

**AN ECONOMIC ANALYSIS OF BROILER  
PRODUCTION IN JAUNPUR DISTRICT OF  
UTTAR PRADESH, INDIA**



**THESIS**

Submitted in partial fulfilment of the  
requirements for the degree of

**Master of Science (Agriculture)**

in

**Agricultural Economics**

By

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Supervisor

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**DEDICATED**

**TO**

**MY ALL TEACHERS**

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**Through:** The Head, Department of Agricultural Economics, Institute of Agricultural Sciences, B.H.U., Varanasi.

Dear Sir,

I have great pleasure in forwarding the thesis entitled “**An Economic Analysis of Broiler Production in Jaunpur district of Uttar Pradesh, India**” submitted by **Mr. Alok Kumar Singh, ID. No. E-14024**, in partial fulfillment of the requirements for the degree of **Master of Science (Agriculture) in Agricultural Economics**, from Department of Agricultural Economics, Institute of Agricultural Sciences, Banaras Hindu University, Varanasi.

I certify that the entire scheme of investigation reported herein, was planned and carried out by the candidate under my guidance to the best of my knowledge and belief, the data presented in the thesis are genuine and original. No part of the work has been submitted for any degree or distinction.

Thanking you,

Forwarded by

Yours faithfully,

**(Chandra Sen)**  
Supervisor

Head

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By  
***Alok Kumar Singh***

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**Date:**


**Place:** Varanasi

*(Alok Kumar Singh)*



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## **INTRODUCTION**

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The poultry industry in India has emerged as the most dynamic and rapidly expanding segment of livestock economy as evident from the production level touching about 40 billion eggs and 1 billion broilers with a compound annual growth rate of 8 percent and 15 percent respectively. What was once started as a novelty in the 1970's - egg and broiler production - has now turned out to be a highly organized agri-business. But in spite of all these developments and relatively competitive value of the Indian poultry products (especially egg), the relative position of India in the world trade of poultry products is not so encouraging.

Indian poultry industry has been growing at annual varying rates of 8-15 per cent and this growth in the past few decades made India 4<sup>th</sup> largest producer of eggs and 5<sup>th</sup> largest producer of poultry broilers. Poultry products account for more than 75% of the non-vegetarian items consumed in India.

Broiler industry is one of the profitable agro-industries which can effectively tackle the problems of unemployment and underemployment in the rural areas, particularly of small and marginal farmers.

Broiler industry can be adopted under a wide range of climatic conditions and can generally be combined conveniently with other farm enterprises. The land and capital requirements for this enterprise being not large, it ensures a regular flow of income through the marketing of poultry products.

In spite of a spectacular growth in the poultry sector during the past two decades, a huge gap exists between availability and requirement of poultry products. An increase in per capita consumption by one egg and 50 grams of poultry meat can create employment for about 26,000 persons per year (Kazi, 2003). The present per capita availability of poultry meat is 2.2 kg against the requirement of 11 kg, as per the National Committee on Human Nutrition in India ([www.indiastat.com](http://www.indiastat.com), 2014). Therefore, to meet the domestic requirement, there is a need of about six-time increase in meat production.

Increase in population growth, changing life-style, shifting of food habits, rapid urbanization, increased per capita income, awareness about health care, etc. are contributing towards rising demand of poultry products. Thus, the growth potential of this sector is bright due to regular flow of income throughout the year in the rural economy of the Uttar Pradesh state. In India, the production of broilers increased from 1.89 lakh tones in 1989-90 to 39 lakh tones in 2015. In broiler production, India stands 5th in the world with 3.90 million tones broiler meat.

The structure and costs of production in the Indian poultry meat industry vary from region to region. Production costs in the Southern, Western, and Eastern regions of India are very competitive with those in other countries, including the US. The technical efficiency in poultry in these Indian regions appears to be better than Brazil where the cost of production is the cheapest. Factors driving the industry's expansion include quick growth in per capita income.

The contribution of the small rural farmers points out the importance of integration of the poultry farming and the allied sector. Integration could be the way forward for the entire industry towards expansion and success.

Presently 100% Foreign Direct Investment (FDI) is permitted in the food processing sector. Also FDI in food retailing, covering dairy, poultry, marine, vegetables and fruits might help the entire food processing industry grow. Poultry farming in India has transformed from a mere tool of supplementary income and nutritious food for the family to the major commercial activity generating the required revenue. The growth of the industry with steady production of poultry meat, eggs per year and employment generation of about 3 million people indicates the future prospects for the industry.

Changing food habits, rising income of the middle class Indian, presence of private players, rising market demand of the Indian poultry produce in the export market are some of the contributing factors to the growth of the industry.

Most of the poultry meat in India is marketed to consumers in the form of live birds- termed as wet-market, with only a small share of output now marketed as chilled, frozen, or further processed products. The costs of moving live birds, including transport, shrinkage, and mortality costs, severely limit inter-regional

movements. As a result, Indian poultry markets are regional, rather than national in scope and there is limited potential for low-cost producers to market their product in higher cost regions.

The Southern region has the lowest total costs despite facing the highest feed prices (both corn and soybean meal generally must be shipped from greater distances than in the other regions).

Poultry farming assumes special significance in the state of Uttar Pradesh due to integration of poultry sector and available land area. The productivity and production of food grains, particularly of cereals in Uttar Pradesh have already reached a point of saturation with little scope to increase, resulting in looking for subsidiary occupations like poultry farming. At the same time, due to limited scope of further addition to the net area sown and huge indebtedness, diversification of agriculture through allied activities like poultry farming has acquired added significance for solving the agrarian crisis of the state. Adoption of poultry farming (broilers), by farmers, will not only liberate them from the debt trap but would also meet the growing demand of poultry meat.

As per the 19<sup>th</sup> livestock census, there are 18464 poultry farms and hatcheries in Uttar Pradesh.

In Uttar Pradesh, eastern part of the state is more pronounced than western Uttar Pradesh.

In Jaunpur district, while the demand for egg and chicken meat is increasingly commendably, poultry farmers here are forced to restrict their expansion processes owing to escalating land and construction costs over the last five years.

The Jaunpur district comprises of 7 tehsils and 21 blocks having 368674 broilers on commercial farms and 10839 backyard.

With this background, the economics of poultry farming in Jaunpur district is undertaken with the following objectives:

The specific objectives of the study are:

1. To study the socio-economic profile of broiler farmers.
2. To estimate the resource productivity.
3. To identify the problems faced by broiler farmers.
4. To study the cost and return in Broiler production.



## **REVIEW OF LITERATURE**

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The present research attempts to conduct an analysis on different aspects of the working of broiler production. Several studies at various regional and state levels on different aspects of the poultry have been conducted by researchers, academicians, National Banks for Agriculture and Rural development and Research Institutions. Therefore it is quite relevant to review the available literature that has relevance in identifying the gaps that exist in the field of present research. This chapter is an earnest attempt in this direction.

A brief review of the existing literature is presented in chronological order in the following pages.

**Saxena and Gupta (1971)** in their study entitled, "Poultry Farming in India", examined the cost, revenue and productivity aspects of layer and broiler poultry farms in India. They found that the involvement of own labour increased the productivity and the input cost like feed, day-old chicks, preventives and medicines showed a more than proportionate increase than that of revenue. But the enhanced production of fowls, due to the increased demand for the product, made the total cost per unit to come down.

**Agarwal (1974)** in his study entitled, "Production and Marketing of Poultry Products in India" made an attempt to examine the pattern of production and marketing of poultry products in India with special reference to the state of Uttar Pradesh. His study covered the aspects of poultry disease prevention programme, management of broilers, role of the state in promoting poultry industries, employment potential, financing requirement and problems in getting adequate finance.

