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Introduction

Objectives

The prime objective of this report is to present a reasonably accurate picture of the livestock industry and its evolution.

Besides presenting an outlook, this study attempts to list the key drivers and inhibitors that would stimulate or inhibit growth.

We hope to initiate debate, discussion and provide a few pointers that might enable the livestock industry to surge ahead.

Methodology

The sources of information used to present this study are:

- Primary data collected by our consultants located in different parts of the country.
- Data and opinions collected through in-depth interviews with industry leaders across India.
- Secondary data collected from sources published both in print and on the world wide web.
- Previous studies conducted in India and abroad.
- Papers and articles published by academicians, industry experts and institutions.

Executive Summary

India is emerging strongly as a major livestock production center. The largest milk producer, fifth ranked broiler producer, second ranked shrimp producer and fourth ranked egg producer in the world are just some of the encomiums earned. When one juxtaposes these statistical landmarks with economic parameters like second low cost broiler producer, lowest cost egg producer and a low cost milk producer, you should have a winner!

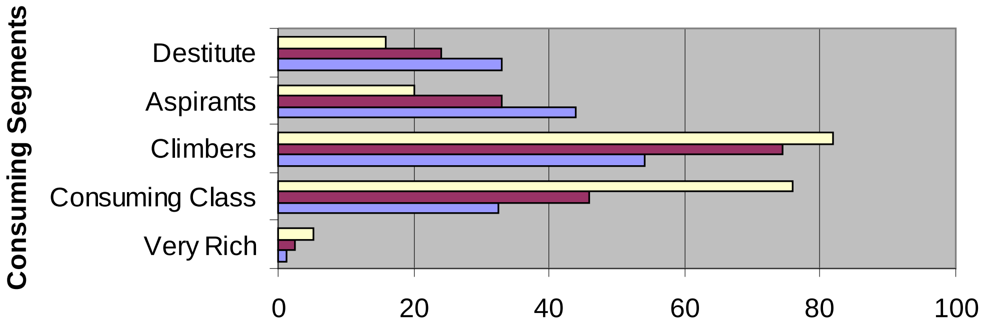
However, its not exactly glory days for the industry. These milestones have been reached despite being weighed down by an antiquated mode of dairy production, religious bias in meat consumption and the absence of basic infrastructure like a cold chain, transport, processing facilities and storage. The unreasonable taxation on processed and packaged food is another major roadblock to distribution and consumption.

The fortunes of the feed industry are enduringly bound to the production and consumption of chicken, eggs, milk and meat. The same is true for the additive and pharmaceutical sectors.

India is the second fastest growing economy in the world. With a growth in GDP that scaled 6.7% in 2004-5, it has delivered as promised. Animal husbandry constitutes 6% of this waking giant. An important pointer to the consuming potential is the fact that the domestic market consumed almost the entire production. The moot point is whether the double-digit growth in broiler and a steady

increase in egg production is sustainable. Opinion stands divided on the issue. Traditionalists argue that over-production in broiler, milk and eggs has eroded prices and reduced bottom lines to anorexic levels. Free market theorists opine that depressed consumer prices will spur consumption and keep top lines buoyant. The net result is an increasing consolidation of the market through integration leading to the dominance of large players and extinction of small producers.

Growth in Income Groups

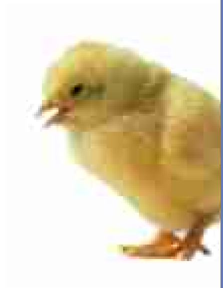


	Very Rich	Consuming Class	Climbers	Aspirants	Destitute
2006-07	5.2	76	82	20	16
2001-02	2.6	46	74.4	33	24
1995-96	1.2	32.5	54.1	44	33

Source: NCAER **Number in Million Households**

Perhaps a look at the demand gap in broiler, egg and milk might lend support to the latter. Add to this the bullish disposable income of the lower and middle income strata, and we might come up with a clincher! Food after all will never go out of fashion and the first sign of prosperity is improvement in the quality of food consumed. Growing urbanization, a young population and a healthy growth in income all lend weight to the cause.

