

Emerging Prospective of Indian Livestock: A Study on Poultry Industry

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Abstract - India's poultry industry represents a major success story. Mounting at about 20 per cent annually the domestic poultry market is currently estimated at about Rs 49,000 crore, and production reaching a record 3.2 million tons of broiler meat and about 2.86 million tonnes of eggs. Layer production growth is estimated at 6 per cent annually. Indian processed poultry production is not expanding at the rate of the live-bird market due to cold chain capacity issues and meat retailing constraints. The processed poultry market is thus mainly oriented to serving hotel, restaurant and institutional consumers. Thus an emphasis is made to capture the potentiality of Poultry industry and its opportunities in Indian market.

Keywords: Poultry, eggs, layers, potentiality, live-bird

I. INTRODUCTION

Indian Poultry Industry is 5,000 years old; recently it began to witness remarkable growth from backyard to poultry industry. Nearly 70 per cent of the total output of poultry industry is contributed by organised sector and remaining 30 per cent by unorganized sector. There are about 1000 hatcheries operating in the country. India's poultry industry represents a major success story, growing at about 20 per cent annually and the domestic poultry market is currently estimated at about Rs 49,000 crore, with 2012 production reaching a record 3.2 million tons of broiler meat and about 2.86 million tonnes of eggs. Layer production growth is estimated at 6 per cent per annum. Indian processed poultry production is not mounting at the rate of the live-bird market due to cold chain capacity issues and meat retailing constraints. The processed poultry market is mainly concentrating in serving hotel, restaurant and institutional consumers. Indian poultry and egg consumption continues to grow up and is expected to double by 2015. While agricultural production was rising at the rate around 2 per cent per annum over the past two to three decades, whereas poultry production has been rising at the rate of around 8 per cent per annum, with an annual turnover of US\$ 7500 million. Livestock population of India is among the highest in the world, it contributes approximately 4 % to GDP and 27 % to agricultural GDP. Poultry Industry is providing nutritional security to the poor and also offering employment to millions of people in rural and urban areas. The future for Indian poultry Industry appears to be very favourable. The most conservative estimates predict a two- to three-fold increase in poultry production over the next ten or fifteen years.

II. JOURNEY OF INDIAN POULTRY INDUSTRY

The poultry industry in India was mainly a backyard venture before the 1960s and has been changed into an exciting agribusiness with an annual turnover of Rs 49000 crores. India is the third largest egg producer in the world (after China and the United States of America), and the fifth largest broiler producer. Definitely, this remarkable growth is a result of several factors, such as active developmental support from the central and state government, research and development experiences from research institutes, high per capita income growth and international collaboration in private sector. Indian poultry is self-reliant, supported by extensive and strong genetic base in which the productivity levels of broilers and layers are equal to those achieved elsewhere.

However, globalization is posing greater challenges by making the industry globally competitive and viable and creating enormous potential for growth by changing food habits and preferences. Poultry meat has outpaced its two chief competitors – beef and veal and buffalo meat. Another major development in Indian poultry production is the emergence of integration, which is occurring very rapidly, especially in broiler production, both in southern and western parts of India.

“Driven by rising purchasing power, changing food habits, contract poultry farming and rapid urbanisation are certain key reasons for this constant upswing in this niche poultry sector,” said ASSOCHAM Secretary General D.S. Rawat.” But sporadic bird flu outbreaks in different parts of the country along with lack of storage and processing facilities and rising prices of feed stocks including soya meal and maize have severely hit the poultry exports.

Maize accounts for above half of total production cost of poultry feed and the poultry sector consumes about 50 per cent of total maize production in the country. Broiler meat and table eggs account for the domestic poultry market. Moreover, the Indian poultry sector has shifted from a live-bird market to a chilled/frozen-product market. Nearly three million tonnes of broiler meat and about 2.86 million tonnes of eggs are produced annually in India, said the ASSOCHAM study.