**Singh and Rai (1976)** in their study entitled "Economic Aspects of Production and Marketing of Poultry and Marketing of Poultry added Poultry Products in Haryana", conducted an empirical study by collecting data from farmers and sellers. They assessed the capital requirement, cost of raising chicks for egg

production and per piece of broiler. The study estimated the cost of production per egg and returns per year per bird on different sizes of farm, the cost of marketing poultry and its products. They also analysed the break point of egg production on different size of farmers at different levels of feed prices, price fluctuations in different markets, structure of existing marketing channels and the producer's share in consumer's rupee through different marketing channels.

**Marutiram *et al.* (1978)** in their study entitled "Estimation of cost of Production of Poultry and Eggs-Hoshiarpur District (Punjab)", analysed the factors helpful in lowering the cost of production and examined the prices spread at various stages from producer to consumer.

**Jain and Nadkarni (1980)** in their study entitled "Relationship of Fixed and Working Capitals with Egg Production Research Series", studied the pattern of investment of fixed capital and working capital, effect of these capitals on egg production and found the optimum combination of the two capitals for varying levels of egg production.

**Karanjkar and Soni (1980)** in their study entitled "Economics of Poultry Enterprises in Jabalpur", examined the input-output relationship of poultry units and concluded that net profit per broiler was high in large size group and low in small size groups. They also pointed out that labour earnings increased in the same proportion.

**Punia, Sharma and Subhan (1981)** in their study entitled "Factors Associated with Poultry Farms in Haryana", identified the problems with an empirical study among twenty-nine farmers in the region and pointed out the various problems. Twenty-four sample farmers complained about the high cost of feed, twenty six farmers opined about lack of finance, nineteen farmers stated it was as heavy risk, fourteen farmers had marketing problem and seventeen farmers complained about non-availability of veterinary facilities.

**Chandra *et al.* (1982)** in their study entitled "Economics of Poultry Enterprises in Ajmeer", found that increase in farm size resulted in increase in profit

per farm or per bird and economics of scale arises from the flock units above 1500 birds.

**Sadagopan and Srivastava (1987)**, in their study entitled “Economics of Poultry Production”, stated that balanced feed when provided at definite intervals with minimum feed wastage could make the poultry enterprise a successful venture.

**Pothuluran (1988)** in his study entitled “Economics of Layer and Broiler Poultry Farms in Andhra Pradesh”, found that small-sized poultry farms have optimum viability and economy.

**Rajput (1995)** in his study entitled “Economics of Poultry Farming in Indore District of Madhya Pradesh”, examined the cost and returns per layer, the net returns, the cost of production per egg and benefit – cost ratio on small medium and large size groups of poultry farms.

**Joseph (1995)** in his study entitled “Economics of Poultry Farming in Kerala”, with special reference to broiler farms, studied the trend in the cost and revenue items and its impact on the financial performance of commercial poultry farms in Kerala. He also evaluated the impact of farm size on the profitability, financial position and identified an appropriate size, suitable to the state of Kerala. He found that there exists an inverse relationship between the size of farm and capital intensity and a direct proportion between productivity, fixed capital, working capital and inventory to the size of the farm. He suggested that maintaining feed compounding units, as part of poultry farms, would be an effective method of achieving rationalization of input cost in the business of poultry farms.

**Biswaneith (1996)** in his study entitled “Financial Problems of Poultry Farming in the District of Midnapore, West Bengal”, found that the usual source of finance available to other small scale units in West Bengal could not be availed because of its low rate of return on capital employed and investment in current asset was not sufficient. He stated that in spite of earning minimum profit, the poultry industry could survive as they can meet the imputed cost of services (Cost of family

employment of owners) He suggested that necessary financial assistance should be provided to poultry units at a nominal rate of interest for meeting working capital requirement, establishing storage facilities of eggs and meat and forming national marketing agency.

**Reddy and Mohan (1997)** in their study entitled “Economics and Financial Analysis of Broiler Production in Virudhunagar District in Tamil Nadu”, found that cost of production per bird of broiler chick to be Rs. 22.18 and net profit obtained by the producer per bird as Rs.3.01.They also found the share of variable cost, depreciation, rental value of land and interest on capital, which constitute 93.34 per cent, 2.03 per cent, 2.21 percent and 2.52 per cent of the total cost in broiler production respectively. They stated that, among the total cost of production, share of chick’s cost and labour cost involves 25.29 per cent and 3.07 per cent respectively. They assessed the break-even point of broiler production to be 127 birds and feed consumption per kilograms weight gain in broilers to be 2.57 kilogram.

**Nakeeran (1997)** in his study entitled “An Economic and Managerial Analysis of Broiler Farming in Coimbatore District”, examined the financial requirement and analysed the role played by the different funding agencies towards broiler farming. He also studied the financial management of broiler farming and problems encountered in broiler chain. He categorized the farm into own farm and commercial farm and analysed the data on this basis.

**Ganesh Hedge (1998)** in his study entitled “Management and Production Performance of Broilers in Palladam Area in Coimbatore District”, examined the influence of various managerial practices under field condition on the production parameters of broilers taken for study. The production parameters considered were age at marketing, body weight at marketing, feed efficiency and live ability. He found that marketing, price fluctuation, low profits, disease, poor quality of feed, water and chick’s scarcity, heat stress and labour problems are the constraint in poultry industry.

**Vijay Bhasati *et al.* (1998)** in made a study entitled “Input Use Efficiency in Poultry Farming in Chithoor District of Andhra Pradesh”. They used Cobb-Douglas

production function for estimation of input use efficiency.

**Rajendran (1998)** in his study entitled “Economics of Broiler Production in and Around Palladam Area of Coimbatore District”, found that the net return was higher in farms operating in batch system rearing than all in all own system and own mixed feed had the advantage of lower cost of production and increased profit margin. He stated that as the farm size increased, there was reduction in capital investment, cost of production, liveability and benefit cost ratio/profit.

**Gupta and Sharma (1999)**, in their study entitled “Impact of Certain Important Socio-Economic Factors on the Adoption of Broiler Farming in Haryana”, made an attempt find out the impact of farm size, educational status and land holding on the adoption of broiler farming in Haryana, by an empirical analysis. They found that majority of the farmers started broiler farming to get additional income. Educational status had a high significant association with adoption of broiler farming and overall 88.67 per cent of farmers acquired latest knowledge through inherited tradition from neighbors, progressive farmers, friends and relatives. The land holding had no significant association with justification to start a farm, knowledge acquisition and communication source for starting of broiler farming. They suggested that the implementation of improved broiler managerial practices, application of bio-technological and breeding techniques and bio-security measures should be adopted to minimise input cost and maximise returns.

**University of Allahabad (2000)**, a Study entitled “Report on economics of poultry production and role of poultry production on organised sector in Uttar Pradesh” was made. They estimated the cost of production on different sizes of poultry farm and assessed the economic viability of the un-organised sector in Uttar Pradesh. They estimated the cost of production in different size of poultry farm and assessed the economic viability of the un-organised sectors of poultry farm. The study reported that the average utilization of material input per farm, the average utilization of material input per farm, the average profit per farm, the average profit per bird and the average profit per egg were Rs.1457,1113.25,70.03 and .095 respectively in the state. The average production of eggs per farm was 1797 and average input per farm,

average input per bird, the average output per farm and average output per bird were Rs. 2701,160.28 3814 and 230 respectively.

