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**COST AND PROFIT ANALYSIS OF POULTRY FARMING  
(With Reference to Aligarh District)**

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**ABSTRACT**

India's poultry sector represents one of the biggest success stories of the country over the past decade. India is the second largest egg producer and third largest broiler-chicken producer in the world with production estimates of 65,000 million (2.8 million tonnes) eggs and 3 million tonnes of broiler meat per year. The market is estimated to be worth about INR 90,000 Crore (EUR 12.65 Bn). Nearly 20 million farmers are employed in poultry industry with around 1,000 hatcheries operating across India. Total poultry population in Uttar Pradesh is about 11.71 million birds. Over the period of 10th plan, fowl population has decreased by around 3.5 per cent the total poultry by 3.3 per cent in the State. Ducks and other birds have shown an increase of 2.5 per cent during the period - over 60 per cent of them comprising indigenous fowls in the backyards of rural households. While poultry farming does provide alternative livelihood to the small and marginal farmers, they also face various obstacles like lack of institutional credit, shortage of labour force, cost escalation of coal, electricity, high mortality of birds especially in summer, loss owing to bird flu, payment issues with integrators either delayed or FCR related losses. Under this background, the present study has been undertaken in Aligarh District with the aim of exploring the problems faced by the broiler farms under the given changed condition of contract farming and the satisfaction levels of farmers with the Integrator. The study would look into the various Socio-Economic Characteristics of broiler farmers.

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**INTRODUCTON**

Poultry is one of the fastest growing segments of the agricultural sector in India today. The history of poultry in India is about 5000 years old. But the strange paradox of this country is that although it introduced poultry to the world, it itself remained indifferent to it for a long time. Credit for developing the poultry in this country should go to the Christian Missionary Organization and some British people who brought some superior exotic breeds in beginning of 20<sup>th</sup> century. In 1950 the production of egg was only 1.8 billion eggs, in 1995 it was 27 billion eggs and in 2014-15 it is 79 billion eggs which shows a tremendous growth in poultry industry.

India's poultry sector represents one of the biggest success stories of the country over the past decade. India is the **second largest** egg producer and **third largest** broiler-chicken producer in the world with production estimates of 65,000 million (2.8 million tonnes) eggs and 3 million tonnes of broiler meat per year. The market is estimated to be worth about INR 90,000 Crore (EUR 12.65 Bn). Nearly 20 million farmers are employed in poultry industry with around 1,000 hatcheries operating across India. While agricultural production has been rising at the rate around 2% per annum over the past two to three decades, poultry production has been rising at the rate of around 8-10%, posting an annual turnover of US\$ 7500 million. The domestic market has displayed increasing buoyancy, owing to a growing rural market based on lower feed

and poultry prices, growing disposable income and increased awareness of new technologies and mechanisations in the sector. Nevertheless, urban demand still accounts for 80% of domestic consumption.

Total poultry population in Uttar Pradesh is about 11.71 million birds. Over the period of 10th plan, fowl population has decreased by around 3.5 per cent the total poultry by 3.3 per cent in the State. Ducks and other birds have shown an increase of 2.5 per cent during the period - over 60 per cent of them comprising indigenous fowls in the backyards of rural households.

Poultry production in Uttar Pradesh consists of two distinctly different streams: the organized poultry industry made up of exclusively of commercial hybrid birds and the backyard system with indigenous fowl in the rural areas. Organized poultry industry in UP is stagnant and over half of the eggs and poultry meat consumed in the state is imported from States as far away as Andhra Pradesh and some from neighbouring Punjab and Haryana. While the states neighbouring States (Punjab and Haryana) have a successful and flourishing poultry industry and account for nearly 40 per cent of the table eggs and broiler import into the State, UP itself has lagged far behind in organized egg / broiler production. Overall Uttar Pradesh stands 1st in milk production, 5th in wool production, 7th in egg production and 1st in meat production in the country.

Poultry farming is an enterprise of its own type and varies significantly than any other business or enterprise. So much so, the broiler business significantly differs from layer business. Beside the cost of production for 100 layers and 500 layers and again 2,000 layers does not show any proportions increase or decrease. On the whole the cost of production varies from unit and no uniform cost assessment may be made for all the poultry units in a particular area. The main reason is that the elements of the cost or production are so peculiar in nature that nothing can be ascertained with definiteness.