Southern India accounts for majority of total poultry production and consumption in the country. Andhra Pradesh, Kerala, Karnataka, Tamil Nadu and Maharashtra in the west and Punjab and Haryana, in north are key regions in this aspect. Significant breakthrough in poultry science and technology helped in breeding of genetically superior birds capable of high production. Manufacture of high-tech poultry equipments are also key reasons for growth in egg and meat production.

There are more opportunities for foreign direct investment (FDI) in the poultry sector in areas like breeding, medication, feedstock, vertical integration and processing, but lack of infrastructure like power and transportation are major turn off in this aspect. Nearly two crore farmers (including agrarian farmers) are employed in poultry industry. Currently, there are about 1,000 hatcheries operating across India.

India is attracting attention by setting itself as the world's largest food "factory", currently; its processed food market is growing at a phenomenal rate. It offers surprising opportunities to overseas entrepreneurs who wish to expand their foreign markets by using India as a sourcing centre for regional exports, transfer technology or sign joint ventures. Indian exporters and entrepreneurs would also largely benefit from poultry industry. The world poultry-meat industry is growing fastest among all the meat categories due to rising concerns for health, safety, convenience and variety, and price competitiveness. Issues related to poultry-meat supply chains include, among others, perishability of the product, environmental regulations and globalization. The world poultry-meat industry derives its significance from the fact that among all the meat categories, poultry meat is the fastest growing. Due to the high consciousness towards protection of the environment, poultry farms today are increasingly required to adhere to the environmental regulations stipulated by the governments, particularly with regard to water purity, manure removal and dead carcass disposal.

III. EVOLUTIONARY PHASES OF POULTRY SECTOR

Over the years, the poultry industry has undergone tremendous changes in its structure and its operations. In four decades, the industry has grown from a subsistence activity into an organised, scientifically-oriented and technologically-driven industry. The structure of the poultry industry, however, is not consistent and differ's region wise within the country. Broadly, the poultry industry in India consists of two groups – organised and unorganized sectors. The organised sector contributes 70 percent and the remaining 30 percent is contributed by the unorganized sector. The organised sector uses intensive farming, sophisticated breeding systems, and modern technology to generate greater productivity. The unorganized sector, on the other hand, has no promotion for brands. in fact most of them do not sell under any brand.

The poultry sector has evolved through three distinct phase's namely traditional, semi-commercial and commercial system.

- a) **The traditional system** of farming was regarded as backyard business, where small-scale farmers raised the chicken (poultry birds) for self consumption and occasionally sold the excess at neighborhood/local markets. Farmers were disappointed with agriculture due to irregular (uncertain) income, inadequate irrigation facilities, erratic climate conditions, limited credit sources and increased debt burden. Thus, farmers were unhappy with the agriculture produce for the late monsoons, as a result the farmers took active interest in non crop sector (poultry and dairy). Although unorganized poultry farming did not follow any organised form of production, it played an important role in the rural environment, as it was a source of income as well as employment. The traditional system, though faced several limitations like unawareness of veterinary services, poor quality of inputs, limited/inadequate infrastructure, high incidence of disease, etc. which did not enable farmers/cultivators to achieve optimum level of productivity.
- b) **The semi – commercial and commercial system** of farming adopted more sophisticated and specialized techniques on bulk production and required low levels of labour. By adopting modern technology, farmers were able to produce poultry for specific uses viz: layers for eggs, broiler for meat etc. Further to encourage them, the government offered several incentive schemes. For instance, incentives were given to players who adopted modern technologies and achieved higher productivity. In addition, many research institutions were setup and other facilities like training, veterinary care, insurance schemes and technical support were provided, which helped the growth of commercial farmers/integrators

IV. STRUCTURE OF POULTRY PRODUCTION

Poultry farming involves breeding, raising chicks, Layer farms and Integrators for various purposes.

