

VIS

Credit Rating Company Limited

DAIRY SECTOR UPDATE

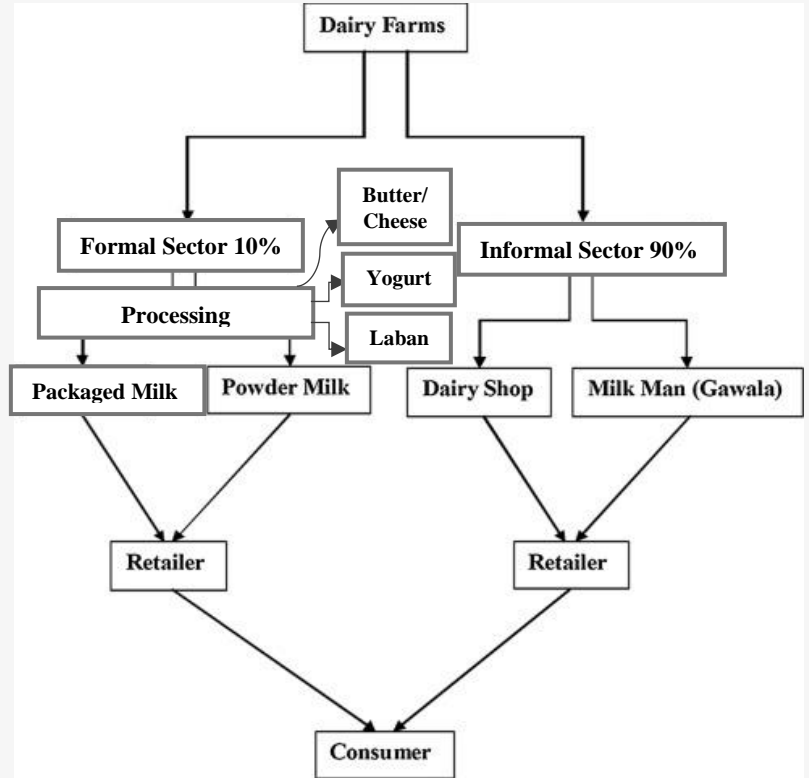
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INTRODUCTION

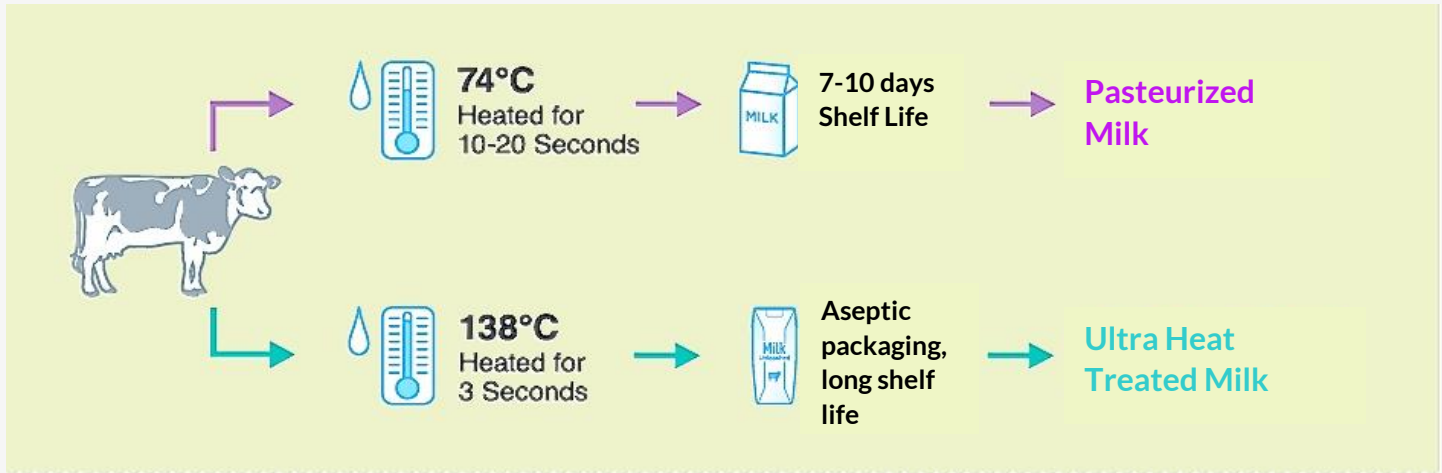
Agriculture constitutes the largest sector of our economy. Majority of the population, directly or indirectly, dependent on this sector. It contributes about 24 percent of Gross Domestic Product (GDP) and accounts for half of employed labour force and is one of the largest sources of foreign exchange earnings. It feeds whole rural and urban population. Livestock sector is one of the significant components of agricultural sector. In financial year 2022-23, it grew 3.78%, contributing 14.36% of GDP and around 62.68% of the value added to agriculture. The fact that the Livestock sector supports more than 8 million rural families in deriving around 35-40% of their incomes highlights the sector's significance. According to economic Survey of Pakistan, in year 2022-23, Gross value of livestock stood at Rs. 5.6 billion. Milk is the most important commodity in the livestock industry. The milk production has been responsible for the expansion of livestock sector.



