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AERC Report Executive Summary



**Agro-Economic  
Research Centre  
(AERC)**

# **Economics of Contract Broiler Farming in Maharashtra**

**S. S. Kalamkar**



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# **Economics of Contract Broiler Farming in Maharashtra**

S. S. Kalamkar

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## **1. Introduction:**

Poultry is one of the fastest growing segments of the agricultural sector in India today. It is growing at a much faster rate than any other element of the crop and livestock sector. While the production of agricultural crops has been rising at a rate of 1.5 to 2 percent per annum, the production of eggs and broilers has been rising at a rate of 12 to 15 percent per annum. The share of poultry in the total value of output of livestock sector has increased from 1.6 percent in triennium endings 1981-82 to 2.6 percent in triennium endings 2005-06. Within the poultry sector, broiler production is growing faster than eggs production. About 66.7 percent of the total output (in value form) from poultry is realized from the poultry meat sector and only 33 percent from egg production.

The importance of poultry is viewed from two major angles. Firstly, it has potential in meeting the nutritional demands of a major portion of the population as broilers are the cheapest source of protein with high nutritional value. Secondly, poultry farming also provides an effective source of subsidiary income to the rural masses. Amongst farm animals, poultry is one of the quickest and most efficient converters of plant products into food of high biological value, which can tackle the problem of malnutrition in India. Chicken is the most widely accepted meat in India and cheaper than mutton or goat meat. Unlike beef or pork, it does not have a religious taboo. Many Indian families, especially the educated people in urban areas, have begun to accept eggs as a regular supplemental part of their vegetarian diet. Poultry litter, on the other hand has a high manurial value, the quality and quantity of which are claimed to be sufficient to raise additional grains and by-products to feed the same birds. Poultry also provides an excellent opportunity for gainful employment to underemployed rural labour particularly educated rural youth. It is also important to note that unlike other industries, the poultry sector provides employment opportunities even to unskilled labourers and women. The requirement of small space, low capital investment, quick returns from the outlay, and well distributed turnover throughout the year make poultry farming remunerative in both rural and urban areas. It is well suited for even those households who do not possess adequate land base. Further, though this enterprise is quite risky, it generates quick returns and ranks relatively high in profitability as compared to other livestock enterprises. Poultry raising being relatively easier and quicker, can be adopted to a wider range of climatic conditions and altitudes and can generally be combined conveniently with other farm activities.

Today, India is the third largest producer of eggs (after China and the USA), nineteenth largest producer of broiler and fifth largest producer of poultry meat in the world. India was positioned 17<sup>th</sup> in the world poultry production and accounts 3 per

cent of the world's poultry population. India produces more than 55.6 billion eggs per year, with per capita availability of around 47 eggs per annum. As per the estimate provided by the Food and Agriculture Organization (FAO) for 2008, the annual chicken meat production in India was around 2.49 million tonnes. About 3 million farmers and 15 million agrarian farmers are employed in the poultry industry that grow poultry ingredients for feed and contribute about Rs. 26000 crore to the national income.

## **2. Growth in Indian Poultry Industry:**

The poultry sector in India has undergone a paradigm shift in structure and operation. Poultry, which was considered as a backyard venture in the early 1960's has now been transformed into a strong agro-based farming activity. It has come a long way, from a backyard activity to an organised, scientific and vibrant industry. Compared with the rest of livestock sector, the poultry industry in India is better organized and is progressing towards modernization. The growth of the poultry sector in India has also been marked by an increase in the size of the poultry farm. For example, in earlier years, broiler farms used to produce a few hundred birds (200-500 chicks) per cycle on average; whereas now units with less than 5,000 birds are becoming rare, and units with 5,000 to 50,000 birds per week cycle are common.

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 participate in global trade. There is significant growth in total egg and broiler production along with per capita availability. The eggs production increased from 2881 million in 1961 to 56031 million in 2009, while poultry meat production increased from 81 thousand tonnes in 1961 to 2650 thousand tonnes in 2010. The development of poultry industry in India within a span of just two decades is remarkable. From the rural backyard poultry production catering to the domestic market prior to the 1980s, the sector has transformed itself into advanced industrial production in some states.

## **3. Broiler Chicken Industry in India:**

Another major development in Indian poultry production is the spread of integration, which is occurring very rapidly, especially in broiler production, both in southern and western parts of India. India has made considerable progress in broiler production in the last two decades. The broiler production has also sky rocketed at an annual growth rate of about 15 percent at present. Broilers are major source of poultry meat in the country. Broiler production, which was merely 4 million in 1971, increased to 1250 million in 2000 and 1400 million in 2002 and reported production of 1563 million broilers during the year 2006, with the average production being 130.2 million per month. Tamil Nadu, Karnataka, Andhra Pradesh and Maharashtra are the major broiler producing states of the country. Broiler chicken market in India was estimated to be Rs. 60000 million and it is growing at the rate of 15 percent in the last few years.

Coimbatore, Hyderabad, Pune and Chandigarh were the major broiler production centers as most of the hatcheries were located around these cities. Andhra Pradesh, Kerala, Karnataka and Tamil Nadu accounted for 40 percent of the market. Maharashtra and Gujarat accounted for another 15 percent and the rest 35 percent was shared among Northern, Central and Eastern regions of the country.

### ***3.1 Contract Broiler Farming:***

With independent broiler farming concepts, the sector has moved into a well organized network of integrated farming also known as contract farming. Broiler production has been shifted from independent farming to contract farming during the late nineties as poultry farmers were witnessing continuous losses due to increased cost of production, erratic market and process and many farmers closed down their operations for want of working capital. Private sector contract farming systems and the vertical integration of broiler enterprises have played a major role in this spectacular growth, especially in southern and western India. It is estimated that at present, 36.7 percent of broiler production in India is under contract farming, out of which 77.6 percent of contracts are concentrated in south India. The Coimbatore-Salem belt of Tamil Nadu is in the forefront of broiler production of the country. About 75 percent of the broilers produced and consumed in this sector come from integrated farms. The Pune-Nashik belt in Maharashtra is another prominent area in broiler production through integrated farming. Integration and contract growing of broilers is also spreading rapidly in Hyderabad and Bangalore. Poultry integrators have been expanding rapidly in the states of Karnataka, Tamil Nadu, Andhra Pradesh and Maharashtra. The key players in integration include Venkateshwara, Suguna, Godrej, Shanti, Jaffa, Arumbagh, Skylark, etc.

A contract farming arrangement in broiler production, referred to as 'chick growing agreement' is generally a wage contract between an 'integrator', who supplies the intermediate inputs and procures the output, and a poultry farmer, who provides the primary inputs in the production process. The contractor/integrator provides the growing stock (day old chicks), feed, veterinary supplies and services, and implements the final marketing of the output, while farmer typically provides the space and facilities (land and housing), equipment, utilities, labour (family and/or hired) and day-to-day farm management. Thus, the major component of working capital is borne by the integrator and he is the absolute owner of movable stocks in the farm. The farmer receives a guaranteed wage or growing charges for each live bird based on its live weight in a condition that is predetermined and agreed upon through contractual obligation. Generally the payments are linked to the performance criteria in terms of efficiency in managing the birds; for example the weight, quantum of feed used to produce that weight, percentage of birds died and others. Additional incentives are given to the farmers for surpassing the performance standards. For farmers who fall below the set standards, corresponding penalty amount per bird is subtracted from the wage bill. Hence the production contracts can be seen as a self regulating system of reward and punishment to ensure cost effective production of broilers for the integrator in accordance with the quality and quantity needed by the markets.