The study recommended that the feed ingredients should be provided at fair price, tax on poultry feed and equipment should be exempted, weather and environment control equipment, cages and other inputs should be made available at cheaper and subsidized rates, sufficient financial assistance by government credit agencies, adequate technical know-how by the State Department of Animal husbandry, adequate supply of medicines, sufficient facilities of veterinary doctors, development of infrastructure facilities and extension activities and suitable Act must be imposed in the state of Uttar Pradesh to control and regulate the quality of poultry as well as other animal feed.

**Karim *et al.* (2001)** in their study entitled “Profitability Analysis of Broiler Farming under Contract Farming system”, analysed profitability under constant rate of price located at Bajitpur Upazila of Kishoregonj district, Bangladesh. Seventy five farmers (25 small, 25 medium and 25 large farms) were purposively selected from the area. Costs and return were calculated to find out the profitability of broiler production. The total cost per bird was estimated at Rs.78.43, Rs.78.51, Rs.78.32 and Rs.78.31 for small, medium, large and all broiler farms respectively. On the return side, the average gross returns per bird per batch stood at Rs.89.21, Rs.89.40, Rs.90.71 and Rs.89.87 for small, medium, large and all broiler farms, respectively. The profit or net returns per bird for small, medium, large and all broiler farms were Rs.10.80, Rs.10.85, Rs.12.40 and Rs.11.75 respectively. The findings of the study clearly indicate that all broiler farms made good profit and the large farms, however, earned a little higher profit.

**Biswas *et al.* (2003)** made a study entitled “Broiler chicken Production and Marketing Situation in Coastal Belt of West Bengal”. Their study parameters were stock procurement, market sales, profit, monthly income, sale of meat, utilization of dead stock, rearing systems, and marketing. They concluded that congenial and improved conditions of the state have prioritized the broiler production. The findings

indicate the sustainability of broiler farming in the locality. Areas for further improvement are identified and discussed.

**Kumar and Rai (2004)** in their study entitled “Economic Status of Poultry Farming and Compared the Investment Patterns in labour utilization in Andaman and Nicobar Islands”. The study compared the investment patterns, labour utilization pattern, cost and returns and efficiency measures of small (300 birds), medium (900 birds) and large (1500 birds) farms. The total cost per bird was found to be Rs 68.84, Rs 65.85 &Rs 63.07 respectively. The net returns per bird was found to be Rs 8.36 for small farms and was Rs 11.35 &Rs 14.13 for medium and large farms respectively. The study revealed that the ratio of all three categories was even and was 1.13, 1.19 and 1.24 respectively. The study concluded that the broiler farming was a profitable enterprise and a main source of income to a sizeable number of farmers.

**Gnanakumar P Baba (2007)** made a study entitled “Financial Feasibility of Investment in contract Poultry Farming in Tamil Nadu”. 50 integrated poultry were selected randomly in Coimbatore district. The study found out the problems of poultry farmers that compelled them to enter a contract to be poor income from traditional agriculture, water scarcity, high market risk in traditional agriculture, labour crunch and need for more substantial working capital.

**Verma and Singh (2008)** from their study entitled “Educational level and occupational status of the entrepreneurs on the economics of egg production for 1.5 year life of birds in Haldwani area of Nainital district”, found that the total cost per bird was Rs. 946.23. The fixed and variable cost contributed were 7.54 per cent and 92.45 per cent, respectively. Expenses on the land rent, depreciation on buildings, equipments and purchase of day-old chicks contributed 0.63 per cent, 1.8 per cent, 0.44 per cent and 3.85 per cent respectively of the production cost. The average gross return per bird was Rs.999.49 from the sale of eggs. Spent hens, manure and empty gunny bags contributed 87.33 per cent, 10.87 per cent, 0.84 per cent and 0.83 per cent respectively of the total returns.

**Sreck and Babu (2008)** in their study entitled “The study on management of broiler industry in Andhra Pradesh”, concluded that the total investment and total cost per bird increased with the increase in the farm size at total costs per kg live weight decreased with the increase in the farm size, while the net returns increased with the increase in farm size.

**Sarfraz Ahmad *et al.* (2008)** their study based on primary data collected from 60 poultry farms in Mirpur district, Azad Jammu & Kashmir (AJK). Farms were categorized as: small farms having a population of 2000 birds; medium farms having a population of 2001 to 4000 birds; and, large farms with population of 4001 to 6000 birds. Results indicate that this business was adopted as major source of income; however, most of the commercial poultry farms have been closed due to lesser profits and even heavy losses during last few years. Majority of poultry farms (83 %) are small farms and the farmers are forced to rely on non-institutional source of credit. Seasonal and cyclical price fluctuations in input and output are found to be higher. Poultry producers are major stakeholders having no role in price fixation. The estimated input output ratio of poultry production is 1:1.12. The per rupee return does not look promising for investors of this sector especially in case of small farmers who are unable to reap the benefit of economy of scale.

**Bhullar (2010)** in his study entitled “Comparative study of poultry farming in Punjab and Andhra Pradesh” found that the total cost of maintenance, cost offered, the interest on working capital, the value of bird and labour expenses were the major items of maintenance cost per bird.

**Singh *et al.* (2010)** analysed the cost and returns of different sizes of broiler farms in the Punjab state based on the primary data collected from 140 broiler farmers for the period March 2008 to February 2009 in three districts, viz. Ludhiana, Hoshiarpur and Muktsar. The study has shown that the total fixed investments per bird have been highest on small farms, followed by medium and large farms. The total variable cost per bird has been reported highest on small farms, followed by medium and large farms. The total cost of meat production per bird has been found highest on small broiler farms, followed by medium and large farms. The net returns

per bird over the variable costs have been recorded highest on large farms as economics of scale prevails on these farms. The meat-feed price ratio and benefit-cost ratio have been found to increase with increase in farm-size of broiler farms, which indicates better utilization of inputs on large farms. On the basis of net present value, benefit-cost ratio and internal rate of return, investment in broiler farming has been found profitable in all farm-sizes. The small broiler farms have been observed highly sensitive to increase in costs and decrease in net returns. The study observed that broiler farming was profitable venture and has a bright future in the Punjab agriculture for improving economic status of the farming community.

**Taru *et al.* (2010)** examined the economics of broiler production in Meme Division of Cameroon. The specific objectives of the research were to determine the efficiency of resource use in broiler production. Primary data were collected from a sample of 116 broiler farmers using a multi-stage random sampling method. The data were analysed using regression model. Marginal analysis of input shows that the farmers were inefficient in their production practices as indicated by the ratio of marginal value product (MVP) and marginal factor cost (MFC). The ratio revealed the over utilization of chicks, feed and labour. Major problems facing broiler producers were low market prices, high cost of feed, veterinary services, transportation, lack of access to credit and extension services.

**Shaikh and Zala (2011)** studied the production performance of different sizes of broiler farms by collecting data from 60 broiler producers of Anand district during 2005. To examine production performance, the average feed conversion ratio, livability percentage, average body weight and age at marketing have been worked out. Though broiler production is capital-intensive, it has been found profitable. The average cost of production per broiler has been found to be ₹ 64 and per kilogram live weight of broiler as ₹ 32. The variable cost and fixed cost constitute 84.5 per cent and 15.5 per cent of total cost, respectively. The major cost components have been found as feed cost (58.6%), chick cost (21.5%) and depreciation on buildings (10.7%). The net profit per broiler as well as per kilogram body weight has been found as ₹ 7.20 and ₹ 3.59, respectively for the sample as a whole. The benefit-cost ratio has worked

out to be 1.11 for the sample as a whole and it increases with increase in farm-size, indicating that as farm-size increases, the net margin over the rupee invested on broilers also increases. The break-even analysis has revealed that the producers have to maintain minimum of 1531, 2611 and 10437 broilers, respectively on small, medium and large farms to meet the cost incurred in production of broilers.

