

ISSN 1682-8356
ansinet.org/ijps



INTERNATIONAL JOURNAL OF
POULTRY SCIENCE

ANSI*net*

308 Lasani Town, Sargodha Road, Faisalabad - Pakistan
Mob: +92 300 3008585, Fax: +92 41 8815544
E-mail: editorijps@gmail.com

A Study on Production and Marketing of Poultry Eggs in Tamilnadu - India (With Reference to Namakkal District)

S. Chandrakumarmangalam¹ and S.C. Vetrivel²

¹Department of Management Studies, Anna University of Technology, Coimbatore, India

²School of Management Studies, Kongu Engineering College, Perundurai, Erode, Tamilnadu, India

Abstract: The Indian poultry industry's success story is uniquely exceptional. From a backyard venture, it has made a quantum leap to emerge as a dynamic industry. Over the last three decades, there have been significant developments in the poultry industry with each decade focusing on different sectors. The seventies saw a spurt in egg production; the eighties an acceleration in broiler production; the nineties advances in poultry integration, automation and feed production. The present decade promises to exploit value added products and the global trade avenue. India is a developing country primarily has an agricultural economy. If agriculture blooms, the country prospers. Agriculture is a diversified subject covers such activities as farming, forestry, animal husbandry and fishery including agro-based industries in broader concept. Rural development improves the quality life of the weaker sections and gives way for participation and involvement of the masses in the process of decision making in economic and social life of society. They provide livelihood to and million of rural house holds in the sub marginal level both land less and small landholders. They prove to be the best way to alleviate rural poverty and reduce income disparities. Industrial sector depends on agriculture for their raw material and allied products. Poultry and egg are popular food articles of high nutritional value and so and major break through have been achieved in egg production and broiler stock. This due to integrated development of breeding feeding, marketing, health care and nutrition etc. Poultry farming by providing additional income to the agricultures helps them to earn more and helps the nation to develop without any wide disparities in the income.

Key words: Nutritional, agriculture, egg consumption, livelihood, production, rural

INTRODUCTION

Overview of Indian poultry market: India's animal wealth is huge in terms of its population of cattle (204.5 million), buffaloes (84.2 million), poultry (800 million), sheep (50.8 million), goats (115.3 million) and pigs (12.8 million). Compared with the rest of the livestock sector the poultry industry in India is more scientific; it is well organized and progressing towards modernization. The Indian poultry industry's success story is uniquely exceptional. From a backyard venture, it has made a quantum leap to emerge as a dynamic industry. Over the last three decades, there have been significant developments in the poultry industry with each decade focusing on different sectors. The seventies saw a spurt in egg production; the eighties an acceleration in broiler production; the nineties advances in poultry integration, automation and feed production (Fig. 1). The present decade promises to exploit value added products and the global trade avenue. The growth of the poultry industry is so fast that authenticated statistics are irrelevant by the time they are published.

India is the fifth largest producer of eggs and ninth largest producer of poultry meat in the world, producing 34 billion eggs and about 600,000 tons of poultry meat

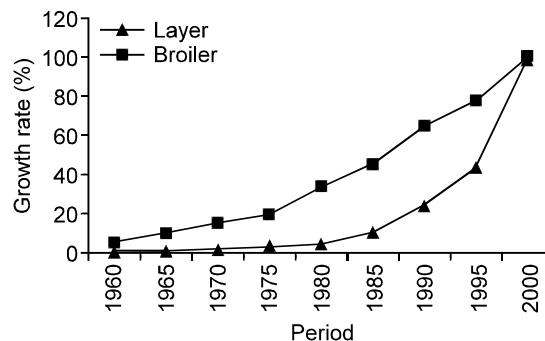


Fig. 1: Poultry production in India. Source: Private sector partnership in poultry production

in 1999 (Mehta, 2002). Poultry sector in India has been growing at a much faster rate than other sectors of the Indian economy and accounts for 100 billion rupees to the Gross National Product (GNP). Despite such amazing growth in last two decades, annual per capita consumption of egg and poultry meat in India is disappointingly low with approximately 36 eggs and 0.7 kilograms of poultry meat in 2001 (Mehta, 2002). These levels are too low as compared to the world average of