#### **4. Present Crises in the Broiler Industry:**

Although a number of schemes have been successfully implemented by the government, broiler farmers are facing a number of problems viz. dependence on middlemen for marketing, high feed cost, lack of storage and transportation including cold chain and other input costs without proportionate increase in prices of broiler meat. The domestic poultry industry has been facing a severe shortage of their major feed ingredient. Feed cost is the major component in poultry production and constitutes more than half of cost of broiler production. Therefore, feed prices play an important role in determining the profitability of the poultry industry and even a marginal increase in the prices of feed makes a big difference to profits. It is observed that index number of wholesale prices of maize (1993-94 =100), which was 147.6 in 1995-96, increased to 291.8 in 2009-10. In contrast, the price indices of broiler meat declined from 104.1 to 97.9 during corresponding years. Thus, the rise in price indices of feed was very fast, while broiler price indices showed decline, which leads to lack of competitive advantage for poultry units. Therefore, even a small increase in the price of ingredients can wipe out the profits.

The prices of broilers are largely determined by market forces and there is considerable seasonality in demand and prices fluctuate accordingly. The poultry sector is also constrained by inefficient marketing system. Often, poultry products pass through various intermediaries before they reach the final consumer, which is harmful to both the producer and consumer. The producer receives low price for his produce, while the consumer has to pay a high price. The present system of the said marketing today is controlled by major integrators. The wholesalers are playing the next role especially in large cities and thus non-contract farmer faces difficulty in marketing produce and receives low price because of dominance of wholesale and integrators. Lack of basic infrastructure such as storage and transportation, cold storage facilities add to the major constraints. Although poultry is an integral part of agriculture and treated at par with livestock in India, it faces restrictions on use of agricultural land, attracts higher electricity tariffs and sales tax than that of agriculture, pays tax on income earned from poultry farms, and is subjected to different land/labour laws including the Minimum Wage Act. Poultry, being a livestock sector, needs certain vital infrastructure facilities that can facilitate storage, distribution, marketing, and exports. There is an acute shortage of refrigerated road transport and an efficient cold chain, which makes widespread distribution difficult and expensive. The country does not have a proper testing system; presently issues like pesticide residue, antibiotic residue, and hormonal residues are creating enormous problems while exporting. Hence, even if we have a comparative cost advantage in the international market, our exports may receive a setback due to non-compliance of SPS measures.

Another point to be noted is that in developed countries such as USA, there is complete automation in poultry farming. Also, in developed countries that have prosperous broiler farming, major share is accounted by a handful of companies. For example, in Thailand, nine integrators accounted for 80 percent of the country's production, while Brazil's five largest companies accounted for over 90 percent of output. In USA, the broiler production is in the hands of just 56 integrators. As

against this, India has about 1 lakh poultry farms, mostly concentrated in villages around cities and on a small scale with most operations manually performed (Shroff and Kalamkar, 2006). Nevertheless, there is an apprehension in the sector, because the global trade in livestock products is highly distorted. Some developed countries provide huge support to livestock and poultry production, which adversely affects export prospects and poses a threat to domestic production.

Overall, it appears that an important constraint facing the poultry sector is the high feed costs due to low yields in maize and soybean as compared to the world. In this case, farmers have to be ensured of regular availability of feed ingredients. Non-contract farmers face difficulty in marketing produce and receives low price because of dominance of wholesale and integrators in market.

## **5. Research Problem:**

The significant achievement in poultry development has come from the initiatives taken up by the private sector for commercial pure-line breeding. However, despite the huge investment made, mostly by the private sector, the poultry-processing sector is incurring losses. The present system of the said marketing today is controlled by major integrators. Due to seasonal fluctuation in prices, thin and largely unregulated market, non-contract farmers often faces difficulty in marketing their produce. High feed cost, non-availability of credit and lack of marketing support, also lower profit margin. Though contract framers have assured sale of output at predetermined prices, they also face difficulties in receiving inputs and sale of output. A very few studies have been conducted to assess the production and cost aspects of contract and non-contract broiler farming. Some of the questions such as, What is the total broiler meat production in the state? What are the major costs in broiler poultry farming? Whether contract broiler farming is profitable?, What are the production and marketing constraints in contract and non-contract broiler production?, Whether contract firm pays adequate growing charges to farmer? What are the factors motivating farmer to enter into contract framing?, What are the factors de-motivating the farmers to enter in contract farming? What are the problems in contract and non-contract broiler faming?, are important which require empirical analysis. Keeping this in view, an attempt is made in this study to analyse the production and cost estimation of broiler production in Maharashtra State.

## **6. Objectives of the study:**

The specific objectives of the study are:

1. To analyse and compare the production related aspects of broiler contract farming and non-contract broiler farming,
2. To analyse the cost of production of broiler meat under contract and non-contract farming,
3. To examine the input purchase and output sale arrangements and estimate the net returns in broiler farming of contract and non-contract farming, and
4. To identify the constraints in broiler farming and suggest remedial measures.

## **7. Data and Methodology:**

The study is based on both primary and secondary level information. The secondary level information has been collected from various documents published by the government and used to study the poultry development and total broiler meat production in the state. The primary data on cost of broiler production have been collected from selected contract and non-contract sample broiler farmers. Nashik and Pune districts have been selected as two clusters of high concentration of broiler as well as poultry population. These two districts account together for more than 25 percent of total poultry population and about 65 percent of broiler population of the state in the year 2003. The farms located around the city have been selected. The farms in each of the selected clusters were then stratified into three strata viz. farms with size less than or equal to 5000 birds (small farm), farms with 5001-10000 birds (medium farm) and farms with more than 10000 birds (large farm) and from these three strata a total of 45 farms (30 contract and 15 non-contract) have been selected in each district. Thus, a total of 90 (60 contract and 30 non contract) farms have been selected from the two clusters and from each of the selected farm the required data has been collected by canvassing a pre-designed and pre-tested schedule covering one year. The reference period for the study is June 2009 to May 2010. The data relating to wastage has been obtained from 20 broiler meat selling shops from selected two districts.

## **8. Major Findings:**

### **8.1 Socio-Professional Characteristics:**

It is observed that 68.3 percent of the contract broiler farmers (CBF) were between the age of 25-50 years and 26.7 percent were above 50 years old. However, in case of non-contract farmers, 46.7 percent of farmers were between 25-50 years age, 36.7 percent of farmers were below 25 years and remaining were above 60 years (16.7 percent). Thus, middle age farmers are mostly engaged in poultry farming. The significant number of farmers above 50 years age engaged in contract broiler farming shows that farmer interested in assured income with less risk. With respect to educational qualifications, more than 76 percent of farmers are from both category had education up to secondary and above. Out of total CBF, 3.3 percent of farmers are illiterate, while corresponding figures for non contract group was 6.7 percent. Thus, a poultry entrepreneur with minimum educational qualification entering the poultry trade was very encouraging as they could exercise a better and speedy judgment on the sensitive issues in poultry management. Out of total, only 1.7 percent of contract broiler farmers belonged to Scheduled Caste, 5.0 percent to Backward Class and rest belonged to other/open castes. In case non-contract group, all farmers belong to other/open category. As far as main occupation is considered, both the category farmers are not seems to be specialized in poultry farming. It is observed that hardly 12 percent of contract farmers have poultry as main occupation, while corresponding figure is 3.3 percent for non contract farmers. Most of farmers have agriculture as main occupation and poultry as subsidiary occupation. Poultry is subsidiary occupation of 86.7 percent of contract farmers and 96.7 percent of non contract farmers.



