

# Pakistan has strong infrastructure of dairy sector

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With a population of 193 million people in 2016, Pakistan is the sixth most populous country in the world, and has an estimated population growth rate of more than 2% per annum. 50% of the country's population is expected to live in cities. Nearly 30% of household expenditure on food items is on milk and dairy products.

Pakistan's annual milk production in 2015-16 was approximately 54 million tonnes, making it one of the world's major milk producers. Buffaloes and cows are the major milk producing animals, with 62% milk produced by buffaloes and 34% by cows. Over the past ten years, milk production in Pakistan has risen by 36%.

Milk is used for drinking, tea, desi ghee, yogurt and butter making. Milk is also used to make Khoya and different types of sweets. Milk processing companies use milk as a raw material to formulate different types of milk i.e. pasteurized milk, UHT milk, condensed milk, skimmed milk, milk powder, etc. Different value added products like yogurt, ice cream, butter and cheese are also produced from the raw milk.

| Species | 2013-14 | 2014-15 | 2015-16 |
|---------|---------|---------|---------|
| Cattle  | 39.7    | 41.2    | 42.8    |
| Buffalo | 34.6    | 35.6    | 36.6    |
| Sheep   | 29.1    | 29.4    | 29.8    |
| Goat    | 66.6    | 68.4    | 70.3    |
| Camels  | 1.0     | 1.0     | 1.0     |

Source: Ministry of National Food Security & Research, Govt. of Pakistan.

The daily consumption of milk in Lahore is 2 to 3 million litres and that of Karachi is 4 million litres. The demand for processed milk has increased its share in quality conscious consumers.

**Livestock:** Livestock is an important sector of agriculture. Its role is pivotal towards rural socio economic development. Nearly 8 million families involved in livestock raising deriving more than 35% income from livestock production activities. It is central to the livelihood of the rural poor in the country. It is a source of cash income, providing a vital and often the only source of income for the rural and most marginal people. It can play an important role in poverty alleviation and foreign exchange earnings for the country.

Livestock contributed approximately 58.6% to the agriculture value added and 11.6% to the overall GDP during 2015-16 compared to 56.4% and 11.7% during the corresponding period last year, respectively. Gross value addition of livestock at constant cost factor of 2005-06 has increased from Rs. 1247 billion (2014-15) to Rs. 1292 billion (2015-16), showing an increase of 3.63% over the same period last year.

Livestock of Pakistan include cattle, buffalo, sheep, goat, camels, horses, asses and mules and they produce milk, meat, wool, hair, bones, fat, blood eggs, hides and skins among which milk and meat are the major products. Besides production, these animals are also used for draught purposes. As per IFCN (International Farms Comparison Network) Dairy Report 2014, Pakistan is 3rd largest milk producing country in the world. Milk is produced by buffalo, cattle, sheep, goat and camel but being major contributor in milk production, cattle and buffalo are considered as major dairy animals.

More than 96% of the milk produced in Pakistan comes from cattle and buffalo. The rest of it is collectively produced by sheep, goat and camel which, most of the time, is not sold as such, rather consumed domestically or mixed with buffalo and cow milk. Estimated current National livestock Population as per Economic Survey of Pakistan 2015-16 are given in Table-1.

| Species                               | 2013-14 | 2014-15 | 2015-16 |
|---------------------------------------|---------|---------|---------|
| Milk (Gross Production)               | 50,990  | 52,632  | 54,328  |
| Cow                                   | 18,027  | 18,706  | 19,412  |
| Buffalo                               | 31,252  | 32,180  | 33,137  |
| Sheep <sup>2</sup>                    | 38      | 38      | 39      |
| Goat                                  | 822     | 845     | 867     |
| Camel <sup>2</sup>                    | 851     | 862     | 873     |
| Milk (Human Consumption) <sup>3</sup> | 41,133  | 42,454  | 43,818  |
| Cow                                   | 14,421  | 14,965  | 15,529  |
| Buffalo                               | 25,001  | 25,744  | 26,510  |
| Sheep                                 | 38      | 38      | 39      |
| Goat                                  | 822     | 845     | 867     |
| Camel                                 | 851     | 862     | 873     |

Source: Ministry of National Food Security & Research, Govt. of Pakistan.

**Government Policy:** Livestock Wing (Ministry of National Food Security & Research) with its redefined role under 18th Constitutional amendment continued regulatory measures that included allowing import of high yielding animals, semen and embryos for the genetic improvement of indigenous dairy animals, allowing import of high quality feed stuff/micro ingredients for improving the nutritional quality of animal & poultry feed and allowing import of veterinary, dairy and livestock machinery / equipment at reduced duty rates in order to encourage establishment of value added industry in the country. Livestock insurance scheme for farmers having 10 animals or more, introduced last year i.e. 2014-15 promoted cooperative dairy farming in the country.

With the every passing day, dairy products are becoming costlier because livestock farming has not scientifically grown with the increase in population and also it did not match with the pace of urbanisation. Such a situation, the only way to control prices is to develop the dairy industry on scientific lines, which will not only provide meat and milk in abundant quantities to the domestic consumers but extra quantities can also be exported.

In spite of having a large population of livestock, the country is spending some \$40 million annually on the import of formula milk only, which is the highest amount spent by any country in the world on this particular commodity. Currently, there are some 160 varieties of infant formula milk available in the markets. While breast milk is the best a mother can give her infant in terms of a balanced and healthy diet.

**Milk Production:** Milk is favorite food in Pakistan and is consumed as fresh, boiled, powdered and in processed form like yogurt, ghee, lassi, butter, cheese, ice cream, sweets and in other confectioneries. The interesting thing regarding the dairy sector of Pakistan is that although it is third largest milk producing country in the world but still its production falls short to meet the national demand. It is not possible to say that Pakistan is deficient in Milk Production.