1. Breeding farms: They hatch and raise poultry for sale to other farms.
2. Broiler farms: They rear chickens for their meat, procuring day-old chicks and keeping them for around six weeks.
3. Layer farms: They keep hens to produce eggs.
4. Integrators keep breeding stock and also operate hatcheries and commercial broiler farms.

It is estimated to be roughly one lakh layer farmers and an equal number of broiler farmers. About 70 percent of these are small-scale (3000 – 10000 birds) and medium-scale (10000 – 50000 birds) farmers.10 Only 10 percent are

large-scale farmers with units varying from 50 000 to 4 lakh birds.

India is habitation for all species of animals in the world. Various species like cattle, buffaloes, sheep, poultry

etc are prominent in India and the meat of this species is taken as food in this country. To know the growth rate of these species from 1951 to 2012 the data is collected in the form table 1 and been analysed.

TABLE I GROWTH OF LIVESTOCK POPULATION IN INDIA BY SPECIES

(In Millions)

Years	Cattle	Indices	Buffaloes	Indices	Sheep	Indices	Poultry	Indices
1951	153.3	100	43.4	100	39.1	100	73.5	100
1961	175.6	115	51.2	118	40.2	103	114.2	155
1972	178.3	116	57.4	132	40	102	138.5	188
1982	192.5	126	69.8	161	48.8	125	207.7	283
1992	204.6	134	84.2	194	50.8	130	307.1	418
2003	185.2	121	97.9	226	61.5	157	489	665
2007	199.1	130	105.3	243	71.6	183	648.8	883

Source: Livestock Censuses Department of Animal Husbandry Dairying & Fisheries, Ministry of Agriculture GOI

The table 1 clearly depicts the growth of various species in seven decades of its journey; cattle have grown from 100 Index to 129.88 Indices; buffaloes have grown from 100 to 242.63; sheep has grown from 100 to 183.12 and poultry has grown from 100 to 882.72 Indices points. It is clearly indicating that poultry industry is the fastest growing industry at very high rate. When we compare with other cattle, buffalo and sheep growth rates has nearly reached to 200 indices only from 1951 to 2007.

The health consciousness of the customers has made them to switch from red meat to poultry. Thus poultry industry has a very good potentiality in the Indian Market.

Livestock in India has a significant contribution in Gross domestic product. Cattle, buffalo, chicken, goat, sheep etc are used as meat in domestic as well as exports to various other countries across the globe. The production of livestock of different species is presented in table – 2.

TABLE II PRODUCTION OF LIVESTOCK IN INDIA

(In Tonnes)

Years	Cattle	Index	Buffaloe	Index	Chicken	Index	Goat	Index	Sheep	Index
1961	505680	100	551172	100	68998	100	235000	100	122400	100
1971	640000	127	682824	124	82998	120	244000	104	138000	113
1981	863456	171	847320	154	120150	174	312600	133	158760	130
1991	1041180	206	1099720	200	542700	787	434000	185	184800	151
2001	969753	192	1273880	231	923000	1338	470000	200	223200	182
2010	1086500	215	1462660	265	2300000	3333	586500	250	289200	236

Source: Food and Agriculture organisation of the United Nations FAOSTAT.

Table II indicates the growth of production levels from 1961 -2007 of cattle, buffalo, chicken, goat and sheep meat. Among all the various species chicken has tremendously

grown from 100 to 3333.4 indices. It clearly depicts that the other species were only grown to 2.65 times and chicken has grown to 33 times.