147 eggs and 10.9 kilograms of poultry meat on a per capita basis (FAOSTAT). These low levels of per capita consumption of eggs and poultry meat have been mostly attributed to lower purchasing power (Gandhi and Mani, 1995). However, purchasing power of Indians is likely to grow at a much higher rate in the future due to strong economic growth, as a result of continued economic liberalization initiated in early 1990s. Macroeconomic forecasters such as World Bank and Standard and Poor's DRI are now projecting average annual growth of 6-8% in India's real GDP in the next decade. In addition to strong income growth, consumption pattern is also likely to be influenced by population growth, urban-rural population composition and other demographic variables. Although it is extremely important to understand the future consumption growth in poultry meat and eggs both from policy and industry perspective, it has received little attention from the researchers (Sharma and Yeung, 1985; Sinha and Giri, 1989; Gandhi and Mani, 1995) both in India and abroad. However, most of these studies except Gandhi and Mani (1995) have ignored how difference in the consumption behavior across income groups is likely to evolve in the future with the rise in income. Even Gandhi and Mani (1995) estimated separate income elasticities for different income groups both in the urban and rural area; they didn't extend their analysis in projecting future demand for livestock and its products.

The Value of Output and Gross Domestic Product from Livestock Sector in India is estimated at Rs. 156.08 thousand crore and Rs. 120.94 thousand crore respectively (Basic Animal Husbandry Statistics, 2004, GOI). The share of livestock sector in the country's GDP remained more or less constant at around 5.5% since 1995-96. The share of meat (17.4%) in total value of livestock in India has been found to be much less as compared to that of milk and milk product (66.9%). In the state of Uttar Pradesh, the share of meat in total value of livestock has been found to be very low (less than national average) at 3.95%. The share of milk products in total value of livestock in Uttar Pradesh is as high as 89.5% (Central Statistical Organization, GOI, 2004). The broiler production in the country is estimated at 1000 million number. In the recent years, the poultry farming has made rapid strides from a family occupation to a progressive industry. The share of poultry meat in total meat production has increased from 19.79% in 1981 to 30.14% in 2002 at world level and from 4.46% in 1981 to 12.10% in 2002 in India. The growth rates in poultry meat production in India have been very high as compared to that at the world level (Table 1).

Studies (Economic Research Service, USDA, 2004) indicate that the poultry meat is the fastest growing component of global meat demand. In India, the poultry sector growth is being driven by rising incomes, together with the emergence of vertically integrated poultry

Table 1: Compounded annual growth rate (%) in poultry meat production

Period	India	World
1961-1970	2.10	5.94
1971-1980	3.16	5.56
1981-1990	10.42	4.75
1991-2002	11.13	5.18
1961-2002	7.25	5.36

Source: WWW.FAostat.org

producers that have reduced consumer prices by lowering production and marketing costs. Integrated production by way of combining breeding, feed milling, contract rearing; a market transition from live birds to chilled and frozen products and policies that help ensure supplies of competitively priced domestic or imported corn and soybeans are keys to future poultry industry growth in India and in other developing countries.

Poultry is generally constructed to mean, Eggs and chicken meat through its domain is vast and varied. What was once a product of the backyard of and poultry has achieved phenomenal growth with a high rate of productivity with adoption of the latest technology. India is perhaps the only country in the developing world that can boast up a self sufficient breeding capacity with sophisticated spf (specific pathogen free) Technology and full fledged research operations combined with training facilities comparable to the best in the world. The production technology adopted by the poultry industry is high grade with a an annual production of 17,000 million. India is the largest egg producer in the world. There are about 60,000 families directly dependent on the poultry farming with half of a million engaged in support operation like hatcheries and food mills, vaccine and medicine laboratories. Transportation. Distribution and retailing of poultry meat. The national institute of nutrition has recommended that a balanced diet should contain 30 gms of eggs and 30 gms of meat per head per day which mean an annual per capita consumption of 180 eggs and 10.8 kg of meat. This calls for tenfold growth in the layer sector and a manifold growth in the broiler sector. In the poultry sector, there are different areas which offer enormous opportunities for growth like fast foods. There is great scope for export lot table eggs, day-old chicks, poultry breeding stock, processed chicken meat products, vaccines, medicines and such other requirements to the other requirements to the other developing countries. The poultry sector the capacity to grow with in a short span and at a low cost. It is one of the most effective tools to fight mal-nutrition and unemployment. What is required now is support and encouragement by the government.