Milk production, and the consequent processing into different milk products like cheese, butter, yogurt, ghee, cream, lassi (laban), flavoured milk, etc. constitute the dairy industry. The most prominent product of the industry is milk, which can be divided into two main categories; loose milk (informal sector) and packaged milk (formal sector). Loose milk is distributed across the country from the farmers, peri-urban and urban producers directly to consumers in its raw form through transporters and mini suppliers. Packaged milk first goes through a processing plant before reaching the end-consumer. Milk when heated up to 72-74 degree centigrade and immediately cooled down is classified as pasteurized and have an enhanced shelf life of around 7 days.

On the other hand, when milk is subjected to an ultra-heat treatment (UHT) at 138-140 degree centigrade and then immediately cooled down, increases its shelf life to over 90 days. This category of Milk goes through the process of sterilization and aseptic packaging. Heating is done to kill pathogens for safe consumption and extended shelf life. Consequently, the products are directed towards distribution networks to reach the end consumers. The entities producing packaged milk also have other milk products. However, formal sector utilizes only 10% of total milk production in the country. The remaining 90% is sold as loose milk, with a supply chain directly connecting the milk from small-scale producers to the consumers through a milkman (gawala). Due to health benefits of Milk, it is presently classified under zero rating tax regime, meaning no sales tax is charged on sale of milk.

In 1822, Louis Pasteur developed the process of pasteurization. The commercialization of the pasteurization of milk began in the US in 1895. By 1917, it had been mandatory to pasteurize milk. Between the 1950s and 60s, aseptic milk cartons were introduced. The UHT processed milk was developed in the 1960. Ever since then, it is illegal to sell loose milk in most of the states in the US and in many countries of Europe and the Middle East.



In Pakistan’s Punjab province, the Minimum Pasteurization Law was introduced in 2021. Though the government had the objective to enforce this law by July 2022, however, it has not been achieved to date. Even a cursory look at the figures of milk sold in raw form and the amount sold as a UHT or pasteurized milk is enough to substantiate the fact that Pakistan is facing a health crisis and has one of the highest numbers of stunted growth and malnourished children in South Asia.