It was observed that 66.7 percent of farmers from contract group and 40 percent of non-contract group farmers had less than 5 years experience in poultry farming. However, 30 percent of non-contract farmers had more than 10 years of experience, while it was only 5.0 percent in case of contract farmer. About 25 percent farmers had training in poultry management from contract group, while only 3.3 percent non contract farmers had exposure to such training programmes. It indicates that poultry entrepreneurs need to be provided the technical aspects of poultry management to make more profitable and sustainable business.

As far contract shift in broiler management is concern, about 78.3 percent of farmers are in contract broiler farming since inception of this business and remaining 21.7 percent farmers had moved from independent to contract, which may be due to the fact that contract farming is less risky and fetch more benefits. While in case of non contract farmers, 53.3 percent farmers have moved from contract farming to independent farming and remaining 46.7 percent are working as independent businessman since beginning.

## **8.2 Structural Details of Sample Broiler Farms:**

It is observed that about 97 percent of contract farms and all non-contract farms are located in rural area. The location of the farm to the nearest town is around 8 kms for contract farms and 8.5 for non contracts farms (see, Table 6.1). Contract farms are closer to town than non-contract farms though more than 50 percent of both category farms are situated more than 5 kms distance from nearest town. It is also observed that more than two third of the sample farms from both category are away from the residential area. Very surprisingly, it is observed that 35 percent of large contract farms and 66.7 percent of medium non-contract farms are located near residential area. The average distance of the broiler farm from the main road was 2.92 kms in case of contract farms while 4.2 km in case of non-contract farms. Thus, contract farms are located closer to main road. However, in both categories, approach road to main road was of kuccha type. The average distance to the nearest highway indicates that contract farms (6.4 kms) are somewhat closer to highway than non contract farms (6.5 km). About 45 percent of both the category of farms are within distance of 5 kms to highway. The road to the highway (from main road) was *pucca* in case of about 95 percent of contract and 87 percent of non contract farms.

In poultry farming, the source and availability of inputs in time as well as output market plays very major role in profit determination. In case of half of the sample size, the source of inputs was less than 5 kms away from farm, while in 42 percent of the cases it was located more than 10 kms distance. The average distance from the input supply center was closer to contract farms (11.5 kms) than non contract farms (17.2 kms). Though contract farmers sold their output directly to the company, we tried to find out the possible market availability of the market for them. It is observed that main market for the output is located more than 10 kms away from farms in case of 83.3 percent contract farmer and 96.7 percent of non contract farms. It shows that the availability of market for assure sell of birds is far away from the farms and farmers have to bear the cost and loss in weight of birds when they market on their

own. As the birds are very susceptible to diseases, the higher distance between two poultry farmers is always preferred. It is observed that out of total 278 farms located nearby contract farm, about 45 percent were within 1 km area and remaining were between 1-2 kms area range. However, in case of non contract farms, out of 281 broiler farms, 33.5 percent were within 1 km range. It indicates that the farms are situated moderately close to each other in the selected area.

### 8.3 General Characteristics of Sample Broiler Farms:

It is observed that except one farm from contract group, all other farms from contract and non-contract group were owned by the farmer and none of them had leased it in (see, Table 1). It is observed that all poultry units were of deep litter type with 'all-in-all out' method of rearing broiler. It is observed that all the poultry sheds from both categories are pucca in nature with asbestos sheet roof. The average farm size of contract farm as well as non contract farm is around half an acre. All the sample units from contract and non contract group were found to have public electricity and most of the units have well (open and bore) as main source of water. Only small proportion of the farms reported having access to the Panchayat/municipal water and river. Some of the farms also purchase water (water tanker) as and when there is shortage of water from the main source. It is also observed that most of the farmers have telephone and mobile facility; however, very small proportion of the farmers from both categories reported having access to computer and internet facility. The generator and inverter are used as a contingent arrangement for meeting power break down.

Table 1: Characteristics of Selected Sample Farmers

| Sr. No. | Particulars                             | Contract |       |       |      | Non Contract |       |       |       |
|---------|---|----------|-------|-------|------|--------------|-------|-------|-------|
|         |   | S        | M     | L     | T    | S            | M     | L     | T     |
| 1       | No. of Sample Farmers                   | 20       | 20    | 20    | 60   | 10           | 10    | 10    | 30    |
| 2       | Av. Age of Head of the family (years)   | 46.7     | 39.1  | 45.0  | 43.6 | 40.8         | 39.4  | 43.6  | 41.3  |
| 3       | Av. Education of Family Head (years)    | 10.0     | 9.4   | 10.9  | 10.1 | 9.4          | 10.1  | 12.0  | 10.5  |
| 4       | Average Experience (years)              | 5.0      | 4.5   | 5.9   | 5.1  | 8.3          | 7.3   | 8.3   | 8.0   |
| 5       | Occupation-main-Poultry (%)             | 25.0     | 5.0   | 5.0   | 11.7 | 0.0          | 10.0  | 0.0   | 3.3   |
| 6       | Occupation-Subsidiary-Poultry (%)       | 70.0     | 95.0  | 95.0  | 86.7 | 100.0        | 90.0  | 100.0 | 96.7  |
| 7       | Farm Location-Rural area (%)            | 95.0     | 100.0 | 95.0  | 96.7 | 100.0        | 100.0 | 100.0 | 100.0 |
| 8       | Nearest Town distance (in km)           | 7.5      | 7.9   | 8.6   | 8    | 7.3          | 11.3  | 6.9   | 8.5   |
| 9       | Nearest Residential area distance (km)  | 4.9      | 5     | 7     | 5.6  | 4.5          | 3.3   | 9.6   | 5.8   |
| 10      | Distance from main road (km)            | 1.75     | 3.1   | 3.93  | 2.92 | 5.7          | 4.15  | 2.75  | 4.2   |
| 11      | Av. distance from Highway (in km)       | 5.8      | 6.3   | 7.2   | 6.4  | 6.9          | 5.1   | 7.5   | 6.5   |
| 12      | Av. distance from source of inputs (km) | 11.3     | 10.3  | 13.1  | 11.5 | 18.7         | 16.1  | 16.8  | 17.2  |
| 13      | Ownership Status-Owned (%)              | 95.0     | 100.0 | 100.0 | 98.3 | 100.0        | 100.0 | 100.0 | 100.0 |
| 14      | Ownership Status-Leased-in (%)          | 5.0      | 0.0   | 0.0   | 1.7  | 0.0          | 0.0   | 0.0   | 0.0   |
| 15      | Average area of the unit (acres)        | 0.33     | 0.38  | 0.75  | 0.49 | 0.34         | 0.49  | 0.69  | 0.51  |

Notes: S-Small, M- Medium, L -large and T- Total.

Source: Field Survey Data.

