demand side of the poultry feed chain. The poultry feed sector mainly receives its demand from the poultry sector. Any disruption in demand from poultry sector can hamper the demand of this sector significantly. Closure of restaurants, hotels and marriage halls amid Covid-19 induced lockdown, had an indirect and effect on the sale of poultry products leading to an impact on poultry feed sales.

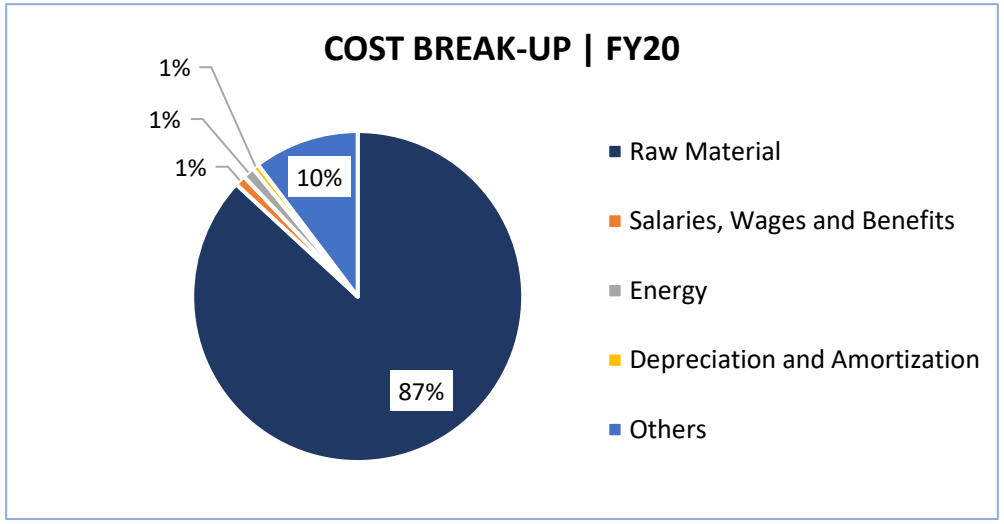


Source: The Economic Survey of Pakistan, PPA

Business Risk – Margins and Cost Structure

- Unlike poultry sector, poultry feeds sector's margins improved in FY20, with net profit margin increasing slightly to 2.4% (FY19: ~2.1%) and gross margin rising to ~9.5% (FY19: ~8.0%). It is, however, pertinent to state that the prices of feed/bag had been on a gradual increase since 2HFY20, while prices of input stock spiked in 1HFY21. Therefore, the increase in costs is expected to be absorbed by the players following FY20 and impact the margins at gross level.
- On the contrary, since the sector is highly leveraged, an interest rate cut by 625bps is expected to reduce finance costs and provide relief to the bottomline margin to certain extent.
- The largest component within direct costs is raw material comprising ~87% of the total manufacturing cost. The major raw material for this sector are maize, soybean seeds and soybean meal and has been impacted by the decline local poultry feed production and rising prices of its components, both locally and internationally, in the aftermath of COVID-19 pandemic.