**Balamurugan and Manoharan (2013)**-The cost and return analysis of different sizes of integrated broiler farms in Theni district of Tamil Nadu State has been carried out based on the primary data collected from 150 broiler farmers for the period Mar 2011 to Feb 2012. The study has shown that the total fixed investments per bird have been highest on small farms, followed by medium and large farms. The total cost of meat production per bird, returns per bird over the variable costs has been found highest on small broiler farms, followed by medium and large farms. On the basis of net present value, and internal rate of return, investment in broiler farming has been found profitable in all farm-sizes, it being most profitable on large farms, followed by medium and small farms. The small broiler farms have been observed highly sensitive to increase in costs and decrease in net returns. The study has observed that broiler farming is a profitable venture and has a bright future in the Tamil Nadu agro based industry for improving economic status of the farming community in general and in the study are in particular.

**Raphael *et al.* (2014)**-Two trials were conducted to study the replacement economic effect of maize with palm oil supplemented cassava flour, and palm oil supplemented and unsupplemented cassava fiber respectively on broiler chicken. Dietary maize was substituted at 0, 50, 75 and 100% for palm oil supplemented cassava flour in trial 1, and palm oil supplemented and unsupplemented cassava fiber in trial 2. The results show that growth performances were poorer as the substitution level of maize for cassava flour and cassava fiber increased from 50 to 100%. However, the decrease level of growth parameters and cost of feed consumed was less with palm oil supplemented diets as compared with non supplemented diets. The lowest cost of feed consumed and cost of feed per kilogram weight gain were recorded with birds fed on diet F100H containing palm oil supplemented cassava

fiber as main dietary energy source. Therefore, palm oil supplemented cassava fiber at the expense of maize can optimize good productive advantage and monetary returns to the farmers.

**Akanji *et al.* (2015)**-The study was carried out to compare the effects of unfermented and fermented African locust beans on performance and blood chemistry of laying hens in the unfermented African locust beans (UALB), the seeds were dehulled prior to boiling in water. The fermented African locust beans (FALB) contained seeds that were dehulled and boiled in water prior to natural fermentation for 4 days. One hundred 40- week old laying hens (Nera black) were randomly assigned to five dietary treatments in which UALB and FALB replaced soybean meal at 50% and 100% levels respectively. Higher residual amounts of tannin and phytate were obtained in the UALB. Egg weight and hen day production were conspicuously ( $P<0.05$ ) reduced in birds fed 100% UALB. The hemoglobin, packed cell volume, red blood cells and white blood cells were significantly ( $P<0.05$ ) reduced in hens fed 100% UALB. The serum enzymes, alanine transaminase, aspartate transaminase and alkaline phosphatase were significantly ( $P<0.05$ ) increased in the birds fed 50% UALB and 100% UALB respectively. Marginal differences were however obtained in all the response indices between hens fed the control diet, 50% FALB and 100% FALB respectively. It is therefore concluded that fermentation is a better processing method for optimal utilization of Africa locust beans in diets of laying hens.

**Mbuza *et al.* (2016)**- Subsistence animal production is rampant in Rwanda. The average size of land per household (0.72) is very low. Promoting efficient agricultural practices is key for realizing sustainable production of human feed and animal feedstuffs. Crops and livestock integration may be synergetic to production system yet they are often delinked probable due to ignorance of underling factors. This study aimed to identify cropping systems that can be appropriately integrated with pig/poultry production in Rwanda, and also assess the cropping systems for risk and sustainability. Results from a systematic household survey of pig and poultry farmers and secondary data were assessed by any expert team to determine the risk and sustainability associated with crop-integration. Maize, beans and cassava were

found to be the feasible crops identified for integration with pig/poultry production out of the many staple food crops (beans, maize, banana, sweet potato, cassava, sorghum and vegetables). The negative risk level was estimated at 82%. Land fragmentation, low acreages, limited access to good quality planting and/or breeding materials, and poor access to knowledge/skills were the key risk drivers. The overall sustainability was fair (scored with an average of 3.4 on a scale of 1–5).



## **PROFILE OF THE STUDY AREA**

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Jaunpur is a district in the Varanasi Division in the state of Uttar Pradesh, India. Jaunpur is the administrative centre. It lies in eastern part of state. Jaunpur city is situated at the bank of Gomati river. District have 2 Loksabha, one Rajya Sabha and 9 Vidhan Sabha seats. According to 2011 census report Jaunpur have 1024 female on per thousand male which is highest in Uttar Pradesh.

### **Geography**

The district of Jaunpur is situated in the North-West part of Varanasi Division. Its altitude varies from 261 ft to 290 ft. above Sea Level.

### **Rivers**

Gomti and Sai are its main parental rivers. Besides these, Varuna, Basuhi, Pili, Mamur and Gangi are the smaller rivers here. The rivers Gomti and Basuhi divide the district into nearly four equal landmasses. Jaunpur district is often affected by the disaster of floods.

### **Climate**

Jaunpur district has a climate consistent with that of the Northern Plain and Central Highlands including the Aravalli range, hot semi-arid eco-region 4.3 and hot dry ecoregion 9.2. The temperature varies between about 4 °C (39 °F) and 44 °C (111 °F). The annual normal rainfall is 1,098 millimeters (43.2 in). The monsoon season occurs from the third week of June to the first week of October. Normally, there are 46 rain days per year of which 31 occur in the monsoon season. The district regularly suffers drought and pestilence.

### **Topography**

The topography of the district is a flat plain undulating with shallow river valleys. The main permanently flowing rivers are the Gomti and the Sai. The rivers of

Jaunpur flow from northwest to southeast and the land slopes in the same direction. Thus, there is a more elevated area in the northwest and a less elevated area of land in the south east.

### **Geology**

Beneath the surface of the district of Jaunpur, is a thick mantle consisting of the quaternary sediments (silt, sand and clay) of the Ganga river system. Below is vindhya range bedrock. Mineral deposits are rare but there is limestone as a conglomerate kankerin nodular and block forms. The lime can be used in building. Earthquakes have been recorded, the largest in 1927 and 1954.

### **Economy**

District's main economical activity is agriculture and allied sector. Jaunpur is fastest developing area in eastern Uttar Pradesh with skill development, quality education and good infrastructure.

### **Agriculture**

The main field crops of Jaunpur district are: rice, maize, pigeon pea, pearl millet, blackgram wheat and chickpea. Other crops are onion and potato and crops for fodder. The crops are grown with both rainfall and irrigation. There are cattle (both local low yielding and crossbred), and local low-yielding buffalo as well approximately 29% of Jaunpur's population is employed. Approximately 40% of those employed work in manufacturing, 26% work in trade and commerce, 19% work in other services, 8% work in transport and communication, 4% work in agriculture, 2% work in construction, and 2% are marginal workers goats, sheep, backyard chickens and pigs and occasional dairy farms. There are 43 government reservoirs and many more private water sources. At Gujartallake, 2 miles (3.2 km) west of Kheta Sarai, pisciculture is conducted.

## **Industry**

There is little heavy industry in Jaunpur. The Varanasi Jaunpur highway allows for some industrial economic development. A cotton mill is operational near Karanja Kala and there are some textile manufacturers. Other manufactured products include perfume (jasmine oil and attar) and incense, furniture, carpets, chemical fertiliser and cement. Tertiary and service industries include repair workshops, print shops and internet cafes. There is a special economical zone located at Allahabad road near Mungra Badshahpur the Sathariya Industrial area or SIDA. Although all units of SIDA is not in function but maximum are doing work. Jaunpur have problem of infrastructure development. Like many other districts of eastern Uttar Pradesh Jaunpur have poor road quality and lack of electricity supply. National highway number 56 between Lucknow and Varanasi cross from Jaunpur.