### 8.4 Contract Details:

It is observed that out of total contract units, 65 percent of small units, 70 percent of medium units, 50 percent large units and overall 61.7 percent units had

contract with Suguna Pvt. Limited. The Venky Pvt Ltd had contract with 25 percent of units, comprising 15 percent of small units, 25 percent of medium units and 35 percent of large units. The remaining units had contract with other companies such as C.P. India, Godrej Hatcheries, Harshad Pvt Ltd., Khadkeshwar hatcheries and United Broilers. On an average 66.7 percent of contract farmers have long term contract for the period of 36 months with contract firms, while 30 percent have 11 month contract and remaining with 24 months contract. The reason behind the choice of contract with particular company were i) all inputs provided by company; ii) timely supply of chicks; iii) to sell of whole produce at one time/company, iv) good quality, timely and good service; v) lack of own fund. However, contract farmers experienced problem in execution of contract as all rights are in the hand of company and some time there was gap in providing chicks leading to less number of batches in a year. Surprisingly, we observed that none of the contract farmer had a copy of agreement with them.

## **9. Feeding and Management Practices of the Sample Broiler Farmers:**

It is observed that each broiler cycle was on an average 42.45 days in case of contract farms, while it is marginally higher in case of non-contact farms (43.26 days). Entire contract farms as well as non-contract farms had disinfected shed before installation of chicks. About 75 percent of contract farms fed birds twice in day and remaining more than two times a day. In case of non-contract farms, 83.3 percent farmers fed birds twice a day and remaining thrice in a day. Mostly rice husk was used as a litter and method of feeding birds in both the cases was feeders.

During the broiler cycle of around 43 days, each bird on an average consumed 3.89 kg feed in case of contract farms, while the corresponding figure was 3.79 kg in non-contract farms (Table 2). Contract farms receive the feed as per feed management programme of the company. The per bird consumption of feed was lower in large contract farms as compared to small and medium, indicates the large size units can avail the benefit of economies of scale. Among the non-contract farmers, most of the farmers purchased feed directly from feed supplier and further, readymade feed was also available in market. Some of the farmers used maize as supplement feed with starters and finisher. Thus, non-contract farmers always try to minimize the feed cost. Therefore, among non-contract growers, quantity of feed consumed marginally lower, despite of higher number of days per batch.

There are numerous diseases that are prevented by vaccinating the birds against them. The common diseases observed in the broiler are Marek's, Ranikhet, Fowlpox, Gumboro and Infectious Bronchitis. It is observed that each bird during its cycle was given approximately 3 ml of vaccines. The non-contract farmers used as much quantity of vaccine as the contract farmers in selected area. These vaccines are given through eye drop, drinking water and fine spray. As expected, the rate of mortality was lower in contract farms as compared to non contract farmers. The rate of mortality was lower than 5 percent (4.96 percent) in case of contract farm group, while it was 5.58 percent in case non-contract group. The rate of mortality was higher in small units in both the categories. On an average, out of total birds died, 43 percent of birds from contract group and 39 percent from non contract group were died between 1-3 weeks

period. In case of mortality, about 75 percent of the contract farmers have buried/cremated died birds on their own land, while 76.7 percent of non contract farmers did the same. The remaining died birds were either thrown on public place or feed to the dogs.

## 10. Production and Productivity of the Sample Broiler Farms:

The average number of birds produced on contract farm was 7372, while same was 7362 in non-contract farms. Among the small, medium and large groups, average numbers of birds reared were near about same in both categories. The average live weight of bird was marginally higher in contract farms (2.15 kg/bird) as compared non-contract farm bird (2.10 kg/bird). The average weight of broiler was above 2 kg per bird in all three sizes of poultry units in both categories. On an average, meat production after removing wastage (with skin) was 1.80 kg and 1.76 kg in contract and non-contract farms respectively (Table 2).

Table 2: Production and Productivity of Sample Broiler Farms

| Sr. No. | Particulars                    | Contract |       |       |       | Non Contract |       |       |       |
|---------|--------------------------------|----------|-------|-------|-------|--------------|-------|-------|-------|
|         |                                | S        | M     | L     | T     | S            | M     | L     | T     |
| 1       | Av. Number of Days / Batch     | 41.81    | 42.82 | 42.72 | 42.45 | 44.26        | 42.14 | 43.37 | 43.26 |
| 2       | Average Number of Chicks       | 3853     | 6219  | 13199 | 7757  | 3823         | 6893  | 13874 | 8197  |
| 3       | Total Feed (kg/bird)           | 3.71     | 4.31  | 3.64  | 3.89  | 3.57         | 4.06  | 3.76  | 3.79  |
| 4       | Mortality (%)                  | 5.13     | 5.0   | 4.9   | 4.96  | 6.03         | 4.52  | 5.98  | 5.58  |
| 5       | Average No. of Birds produced  | 3656     | 5908  | 12552 | 7372  | 3809         | 5907  | 12369 | 7362  |
| 6       | Average Live Weight/Bird (kg)  | 2.1      | 2.21  | 2.15  | 2.15  | 2.09         | 2.09  | 2.11  | 2.1   |
| 7       | Meat Production with skin (kg) | 1.76     | 1.85  | 1.79  | 1.8   | 1.75         | 1.75  | 1.77  | 1.76  |

Note and Source: Same as in Table 1.

## 11. Cost of Production:

### 11.1 Investment Pattern of Sample Broiler Farms:

It is observed that more than 80 percent of total investment cost was incurred for the construction of brooder and broiler house, followed by other building cost and lastly equipments. The total investment cost was highest in large units followed by medium and small units in both categories. However, total investment cost for all the factors is significantly higher in contract farms as compared to non-contract farms. The per farm investment on contract farm was 7.9 lakh, while it was 7.4 lakh on non contract farms (Table 3).

### 11.2 Variable Costs:

The main variable costs were Day old chick (DOC) and feed. Other expenses included labour charges, vaccination and medicines, litter, etc. On an average across all units and batches, the average variable cost per bird was Rs 4.93 in case of contract farm group, whereas it was Rs. 100.53 in case on non contract group (see, Table 3). In contract farming, the variable cost is lower because DOC, feed and vaccination is provided by the company on credit, which is adjusted at the time of lifting the output. While discussing with the farmers, we noted that cost of DOC is lower in contract

category as compared to non-contract category. The cost per DOC was ranged between Rs. 26-30 in case of non-contract category; however it ranged between Rs. 16-17 in contract group. It may be because of the fact that contract group receive the DOC directly through company under contract. In non-contract group, on an average across all units, chick cost accounts for around 26 percent of the total variable cost. The major item of variable costs was however feed which accounted for as much as 55.1 percent of the variable costs. Thus, DOC plus feed together accounted for almost 82 percent of variable costs in non-contract group. Labour costs accounted for approximately 3 percent of total variable costs in non-contract group. In case of contract group, labour cost includes the family labour, hired casual labour wages, while in case non-contract group, veterinary services cost is also included in labour cost. In case of contract group, labour and other services accounts for 44.4 percent of total variable cost, followed by litter cost (30 percent). As it is risky business, we expected that most of the farmers must have insured their flock and shed. However, we observed that insurance was not covered in respect of birds and poultry shed.