ECONOMIC PERSPECTIVE

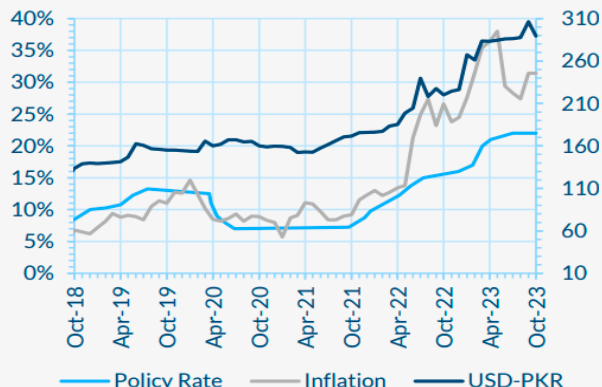
GLOBAL ECONOMY

The global economy has faced the slowed half decade in the preceding 30 years due to factors including the pandemic, geo-political tensions, and the risks of a global recession. Although the recession risk has receded, the economy is far from its performance averages a decade ago. For the year 2024, World Bank has projected for the global growth to slow down further from 2.6% to 2.4%. In such circumstances, the aggregate global demand is expected to be affected, putting strains on prices as well.

PAKISTAN’S ECONOMY

The Pakistan economy is undergoing severe stress due to a combination of domestic and external factors. GDP growth has fallen to just 0.29% in FY23 down from 5.7% in FY22; however, the same is expected to improve to 2% during FY24. Persistently high inflation continues to erode purchasing power, while tight monetary policy is hindering investment and

growth. Moreover, import restrictions imposed to preserve foreign exchange reserves have led to shortages and production disruptions across industries. The devastating floods in 2022 damaged agriculture, infrastructure and livelihoods, inflicting losses of over \$30 billion as per World Bank estimates. Though measures like ban on luxury imports, subsidy rollbacks and new taxes to rein in the fiscal deficit taken in earlier part of 2023, brought some relief, however, structural issues plaguing the economy remain unaddressed. The major challenges include need for energy reforms, deterioration of social indicators, rising poverty and poor productivity.



GLOBAL DAIRY OUTLOOK

The milk market exhibits a substantial revenue of US\$0.35 trillion in 2024, with an anticipated annual growth rate of 7.07% from 2024 to 2028. India leads in revenue generation, with US\$71 billion in 2024. Per capita incomes through the milk market are estimated at US\$45.59 in 2024. Volume-wise, the market is expected to reach 261.70 billion litres by 2028, with a projected volume growth of 2.4% in 2025. The average consumption per person stands at 30.7 litres in 2024. In terms of global trade, the top five suppliers of milk by dollar value are New Zealand, Germany, the United States of America, the Netherlands, and Belgium, accounting for over half (55.3%) of international milk sales in 2022. In comparison, Pakistan’s exports of milk products are miniscule.

In the short and long term, the dairy industry faces challenges due to global economic conditions. A drop in milk prices in 2023 has impacted revenues for dairy companies, leading to difficulties in balancing volume stabilization with price fluctuations. Inflationary pressures, particularly in Europe, have added complexity to sales outlooks, exacerbating challenges for producers. However, organic dairy production is anticipated to gain momentum, driven by sustainability concerns and environmental consciousness. Multinational companies like Friesland Campina and Saputo are actively engaged in initiatives to optimize productivity and reduce emissions, indicating a shift towards more sustainable practices.

LOCAL PERSPECTIVE – PAKISTAN’S DAIRY INDUSTRY

MILK PRODUCTION

Pakistan, being amongst the 5 largest milk producers globally, witnesses a significant portion of milk production from small-scale rural farmers. Approximately 80% of milk is produced in rural areas, with 15% in peri-urban and 5% in urban areas. In the 1960s and 1970s, the average yearly production of milk was 6.6m MT and 8.1m MT, respectively. This quadrupled in three decades, from 12m MT in 1985-86, to 48m MT in 2018-19 and to 55m MT by FY23. In addition, there has been a little shift in the source of milk: in 1985-86, 67% of the milk was buffalo, 31% was cow, and 2% was goat, sheep & camel, while by 2022-2023, the proportion has changed to 59.5% buffalo, 36.8% cow, and 3.7% goat, sheep, and camel. The dairy industry plays a vital role in the economy, with 37.54% of the workforce employed in the sector in 2021, though this has reduced from around 44% a decade ago.