Fundamentals like sunshine, water and labor will remain plentiful in India. All that is needed is a large dose of technology, infrastructural development and professional marketing to take the industry to new heights. Does the Indian livestock industry have the heart and will to become the production hub for most of the world a decade from now?



Chapter 1

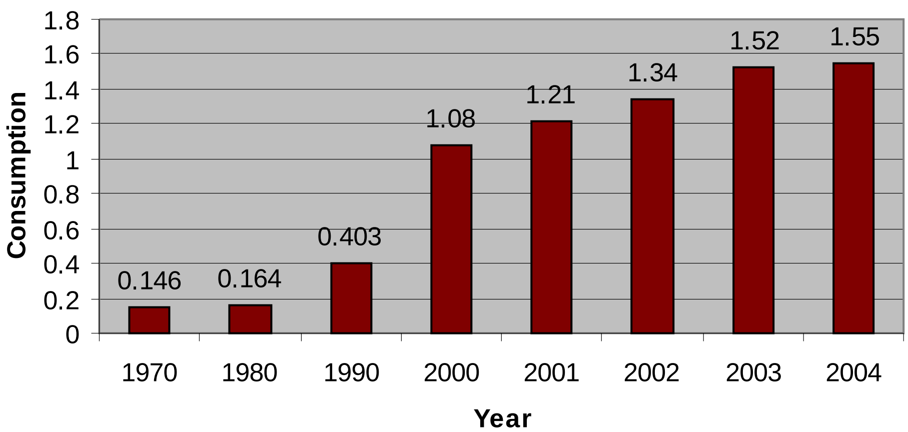
Poultry Meat Industry

Outlook

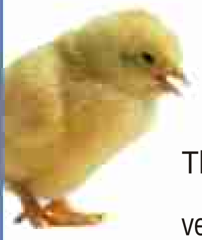
When organized poultry production commenced in India in the late '60's, poultry meat was a luxury food enjoyed by the western world. Gourmets in the country were skeptical about whether the Indian consumer would ever accept the hybrid table bird over the Indian chicken bred locally in the backyard.

The last four decades have a different story to tell. From a per capita consumption of 146 gms in 1970 to 1.55 kg in 2004 it has been a long but fruitful haul (Fig 1.1). This is despite the fact that 20% of the country's population is avowedly vegetarian (People of India, Anthropological Survey of India 1994). This implies that the per capita consumption for non-vegetarians works out to 2 kg.

Figure 1.1 **Per Capita Broiler Consumption (Kg)**

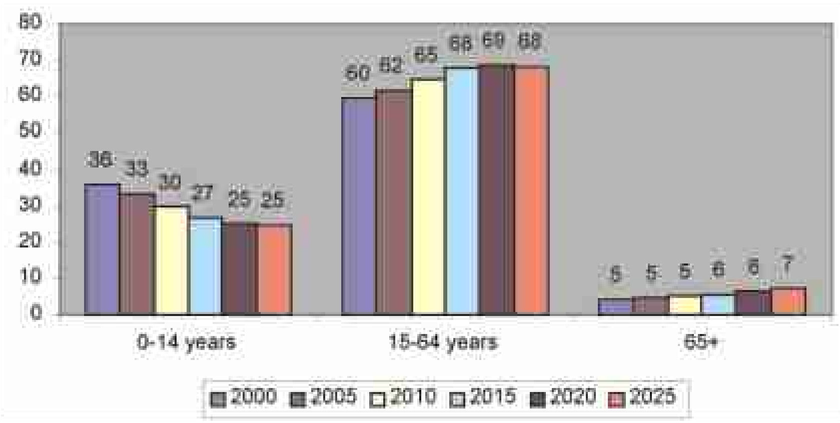


Source: Food & Agriculture Organisation (UN) & Registrar General of India



There is a gradual shift in this trend from vegetarianism to non-vegetarianism. The factors responsible for this change are growing urbanization and a young population. (Fig. 1.2)