In 1980s, dairy sector in Pakistan moved towards commercial side and development of rural commercial dairy farms started. A typical rural dairy farm running on commercial basis consisted of about 30 animals of which 70% were females, including some cows. Approximately 40% of these adult females were in milk during most of the year. Fodder crops provided 50% and straws about 35% of the feed requirements and concentrates made the rest of it. More than 90% of the milk produced at the farm was sold. With growing demand for milk in urban areas rural commercial dairy farming moved toward peri-urban areas. In peri-urban areas there are large and small dairy herds consisting of 20-50 animals with nearly 90% of adult females in production. Male calves are disposed of within first two weeks of birth. These animals are fed chopped green fodder and wheat straw and concentrate mixture with target to sell almost total milk produced.

Pakistan is sufficient in milk production but issue is with supply chain as milk is produced in sufficient volume in few pockets of country but its demand is nationwide. So to fulfill the national demand of milk the need is to manage its supply chain to ensure its availability

throughout the country. Current Milk Production and its availability for human consumption in Pakistan as per Economic Survey of Pakistan 2015-16 are given in Table-2. Import of Milk Powder: Due to shortage of milk production in the country Pakistan imported powder milk from various countries. Pakistan imported milk powder decreased from 49,525 tonnes worth Rs. 17,252 million in 2014-15 to 40,034 tonnes worth Rs. 16,511 million in 2015-16, thus showing decline of 4% in terms of value. Pakistan imported milk powder namely from India, France, E.U, New Zealand, Turkey and US, about 60% to 70% of the total imports. India has remained as the top milk powder exporter to Pakistan in 2015-16. Country-wise imports of milk powder in to Pakistan are given in Table-3.

**Future prospects:** Milk is an essential food for human beings; it provides calcium, key vitamins and iron for the human body. It is the first food that a child nourishes on. Milk and dairy products account for 22% of kitchen expenditure (compared to wheat, which is 12%). Over the last 10 years, the ratio of urban population in Pakistan has grown by three percentage points and as people move further away from dairy farms, availability and access to fresh, un-pack-

aged milk is significantly impacted. The increase in urbanisation has also created a more educated and sophisticated segment of consumers, which values safety, hygiene and convenience of processed and packaged milk. A major challenge faced by the industry is procurement of quality milk at an affordable price.

Packaging cost that constitutes approximately 35% of the total cost of the product also increases each year. Power and gas shortages pose another challenge to the industry. Dairy farming is an agro-based activity, buffaloes and cows can be raised for milk production in an organised manner for commercial purpose. For this project, animals can be purchased from the animal markets or breeders in Sahiwal, Sheikhupura, Faisalabad. More than 70% farmers hold less than 5 acres of land. Dairy farming may prove a profitable business for small landholders. They can also grow fodder on their land to feed dairy animals, without disturbing the main crop.

Dairy farming is one of the best projects if professionally done on small land holdings. The return of the land used for feeding animals is higher as compared to land used for traditional cropping. The economical size of the herd is 50 animals, which will grow into 180 animals within a few years. Cows are also proposed in the herd, as they are high yields and efficient converters of feed into milk. This herd would consist of 75% buffaloes and 25% cows. A cow, on average, yields 14 liters

**Table 4: Inport of Milk in Powder (Fat 1.5%)**

**Quantity: Tonnes**  
**Value: Rs. Million**

| Country      | 2015-16       |               | 2014-15       |               |
|--------------|---------------|---------------|---------------|---------------|
|              | Quantity      | Value         | Quantity      | Value         |
| Belgium      | 1,309         | 497           | 1,755         | 534           |
| E.U.         | 1,996         | 896           | 2,433         | 420           |
| France       | 4,902         | 1,733         | 9,499         | 3,160         |
| Germany      | 2,585         | 1,061         | 3,541         | 1,160         |
| India        | 5,290         | 2,231         | 6,868         | 2,500         |
| New Zealand  | 4,797         | 2,200         | 7,883         | 2,769         |
| U.S.A        | 10,586        | 4,478         | 9,554         | 3,601         |
| Turkey       | 4,663         | 1,705         | 178           | 65            |
| U.K.         | 750           | 324           | 660           | 223           |
| All others   | 3,156         | 1,386         | 7,154         | 2,820         |
| <b>Total</b> | <b>40,034</b> | <b>16,511</b> | <b>49,525</b> | <b>17,252</b> |

Source: Trade Development Authority of Pakistan

milk a day over a lactation period of 305 days whereas the buffalo, on an average, yields 10 liters a day over a lactation period of 280 days.

Milk consumers in Pakistan are often faced with low-quality, adulterated milk. Lack of hygiene, adulteration with various agents, and absence of cold chains are primary contributors to this low quality. The dairy sector presents opportunities for employment generation and poverty alleviation. A rapidly increasing population and high rates of urbanization are additional driving forces of the demand for fresh and processed milk and products.

Compared with other developing countries, Pakistan has strong infrastructure, and its dairy sector has

numerous options for support and inputs. However, the following gaps exist:

- ❖ There is a need to improve the provision of input services, such as by enhancing the local production of feed, vaccines and machinery. For instance, the national production capacity for bacterial and viral veterinary vaccines
- ❖ There is also a need for cost-effective technologies for use in the supply chain, including insulated storage tanks instead of the currently used diesel or electric power generators.

### References

1. Ministry of National Food Security & Research, Govt. of Pakistan
2. Pakistan Bureau of Statistics.
3. Pakistan Economic Survey- 2015-16,
4. Trade Development Authority of Pakistan. ♦