## **Demographics**

In 2011, an official census was made in Jaunpur district. It recorded a population of 4,476,072 of which 2,258,437 were female and 2,217,635 male. The population density is 1113 people per square km. Between 2001 and 2011, the population of Jaunpur district grew 14.89 percent. Literacy increased from 59.84 to 73.66 percent. In 2011, 86.06 percent of men were literate and 61.7 percent of women. There were 1018 women for every 1000 men, in comparison to 940 across India. Children under six years formed 14.37 percent of the population.

## **Governance**

### **Divisions**

Within the district, there are 2 national lower house constituencies, Lok Sabha, of which Jaunpur constituency is entirely in the district, and 9 state lower house constituencies, Vidhan Sabha. Jaunpur district Hassix administrative subdivisions (Tahsils).

Tahsils- 1. Shahganj 2. Badlapur 3. MachhaliShahar 4. Jaunpur 5. Mariahu 6. Kerakat.

Jaunpur district is further divided into twenty-one "**development blocks**". Sondhi (Shahganj) ,Suithakala , Khutahan , Karanja Kala , Badlapur , Maharajganj, Sujanganj, Baksha, Mungrabadshahpur, Machhalishahar, Madiyahun, Barsathi, Rampur, Ramnagar, Jalalpur, Kerakat, Dobhi, Muftiganj, Dharmapur, Sikrara, Sirkoni.

There are also twenty-seven police districts (**Thanas**).

Kotwali, Sadar, Line Bazar, Jafrabad, Khetasarai, Shahganj, Sarpatahan, KerakatChandwak, Jalalpur,SaraiKhwaja,Gaurabadshahpur, Badlapur, Khutahan, SingramauBaksha, Sujanganj, Maharajganj, Mungrabadshahpur, Pawara, Machhalishahar, Meerganj,Sikrara, Madiyahun, Rampur, Barsathi, Nevadhiya, Sureri, Baserawan, Kaserawan, Jainghai.



DISTRICT MAP OF UTTAR PRADESH



BLOCK MAP OF JAUNPUR



## **RESEARCH METHODOLOGY**

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The validity of any research depends on the systematic method of collecting the data and analyzing the same in a logical and sequential order. In the present study, extensive uses of both primary and secondary data were made.

### **Sampling design**

For collecting primary data, field survey technique was employed in the study area. First-hand information pertaining to the behavior and the economic profile of various poultry farm owners were collected from respondents. Uttar Pradesh state consists of seventy five districts and among these districts, Jaunpur was particularly chosen for collecting the data. The respondents were chosen representing a sum of twenty respondents (poultry farm owners) from four revenue blocks of Jaunpur District by taking five samples from each block purposively.

### **Data Collection**

#### ***Primary data***

In order to fulfill the objectives set, a sample study was undertaken by using a well framed questionnaire that was duly filled in by the respondents. The respondents with varying backgrounds were selected based on the important aspects of their occupation, education, age, area and so forth, hailing from both rural and sub-urban areas of Jaunpur District of Uttar Pradesh State. A noteworthy feature was that all the sixty respondents were filled the questionnaire with much zeal. This was due to the significant level of literacy among the respondents and the researcher's rapport established with them. The specimen of the questionnaire issued to the selected sample respondents is shown in the Appendix section of this thesis.

### ***Secondary data***

The primary data were supplemented by a spate of secondary sources of data. Secondary data pertaining to the study was gathered from the records published by various poultry manufacturers. Latest information was gathered from Internet web resources. A number of standard texts were studied to obtain pertinent literature on poultry production.

### **Tools of data collection**

By virtue of a mass of data obtained from research survey, as well as data from secondary sources collected and presented in the present report. The research problems and the questionnaire were all framed accordingly. The suggestions offered in the final chapter of the study are the sample respondents' information who are selling poultry products is arranged in the open-end questions and closed-end questions in the questionnaire to collect the necessary primary data.

The present study based on primary data and secondary data collected from 20 poultry farmers by adopting purposive sampling since all the farmers were not mentally prepared to respond to the questionnaires. A well-structured questionnaire was prepared and was pre-tested.

First of all, broiler farms of Jaunpur district which had been in production continuously for at least one year were identified with the help of officials of the Jaunpur, hatchery personnel, feed manufacturers, poultry services representatives and dealers and a list of 20 such farms where proper basic records are being maintained, was prepared. The relevant data pertaining to the year 2015- 2016 were collected from the selected poultry farmers through personal interview using the pre-tested interview schedules.

The present study was undertaken to look into the investment pattern, costs and returns structure, production efficiency and economic viability of poultry farms in Jaunpur District.

The major analytical tools employed for the study were tabular analysis with the following mathematical techniques and economic concepts: Production performance, feed consumption, feed conversion ratio, livability, broiler age at marketing and body weight of broiler at marketing. For economic appraisal, data related to investment on building and equipment, expenditure on chicks, feed, labour, electricity, medicine and other miscellaneous items and income from sale of live broilers, manure and empty feed bags were obtained from the farmers for each batch. Finally gross returns, net returns, benefit-cost ratio and pay-back period were carried.

For analysis, simple averages and percentages were used. For studying the financial viability of poultry enterprise, benefit-cost ratio and payback period were calculated using standard procedures.

### **Benefit-cost ratio**

Here, we compare the present worth of cost with present worth of benefits. The most common procedure of selecting a project is, to choose the project, having B-C ratio of more than one.

### **Payback period**

It measures the number of years required to recover the original cash outlay invested in the project. The maximum acceptable pay-back period is fixed by taking into account the reciprocal of the cost of capital. This can be termed as the cut-off point. Generally a project having a pay-back period more than cut-off point is not estimated.

### **Parameters relating broiler project implementation**

#### **1. Broiler chicken**

Local market price of one day old chick = 28(Including transportation charges etc.)

Local market price fluctuates from time to time.

**2. Broiler feed**

Feed is consumed @ 3 kg/Broiler for 42 days. We do not get appropriate live weight if broilers are not fed properly.

**3. Live weight**

In 42 days, the broiler attains a live weight of about 1.8 kg (approx.).

**4. Death Rate**

Death rate is approximately 5%. But during brooding, there may be slight variation in death rate.

**5. Sale price**

Live weight is sold @Rs.106/kg.

Dressed weight is sold @ Rs.180/kg.

**6. Feed conversion ratio (FCR)**

FCR for broiler is 1:1.6 and 1:3 viz. for every one kg of live weight 1.6kg and 3kg of feed is required in summer and winter respectively. There may be slight variation also.



## **RESULTS AND DISCUSSION**

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### **Socio-economic profile of the poultry farmers**

The healthy growth in poultry output over last decade makes India one of the fastest growing major world market in the segment with future growth potential remaining strong on back of wide gap against global per capital consumption norms and favorable socio economic factors.

Hence an attempt was made in this section to explore the socio-economic profile of the poultry farmers so as to identify important parameters crucial for improving their farming system. A total of 20 farmers were surveyed, which has shown in table.