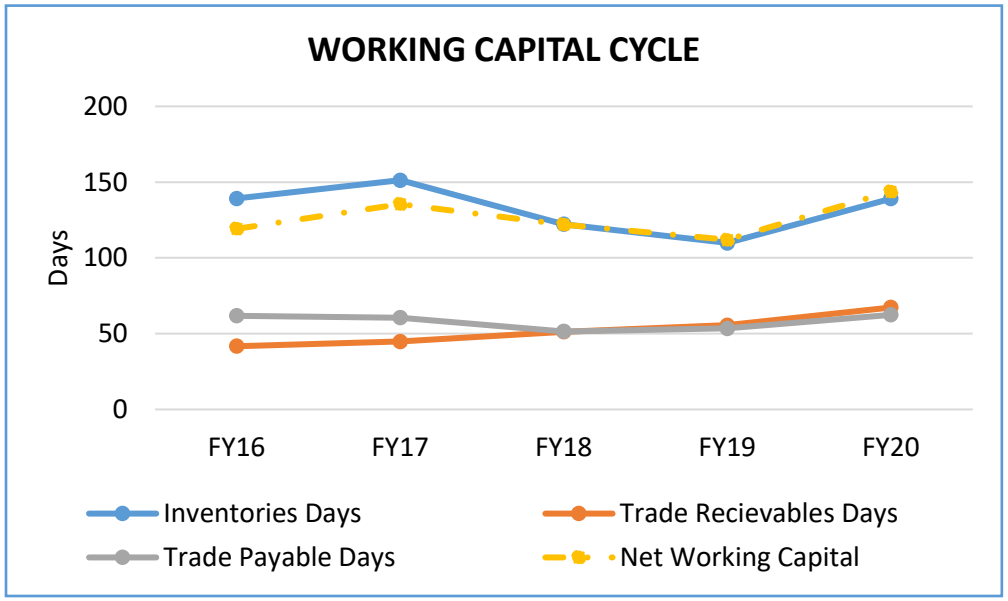


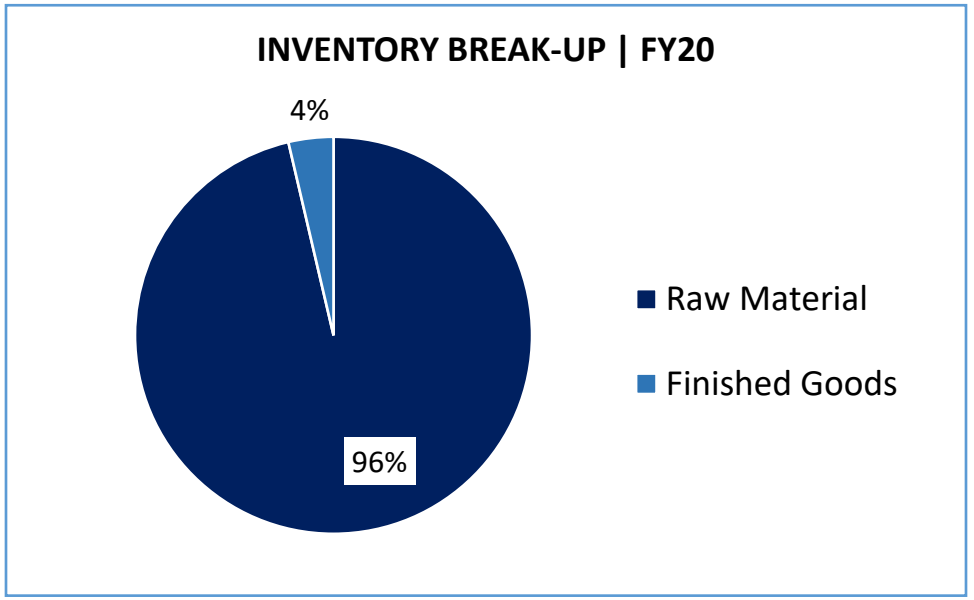
Note: Margins and Cost break-up are estimated using data of 5 sector players

Source: PACRA Internal Database

Financial Risk - Working Capital Management

- Net (average) working capital cycle of poultry sector increased to ~144 days in FY20 from ~110 days in FY19. This is due to the decline in demand in the period resulting from the COVID-19 pandemic.
- Trade receivable days increased to ~67 days in FY20 (~53 days in FY19). Moreover, trade payable days also increased to ~62 days in FY20(~53 days in FY19).
- The inventory breakup for FY20 comprises raw material and finished goods having a share of 96% and 4% respectively. Most of the Sector players, in anticipation of price increase of raw material made early procurements during the year., resulting in a high level of RM inventory at period end.





Note: Working Capital and inventory break-up are estimated using data of 5 sector players