A look at the variable costs across size of units indicates that small units had highest variable costs, which is marginally lower in medium and the lowest in large units in both the categories. The DOC cost is higher in small units while feed cost is higher in medium units of non-contract category. While small size units had variable costs of Rs 103.33/- per bird, that of medium units was Rs 103.14/- per bird and it was lowest in case of large units amounting to Rs. 95.11/- per bird in non-contact group. In case of contract group, the corresponding figures were Rs. 5.85, Rs. 5.02 and Rs. 3.91 respectively (Table 3). Large farmers could perhaps take advantage of bulk purchases and thus economize on costs. Even a marginal reduction in costs can make a substantial increase in profitability of the unit.

### **11.3 Total Cost of Production:**

It is observed that across all farm units and across all batches, the average fixed cost per bird was Re 1.57 in case of contract and Rs. 1.33 in non contract group (Table 3). The highest fixed cost per bird was observed in case of small units in both the categories. It can be further noted that out of the total costs, variable costs accounted for 98.7 per cent while fixed costs formed only 1.3 percent of total costs in non contract group. However, the corresponding share was 75.8 percent and 24.2 percent respectively in contract group. After noting the total cost per bird, we have calculated the average cost per kg of live weight. In case of contract farms, average cost per kg of live bird was estimated to be Rs. 3.02, while same was Rs. 48.47 in non-contract category. The average cost per kg of live weight decreases as size of unit increase in case of contract as well as non contract group. As seen earlier, large farmers were able to economise on variable costs.

### **12. Gross Returns:**

It is observed that across all farm sizes and across all batches, the average live weight of the bird was 2.15 kg and 2.10 kg in contract and non contract group respectively (Table 3). Thus the average live weight of bird was marginally higher in

contract group than non contract group. It may be because of having veterinary services provided by the company on regular basis and due to which not only mortality rate was below 5 percent but also gain in body weight of bird. Among the different categories of farms, body weight was highest in medium size unit of contract farms, while it was highest in large size non contract farm.

As per the companies agreement, the farmers are paid price per kg of live weight was ranged between Rs. 3.4 to 4.0 per kg of live weight by taking in account feed conversion ratio and morality percentage. As the medium size unit of contract group received highest rate of Rs. 3.9 per kg of bird, may be because of lower feed conversion ratio. In case of non contract group, the price per kg of live weight received was as low as Rs. 49.8 and as high as Rs. 57, with an average price of Rs. 54.3. It is observed that contract and non contract farms received per bird Rs. 1.41 and Rs. 1.28 income from the sale of manure and bags. The gross receipt from sale of birds and by product is estimated to be Rs. 9.5 in contract group and Rs. 115.3 in non- contract farms. The average gross receipt per kg of live weight was Rs. 4.4 and Rs. 54.9 in corresponding categories. In both categories, medium unit has realized the highest income as compared to small and large units.

Table 3: Details about the Cost of Production of Broiler

| Sr. No | Particulars                             | Contract |      |      |      | Non Contract |        |        |        |
|--------|---|----------|------|------|------|--------------|--------|--------|--------|
|        |   | S        | M    | L    | T    | S            | M      | L      | T      |
| 1      | Per farm Investment (Rs. in lakh)       | 4.5      | 5.8  | 13.3 | 7.9  | 5.3          | 6.2    | 10.9   | 7.4    |
| 2      | Variable Cost (Rs. /Bird)               | 5.85     | 5.02 | 3.91 | 4.93 | 103.33       | 103.14 | 95.11  | 100.53 |
| 3      | Live weight of bird (kg)                | 2.1      | 2.21 | 2.15 | 2.15 | 2.09         | 2.09   | 2.11   | 2.10   |
| 4      | Fixed cost (Rs./bird)                   | 0.24     | 0.17 | 0.2  | 0.2  | 0.28         | 0.2    | 0.16   | 0.19   |
| 5      | Variable cost (Rs./bird)                | 5.85     | 5.02 | 3.91 | 4.93 | 102.7        | 108.4  | 103.7  | 104.9  |
| 6      | Total Cost (Rs./bird)                   | 6.09     | 5.19 | 4.11 | 5.13 | 102.95       | 108.56 | 103.83 | 105.09 |
| 7      | Cost/ kg. of live weight (Rs./bird)     | 2.9      | 2.35 | 1.92 | 2.38 | 49.15        | 51.84  | 49.12  | 50.02  |
| 8      | Sale Price per kg of live bird (Rs)     | 3.7      | 3.9  | 3.5  | 3.7  | 53.6         | 55.9   | 52.3   | 53.9   |
| 9      | Av Sale receipt of bird (Rs./bird)      | 7.85     | 8.65 | 7.53 | 8.01 | 112.31       | 117.14 | 110.46 | 113.31 |
| 10     | Sale of manure and bags (Rs./bird)      | 1.19     | 1.19 | 1.59 | 1.41 | 1.64         | 1.34   | 1.14   | 1.28   |
| 11     | Gross receipt (Rs/bird)                 | 9.04     | 9.84 | 9.12 | 9.41 | 113.95       | 118.48 | 111.6  | 114.59 |
| 12     | Gross Receipt/kg of live weight (Rs.)   | 4.3      | 4.46 | 4.25 | 4.37 | 54.4         | 56.58  | 52.8   | 54.54  |
| 13     | Av. Net returns/kg of live weight (Rs.) | 1.4      | 2.11 | 2.33 | 1.99 | 4.39         | 7.23   | 7.73   | 6.42   |
| 14     | Av. Net returns per bird (Rs)           | 2.94     | 4.65 | 5    | 4.29 | 9.19         | 15.15  | 16.34  | 13.49  |
| 15     | Feed Conversion Ratio                   | 1.8      | 2    | 1.7  | 1.8  | 1.7          | 1.9    | 1.8    | 1.8    |

Note and Source: Same as in Table 1.

It is also observed that the average net returns per bird increased with increase in the size of the farm in both contract and non contract group. The average net return per kg of live weight as well as per bird was higher in non-contract group as compared to contract group. The average net return per kg of live weight was Rs 1.4 in case of contract farms, while it was Rs. 6.4 in non contract group. Also net return per bird was higher in non-contract group (Rs. 13.5) as compared to contract group (Rs. 3.0). As contract farmer gets growing charges as per live weight of bird and mortality rate, which was pre-determined in contract agreement and thus there is a kind of cap/limitation on the income under contract broiler farming, however non contract

farmer receive prevailing market price for the output. Therefore the net return observed was lower in contract group than non contract farm category. As company provides inputs and purchases the produce, farmer has to only rear the birds without less risk. However, in case of non-contract farmer, he has to face all kind of risk in operation starting from purchase inputs, vaccination and sell out in tge market at proper time. Thus, higher return to non-contract farmer may be due to bearing the risk in broiler farming. As noted, a farmer normally rears 6 batches in a year. But a point to be noted here is that poultry production is a delicate business dealing with tender birds. While a farmer may have a good crop in one cycle, his flock may get diseased in another, thus disrupting his annual flow of income. This is quite possible in case of non-contract farmer.

### **13. Constraints in Contract Broiler Farming**

#### **13.1 Production Constraints expressed by Farmers**

Most of the farmers from both contract and non contract farmers opinioned that there farm are located far away from the market, and water availability during summer season/ scarcity period are major constraints in broiler production. The high cost of construction of shed and kuccha road from farm to main road is the other major constraint in development/ expansion of this business. High cost of feed, chick and labour, medicines and electricity are also plays a role of speed breaker in broiler production as expressed by the contract and non-contract farmers. In general, contract farmers along with non-contract farmers also expressed their concern about high cost of medicine and visit charges (by company person under contract or expert hired by non contract farmers).