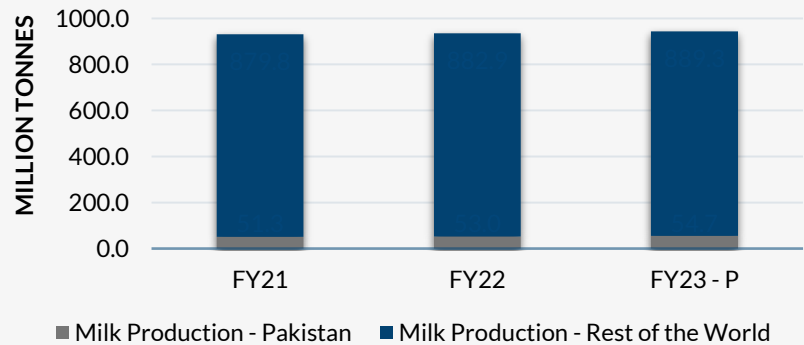
Pakistan's milking yield is one of the lowest in the world, with dairy cattle giving around 14 liters of milk per day while the global averages, particularly in Netherlands and USA are as high as 40-55 liters per cattle per day. In Pakistan, Buffalo milk yield per day averages from 5 to 10 liters per day, depending upon breed. Reasons for low yield include warm temperatures, quality of breed, absence of high-quality feed i.e., hay, rock salt & maize. The feed is expensive and farmers do not put efforts in procuring fodder for the cattle & buffaloes. In bigger corporate farms, a rise in the yield is seen where the animals are cooled down by spraying water on them as frequently as every 10 minutes. Due to better yields, local corporate farms are importing cows that gives higher yields. The cows are imported and classified as biological assets. With a life of over 6-7 years, their value in Pak Rupee (PKR) increases overtime as the prices in the foreign market rise or if PKR devalues. The offspring of these cows are also of the imported breed, which leads to higher value for these assets too. This allows the firms to record fair value gains and report higher profitability

Local milk production has been estimated to increase per annum at an average growth rate of 3.2%. Total annual production based on human consumption has reached 55m MT, by 2023. Wastage of milk is estimated to be around 15-20% of total production, with gross production estimates surpassing 66m MT. Small milk farms are generally scattered in far flung areas where access to good roads & cold supply chain vehicles is missing. Such raw milk is then transported without temperature control, often adulterated as well, therefore milk get spoiled because of its short shelf life.

The revenue in Pakistan's milk market, based on the estimates of B2C enterprises and considering only the at-home consumption stands at US\$6.04 billion in 2024, with an annual growth rate of 6.36% expected from 2024 to 2028.

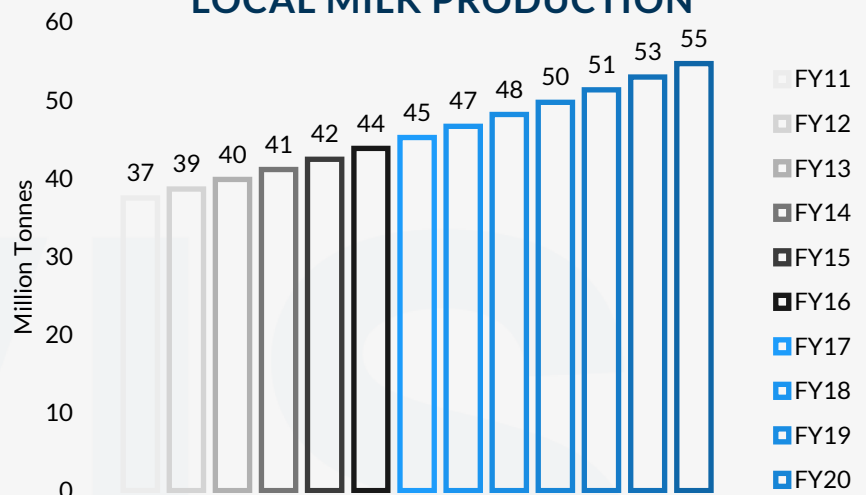
The supply chain in Pakistan's dairy industry primarily consists of raw milk sales, with small-scale farmers contributing 90% of the supply. Only 10% of milk is processed into pasteurized /UHT milk. Farmgate prices remain competitive, with a zero-rating regime maintaining affordability. However, the downward pressure on prices by the government, aimed at keeping milk prices affordable for the public pose challenges for producers, who are already producing the most expensive milk in the world due to lowest per day yields.