TABLE III VALUE OF OUTPUT FROM LIVESTOCK SECTOR

(Rupees in Crores)

Years	Poultry	Index	Mutton	Index	Beef	Index	Pork	Index
2004-05	12118	100	9969	100	2893	100	1634	100
2005-06	13144	109	10721	108	3113	108	1827	112
2006-07	16176	134	11957	120	3863	134	2131	130
2007-08	18205	150	14855	149	4705	163	2389	146
2008-09	21316	176	16553	166	5072	175	2878	176
2009-10	24759	204	21787	219	6276	217	3228	198

Source: National Accounts Statistics 2011, Central Statistical Organisation GOI

The Table III indicates that the value of output generated from the poultry meat has increased from Rs 12118 crores in 2004-05 to Rs 24,759 crores in 2009-10, registering a

growth of 204 per cent. The value of output generated from mutton is Rs 9969 crores in 2004-05 and it raised upto Rs 21,789 crores by the end of 2009-10 registering 219 per

cent. Similarly the value of output generated from beef is Rs 2893 crores in 2004-05 and it increased to 6276 crores by the end of 2009-10 marking a growth of 217 per cent. The value of output generated by Pork is 1634 crores in 2004-05 and increased to 3228 crores by 2009-10 listing a growth of 198 per cent.

It is observed that in value of output of Poultry meat is highest in comparison with other types of Livestock and

clearly indicates the preference of the consumers of Indian marker.

Poultry is highly preferred for meat and by the same time Eggs also have a huge demand due to its rich nutrients. From the above tables it is understood how poultry meat is contributing in the GDP at the same time Eggs produced from poultry industry has a high contribution in the GDP of India. The income generated from the egg sector is presented in Table 2.4 given below:

TABLE IV VALUE OF OUTPUT FROM EGG SECTOR
(Rupees in Crores)

YEARS	EGGS	PER CENT
2004-05	5850	100.00
2005-06	6276	107.28
2006-07	7418	126.80
2007-08	8900	152.14
2008-09	10315	176.32
2009-10	12470	213.16

Source: National Accounts Statistics 2011, Central Statistical Organisation GOI

The table IV reveals the income generated from egg sector. In the year 2004-05 the value of output generated from egg sector is 5850c crores. It has followed a increasing trend and reached 12470 crores by the year ended 2009-10 registering a 213 per cent growth rate.

Thus, Egg a bye product of Poultry industry has also dominating as the contributing factor in the growth of GDP

V. MAJOR PLAYERS IN THE POULTRY INDUSTRY

Venkateshwara Hatcheries (VH): It is one of the leading company in the poultry industry in India, It has played a major role in distributing the latest techniques in poultry raring and animal health care. It undertakes activities such as pure-line breeding, supply of grandparent and parent stock, chicken processing, egg processing, feed manufacturing, SPF production, poultry vaccine production, diagnostic services, human-resource training and production of pet foods. It is the first Indian company selling processed chickens under the “Venky’s” brand name. It supplies to number of large international fast-food companies. The product range caters to retail as well as institutional markets, and includes fresh chilled chicken, frozen chicken (whole, boneless and portions), and several economy products. Venky’s Minto mein, an array of ready-to-cook products (freezer-to-fryer, microwaveable and cold cuts) has wide appeal among homemakers. Although, the company has operations in all parts of India, it is particularly concentrated in the south and west. Despite the liberalized trade regime, the conglomerates constitute around 80 per cent of the layer market and 65 per cent of the broiler market.

Godrej Agrovet: It has set up its integrated poultry business in 1999. Godrej Agrovet covers the whole spectrum of the poultry industry, from breeding, hatching and rearing of broilers to processing and marketing of its branded chicken “Godrej Real Good Chicken”. It also has contract farming

operations in south and west India working with 1000 farmers.