Figure 1.2 **Median Age of India Population**



India will remain young with the median age going up from 21 in 2000 to 26 in 2025

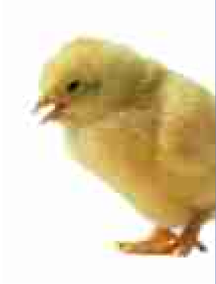
Source: Federation of Indian Chambers of Commerce & Industry

When one considers demand for poultry meat, it is assumed that the entire quantum of poultry meat produced in the country is consumed within the country. A negligible quantity of processed chicken is exported to the Gulf region. Spent hens contribute as much as 206 MT to meat availability.

Integration

India has a few integrators who have successfully managed to put in place production facilities for almost all the major inputs including feed, day-old chicks, hatcheries and parents. Some even own pure lines. The effort is now on to put in place a network of contract growers with a buy-back arrangement. The key players have also moved into vertical integration by setting up retail chains, processing, branding and aggressively marketing their produce.

It might be a bit too early to expect sizeable returns from such totally integrated operations. However, all signs point to an emerging market where every rupee will count in the quest to grace the consumer's dinner table. Integration is the only route to that goal!



Growth Drivers

Price

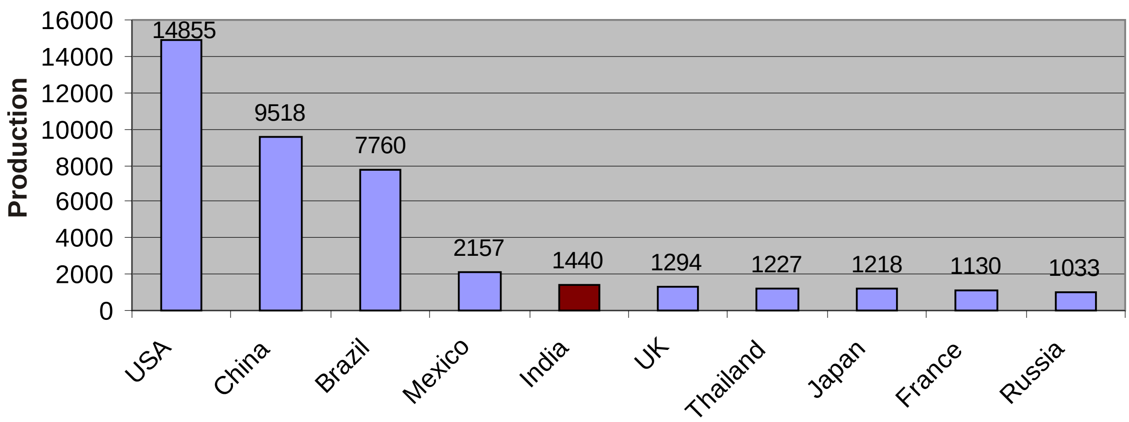
It is amply clear that in the case of domestic consumption of poultry meat, price is an important influencing factor. Some times, price exerts an overbearing influence that nullifies the impact of growth inhibitors (See box: Price Rules the Roost)

The price of inputs has steadily risen over the last few years. However, integration has helped most of the major producers economise on their overall cost of production.

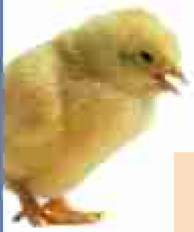
Another factor that has reined in the price of poultry meat is the use of technology in nutrition to enhance FCR (Feed Conversion Ratio) performance of the birds. The norm in the south of the country is an FCR of around 1.8 (1.8 kg of feed to 1 kg bird weight).

Finally, producer-owned retail outlets have managed to cut into wholesale margins to afford a better retail price to the consumer. This has contributed in good measure to the increase in consumption in certain parts of the country.