**Table showing socio-economic profile of the respondents**

<b>Socio-Economic Status</b>	<b>Characteristics</b>	<b>Frequency</b>	<b>Percent</b>
<b>Age</b>	Below – 35 Years	4	20
	36 Years – 45 Years	9	45
	Above – 46 Years	7	35
<b>Educational Qualification</b>	Secondary	3	15
	Higher Secondary	4	20
	Graduate	11	55
	Post Graduate	2	10
<b>Occupation</b>	Businessmen	9	45
	Agriculturist	8	40
	Government	1	5
	Other	2	10

*Contd...*

<b>Socio-Economic Status</b>	<b>Characteristics</b>	<b>Frequency</b>	<b>Percent</b>
<b>Monthly Income</b>	Rs.1000 – Rs.50,000	12	60
	Rs.50,001 – Rs.1,00,000	6	30
	Rs.1,0,001 – Rs.1,50,000	1	5
	Rs.1,50,001 – Rs.2,00,000	1	5
<b>Household Size</b>	2- 4 Persons	1	5
	5-7 Persons	12	60
	8-10 Persons	7	35
<b>Experience</b>	Less than 5 years	2	.10
	5-10 years	8	40
	10-15 years	7	35
	15-20 years	2	10
	Above 20 years	1	5
<b>Source of Finance for Poultry Business</b>	Own	12	60
	Bank loan	5	25
	Non-Banking Financial Institution	3	15
	<b>Total</b>	<b>20</b>	<b>100</b>

Source: Estimation based on Field survey

The result shows every farmer in this study area was young and is still in their active age. The implication is that younger farmers are likely to adopt modern techniques factor. The findings is in agreed with sane et al., (2007) that majority of farmers were within the age group of between 36 years to above 46 years are still in this active age and more adoptive to new techniques. Information about educational qualification of selected poultry farmers were analysed and found that all (100 percent) the farmers were educated. It is evident that the level of education will contribute significantly to decision making capacity of a farmer. This findings support Obinne, (1991); Alabi and Aruna (2006) and Ndlahitsa (2008) that the level of education determines the quality of skills of farmers, their abilities and low well they

adopt innovations and technologies around them. The poultry farming is a part time job and most of the farmers do not depend on the business and agriculture as the sole mean of their livelihood. This may be due to the fact that farmers usually want to add to their farm income. These findings agreed with the findings of amaze (2000). That it is common for some farm household to fulfill their earnings from farming occupation for their livelihood.

Majority (90 percent) of the respondents were earning from Rs. 1000 to Rs.100000/-. The findings of the study revealed that majority of them were good earners from poultry farming. The farmers will spend less on food, education and other living expenses on the dependents. These expenses may account for high savings and they can spend for farming. The finding back up the result of Igodan et.al (1988) that more educated farmers tends to have smaller families and Arther (2006)observed that small family size enjoy better economic and social lives which have greater influence on better understanding of environmental conditions. Poultry farming experience of selected farmers that nearly 75 percent of them having 5-15 years and the findings support Oluwatayo et.al (2008) that farmers which were experienced would be more efficient, better knowledge of climatic conditions and market situation and then expected to run a more efficient and profitable business.

### **Production performance**

The data regarding average feed conversion ratio, livability percentage, and age and body weight at marketing are presented below:

#### **Parameters**

Feed conversion ratio	–	In summer	1.60
	–	In Winter	3.00
Age at marketing (days)		42.21	
Body weight at marketing (kg)		1.80	
Livability (%)		95	

### **Feed Conversion Ratio**

It is clear from data that the feed conversion ratio was **1.60** and **3.00** in summer and winter respectively. It shows that **1.60kg** feed is required to obtain one kg body weight. In other words, as lower the feed conversion ratio, the higher is the feed efficiency. Rajendran (1998) in his study in and around Coimbatore has recorded feed conversion ratio of 2.07. However, Devarajan (1981) had obtained a higher feed conversion ratio 3.09.

Lower the value of feed conversion ratio, higher will be the production efficiency in broiler farming. It means the birds consume less amount of feed to attain a given amount of live weight.

### **Livability**

The livability percentage of broilers in the study area was **95**. The livability percentage was almost same in the study area. Rajendran (1998) has recorded livability of 92.91 per cent in small and 93.26 per cent in large farms. Aggarwal et al. (1981) had observed a lower livability when the birds were marketed at eighth week (88.6 %) than at sixth week (91.3 %).

### **Age at marketing**

The average age at marketing was 42.21 days. It also indicated that average age at marketing, was more or less the same in the study area. The age at marketing observed in the present study was found to be lower than the findings of Rajendran (1998) and Saravanan (1998) but similar with the results of Raghavan (1997).

### **Body weight at marketing**

The average body weight at marketing was **1.80**. The body weight at marketing recorded in this study is better than the weights reported by Verma and Pillai (1989) and Rajendran (1998), but it was nearly the same as recorded by Raghavan (1997). The overall improvement in body weight in this study might be due to good quality feed, better management and improved genetic potential of the birds.

### Problems faced by the poultry farmers

Poultry Farmers were asked to rank the problems faced by them while doing their farming. The problems were listed and the farmers were asked to rank these problems in their order of priority. The ranks were then converted into percent position and from the percent position the individual scores were determined on a scale of 100 points by using Garrett's Rating Scale. The ranks corresponding to each problem are presented in table.

**Table showing problems of the poultry farmers**

S.No.	Problems	Rank
1.	Availability of Raw Materials	11
2.	Improved Technology	13
3.	Control Measures	8
4.	High Feed Cost and Low Broiler Prices	1
5.	Lack of Transport/Storage Facilities	10
6.	Investment	2
7.	Labour Problem	7
8.	Power Supply	4
9.	Feed and Marketing	3
10.	Export Facilities	9
11.	Health Coverage	5
12.	Managerial Problems	6
13.	Extension and Training Facilities	12

Source: Based on Field Survey

The major problem faced by the farmers were-High Feed Cost and Low Broiler Prices (1<sup>st</sup>rank), followed by Investment (2<sup>nd</sup> rank), Feed and Marketing (3<sup>rd</sup>rank), Insufficient Power Supply (4<sup>th</sup> rank), Health Coverage (5<sup>th</sup> rank), Managerial Problems (6<sup>th</sup>rank), Labour Problem (7<sup>th</sup>rank), Control Measure (8<sup>th</sup> rank), lack of Export Facilities (9<sup>th</sup>rank), Lack of Transport/Storage Facilities (10<sup>th</sup>rank), Availability of Raw Materials (11<sup>th</sup>rank), Extension and Training Facilities (12<sup>th</sup>rank) and could not utilize Improved Technology (13<sup>th</sup>rank). In short the poultry farmers wanted to get high price for broilers, solution for high cost feed problems, to encourage investment and continuous power supply for their broiler production.

**Cost and return analysis**

Broiler grow very fast in 6 week time attain a live weight of 1.5 kg. They are reared mainly for meat production. We procure 1-day-old chick (broiler) from hatcheries and after rearing for 6 weeks sell in the market.

**Housing :( It is called coop)**

It should be airy, elevated and constructed in east- weas direction for 1000 broiler, we build coop measuring 1250 sq. feet and divide into 5 parts each having an area of 250 sq. feet.

Length of coop	50 ft.
Width	25 ft.
Height in the center	8 ft.
Height at the sides	6 ft.

**Requirements**

For 1000 broiler following are the essential requirements-

(1) **Brooder** – It is a basket made of bamboo having diameter of 3 ft. and having 4 – bulbs. This way 5 basket would be required, which is kept hanging in each room.

(2) **Feeder** - is used for feeding the fowls

Length	3ft.
Width	4 inches
Height	3 inches

For 1000 broiler upto 1 month, 40 feeders will be required. Feeders are made of iron/ wood. For Broiler, above 1-month age ‘Hanging feeders’ should be provided.

(3) **Waterer (2 types)**

(a) Water fountain

(b) Water vessels.

One water fountain (5 lt.) for 1000 broilers, 10 water fountain are required water vessels are made of plastics/ Iron.

For 1000 chicken -10 water vessels are required. Water vessels are used for chicken above 1 month of age.