Suguna Poultry Farm Ltd: The Rs 1400-crore Suguna Poultry Farm produces over 55 lakh broiler chickens through a large network of contract farmers across the country (except in the Kerala). They are marketed as live birds, dressed whole birds, and processed and branded parts. It has launched its branded eggs, “Sumegga Pro” sourced from its own high-tech layer farm in Namakkal. The farm has a capacity to produce 6000 to 8000 eggs a day. The company is implementing a Rs 950-crore long-term programme for setting up hatcheries and feed mills across the country. It is seeking a US\$20 million (Rs 100 crore) IFC (International Finance Corporation) loan for the projects. IFC has already invested Rs 50 crore (US\$11 million) as equity in Suguna Poultry Farm. Work is under way to build four hatcheries, two in Andhra Pradesh and one each in Tamil Nadu and Maharashtra. They will be completed this year (2007). Suguna has a tie-up with Ross Breeders, United Kingdom, for the supply of grandparent chicks. The company is also setting up four feed mills, two in Pradesh, and one each in Karnataka and Maharashtra. Suguna is also experimenting with contract farming in maize, the main ingredient of chicken feed, in Karnataka. It has tied up with farmers for the cultivation of 16 000 acres (6 474 hectares) of maize this season. If the experiment is found to be successful it will be replicated in all other maize-growing states in the country. Suguna, which revolutionized the way chickens are grown and marketed in India, has established itself in the market for a variety of chicken products. The Indian market is still a live-bird market, and Suguna has a very large network for retailing live birds. It caters to the high-end market, and branded restaurant chains from its high-tech processing plant Supreme Suguna Food Co. ltd, a joint venture with Supreme Foods Co. ltd in the Gulf. a small portion of the products are

exported. Suguna is a major supplier to McDonald's in India. Suguna owns the "Sugies" brand of ready-to-cook preferred chicken parts sold through high-end retail stores. The next stage in chicken marketing would be the introduction of ready-to-eat products such as sausages and nuggets.

Producers' Association

The National Egg Coordination Committee (NECC), which has a membership of more than 25 000 farmers, is the largest association of poultry farmers in the world. Its origin goes back to 1981. At this time, the Indian poultry industry was going through an unprecedented crisis. The intermediaries controlled the trade and forced the prices down. As a result, farmers were being paid less than their production costs. The scenario looked quite miserable. Over 40 per cent of farmers had stopped operations because the business had become economically unviable where feed costs was more than doubled, but egg prices remained static at 35 paisa. Determined to do something, the late Dr B.V. Rao, along with a group of farmers, started a mass movement and they travelled across the country holding meetings with farmers and traders. Their objective was to unite poultry farmers from all over India, and see that they get better prices by eliminating intermediaries from the trade. Thus, NECC was born. Since then, NECC has played a significant role in the betterment of poultry farmers, and the egg industry in general, through its various programmes such as market intervention, egg promotion campaigns, price-support operations, and consumer education.

The manifold activities of NECC include price declaration, deciding a reasonable price for eggs that guarantee a reasonable return for the farmer, decent margins for the intermediary and a fair price for the customer, monitoring the egg stock levels in different production centres, managing stock levels and regulating the movement of stocks from surplus to deficit regions so as to maintain a balance between demand and supply. Market intervention through Agro Corpex India Ltd, helped in organizing and uniting poultry farmers across the country, creating a dependable distribution network so that eggs can reach every household in every village, generating employment by encouraging people to take up egg farming and egg trading, promoting exports and develop export markets, making available technology and information for increased production of eggs, obtaining governmental support and financial aid from banks for various schemes in rural India. The other activities like creating awareness among customers, undertaking egg promotion campaigns to increase the consumption of eggs, conducting market research, identify potential market and develop new markets; and preparing and submitting position papers to the government on issues affecting the poultry industry were also taken by NECC.

NECC is a totally a voluntary body created by farmers, and runs on cooperative spirit. It makes no profits and subsists mainly on contributions from its members. Most of today's egg production comes from NECC members.

In the broiler sector, there is no national organization that look after the producers' interests. No doubt, there are some regional organizations (e.g. the Broiler Growers' Association) have emerged and are trying to organize farmers, but the broiler marketing is largely in the hands of big traders and commission agents in mandis (wholesale markets) like Ghazipur in Delhi and Crawford market in Mumbai. In general, intermediaries are vital links between producers and consumers. The margin between the farm gate price for broilers and the price paid by the consumer is about 20 to 25 per cent.