Figure 1.3 **Top 10 Poultry Meat Producers in 2003 (MMT)**



Source: Watt Poultry Guide 2004-05

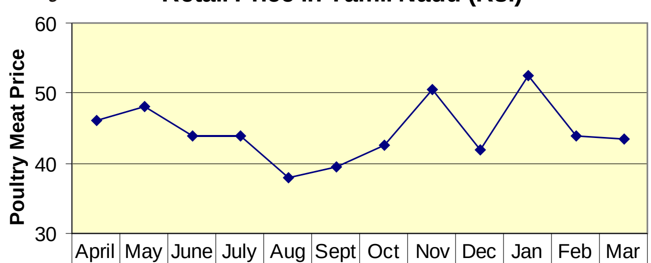


Price Rules the Roost

For ages, experts opined that Indians are vegetarians by choice. The general perception was that even the non-vegetarians among Indians, consumed meat as a break from the monotony of vegetables. Meat could never become a part of the staple diet.

While the aggregate proves this assumption to be true, an analysis of the consumption in different parts of the country reveals that price can be a powerful driver for demand. Tamil Nadu is a state located at the southern tip of the sub-continent. It has been a bastion of conservative customs and habits. The strong influence of the Hindu religion has resulted in a highly seasonal consumption pattern for chicken meat. Festive seasons constitute four months or one-third of the year. During these, periods of fast and abstinence like Aadi, Purattasi, Karthigai Margali; drastically reduce consumption. Yet, today Tamil Nadu has one of the highest per capita consumption of broiler meat in the country! (Fig.1.5) An affordable retail price around the year has been the main reason for this phenomenon (Fig 1.4)

Figure: 1.4 **Retail Price in Tamil Nadu (Rs.)**

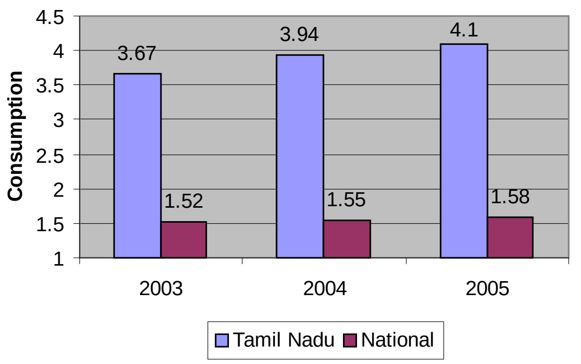


	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar
Price/kg	46	48	44	44	38	39.5	42.5	50.5	42	52.5	44	43.5

Year 2004-05

Source: Industry Estimates

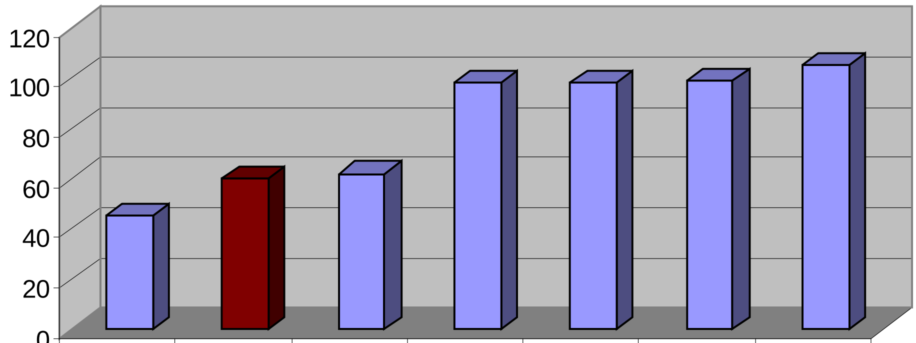
Figure: 1.5 **Comparative Per Capita Consumption (Kg.)**



Low Cost of Production

With integrators entering the northern and eastern markets in a big way, one expects the total production cost of chicken meat to reduce further. Today, India is today the second lowest cost producer of broiler meat in the world after Brazil. (see Fig 1.6)

Figure 1.6 **Production Cost (US Cents/kg)**



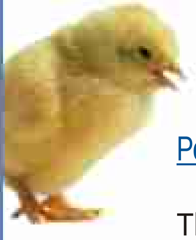
	Brazil	India	USA	Holland	Germany	France	England
Cost US Cents/kg)	45	60	62	98	98	99	105

Source: Industry Estimates

The next year or two will prove crucial to the growth of the broiler industry. If the integration efforts by a few majors prove successful, they could start a trend that would drastically cut the cost of production thus boosting consumption. However price alone would not be the deciding factor. Other drivers like distribution, processing and storage would help price work its magic.