PAKISTAN'S CONTRIBUTION TO GLOBAL MILK PRODUCTION



Source: FAO, PBS, MNFSR

LOCAL MILK PRODUCTION

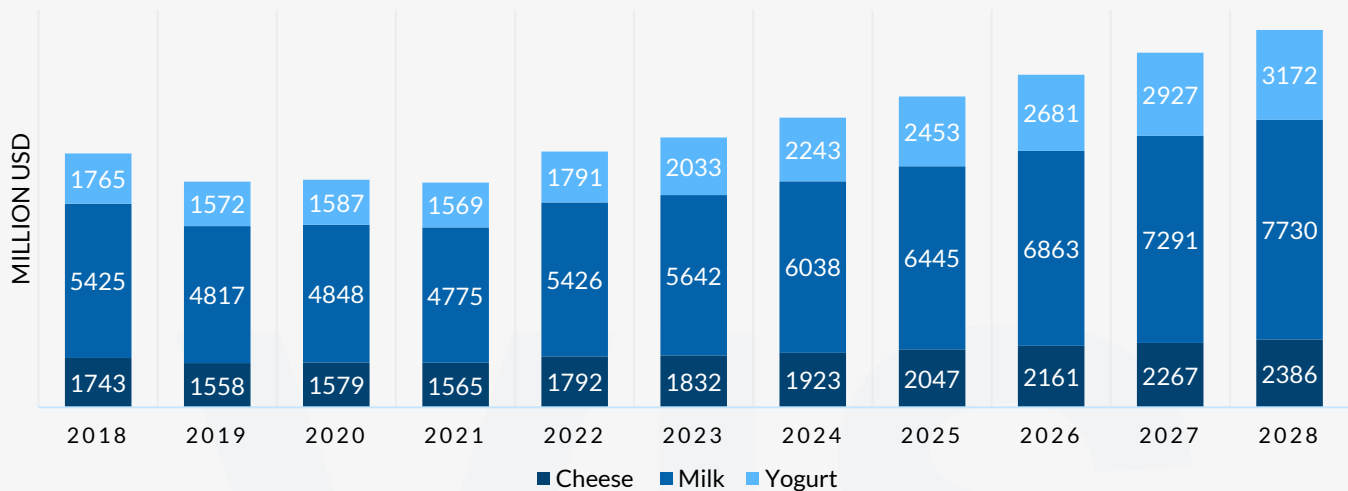


*Human Consumption Figures

There is a growing focus on modernizing the dairy sector in Pakistan, with initiatives aimed at improving productivity, quality, and sustainability. The Pakistan Business Council (PBC) emphasizes the potential for new products and expansions in existing players to meet evolving consumer demands. However, these products still cater to a limited segment of UHT milk, as opposed to a large proportion of consumers opting for loose milk. Despite unadulterated quality with full nourishment of packaged milk, the majority of consumers still prefer raw milk due to affordability concerns & and convenience of delivery at home by gawalas. The market for UHT is also moderately concentrated, with few public and private limited companies competing for market share within the 10% of the sector. Major players in this sub-sector include public limited companies such as Friesland Campina Engro (Olpers), Nestle (Milkpak), Fauji Foods (Nurpur), and At-Tahur (Prema), as well as private limited or public unlisted companies like Dairyland (Dayfresh), Adams Milk Foods (Adams), and Haleeb Foods Limited (Haleeb). Competition in the sector is primarily based on pricing power, consumer’s preference, and brand recognition.