Poultry: Young student encyclopedia defines poultry as, Birds raised for their meat and eggs are called poultry. Chickens, Ducks, geese, guinea' fowl, pheasants and pigeons can all be poultry birds.

Objectives of the study:

- (a) To give a detailed profile of the poultry farmers in Tamilnadu.
- (b) To analyze the profitability of the poultry farmers.
- (c) To review the factors influencing the growth, instability and profitability of the poultry farmers.

Hypothesis:

- 1. The size of the firm is not depending on profit.
- 2. Profitability is not influenced by the educational qualifications of the respondents / farmers / entrepreneurs.
- 3. The source of capital (ie: owned our borrowed) has no significance over the profit.
- 4. The size of the family has no relation with profit earned.
- 5. Ancillary occupations/business has no affect on the business.

Methodology: This study is an empirical study based on survey method. The data collected for the study both primary and secondary data collected from journals and magazines. Primary data were collected directly from the farmers through personnel interview method aided by a schedule.

Field work: The field work was carried out during Jun-Dec 2010. Each interview took about half-an hour to one hour. Approximately 200 poultry farm entrepreneurs were interviewed for collecting data. The interview was conversational in style and respondents were made to feel at home and easy.

Limitations: Estimation of the total profit/loss for the previous years was difficult. Most of the farmers do not keep correct accounts of their receipts and expenditures or any other statistical data. Most of them are given by the respondents only from their memory which may not be accurate. However, every effort has been taken by both researcher to collect the data as accurate as possible.

Research methodology

Data collection: After identifying and defining the research problem and determining specific information required to solve problem, the researchers task is to look for the type and sources of data, Which may yield the defined results. Generally, the researcher straight away resorts to survey method for data collection. i.e.: they go for primary data.

Primary data: Primary data may pertain to socio-economic characteristics of the entrepreneur attitudes and opinions, their awareness, knowledge and other related aspects, like education, monthly expenditure etc.

Data collection method: Sources of data are primary data, which is gathered by the researcher with the help of questionnaire. The respondents are belonging to poultry farm farmers.

Sampling techniques: The researcher selected probability-sampling method. Under which stratified techniques was used. As the poultry farms being large, the project time being limited, it was decided to choose this particular technique. In stratified sampling, the sample units are selected either proportionately or disproportionately. Here the researcher adopted disproportionate stratification by selecting 25 samples from each.

Data analysis tools: Interpretation and analysis of data was conducted by means of percentage and chi-square test.

Percentage: Percentage refers to a special kind of ratio. Percentages are used in making comparison between the or more series of data. Percentages are used to describe relationships. Since the percentages reduce everything to a common base and there by allow meaningful comparisons to a common base and there by allow meaningful comparisons to be made.

Chi-square test: The quantity Chi square describes the magnitude of discrepancy between theory and observation. With the help of chi square test we are in a position to find whether to change or whether it results from the inadequacy of the theory to fit the observed fact.

$$\text{The quantity } \chi^2 \text{ is defined as } = \frac{\sum (E_o - E_e)^2}{E_e}$$

Where:

O = Observed frequency

E = Expected frequency

Bar diagram: Bar diagram is the most common type of diagram used in practice. A bar is a thick line whose width is shown merely for attention. When the number of item is large, lines may be drawn instead of bars to economize space.

Pie diagram: This type diagram is used to show the partitioning of a total into component parts. The pie chart is so called because the entire graph entire graph look like pie and the components resemble slices cut from pie.

Present scenario of the Indian poultry industry: India has 150 million laying hens and 650 million broilers. It is the fifth largest producer of eggs (40 billion eggs/year) and ranks 18th in world broiler production (Directorate of

Economics and Statistics, 1992). The poultry industry is one of the fastest growing sectors in the country. The overall growth rate of the poultry industry is 15-20 percent per annum. At present the total turnover of the Indian poultry industry is Rs.90 billion (2 billion US\$) and the industry has set a target for achieving a total turnover of Rs.270 billion (6 billion US\$) by the year 2005. The government's policy initiative under different five-year plans has generally helped this transformation in the poultry sector, but cannot claim to have propelled the poultry industry to its existing heights.