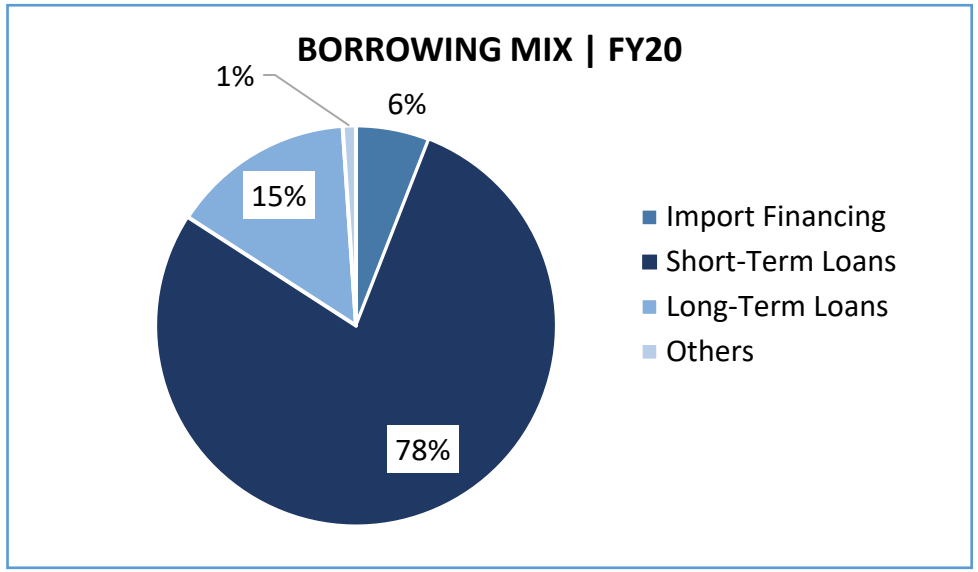
Source: PACRA Internal Database

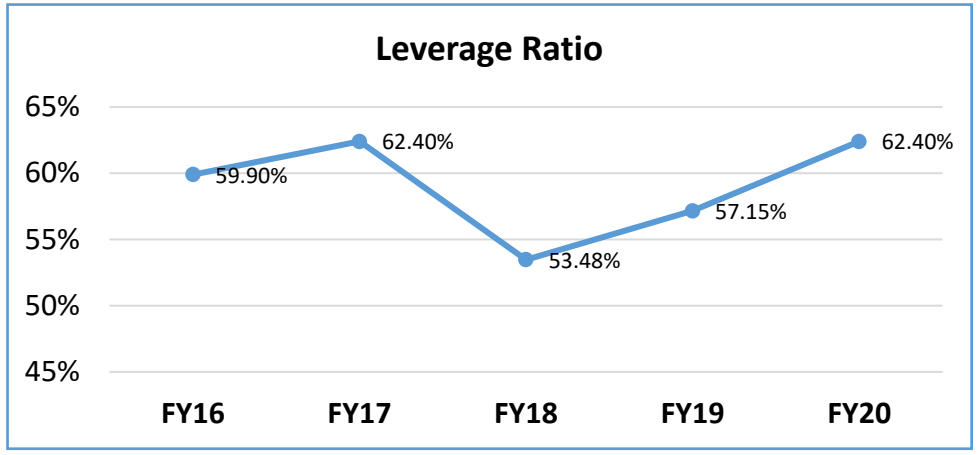
Financial Risk - Borrowing Mix

- The poultry feed's total borrowings for FY20 stood at PKR~43,439mln (PKR~35,531mln FY19) a spike of ~22.2% YoY basis.

- The adjacent graph shows the sector's average borrowing mix. The largest component in this borrowing mix is represented by short term borrowings (STBs) that make up ~78.2% for FY20 (~78.3% in FY19) of the total borrowings. This increase is corroborated by the fact that average inventory position of poultry feed players was recorded at an inventory of ~144 days as at End-June'20, which is a significantly high level, due to shortage of demand amid Covid-19 induced lockdown. Reliance on STBs were necessitated to manage Working capital needs. Due to this, the leverage ratio increased to ~62% in FY20 (~57% in FY19).

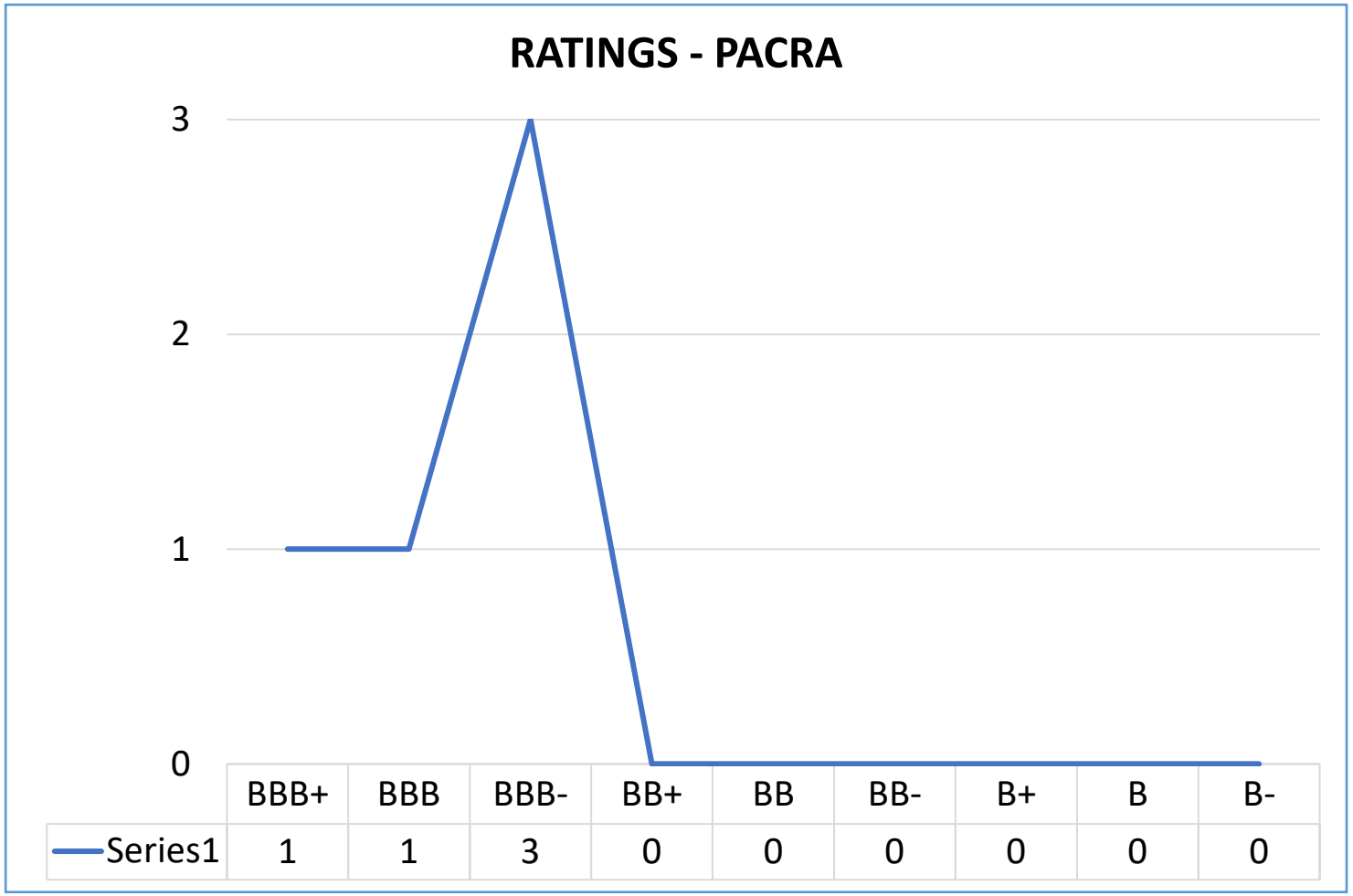
- During FY20, the long term borrowing occupied a portion of ~14.8% in borrowing mix, lesser than the previous year ~12.4%.