#### **13.2 Problems faced by Sample Farmers in Contract farming**

With respect to timeliness in receiving inputs, about 6.7 percent of contract farmers complained about delay in supply of inputs, while 10 percent of farmers expressed that feed prices are very high. No one has reported about spurious feed and transportation problem from both categories. It is worth to note here that lack of inadequate number of analytical feed testing laboratories could hardly provided any support to ensure that quality feed is made available to farmers.

Though contract farmers have agreement with the company about sale of output, however they also face some problems. Among the contract farmers, delay in lifting the produce was the major problem, which was expressed by 20 percent of total farmers. If there is delay in lifting the produce after arriving at market age, feed consumption goes up resulting in high FCR ratio and ultimately lowers down profit level. It is noted that generally firms picked up birds before due date or delayed it depending on the demand, which meant losses for contract growers. After six or seven weeks, when the bird gained weight, the company lifted the birds and farmers were paid on the basis of FCR ratio and morality rate. The other problems faced by contract grower were delay in payment (15 percent), low price (6.7 percent) and sometime rejection on quality produce (1.77 percent).

Besides facing problems during receiving inputs and sale of output, contract farmers also experienced the problems in getting services and payment of growing charges from the company. About 36.7 percent of farmers have expressed their grave concern about low growing charges. They opined that per chick growing charges paid by the company is very less, because of which some time they incur losses. Also 45 percent of farmers have experienced delay in providing chicks, which has resulted in less number of batches in a year and thus less income per year. Contract company provides veterinary services as per contract and deduct amount for same at the time of payment of output to the farmer. About 43 percent of farmers felt that there was a delay in providing veterinary services by company; also the charges deducted by towards same are very high. Deduction of tax at source is another problem faced by the contract farmers.

### **13.3 Problems faced by Sample Farmers in Non-Contract farming**

The non-contract farmers face many different kinds of problems in factor as well as output markets. As expected, more than 43 percent of non contract farmers felt that feed prices are very high, while 13.3 percent farmers faced problems in getting inputs in time. In case of shortage in availability of feed, non-contract farmers sometimes had to buy at higher prices. There was no complaint about spurious feed and transportation.

Absence of assured and timely market for broiler is the one of the major constraints in broiler farming. About 87 percent of non-contract farmers opined that unsatisfactory price for output is main constraints in marketing of broiler. As price of the broiler for non-contract farmers totally depend upon the market and thus, it affects the profitability. More than 73 percent of non contract farmers felt that there is no supporting price policy for broiler. Besides above two constraints, about 70 percent of non contract farmers expressed that price fluctuation and lack of cooperative marketing are other constraints. Absence of processing units and payment received not in time also affect the marketing of broiler. As mentioned earlier, the present system of the said marketing today is controlled by major integrators. The wholesalers are playing the next role especially in large cities. The small farmers are capable of marketing only lesser number of birds within their local reach ability. Thus, too many intermediaries operating in the broiler market also one of the constraints for broiler farmers. On an average, out of total output, more than 82 percent of output was sold to wholesaler, 15.8 percent to retailers and remaining 1.9 percent was sold directly to the consumers. Thus, existence of wholesale and retailers in marketing channel increases price spread and decrease marketing efficiency.

### **14. Advantages and Disadvantages of Contract Broiler Farming:**

It is observed that more than 80 percent of farmers have opined that reduced management responsibilities and less risk for production as well as less risk for loss of income are major advantages of growing broilers under contract (Table 6.4). About one third farmers have opted that low requirement of working capital, followed by



relatively stable income and opportunity to participate in poultry production are the other advantages.

The possibility of limited opportunity for growth is major disadvantage of broiler contract farming, expressed by 85 percent of sample farmers. As farmer receives a guaranteed wage or growing charges for each live bird based on its live weight, which is linked to the performance criteria in terms of efficiency in managing the birds (such as live weight, quantum of feed used to produce that weight, percentage of birds died and others), which sets the limit/cap on income of farmer. As seen earlier, low growing charges is major problem in contract poultry farming, which results in low income despite of huge investment. Also high fixed investment and pressure from company regarding building expansion, technological changes are disadvantages of contract farming. About 21.7 percent farmers felt that they lack bargaining power because of huge investment made and unstable market condition (Table 4).

Table 4: Advantages and Disadvantages of Contract Broiler Farming

| Particulars  | % of farms to total |      |      |      |
|--|---------------------|------|------|------|
|  | S                   | M    | L    | T    |
| <i>Advantages</i>  |                     |      |      |      |
| Reduced Management Responsibilities  | 90.0                | 85.0 | 90.0 | 88.3 |
| Less Risk for Production and Less Risk for Loss of Income                            | 85.0                | 80.0 | 80.0 | 81.7 |
| Relatively Fixed Income; Some Insulation from Price Changes                          | 25.0                | 50.0 | 35.0 | 36.7 |
| Less Operating Capital Necessary   | 60.0                | 40.0 | 40.0 | 46.7 |
| Opportunity to Participate in Poultry Production                                     | 25.0                | 45.0 | 40.0 | 36.7 |
| Opportunity to Obtain Additional Income from the Farm                                | 35.0                | 20.0 | 25.0 | 26.7 |
| <i>Disadvantages</i>   |                     |      |      |      |
| Possibility of Limited Opportunity for Growth  | 80.0                | 85.0 | 90.0 | 85.0 |
| High Fixed Investment. New building and Expansion are dictated by Integrators' Plans | 45.0                | 60.0 | 50.0 | 51.7 |
| Pressure to Keep up with Technological Changes in Management, Housing, and Equipment | 25.0                | 50.0 | 50.0 | 41.7 |
| Possible Lack Bargaining Power   | 35.0                | 15.0 | 15.0 | 21.7 |

Note and Source: Same as in Table 1.

### 6.15 Motivating and De-motivating Factors to Contract Farming:

The motivating factors to enter into contract poultry farming are identified as financial requirement, marketing risk, risk reduction, availability of inputs, institutional credit, additional /assured income, buy back arrangement, domination of integrators, disease problem and knowledge of broiler farming. As like motivating factors that encouraged the farmers to enter into contract farming, there are de-motivating factors as well. It is important to know the factors that discouraged the non-contact farmers to enter into contract. About 60 percent of non contract farmers have expressed that they were not satisfied with contract formalities, followed by poor servicing by contracting firm (56.7 percent) and lack of infrastructure (53.3. percent). About half of the farmers expressed that loss during the previous contract and no insurance by the contracting

firm are major factors de-motivating them from contract farming. It is observed that 83.3 percent of farmers mentioned that high initial cost and limited income/less profit are the major factor which makes farmers not to enter in contract farming. Also 53.3 percent of non contract farmers have expressed that they were not satisfied with contract formalities, followed by poor servicing by contracting firm and lack of infrastructure. About half of the farmers expressed that loss during the previous contract and no insurance by the contracting firm are major factors de-motivating them from contract farming.

Most of the people gas strongly agrees for less financial requirement followed by improved technology and easy management. Profitability, risk reduction, knowledge gain and important role of integrator are the other aspects agreed by the sample farmers. However, significant number of farmers disagrees about assured additional income and strongly disagrees with timely supply of inputs.