PUBLIC LIMITED COMPANIES	BRAND NAMES
Friesland Campina Engro	Olpers
Nestle	Milkpak
Fauji Foods	Nurpur
At-Tahur	Prema
Public Private Limited Companies	
Dairyland	Dayfresh
Adams Milk Foods	Adams
Haleeb Foods Limited	Haleeb

REVENUE PER ANNUM

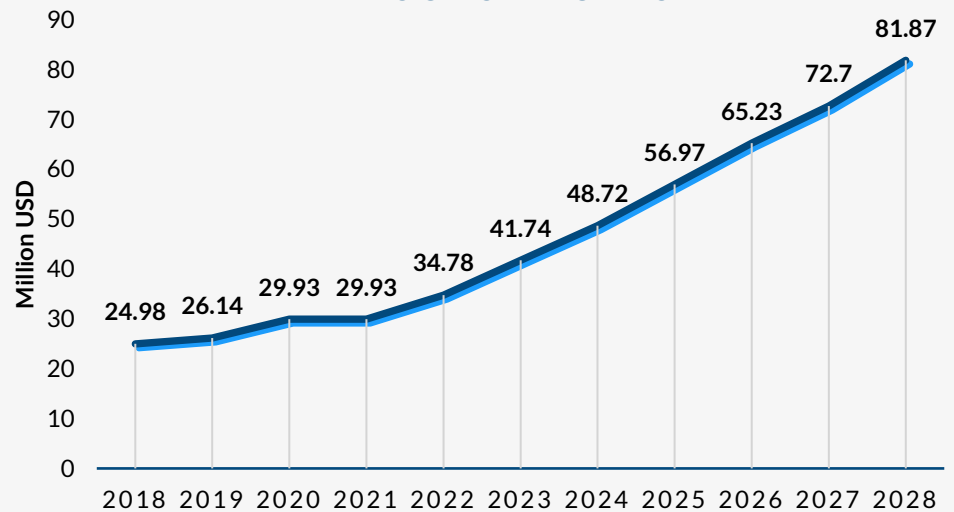


Source: statista market insights

The revenue generated from the dairy industry, based on data from B2C enterprises, has been fairly consistent despite challenges faced by the economy during the covid outbreak, and is expected to grow steadily according to forecasts. However, most of the increase in revenue is attributable to price increase while volume increase is not substantial. Milk has been the most significant source of income for the dairy sector, followed by Yogurt & Cheese. The remaining products like flavoured milk, laban (lassi), ghee, cream, and more have smaller contributions in the revenue.

The data on milk substitutes displays how even during the pandemic, revenue from milk substitutes had risen. The forecasts have predicted the demand for milk substitutes to double in the next 5 years. This is also reiterated in the increased local production of SMP (skimmed milk powder) which is an essential ingredient in the making of milk substitutes like tea whiteners, confectionary items, etc. SMP is produced by many companies such as Nestle, Friesland Campina & Millac foods, being major players. Local production of SMP helps in keeping prices stable in lean season, when the milk production is dropped due to environmental effect on livestock.

MILK SUBSTITUTES



Source: Statista Market Insights

SECTOR DYNAMICS

Pakistan, despite ranking amongst the five largest milk producers in the world, has historically relied on significant imports of SMP to fulfill domestic demand during lean season when milk production is low. However, recent trends indicate a shift towards decreased reliance on imports, as devaluation of the Pak rupee against major currencies have increased the import cost, making it increasingly difficult to keep competitive prices. This has given way to local production of SMP as well as its smuggling from Iran which is hampering the local industry. However, there are still efforts towards localization of milk powder production. This shift aligns with the objectives outlined in 'Pakistan's Livestock Policy 2022', where the Ministry aimed to lay the groundwork for the country's Livestock Vision 2025 that was set forth in 2015. This vision emphasized private sector-led growth to position Pakistan as a leading force in the global livestock sector over the decade, from 2015 till 2025, while 2022's policy aimed to accelerate progress towards the goal.