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## **SCOPE OF STUDY**

As there is a systematic process of production of eggs and integrated marketing system prevailing here, any study on cost of production of eggs and other products may be useful to the farmers to analyse the pros and cons of the existing production and marketing system of the poultry units. Against this background it was proposed to conduct a study on the production and marketing of poultry products and their problems and to analyse the factors influencing the process of production and marketing.

The present study focuses its attention on the production efficiency and marketing potentialities of the poultry units and their related problems. The production and marketing of poultry farming products depends on several factors but the price of the egg is fixed by National Egg Co-ordination Committee (NECC). So the egg producers are not in a position to estimate the profit or loss in egg production under the highly fluctuating nature of prices of eggs. A study on production, marketing of eggs and other poultry products like cull birds, gunny bags and manure and the factors influencing production and marketing of poultry products and their problems in the process of production and marketing will bring out the cost of production of eggs, demand for eggs, price for eggs, profit in poultry farming and ways to solve the problems in the units.

## RESEARCH METHODOLOGY

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

## POULTRY DEVELOPMENT IN ALIGARH DISTRICT

It is estimated that there are 72,326 poultry birds in the district. There is huge potential to develop poultry sector. Small poultry units need to be encouraged to help small and marginal farmers.

Unit Cost

Activity	Unit Size (Nos.)	No. of Units	Financial outlay (Rs lakh)	Subsidy	Total subsidy cost (Rs lakh)
Commercial Layer	500	34	51.00	25%	12.75
Commercial Broiler	500	105	53.55	25%	13.38

## ELEMENTS OF COST OF PRODUCTION

In the poultry industry the elements of cost of production may be summarized as under:-

- Cost of Chicks:** Cost of chicks or D.O.C. (Day Old Chicks), this is the cost charged by hatcheries for supplying chicks to the poultry units.
- Vaccinations and Medicines:** this item includes the cost of vaccinations and medicines for the treatment of poultry birds.
- Poultry Feeds:** this is the cost of poultry feeds fed to birds from D.O.C. to the item of sale of the birds. Poultry feeds account for the maximum share of the cost of production of eggs and poultry meat.
- Electricity and Fuel Charge:** In this item electric and fuel charge are included.
- Labours Charges:** This element include the wages paid to the hired labour. Sometime the services of the self labour are also added to the labour cost.
- Interest on Capital Employed:** item is the amount of interest on the fixed capital used for poultry farming. When Money is Borrowed from outside for the poultry industry the interest charged by the lending agency is taken into account. When the money is invested form the own resources the normal interest is charged on the capital investment in poultry industry.
- Depreciation:** This include the depreciation charged on the poultry houses/sheds and poultry equipments. For broilers depreciation is usually charged for 3 months, whereas for layers depreciation is charged for 18 months.
- Other Miscellaneous Charges:** All the other sundry expenses, which are not covered under any of the aforesaid seven heads, are added in this head.

## COST OF PRODUCTION FOR LAYERS

It has been tried to calculate an accurate cost of production, sale price and profit of 100 layers poultry units in the Aligarh District. Expenses for layers are different to some extent than for the broilers. It must be borne in mind that layers start laying when they attain the age of six month and lays maximum eggs till they become 18 months old and after 18 months they should be culled out. For layers the following are the expenses to be incurred on them:

- Interest on Fixed Capital (Poultry House/sheds and equipments)
- Depreciation on the poultry houses and poultry equipments.
- Cost of D.O.C. or Poultry Chicks.
- Feed of Layers for 18 months or so.
- Hired labour charges for maintaining the item.
- Electricity and fuel charge.

7. Medicines and vaccination charge; and
8. Other miscellaneous charges and contingencies.

### EGG PRODUCTION

Birds usually start to lay eggs at around five months (20-21 weeks) of age and continue to lay for 12 months (52 weeks) on an average, laying fewer eggs as they near the moulting period. The typical production cycle lasts about 17 months (72 weeks) and involves three distinct phases, as follows.