The government funds research activities related to the sector either through research organizations like Agricultural Universities/Indian Council of Agricultural Research or through trade regulatory bodies - the Agricultural and Processed Products Exports Development Authority (APEDA). The government also supports the industry by extending loans through nationalized banks especially the National Bank for Agriculture and Rural Development (NABARD) and through technical expertise. However, the Indian poultry industry is dominated by the private sector (World Bank, 1996). Despite the phenomenal expansion in commercial poultry farming, many rural households continue to raise indigenous breeds in their backyard. The backyard poultry units, though not the main income generator for rural producers, are called 'walking banks' because their products are sold to meet emergency expenses. Furthermore, they contribute substantially to the family's food and nutrition. In urban areas the poultry products from 'desi birds' (indigenous birds) are sold at a premium rate for their unique flavour and taste. This uniqueness is due to the scavenging nature of the birds. In addition, chickens, ducks, quails, turkeys, geese and guinea fowl are only reared in a few pockets of the country. Eggs and poultry meat are typically marketed in fresh form. However, with the advent of cold storage facilities and the entry of branded food products, the consumption of processed/preserved products is gaining momentum. Further, with the urban family size getting smaller, housewives are looking for chicken in small and convenient packs. In addition, the rapid mushrooming of fast food chains and growing dependence on convenience foods means the poultry sector is poised for a quantum jump.

Consumption: The per capita availability of poultry products is currently estimated atleast 30 eggs and 400 grams of poultry meat per year. Judged by any yard stick, this level of consumption to and predominantly Buddhist neigh boring country like Sri Lanka with per capita consumption is about 40 eggs and china about 100 eggs.

The economic problems facing most of the developing countries are almost similar in terms of rural brand awareness, low purchasing power and inadequate

marketing infra-structure. As much as 75 to 80 of all eggs and broilers produced in the country find their way mainly into urban markets, thus catering to some 25% of the population. The existing distribution channels and weighed in favour of four metro cities and a few larger towns, where demand is high. A vast hinterland of rural is neglected because of their widely scattered demand.

Export opportunities: A New avenue for poultry exports has opened with the setting up of processed and further processed poultry units, which have made available a wide range of INDIAN - style chicken based delicacies and dressed chicken. There is sizeable market for such products worldwide. So, the export market is there, as also the poultry product, what is missing is the proper climate to tap the growing demand overseas. The setting up of the new ministry for food processing industries at the center gives hope for boosting of poultry exports. Industry sources estimate that poultry exports can for India RS 400 crores a year with in the next five years. Among positive steps that can be immediately taken in this direction includes the provision of cash incentives and logistics support.

Input industry: Poultry in India has come a long way since the first commercial chick was hatched in November 1962 in the Delhi based Ranishaver Poultry Breeding Ltd., At the same time was started the commercial production of balanced compounded feed as well as modern vegetarian medicines and vaccines so very essential for successful of equipment for hatching and incubating, feeding, mixing and commercial housing. Today and network of over 500 commercial feed mills, veterinary pharmaceuticals and equipment manufacturers has made poultry farming and dynamic agri-business.

These commercial activities have been duly supported by research and development up from education and research institutions. The infra structure base is getting wildered in response to the growing demand for various inputs needed for expanded intensive poultry production.

Benefits of poultry farming: The poultry farming is very versatile agro-business, it can be adopted under any circumstances to provide many benefits like:

- (1) It was source of high quality human food. Egg is not only supports in nutritive value, but also it is very easily digested and can be served in different ways. Of this also used in many ways like binders and leavening agents in baking and furnishes "richness" in ice-cream, sauces, curries and candies.
- (2) Poultry farming is highly adaptable under various conditions. For example it fits well in mixed

farming system to provide continuous income to the farmers during their lean periods and also helps to engage their family labor profitable through out the year.

- (3) It provides employment avenues. There are many diversified types of business allied poultry farming like egg production, broiler production. All these business can be developed as rural industries which will have many avenues of employment of rural side particularly among educated un employed and under-employed persons.
- (4) Poultry waste is an excellent source of organic manure, which can be utilized for growing field crops. It is estimated that of the poultry manure is utilized properly, it can produce more food grains than the birds consume as feed.
- (5) It serves as source of raw materials for industrial products. Eggs have many industrial uses in preparation of vaccines, varnished printers land, soap and shampoo etc. Eggshells are used as minerals in animal feed. Endocrine glands of birds are used for preparation of hormones and any other biological preparations.