Key success factors in the Pakistani dairy industry encompass improved cold supply chain to reduce bacterial growth, improvement in cattle breed with higher milk yield, eradication of cattle diseases like lumpy skin and FMD (foot and mouth disease), staying abreast of technological advancements, fostering product innovation, maintaining quality standards, competitive pricing, and securing adequate capital.

In terms of PEST factors, political stability, economic conditions, sociocultural norms, and technological advancements all exert significant influence on the sector's trajectory. Technological advancements play a pivotal role in enhancing production efficiency, quality control, and product innovation, all of which are essential for maintaining competitiveness and ensuring sustainable growth in the Pakistani dairy sector. Since 90% of total production of milk is sold as loose milk in basic unhygienic packaging, going directly from small scale farmers to end consumers through middlemen, technological advancement has been slow. In 2023, Punjab's minimum pasteurization law's implementation started to become stricter in some areas of Lahore. The imposed ban on unpackaged milk would drive away small-scale farmers and

would be key for the penetration of ultra -heat treated milk among consumers, giving way to the industry growth through private-sector. However, until proper entry & exit centers are made, and the law is fully implemented, the industry would receive little benefit

Economic conditions affect consumer purchasing power and market demand, however when it comes to milk, the demand is inelastic. For the same reason, milk is put into the category of zero-rated goods, to control pricing and maintain affordability. Sociocultural factors, including dietary preferences and consumption habits, drive the demand for dairy products.

RECENT DEVELOPMENTS

The imports of milk and cream, concentrated or containing added sugar or other sweeteners, have started to face a downward trend over time, particularly due to the rupee devaluation, making imports costlier. This has also begun to push demand for local production of skimmed milk powder. Local production and distribution of SMP is expected to increase in the future, where corporates producing excess in-house SMP would supply it locally to meet the demands of other entities. Exports of similar products are negligible and do not have much impact on the country's economy.

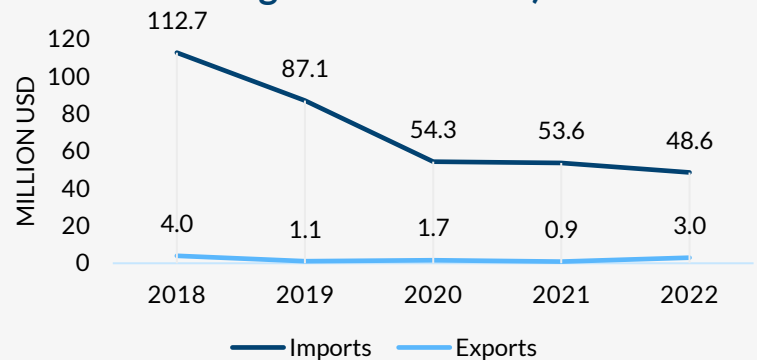
Another recent trend in the dairy sector is moving towards larger, more organized farms. Most small farms have 5-7 animals that sells milk produced in excess of family requirements. However, over the past 10 years, significant developments included the introduction of large dairy farms with modern milking & feeding practices, and well-trained manpower. The large-scale produce is then distributed through proper cold chain channels. The Livestock Development Policy had highlighted the need for large corporate dairy farms with an emphasis on the improvement of breeding, increased productivity of the animals to increase yield, etc. that would give way to growth in the private sector.

ISSUES

The dairy industry in Pakistan is largely unstructured, with mostly unregistered suppliers. Adulteration and low-quality milk through these small-scale farmers remain significant concerns for consumers. While regulations like minimum pasteurization laws are being introduced, banning loose milk because of unhygienic conditions to ensure quality and safety standards, enforcement mechanisms need improvement to address these issues effectively. Additionally, measures need to be taken to increase packaged milk availability to cater any shortages due to potential ban on loose milk.