**Phase 1: Small chicks or brooders.** This phase lasts from 0 to 2 months (0-8 weeks) during which time small chicks are kept in facilities (brooder houses) separate from laying birds.

**Phase 2: Growers.** This phase lasts about 3 months, from the ninth to the twentieth week of age. Growers may be either housed separately from small chicks or continue to be reared in brooder-cum-grower houses. It is important to provide appropriate care to the growers, particularly, between their seventeenth and twentieth week of age as their reproductive organs develop during this period.

**Phase 3: Layers.** Growers are transferred from the grower house to the layer house when they are 18 weeks old to prepare for the laying cycle. Birds typically lay for a twelve-month period starting when they are about 21 weeks old and lasting until they are about 72 weeks old.

### PRODUCTION PLANNING

On an average a bird produces one egg per day. Furthermore, not all birds start to lay exactly when they are 21 weeks old. Planning is therefore required for egg production to be constant so as to meet the market demand. In areas where the climate is hot and humid, commercial hybrid laying birds produce on average of 180 to 200 eggs per year. In very high temperature climate, birds can produce on average of 250 to 300 eggs per year.

### DATA ANALYSIS

#### Fixed Capital-

S. No.	Items	4,000 Layers	4,000 Broilers
1.	Sheds, Poultry Houses and Electric Fittings etc.	Rs. 42,200	Rs. 81,250
2.	Poultry Equipments	Rs. 7,750	Rs. 11,250
	<b>Total Fixed Capital</b>	<b>Rs. 49,950</b>	<b>Rs. 92,950</b>

#### Interst and Depreciation on Fixed Capital

S. No.	Items	4,000 Layers	4,000 Broilers
1.	Depreciation on total fixed capital @ 20% p.a. for 1.5 year	Rs. 14,985	-
	Interest on fixed capital		
	(i) @ 14% p.a. for 1.5 year		-
2.		Rs. 10,490	Rs. 3,700
	(ii) @ 16% p.a. for 3 months		
3.		-	Rs.9,250
	Depreciation on total fixed capital @ 40% for 3 months		
	<b>Total</b>	<b>Rs. 25,475</b>	<b>Rs. 12,950</b>

**Operation Cost**

S. No.	Items	4,000 Layers	4,000 Broilers
1.	D.O.C.	Rs. 1,10,400	Rs. 87,480
2.	Feed Consumption		
	(i) up to 75 weeks	Rs. 22,40,000	-
	(ii) up to 10 weeks	-	78,400
3.	Labour Charges	Rs. 1,32,000	Rs. 15,600
4.	Medicines & Vaccination etc.	Rs. 69,550	Rs. 5,700
5.	Miscellaneous Charges	Rs. 31,150	Rs. 6,240
	<b>Total</b>	<b>Rs. 25,83,100</b>	<b>Rs. 1,93,420</b>

**Total Cost-**

S. No.	Items	4,000 Layers	4,000 Broilers
1.	Fixed Capital	Rs. 49,950	Rs. 92,500
2.	Interest and Depreciation on Fixed Assets	Rs. 25,475	Rs. 12,950
3.	Operation Cost	Rs. 25,83,100	Rs. 1,93,420
	<b>Total</b>	<b>Rs. 26,58,525</b>	<b>Rs. 2,98,870</b>

**Receipts-**

S. No.	Items	4,000 Layers	4,000 Broilers
1.	Sales of Eggs	Rs. 33,21,240	-
2.	Sales of culled birds	Rs.4,37,280	-
3.	Sales of manure per litre material		
	Sales of gunny bags	Rs. 20,680	Rs. 18,000
4.	Sales of Broiler	Rs. 4,080	Rs. 4,150
5.		-	Rs. 4,90,620
	<b>Total Receipts</b>	<b>Rs. 37,83,280</b>	<b>Rs. 5,12,770</b>

**Net Profit-**

S. No.	Items	4,000 Layers	4,000 Broilers
1.	Total Receipts	Rs. 37,83,280	Rs. 5,12,770
2.	Total Cost	Rs. 26,58,525	Rs. 2,98,870
	<b>NET PROFIT</b>	<b>Rs. 11,24,755</b>	<b>Rs. 2,13,900</b>
	<b>% of Net Profit</b>	<b>42.31%</b>	<b>71.57%</b>