Among the total respondents contacted 7 respondents spend up to Rs. 20,000 monthly, 35 respondents spend between Rs. 20,000-40,000 and 53 respondents spend Rs. 40,000 to 60,000 and remaining 23 spend above Rs. 60,000. The expenses include charges such as food, lighting, injection and other expenses.

If it is said in percentage 8% of them are in category Rs. 20,000-40,000, Rs. 40,000-60,000 and above Rs. 60,000 respectively.

Table: Profit for the respondents/month

Profit. Rs	No. of respondents	Percentage
Up to 5000	23	19
5000-10,000	29	24
10,000-20,000	44	37
Above 20,000	24	20
Total	120	100

The above table reveals that out of the respondents who are incurring profit 23 of them fall under the range of RS. 5 000, 29 fall under the range of RS. 5000-10,000 and 44 of them fall under the range of RS. 10,000-20,000 and above R.S 20,000 respectively.

Growth of poultry farms in Namakkal District 2001-2009

Year	Total birds (in lakhs)	Percentage of growth
2002	84.85	-
2003	89.90	5.60
2004	93.50	3.80
2005	103.00	9.22
2006	107.25	3.96
2007	115.50	7.14
2009	133.75	13.64

Findings:

1. The poultry study area in Namakkal district only 50% is cultivable. As agriculture bring them less income due to lack of proper irrigation system and non-fertility of land, the people of this area have accepted poultry farming as an ancillary occupation.
2. Among the 200 respondents interviewed, only 60 respondents were illiterate, where as remaining 140 respondents are literate.
3. Majority of the respondents have taken poultry farming as ancillary occupation. Only 36% do poultry farming as main occupation. Reasons for ancillary occupation is the farmers get manure to agricultural land.
4. Though the farmers get reasonable income from the sale of eggs, they have to incur expenses for the maintenance of the farm such as vaccination, lighting, feed etc., as a result of which they get a comparatively lesser net income.
5. Facilities like free transportation, medical aid, feeds in exchange of eggs etc are given feed suppliers/Dealers and they do it in proper time.
6. From the industry data in Namakkal district, it is evident that number of farms closed in the period 1995-2001 is 1200 and new farms opened in the same period is 150. The reason behind that small size farms unable to with stand the rise in feed cost and other working capital expenditures. Where as for large size farms, even though they get a price increase of eggs for a short period of time, they get good amount of profit, which enables them to run the farm traders/supplied. They produce the feeds of their own by purchasing the raw materials from market, which reduces the feed cost much. This is the main reason large size farms can able to survive and earn profit in the present scenario.

From the profitability analysis the following findings are drawn:

- (a) The size of firm is depend on profit
- (b) The relationship between profit and education is not significant
- (c) Number of members in the family is not significant in the profit earning capacity.
- (d) Sources of capital whether owned or borrowed have insignificant relation with profit.
- (e) Nature of occupation (ie: whether ancillary or main) has no consideration to profit.

REFERENCES

- Basic Animal Husbandry Statistics, 2004. AHS Series 10. Year 2006.
- Central Statistical Organization, GOI, 2004. Ministry of Statistics and Programme implementation. Statistical Year Book, India, 2004.

- Directorate of Economics and Statistics, 1992. New Delhi, Ministry of Agriculture, Government of India.
- Economic Research Service, 2004. U.S. Department of Agriculture, USDA PS&D database.
- Gandhi, V.P. and G. Mani, 1995. Are livestock products rising in importance? A study of the growth and behavior of their consumption in India. *Ind. J. Agric. Econ.*, 50: 283-293.
- Mehta, R., 2002. WTO and Indian Poultry Sector, Lessons from State support Measures in Select countries, RIS Discussion Paper # 31/2002.
- Sharma, J.S. and P. Yeung, 1985. Livestock Products in the Third World: Past Trends and Projections to 1999 and 2000. Research Report 49, International Food.
- Sinha, P. and A.K. Giri, 1989. Consumption of Livestock Products-Analysis and Comparison of Data of NSS 32nd and 38th Round. *Livestock Economy of India*, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.
- World Bank, 1996. Private sector partnership in poultry production and marketing in India. Case study, Tamil Nadu. India, Tamil Nadu Veterinary and Animal Sciences University.