Urbanisation

India is steadily gravitating towards urbanization. Till recently over 71% lived in villages while the balance 29% lived in urban centers. This equation is fast changing. We observe that in the south and west of the country where urbanization, and per capita incomes are higher, consumption, production and commercialization of poultry meat too are higher than the north and east.



Per Capita Income

The degree to which consumption responds to changes in income is expressed as elasticity, which indicates the percentage change in consumption resulting from a 1 per cent change in income. Poultry demand is relatively more responsive to income in India, compared to other developing nations. The patterns of meat consumption, the strong preference for chicken meat over goat and fish, the comparative price of chicken meat and religious factors all have a role to play. Fig 1.8 provides estimates of the income elasticities of demand for poultry and eggs. With growing levels of disposable income, the consumer group is growing steadily every year (Fig 1.9).

Table 1.1 Income elasticities of demand for poultry and eggs for selected countries

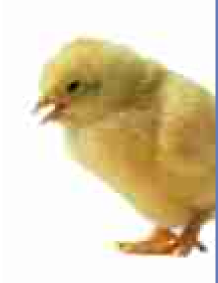
Country	Poultry	Eggs
India	1.50	1.00
Indonesia	1.50	1.20
Egypt	1.30	0.70
Kenya	1.20	1.30
Turkey	1.20	0.80
South Korea	1.00	1.20
Nigeria	1.00	1.20
Philippines	1.00	1.00
Mexico	0.93	0.59
Malaysia	0.87	0.73
Brazil	0.64	0.55
Thailand	0.50	0.50

Source: Norton and Alwang, p. 43.

Table 1.2 High Income Household Group Is The Fastest Growing Segment In India Today: 2001-2006

Income Groups	No. of households in 2001 (million)	No. of households in 2006 (million)	Expected growth CAGR (%)
High income (> $ 2300 p.a.)	27	44	10%
Middle income ($ 1500-2300 p.a.)	29	40	7%
Low income (< $ 1500 p.a.)	124	114	(-) 2%

Source: FICCI



Growth Inhibitors

Vegetarian Population

As stated earlier, 20% of the Indian population is estimated to be vegetarian traditionally (Anthropological Survey of India 1994).

However, while the impact of this inhibitor was extremely significant a decade ago, its impact on consumption has been diminishing. A USDA study reports that the younger urban population has a high tendency to shift to non-vegetarian food. This becomes a significant trend when one considers in tandem the increasing urban population and the low median age in India. Another redeeming factor is that vegetarianism is a regional phenomenon with states like Gujarat and Haryana conforming largely to a meatless diet.

Processing

India is essentially a “wet” market. This means that consumers prefer purchasing live birds, getting them dressed and then carrying them home for consumption. While industry sources opine that consumers demand such a practice, an alternative opinion is that this traditional marketing system has resulted in such a practice. The observation is that in newly developed, urban townships, where planned development prohibits public slaughtering of birds, the Indian consumer has readily switched to chilled and frozen chicken. However, where there is a choice, consumers prefer live birds. The industry estimates that 98% of consumption is of manually processed chicken while only 2% of total consumption is catered to by modern processing plants

With a well managed cold chain that assures consumers of quality, convenience and price; Indian consumers will gradually switch to processed chicken.