**FINDINGS AND SUGGESTIONS**

The poultry industry is among the fastest growing in the world, it's potential to attract to big-time foreign investment is negligible and that is why it is necessary to change – it needs greater integration, better cost-effectiveness and improvement in the distribution. In coming years, India will see major changes in the way chicken is sold. Live chicken sales at retail level will continue to thrive, but the entry of bigger players in this segment will give it a big lift. Poultry meat is the fastest growing component of global meat production, consumption and trade, with developing and transition economies playing a leading role in the expansion. India, the world's second largest developing economy, now has a large and rapidly expanding poultry sector. In India, the poultry sector growth is being driven by rising incomes, together with the emergence of

vertically integrated poultry producers that have reduced consumer prices by lowering production and marketing costs.

Keeping in mind all the facts, following suggestions may be drawn for cutting down the cost and the growth and development of poultry industry-

- The growing charges should be high as the contract farmers are not satisfied with the current rate growing charges given by the integrators as it is not sufficient to meet the growing expenses of coal, electricity, labour charges.
- Integrator has to treat the farmers as equals and share poultry knowledge, production and marketing techniques with them to create a win-win situation and help them to lowering the cost of production.
- There should be proper storage facility for maize as it is produced as rain-fed crop and therefore subjects to vagaries of monsoon. Maize production has not been able to keep pace with its consumption by animal feed sector.
- The poultry companies have to encourage direct procurement of maize from the farmers by using contract farming, models that are currently use in oilseeds and wheat.
- Collection of reliable, updated statistics necessary for immediate and long term planning and thus help preventing surplus, shortages etc.
- More efficient, independent, authority for disease monitoring, biological quality control should be developed.

### REFERENCES

1. Asokan S R, Arya and Anit, July – September, 2009, “Vertical Integration in Indian Agrifood Industry : Case of Broiler Chickens”, Indian Journal of Agricultural Economics, Volume 64, Issue 3, Page No. 517
2. "Agriculture and Industry Survey", Business Magazine for Agriculture, Indian Poultry Industry, October 20, 2011.
3. Dr. Jabir Ali, February, 2007 “Livestock Sector Development and Implications for Rural Poverty Alleviation in India”, Livestock Research for Rural Development
4. Gupta S.N, Azod M.P. and Singh R.J, "Economics of Poultry Farming in Kanpur City", Poultry Guide, 22 (7), 1985 pp. 53-58.
5. Kumar V.S, "Economics of Egg Production", A case study, Eastern Economics, 63 (23), 1976, pp. 1031-33.
6. “Livestock, Dairy & Poultry Outlook, October, 2012, USDA Economic Research Service, <http://usda01.library.cornell.edu/usda/fas/livestock-poultry-ma//2010s/2012/livestock-poultry-ma-10-18-2012.pdf>
7. Parkale D.G. and D.V.Karar, "An Investigation to the Economics of Egg Production", Indian Journal of Agricultural Economics, 1975.
8. Status of Poultry Industry in India ([www.tanuvac.ac.in/nea/docs/IPED/pdf](http://www.tanuvac.ac.in/nea/docs/IPED/pdf)).
9. Samarendu Mohanty and Rajendran K, “2020 Vision for Indian Poultry Industry,” International Journal of Poultry Science, Volume 2(2), 2003, pp.139-143
10. [http://www.poultrysolutions.com/knowledg/about/i\\_poultry.htm](http://www.poultrysolutions.com/knowledg/about/i_poultry.htm)
11. [www.mhr-viandes.com](http://www.mhr-viandes.com)
12. [www.poultrytimesofindia.com](http://www.poultrytimesofindia.com)
13. [www.thehindubusinessline.com](http://www.thehindubusinessline.com)
14. Chakrabarti, A. 2003. Hand Book Of Animal Husbandry, Kalyani Publishers
15. <http://www.fao.org/WAIRDOCS/LEAD/X6170E/x6170e2k.htm>
16. [www.abroad.com](http://www.abroad.com)
17. [www.cseindia.org](http://www.cseindia.org)
18. <http://www.agriculture-industry-india.com/agricultural-commodities/eggs.html>