#### **16. Access to Finance:**

It is observed from the study that most of the farmers face the difficulties in getting access to the finance. Therefore, more than 50 percent farmers from both categories have invested their own funds in construction of these buildings. About 42 percent of farmers from both categories could get loan from the institutional sources.

#### **17. Access to Extension and Veterinary Care Services:**

It was observed that the pharmaceutical companies visited the farms annually 22 times in case of contract farmers and hardly 6 times in case of non-contract farmers. The representatives of hatcheries also visited the farm regularly. The visits were much more in case of contract farmers as compared to non contract farms. The number of visits by the extension personnel of Animal Husbandry department was absent in case of non-contract farmers. On an average about 48 percent of farms received market information regularly. The information received by them was mainly from newspapers and radio. About 25 percent of contract farmers in our sample had attended workshops or training programmes in broiler farming, while corresponding figures was hardly 3.3 percent in non contract group.

#### **18. Public's View on Environmental Problems and the Remedial Measure taken:**

Only one complaint about odour was received by the contract farmers. The method of complaint was only an oral representation. In case of mortality, some farmers stated that they threw the dead birds in nearby hills and some of them buried the birds. Farmers did not have any equipment for treating dead birds. The manure created in poultry rearing was immediately sold. There was no single complaint received by non-contract farmers about odor, flier and any other reason. As such contract and non contract farms did not spend any amount towards remedial measures, because immediately after mortality, birds are buried /cremated on their own land or sometime feed to the dogs.

Overall, it observed that despite of contract for supply of inputs and sale of output, contract farmers face various problems such as delay in supply of chicks and other inputs, high feed prices and low growing charges. The motivating factors to enter in contract farming are less financial requirement and no marketing risk. While demotivating factors to non contract farmers to enter in contract farming are high initial costs, less income/cap on income and loss during previous contract.

## **19. Concluding Remarks and Policy Measures:**

1. The key for success in the poultry business is to reduce feed costs. Feed is very expensive in India and our study showed that feed accounted for as much as 55 percent of the variable costs. Almost all the broiler farm owners complained about high input prices in general and feed prices in particular. The domestic poultry industry has been facing a severe shortage of their major feed ingredients. The main ingredients in poultry feed are maize and soybean, which are characterized by unstable domestic production. This largely explains for low productivity and seasonal fluctuations in the availability of feed ingredients. The world average yield of maize and soybean is about 2.3 times and 2.0 times that of India respectively.
2. The index number of wholesale prices of maize (1993-94 =100), which was 147.6 in 1995-96, increased to 291.8 in 2009-10. In contrast, the price indices of broiler meat declined from 104.1 to 97.9 during corresponding years. However, wholesale price indices of eggs and all commodities increased significantly. Thus, there was rapid rise in price indices of feed, while broiler price showed decline in price, which leads to lack of competitive advantage for poultry units. Therefore, even a small increase in the price of ingredients can wipe out the profits. Hence, there is need to search for cheaper alternatives in feed compounds. Also efforts should be made to improve production and productivity of maize and soybeans so as to meet future demands by the feed industry. Increase in maize and soybean yields will also help to drive down feed costs and thus give a competitive advantage to the poultry sector. (Attn. Indian Council of Agricultural Research, State Agricultural Universities and Ministry of Agriculture, Government of India).
3. It was also observed in our study that broiler units were very close to each other. The concentration is mainly due to marketing advantages of concentration. This can lead to the problem of bio-security. If units are located in close vicinity, a disease in one farm can spread very rapidly to other farms, as chicks are very sensitive to diseases. Thus, concentration of poultry units may be harmful for the industry as there are negative externalities, although it has marketing advantages (Attn. Ministry of Agriculture, Government of India; Department of Animal Husbandry, Dairy Development and Fisheries, Government of Maharashtra and Poultry Units).
4. The mortality rate of more than five per cent in non-contract farmers group seems to be on the higher side and hence extension personnel should improve awareness about better management practices among broiler growers. Poultry farmers must be trained in veterinary care. The diseased/sick birds should be removed from poultry shed and dead birds and dressing waste should be disposed properly by the farmers

and retailers; otherwise it will create problem of bio-security. About 25 percent farmers had training in poultry management from contract group, while only 3.3 percent non contract farmers had exposure to such training programmes. It indicates that poultry entrepreneurs need to be provided training on technical aspects of poultry management to make business more profitable on sustainable basis. (Attn. Department of Animal Husbandry, Dairy Development and Fisheries, Government of Maharashtra and Sponsor Company, Poultry Units and Retailer in Broiler Sector).

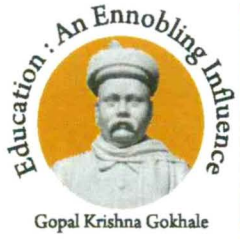
5. Our study observed that on an average the Feed Conversion Ratio (FCR) was 1.8. It was noted in a study (Mckinsey and Company, 1997) that the FCR of Indian Poultry are currently 6 to 14 per cent lower than those in U.S. or Thailand, and poultry in India has to consume greater quantities of feed to put on the same amount of weight. Therefore, best breeds of birds should be used so as to obtain a lower FCR as any decrease in FCR would help to increase the profitability per unit and thus the profitability of the farm (Attn: Department of Animal Husbandry, Dairy Development and Fisheries, Government of Maharashtra; State Agricultural Universities and Poultry Hatcheries).
6. The marketing system for broiler is inefficient and therefore non-contract grower faces difficulties in marketing their output. The presence of several intermediaries between the producer and consumer harms the interest of both, as producers do not get a remunerative price for his product and the consumer pays a high price because of the cascading profit margins from so many intermediaries. The wholesalers and commission agents control output prices. Since broilers cannot be retained in the farm beyond a specific period (due to increasing feed cost), broiler output becomes analogous to perishable commodities and the producer has to sell the produce (birds) at the market price. The development of processing units and cold storage may help broiler farms to earn better returns. Broiler poultry marketing is not well organised and the absence of organisation such as National Egg Coordination Committee (NECC) add to the problem. Therefore, organisation like NECC for broilers marketing should also be encouraged (Attn. Department of Animal Husbandry, Dairy Development and Fisheries, Government of Maharashtra and Poultry Units).
7. At present there is no market intervention or price support measures by government agencies for purchase of broiler meat during distress conditions. *National Agricultural Cooperative Marketing Federation of India Ltd.* (NAFED) intervenes occasionally and to a limited extent, which is hardly of any help to the farmers. Thus, minimum support price scheme should be applicable to the broiler poultry sector. (Attn. Ministry of Agriculture, Government of India; Department of Animal Husbandry, Dairy Development and Fisheries, Government of Maharashtra).
8. Majority of farmers considered poultry as secondary occupation in both contract and non-contract group. Therefore, broiler farming should be facilitated with supportive measures, so as to enable them to take up the broiler poultry as a primary business. This can be done by setting up poultry producers cooperatives and subsidize the feeds and inputs of poultry to them. (Attn. Department of

**Animal Husbandry, Dairy Development and Fisheries Department, Government of Maharashtra and Poultry Units and Retailers in Broiler Sector).**