(4) **Litter:** In the beginning we spread uniform layer of 2 ft saw dust. After 3 weeks we spread another 2ft uniform layer of saw dust (over the previous one) so that the total thickness of the dust is 4 ft.

(5) **One day chick-** advance booking should be made for regular supply of one day old chick from a reliable hatchery.

After an interval of 15 days , 250 one day old chick should be brought so that there is no problem in marketing.

- (6) **Feeding-** For 1000 broilers, 35 quintal feed is required in the 6 weeks' time. It should well- balanced.

### Components

Maize	50 %
Rice polish	16%
G.N. cake	16%
Fish meal	12%
Molasses	3%
Vit/ Mineral salts	3%
Total	100%

### Prevention of diseases

- (a) Within 6- 7 days after procurement of 1 day old chick, one vaccination for Ranikhet should be given (in eye/nose, by dropper).
- (b) After one month vaccination should be given through drinking water.

### Total expenditure of an unit of 1000 broilers

#### (A) Non-recurring expenditure

(a)	Housing: 1250 sq feet	@ Rs.200/sq feet -	Rs. 250000
(b)	Requirements of fowl	@ Rs.18/ fowl	Rs.22500
(c)	Store room for feed and Medicine (100 sq ft.)	@ Rs.200/ sq ft.	Rs.20000
<b>Total</b>			Rs.292500

**(B) Recurring expenditure**

(a) Buying 1050 chick(5% extra are brought keeping in view their death rates)	@ Rs.28/chick	Rs.29400
(b) Feeding for 1050 broilers (3 kg for each) Total feed is 3150 kg	@ Rs.31.42/kg.	Rs.99000
(c) Medicine / Electricity and other uncertain expenditure	@ Rs.12/chick	Rs.12000
(d) Labour charges	@ Rs.13.50/chick	Rs.13500
<b>Total</b>		Rs.153900

**Total returns**

(1) Selling of 1000 broilers (1.8 kg each) Total weight of broiler is 1800 kg	@106/ kg	Rs.190800
(2) 45 empty sacs sold	@25/bag	Rs.1125
(3) Selling of manure(20tonnes)	@ 250/ qt.	Rs.5000
<b>Total</b>		Rs.196925

**In one unit 8 crops of broiler are reared in 1 year**

Return in 1 crop	Rs.196925
Return in 8 crops	Rs.1575400
Total income in one year	Rs.1575400
Total expenditure in one year-(8×Rs.153900)+(5% of non-recurring expenditure)	Rs.1231200+Rs.14625 = 1245825

$$\text{Net income} = \text{Rs.1575400} - \text{Rs.1245825} = \text{Rs.329575}$$

**A. Non-recurring expenditure**

S.No.	Description	Amount (Rs.)	% of total
1	Housing	250000	85.47
2	Requirements of fowls	22500	7.69
3	Store room for feeds and medicine	20000	6.83
	<b>Total</b>	<b>292500</b>	<b>100.00</b>

**B. Recurring expenditure**

S.No.	Description	Amount (Rs.)	% of total
1	Buying chick	29400	19.10
2	Feed for broilers	99000	64.32
3	Medicine, electricity and other uncertain expenditure	12000	7.79
4	Labour charges	13500	8.77
	<b>Total</b>	<b>153900</b>	<b>100.00</b>

**Statistics with Reference to total expenditure for Starting the Broiler project**

S.No.	Item	Amount (Rs.)	% of Total
1	Housing	250000	56
2	Requirements of fowls	22500	5.04
3	Store room for feed and medicine	20000	4.48
4	Buying chicks	29400	6.58
5	Feed for chicks	99000	22.17
6	Medicine, electricity and other uncertain expenditure	12000	2.68
7	Labour charges	13500	3.02
	<b>Total</b>	<b>446400</b>	<b>100.00</b>

**Statistics with reference to Returns from a single crop of broiler**

S. No.	Item	Amount (Rs.)	% of total
1	Selling of 1000 broilers (1.8 kg. of each)	190800	96.89
2	45 empty sacs sold @25/sac	1125	0.571
3	Selling of manure (20 tons @Rs.250/ qt.)	5000	2.539
	<b>Total</b>	<b>196925</b>	<b>100.00</b>

**Benefit-Cost Ratio (B-C Ratio)**

$$\text{Total income} = 1575400$$

$$\text{Total expenditure} = 1241437$$

$$\text{Benefit} = 333963$$

$$\text{B-C Ratio} = \frac{329575}{1245825}$$

$$= 0.264$$

**Pay-back period**

The pay-back period of the poultry project is estimated by using the straight forward formula:

$$P = \frac{I}{E}$$

Where,

$$P = \text{Payback period of the project in years,}$$

$$I = \text{Investment of the project in Rs. And}$$

$$E = \text{Annual net cash revenue in Rs.}$$

$$P = \frac{29250}{329575}$$

$$= 0.88 \text{ year means } 321.2 \text{ days.}$$



## **SUMMARY AND CONCLUSION**

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The present study was carried out in Jaunpur district of Uttar Pradesh. The specific objectives of the study are:

1. To study the socio-economic profile of broiler farmers.
2. To study the cost and return in broiler production.
3. To estimate the resource productivity.
4. To identify the problems faced by broiler farmers.

The rapid development that occurs in commercial sector of poultry farming in recent years and exhaustive potentialities for future development of poultry has justified the selection of area.

The result shows every farmer in this study area was young and is still in their active age.

Information about educational qualification of selected poultry farmers were analyzed and found that all (100 percent) the farmers were educated.

The poultry farming is a part time job and most of the farmers do not depend on the business and agriculture as the sole mean of their livelihood. This may be due to the fact that farmers usually want to add to their farm income.

Majority (90 percent) of the respondents were earning from Rs.1000 to Rs.100000/-. The findings of the study revealed that majority of them were good earners from poultry farming. The farmers will spend less on food, education and other living expenses on the dependents. These expenses may account for high savings and they can spend for farming.

Poultry farming experience of selected farmers that nearly 75 percent of them having 5-15 years. Farmers which were experienced would be more efficient, better knowledge of climatic conditions and market situation and then expected to run a more efficient and profitable business.

The feed conversion ratio was 1.60 and 3.00 in summer and winter respectively. It shows that 1.60 kg feed is required to obtain one kg body weight.

The livability percentage of broilers in the study area was 95. The livability percentage was almost same in the study area.

The average age at marketing was 42.21 days. It also indicated that average age at marketing, was more or less the same in the study area.

The average body weight at marketing was 1.80. The overall improvement in body weight in this study might be due to good quality feed, better management and improved genetic potential of the birds.

The major problem faced by the farmers were-High Feed Cost and Low Broiler Prices (1<sup>st</sup>rank), followed by Investment (2<sup>nd</sup> rank), Feed and Marketing (3<sup>rd</sup>rank), Insufficient Power Supply (4<sup>th</sup> rank), Health Coverage (5<sup>th</sup> rank), Managerial Problems (6<sup>th</sup>rank), Labour Problem (7<sup>th</sup>rank), Control Measure (8<sup>th</sup> rank), lack of Export Facilities (9<sup>th</sup>rank), Lack of Transport/Storage Facilities (10<sup>th</sup>rank), Availability of Raw Materials (11<sup>th</sup>rank), Extension and Training Facilities (12<sup>th</sup>rank) and could not utilize Improved Technology (13<sup>th</sup>rank). In short the poultry farmers wanted to get high price for broilers, solution for high cost feed problems, to encourage investment and continuous power supply for their broiler production.

The present study is aimed at finding out the cost and return from broiler production. Broiler which grows very fast in 6 week time and attain a live weight of 1.5 kg. They are reared mainly for meat purpose.