The annual plan 2022-23 by the government of Pakistan predicted the agricultural sector to grow by 3.9%. However, flash flooding and torrential rains lead to damage and loss of around \$30 billion, out of which 17% losses were contributed by the livestock sector; 0.8 million livestock were estimated to have perished. Due to the floods, the projected growth in the industry was not achieved; agriculture's growth rate fell from 4.3% to 1.5% for FY23. Additionally, there had been an

Milk & Cream (Concentrated or Containing Added Sugar/Sweeteners)



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outbreak of Lumpy Skin Disease that threatened milk market's sustainability. The disease led to the loss of lives of thousands of cattle and had also reduced the production of milk. Another most prevalent disease amongst the livestock in Pakistan is the Foot and Mouth Disease (FMD) with seasonal outbreaks every year, which has been effectively controlled by a project launched by the FAO that introduced quality assured vaccines. Globally, the disease causes economic losses worth billions of dollars because of lost milk production and high cost of treatment. The losses combined with the overall struggling economy of Pakistan led to increased policy rate and inflation to an all-time high, and has resulted in upward pressure on prices of even zero-rated goods such as the milk.

Another major issue in the dairy sector is that most data presented is based on estimates of total livestock and milk productions. The last livestock census took place in 2006, which has become fairly outdated. There is an eminent need for a standardized and up-to date data bank to help with factual analysis and to help with future decisions regarding industry's growth.

SECTOR OUTLOOK

In 2024, the outlook for Pakistan's dairy sector remains stable, despite ongoing challenges in the broader economic landscape. The Pakistani rupee's modest recovery is overshadowed by persistent external factors, including high inflation, increased commodity prices, taxation burdens, and limited foreign exchange availability for imports. These challenges exert significant pressure on consumers' disposable incomes, potentially impacting consumption patterns.

On June 23, Prime Minister of Pakistan approved formation of SIFC (Special Investment Facilitation Council) which is mandated to facilitate foreign investment and economic revival of Pakistan. Agriculture, including Livestock is one of the major components of SIFC mandate. This initiative shall help development of Livestock sector in Pakistan on priority basis.

In conclusion, Pakistan's local dairy industry offers significant opportunities for growth and modernization, but it also faces various challenges that require collaborative efforts from stakeholders, policymakers, and regulators to overcome. With the right strategies and investments, the sector can contribute significantly to the country's economic development while ensuring sustainable practices and meeting consumer needs.

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RESEARCH & PUBLICATIONS

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VIS



Jahangir Kothari Parade (Lady Lloyd Pier) Inspired by Her Excellency, The Honorable Lady Lloyd, this promenade pier and pavillion was constructed at a cost of 3 Lakhs and donated to the public of Karachi by Jahangir Kothari to whose genrosity and public spirit the gift is due. Foundation stone laid on January 5, 1920. Opened by Her Excellency, The Honorable Lady Lloyd on March 21, 1921.

Dome: A roof or vault, usually hemispherical in form. Until the 19th century, domes were constructed of masonry, of wood, or of combinations of the two, frequently reinforced with iron chains around the base to counteract the outward thrust of the structure.

Origins: The dome seems to have developed as roofing for circular mud-brick huts in ancient Mesopotamia about 6000 years ago. In the 14th century B.C. the Mycenaean Greeks built tombs roofed with steep corbeled domes in the shape of pointed beehives (tholos tombs). Otherwise, the dome was not important in ancient Greek architecture. The Romans developed the masonry dome in its purest form, culminating in a temple built by the emperor Hadrian. Set on a massive circular drum the coffered dome forms a perfect hemisphere on the interior, with a large oculus (eye) in its center to admit light.

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