9. The status of poultry sector whether agriculture or industry is not well defined. Administratively, it is under Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture, both in central and state governments. NABARD and Nationalized Banks recognized it as a agricultural activities, However, most of the benefits/concession available to agriculture such as concession in electricity tariff, subsidized water are not extended to poultry sector. Also, income from poultry is fully taxable. This ambiguity has lead to the poultry sector not being entitled to various benefits applicable either to agriculture or industry. Therefore, there is need to define the status of poultry as a part of agriculture. The recommendations of the *Working Group on Animal Husbandry and Dairying*, Government of India (2002) that poultry establishments having less than 10000 birds should be treated as agricultural activity for the benefits of the poultry farmer and extend the same benefits/incentives/concessions to this sector as applicable to agriculture must be implemented. For the units having capacity more than 10000 birds, it should be treated as industry with all the benefits as extended to industry (Attn. Ministry of Agriculture, Government of India; Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture, Government of India).
10. It was observed from the study that neither the contracting firms nor any other agencies provided poultry insurance to the birds. However, the insurance companies are extending poultry insurance. Therefore, the contracting firms should provide insurance to their clients. Also the same time, the government can extend its support by making and paying part of premium to the non-contract farmers (Attn. Department of Animal Husbandry, Dairy Development and Fisheries, Government of Maharashtra and Sponsor Company).
11. It was observed that the visits of representative of pharmaceutical companies, hatcheries and state government to contract farmers and non contract farms are insignificant. Extension machinery of the state government and technical staff of the sponsoring company need to be geared-up to teach the farmers about the importance of judicious use of critical inputs, along with bio-safety measures (Attn. Department of Animal Husbandry, Dairy Development and Fisheries Department, Government of Maharashtra and Sponsor Company).
12. It is observed that more than 80 percent of total investment cost was incurred for the construction of brooder and broiler house, followed by other building cost and lastly equipments. Therefore, sufficient financial assistance by government, credit agencies, at cheaper rate of interest must be provided to encourage the farmers and sponsors to greater investment in broiler farming. The ground level credit flow to broiler farming through NABARD seems to be inadequate, which has to be increased. The activity needs promotion on pilot basis in other regions of the state (i.e. Vidarbha and Marathawada region). Banks may also provide credit support for breeding units under contract farming (Attn. Ministry of Agriculture, Government of Maharashtra; NABARD and Nationalized Banks).

13. Lack of basic infrastructure such as storage and transportation, cold storage facilities add to the major constraints. Poultry, being a livestock sector, needs certain vital infrastructure facilities that can facilitate storage, distribution, marketing, and exports. There is an acute shortage of refrigerated road transport and an efficient cold chain, which makes widespread distribution difficult and expensive. Although poultry is an integral part of agriculture and treated at par with livestock in India, it faces restrictions on use of agricultural land, attracts higher electricity tariffs and sales tax than that of agriculture, pays tax on income earned from poultry farms, and is subjected to different land/labour laws including the Minimum Wage Act. The government should endeavor to create a favourable economic environment for increasing capital formation and investment in broiler poultry industry by rationalizing the tax structure and removing distortions in incentives (Attn. Ministry of Agriculture, Government of India; Department of Animal Husbandry, Dairy Development and Fisheries, Government of Maharashtra).
14. The country does not have a proper testing system; presently issues like pesticide residue, antibiotic residue, and hormonal residues are creating enormous problems while exporting. Hence, even if we have a comparative cost advantage in the international market, our exports may receive a setback due to non-compliance of SPS measures. Therefore, necessary facilities for export should be made available by the government (Attn. Ministry of Agriculture, Government of India; Department of Animal Husbandry, Dairy Development and Fisheries, Government of Maharashtra).
15. Majority of the farmers agree with all the aspects of contract farming except for the profitability aspect and they have high level of agreeability for knowledge gained and improved technology. However, there is still enough scope in reducing the cost of production and increasing the profitability in broiler farming by educating the farmers to adopt better scientific management through effective training and technology transfer programme. Exotic breed which are fast growing and productive should be encouraged and popularized with adequate training facilities and technical knowhow (Attn. : State Agriculture Universities / Ministry of Agriculture, Government of India; Department of Animal Husbandry, Dairy Development and Fisheries Department, Government of Maharashtra).
16. Contract farmers complained about delay in supply of inputs, high feed prices, delay in lifting the produce, delay in payment, low price, and sometime rejection on quality produce. Besides these problems, low growing charges, delay in providing chicks, delay in providing veterinary services, high visiting charges and deduction of tax at source are other problems faced by the contract farmers. Contract farmers also experienced problem in execution of contract as all rights are in the hand of the company and some time there was gap in providing chicks leading to less number of batches in a year. Therefore, Sponsor Company should pay remunerative prices to the producer in view of huge investment made and remove bottleneck for positive growth of broiler sector (Attn. Department of Animal Husbandry, Dairy Development and Fisheries Department, Government of Maharashtra and Sponsor Company).

17. More than two fifth of the non contract farmers felt that feed prices are very high, and they faced difficulties in getting inputs in time. As absence of assured and timely market for broiler, unsatisfactory price for output are the main constraints in marketing of broiler. Most of the non-contract farmers felt that there is no supporting price policy for broiler, high price fluctuation and lack of cooperative marketing, absence of processing units and payment received not in time are other constraints. The non-contract farmers are severely constrained by the cost of inputs/outputs, a lack of adequate infrastructure, an inefficient marketing system, and no proper means of dissemination information. Therefore, serious efforts are warranted from the state government to improve basic infrastructure facilities, access to the credit, dissemination of information, timely availability of feed at cheaper rate and the marketing system, all of which have severely constrained non-contract farmers (Attn. Department of Animal Husbandry, Dairy Development and Fisheries Department, Government of Maharashtra and Poultry Units).
18. A significant difference exists in the profitability of contract farms vis-à-vis independent farms. The profitability of contract farms in the study, whether large or small is generally lower than that of independent farms. However, non-contract farmer has to face different kinds of risk. Out of total output, more than 82 percent of output was sold to wholesaler, 15.8 percent to retailers and remaining 1.9 percent was sold directly to the consumers. Thus, existence of wholesale and retailers in marketing channel increases price spread and decrease marketing efficiency. Therefore, efforts should be made to establish the efficient marketing system in broiler in the state (Attn. Department of Animal Husbandry, Dairy Development and Fisheries, Government of Maharashtra and Poultry Units).
19. The poultry industry has a multiplier effect. It generates direct employment in farming, hatcheries and pharmaceutical sectors. It also generates employment in processing and marketing sectors and, thus, helps in augmenting employment in of the poor and thus helps in human resource development. Therefore, favourable environment should be created by the government by extending necessary support to the broiler poultry farming (Attn. Ministry of Agriculture, Government of India; Department of Animal Husbandry, Dairy Development and Fisheries Department, Government of Maharashtra).
20. In India, there is mainly a wet market demand for poultry and processing of chicken is virtually negligible. There is a demand potential for processed poultry and retailers must play the role of driving demand in this sector. Also the availability of poultry products at the reasonable prices would help the poor include poultry products in their diet. The demand for poultry products in the domestic market would increase in the near future due to an increase in the per capita income. The forecast surveys indicate that as the present younger generation goes to adulthood, the acceptability and demand for eggs and chicken meat in next 2 to 3 decades is likely to increase many-folds very rapidly Similarly, earnings from the export of broiler meat are showing an increasing trend. Hence, it is imperative to encourage broiler farming by proving incentives to small producers (Attn. Ministry of Agriculture, Government of India; Department of Animal Husbandry, Dairy Development and Fisheries Department, Government of Maharashtra).



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