Source: SBP

POULTRY FEED |RATING CURVE



- PACRA rates five of the players of poultry feed industry - Sadiq Feeds, Mumtaz Feeds & Allied Industries, Islamabad Feeds, Nizami Feeds & Hi-Tec Feeds.
- No other change has occurred in the ratings of these five players.

Source: SBP

POULTRY FEED | SWOT ANALYSIS

- Continuous availability of raw material and labor
- Reduction of policy rate
- Stability of exchange rate for raw material
- Simple to operate controlled shed
- Available capacity
- Government incentives and ease policies

- Lack of research and development initiatives
- Outdated technology used for making a mixture of poultry feed
- Highly fragmented sector
- Perishable Items
- Prevailing uncertainty due to COVID-19
- Addition of preservatives and Steroids

- Fluctuations in economic conditions
- Poor Infrastructure
- High competition
- Accessibility of inputs
- Lack of required regulation by the government of Pakistan
- Exchange Rate fluctuations
- Shortage of raw materials

- Increased research and development
- Economic recovery
- Increase income per capita
- No brand loyalty
- Vast distribution
- Modernization of technology used

POULTRY FEED | CONCLUSION

Sector Outlook: Negative

- The first wave of Covid-19 had a direct impact on poultry demand due to closure of restaurants and marriage halls across the country. The impact later trickled down to the feed sector too which resulted in a decline of ~17% in poultry feed consumption in FY20 from SPLY (in MTs).
- The Input prices have gone up. Soybean Meal prices are dependent on global demand supply dynamics and exchange trade. Soybean prices have spiked by ~42% over the period of 1HFY21. The prices are forecasted to continue to increase in the near future. The local sector players, considering the current supply availability and demand uncertainty due to Covid-19 induced restriction, may not be in a position to raise the prices in line with the increase in input costs. This may negatively impact the already thin margins of the sector players.
- Maize, locally produced, had its prices soar up by ~23% due to hoarding by farmers during 1HFY21. Maize crop is grown twice a year. The uncertainty in demand from poultry segment forced most growers to stay on the sidelines and move to more profitable crops (with support prices).
- The duty structure on import of soybean meal and soybean seeds also leads to an increase in the input cost of the players. Lately, the PPA has appealed to the GoP to consider reducing import duties and revising sales tax structure of the Sector to enable them sustain profitability.
- The Sector is highly leveraged (~62% in FY20). Any stretch on profitability can impact the free cashflows and resultantly the debt servicing capacity of the players. On the positive side, the interest rates have gown down by 625bps, which is expected to reduce finance costs and provide a relief to the net margins to certain extent.

POULTRY FEED | BIBLIOGRAPHY

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- World Bank
- State Bank of Pakistan

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