There are also efforts by a southern-based consortium of broiler producers and marketers (the National Broiler Coordination Council) to promote the consumption of poultry meat and to stabilize wholesale prices of poultry meat.

VI. GOVERNMENT-SUPPORTED INFRASTRUCTURE

Infrastructure is in place at the government level to encourage the poultry industry through financing by the National Bank for Agriculture and Rural Development (NABARD). As banks and the National Cooperative Development Cooperation (NCDC) have started financing small and marginal farmers in villages, poultry insurance has also been introduced under the Indian Rural Development Programme (IRDPA). The General Insurance Corporation (GIC) of India has introduced poultry insurance which covers the following:

- a. Comprehensive cover for poultry farmers;
- b. Epidemic poultry insurance through hatcheries; and
- c. Poultry insurance schemes for parent stock through hatcheries.

VII. AGRICULTURE AND PROCESSED FOOD PRODUCTS EXPORT DEVELOPMENT AUTHORITY (APEDA)

The Agriculture and Processed Food Products Export Development Authority (APEDA) came into existence in 1986 in order to promote exports of agricultural commodities and processed food products. Promotion of processed farm produce, in turn, benefits farmers through: (a) higher returns for products sold in the export market; and (b) creation of employment opportunities in rural areas through various kinds of processing activities. The main function of APEDA is to build links between Indian producers and global markets; to achieve this, APEDA seeks to identify new markets, provide better support systems for exporters and manufacturers, and introduce new products into the international market. The main activities of APEDA include the following:

1. Development of a database of products, markets, and services;
2. Publicity and dissemination of information;
3. Receiving official and business delegation from abroad;

4. Organization of product promotions abroad and arranging visits abroad for official and trade delegations;
5. Participation in international trade fairs in India and abroad;
6. Organization of buyer-seller meetings and other business interactions; and
7. Dissemination of information through newsletters and feedback.

VIII. TRADE AND TRADE POLICY

There are no restrictions on egg and poultry exports from India. However, India's poultry exports are confined to table eggs, egg powder, and SPF egg shipments to markets in Asia, Africa and the Middle East. India's export of poultry meat is less due to high production costs, insufficient marketing infrastructure and limited processed poultry production. In addition to restrictive sanitary import regulations, a lack of cold chain facilities and Indian consumers' general preference for live birds limit marketing opportunities for frozen poultry.

India prohibits the import of poultry and poultry products from countries reporting either low pathogenic or high pathogenic notifiable avian influenza. The most recent Gazette of India notification on the prohibition of poultry and poultry product imports from notifiable avian influenza reporting countries is available on the website of the Department of Animal Husbandry, Dairying and Fisheries and can be accessed at Indian Gazette notification on avian influenza. In 2009, India amended the avian influenza rule to allow imports of processed poultry products subject to a "conformity assessment." Under the conformity assessment, processed poultry may be exported to India if the requirements outlined in the conformity assessment are met by the exporting country. Note that trade data indicates that India's import of processed poultry products are nil and as of this time, the United States is unable to export processed products to India under the requirements in the conformity assessment. A copy of India's conformity assessment requirement is available on DADF's website at conformity assessment.

IX. REGULATORY FRAMEWORK

Meat processing is licensed under the Food Safety and Standards Regulations, which is administered by the FSSAI. This order established the sanitary and hygienic standards for slaughterhouses and sets maximum residue levels (MRLs) for meat products. The FSSAI also regulates import testing of food products at the port of arrival.

Poultry and Poultry product exports to India are overseen by Department of Animal Husbandry, Dairying and Fisheries. Exports to India require two documents: a sanitary import permit issued by DADF and a veterinary certificate issued by the relevant veterinary authority of the exporting country. The veterinary certificate must certify to sanitary conditions required by DADF. Indian import certification

requirements for poultry products are available on DADF's website.

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