Total expenditure of a unit of 1000 broiler is divided into Non-recurring expenditure and Recurring expenditure.

Non-recurring expenditure include housing, storeroom for feed and medicine and requirements of the fowls. Housing account 85.47% of the total non-recurring cost followed by requirements of the fowls (7.69) and storeroom for feed and medicine (6.83).

Recurring expenditure includes cost in buying 1050 chick @ Rs.28/chick (5% extra chick are brought keeping in view their death rate), feeding cost, medicine, electricity and other uncertain expenditure. Of the total recurring expenditure feed for broilers account 64.32% followed by cost in buying 1050 a day old chick (19.10%) and medicine, electricity and other uncertain expenditure (7.79%).

Total expenditure incurred in production of a crop of broiler is Rs.155728, which include recurring and non- recurring expenditure both. In one year the total expenditure in production of 8 crops of broiler is Rs.1245825 (where we are taking recurring expenditure + depreciation @ 5% of non- recurring expenditure).The total income in one year is Rs.1575400. Thus the real income in one year is by the production of 8 crops is Rs.329575.

Benefit cost ratio was 0.264 and payback period was 0.88 year (322days).

At one level, the study is aimed at measuring the level of satisfaction perceived by the poultry farm owners and at another level, aims at measuring the intensity of the major benefits enjoyed and problems faced by the poultry farm owners on the basis of issues faced.

For this purpose, 20 sample respondents were selected purposively from Jaunpur District, Uttar Pradesh state. Field survey technique was employed to collect the first hand information from the sample respondents. Questionnaire was the main tool employed to collect the pertinent data. The data thus collected were arranged in simple tabular forms and appropriate statistical tools were used for data analysis.

Based on these analyses, interpretations were made systematically and attempt is made to recapitulate the key findings and conclusion.

Respondents' experience was studied and was found that the respondents who have above 10 year experience have perceived the maximum level of satisfaction than the respondents with an experience of below 5 years and 5-10 years.

Other occupations owned by the respondents were studied and the analysis showed that businessmen have perceived the maximum level of satisfaction in poultry business than the agriculturists and private sector employees' category.

It was found that family size plays a crucial role in the poultry business. The study revealed that respondents belonging to medium size family have perceived the maximum level of satisfaction than those the small size family and large size family.

It is witnessed from the analysis that majority of the respondents got the financial assistance through bank loans and own financial.

While analyzing the reasons for selecting poultry farm business it is learned that majority of the respondents selecting poultry farm business due to its smallness in size.

Problems faced by the respondents in poultry business was studied and found that high feed cost and low broiler price was ranked first. It is followed by lack of capital for investment.

Poultry farm owners' expectation was also studied and it was found that the farmers are expecting the financial support from the government and loans subsidies.

The poultry sector also brought under the agriculture sector, hence, adequate loans and government subsidies may be granted.

To avoid shortages of funds due to credit sales to the intermediaries, poultry products should be sold directly by poultry farm owners or through its associations.

The most of the poultry farm owners arranging their financial needs through the banks. Hence, it is suggested that the poultry farm owners should creating an efficient marketing channel that will help them to provide remunerative prices to poultry farm owners and avoid financial crisis.

The large poultry farm owners are playing a major role in selling of their poultry products. Whereas , the small and medium poultry farm owners are mainly depending upon the large poultry farms for fixing the price of their products. Due to this they are facing hardship to overcome this situations, the government may organize overall market structure to sale of their poultry products.

The poultry business are frequently affected by various diseases like Avian Influenza, H2N1, and bird flu, etc., Hence, it is suggested that the poultry farm owners should follow the preventive measures of vaccination and basic medication procedure.

The poultry farm owners facing the problems like “non-availability of marketing intelligence survey”. Hence, it is suggested that the poultry farm owners should know thoroughly about domestic and international market demand and consumers preference through marketing intelligence information system.

The age-wise analysis and level of satisfaction of poultry farm owners showed that the old age poultry farm owners have perceived the maximum level of satisfaction than the young and middle age category. Hence, it is suggested that poultry entrepreneurs awareness programme may be conducted exclusively young generation and graduates.

The economic analysis of poultry has been carried out on the basis of primary data collected from study area. It was found that majority poultry farmers have adopted this business as a primary source of their income. Moreover, they are financially sound and few of them forced to rely on institutional and non-institutional source of credit due to the limited credit facility extended by the financial institutions. Cost of feeding constitutes a major problem to most of the poultry farmers as it

accounts for a larger percentage of total cost of production, since poultry birds cannot do without food. Majority of the poultry farmers identified high cost of production especially cost of feed ingredients as their major constrain. Therefore, government should endeavor to subsidize inputs such as feed ingredients and this can be achieved through poultry farmer's participation in crop production.



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# APPENDIX

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## SCHEDULE

### *Socio-Economic Profile of the Respondents*

<b>Socio-Economic Status</b>	<b>Characteristics</b>
<b>Age</b>	Below – 35 Years
	36 Years – 45 Years
	Above – 45 Years
<b>Educational Qualification</b>	Secondary
	Higher Secondary
	Graduate
	Post Graduate
<b>Occupation</b>	Businessmen
	Agriculturist
	Government
	Private
	Professionals
<b>Household Size</b>	Small (<3Persons)
	Medium (3-5 Persons)
	Large (Above 5 Persons)
<b>Experience</b>	Less than 5 years
	5-10 years
	10-15 years
	15-20 years

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	Above 20 years
<b>Monthly Income</b>	Rs.1000 – Rs.50,000
	Rs.50,001 – Rs.1,00,000
	Rs.1,00,001 – Rs.1,50,000
	Rs.1,50,001 – Rs.2,00,000

***Purpose of Doing Poultry Business*****S.No. Purpose**

1. Availability of Raw Material
2. Demand for the product in the market
3. Available human resources
4. Other

**Reason for Selecting a Poultry Business****S.No. Reasons**

1. Self-employment
2. Family Business
3. Govt. Encouragement
4. Easy to start
5. Others

**Sources of Finance for Poultry Business****S.No. Sources**

1. Own
2. Bank loan
3. Private bank
4. Non-banking financial institutions

***Production performance***

Number of Birds reared/Batch	.....
Livability	.....
Age at marketing	.....
Body weight at marketing	.....
Total feed consumed	.....

***Cost and Revenue of Poultry Farmers*****Cost items****1. Fixed Cost**

Rental Value of land
Depreciation on Fixed Assets
Repairs and Maintenance
Investment on building
Investment on equipment
Interest on capital investment
Miscellaneous fixed cost

**Total fixed cost****2. Variable cost**

Chick cost
Feed Cost
Litter cost
Labour cost
Cost of Electricity/ Diesel
Cost of Vaccination / Medicines

Interest on Working Capital

Interest on Investment on Birds      Health cover

Cost of Water

Miscellaneous cost

**Total variable cost**

### **3.      Marketing cost**

Transportation Cost

Advertisement Cost

Total Marketing Cost

### ***Revenue items***

Sale of broiler

Sale of Gunny Bags

Sale of Manure

**Total Revenue**

Gross Margin

**Net Revenue**

### ***Problems of the Poultry Farmers***

<b>S.No.</b>	<b>Problems</b>	<b>Rank</b>
1.	Availability of Raw Materials	
2.	Improved Technology	
3.	Control Measures	
4.	High Feed Cost and Low chicken Prices	
5.	Lack of Transport/Storage Facilities	
6.	Investment	

7. Labour Problem
8. Power Supply
9. Feed and Marketing
10. Export Facilities
11. Health Coverage
12. Managerial Problems
13. Extension and Training Facilities