Tax Constraints

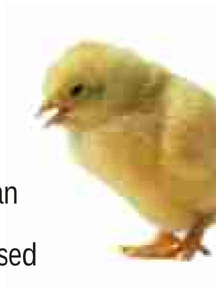
Processing and packaging of chicken in India attracts excise duty and sales tax. This makes processed chicken more expensive than live chicken. The logic behind such taxation is that processed food is a luxury product consumed only by the rich. While this might hold true for other agricultural produce, chicken transported live is expensive, given the under developed road network in the country. Hence, poultry meat markets are located in and around the urban centres and distribution to the rural hinterland is sparse. Taxation is a major inhibitor for the promotion and consumption of hygienically packed processed chicken.

Lack of Distribution

Infrastructure being what it is in India, it is extremely difficult to transport live birds across distances of over 200 kms. The weather and road conditions lead to stress, weight loss, spoilage and a high mortality rate; which push up the retail price. Similarly, the absence of an efficient distribution chain in the rural areas leaves a large majority of the population out of the organized distribution loop. Thus we find that over 70% of the demand for Indian chicken comes from the urban and semi-urban precincts while the villages that house over 70% of the population are left out.

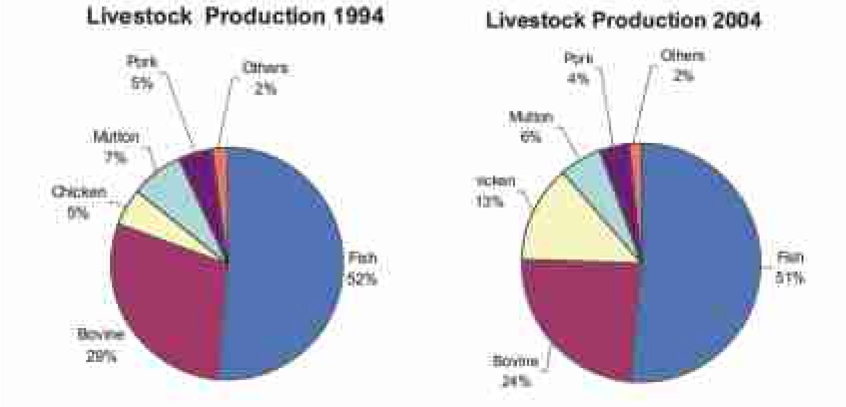
Animal Protein Preference

Traditionally, India has displayed a strong preference for ovine and caprine meat and fish in different geographical segments of the country. The high consumer retail price and low availability of chicken meat in the early '90's contributed largely to this trend. However, with increased production efficiency and greater market penetration, this



trend has shown a radical change. The recent USDA study shows an increasing preference for chicken meat in the urban centers. Increased integration, development of the supply chain and penetration of the rural markets should result in a similar change in rural preferences.

Figure 1.9 **Production Growth in Livestock**

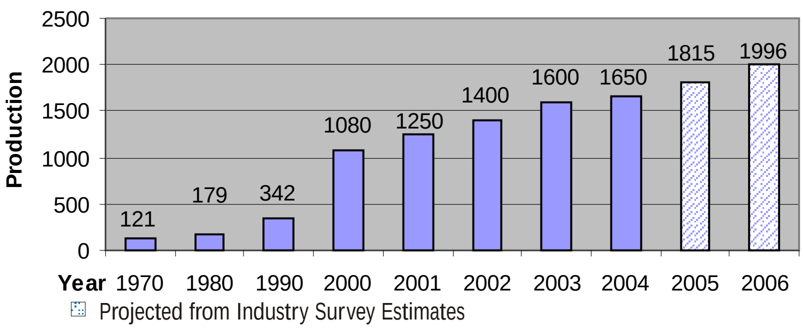


Source: US Department of Agriculture Report 2002-03

Trends in Poultry Industry Growth

USDA estimates that India's poultry meat production grew about 6% annually during the 1980s, accelerated to 11% annually in the 1990s and to nearly 19% during the period from 1997-2002. India was ranked the sixth largest poultry producer in the world, after the United States, Brazil, the European Union, China, and Mexico in 2002. In 2003 India is reported to have climbed to the fifth place. (Watt Poultry Guide 2004-05).

Figure 1.10 **Poultry Meat Production (MMT)**



Source: FAO