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Economics and Marketing of Broiler and Layer Farming in Ajmer District of Rajasthan

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The present investigation was carried out in Ajmer district of Rajasthan by purposively selecting ten poultry farms from the district. The primary data were collected through structured questionnaire as well as self observations. The study concluded that per bird total cost, gross returns and net returns has been calculated as ₹ 122.67, ₹ 182.14 and ₹ 53.21 for small scale broiler farms in Ajmer district of Rajasthan, respectively. For the large size broiler farms the per bird total cost, gross returns and net returns were ₹ 114.12, ₹ 176.12 and ₹ 62.00 for Ajmer district, respectively. The results also found that for layer production the per bird total cost, gross returns and net returns was respectively, ₹ 489.06, ₹ 777.33 and ₹ 288.27 for small scale farms and for large scale layer farms ₹ 448.21, ₹ 760 and ₹ 311.79. There were five major marketing channels have been found for marketing of both broiler and layer farming in Ajmer district of Rajasthan.

Introduction

Agriculture sector is the most crucial sector of the Indian economy because the main objectives of economic policy of output growth, price stability and poverty alleviation are best sub-served in this sector. Livestock are an integral component of farming system in Indian agriculture on one hand, it helps to improve food and nutritional security by providing nutrient rich food products and on the other hand, it generates income, employment and gives cushioning effect against crop failure. Livestock is emerging as

a driving force in the growth of agricultural sector of India. Animal Products plays an important role in the socio- economic life of the country.

Livestock products such as meat and eggs are more costly, per tonne and per unit of food energy, than staple crop products. So diets in most of the developing countries generally include lower levels of intake of animal products than those in the developed or industrialized countries. To some extent, the lower levels of meat, egg and milk use are compensated for by higher levels of cereal

supply and consumption per person. Eggs and poultry meat has emerged next to milk as a contributor to the output from livestock sector in recent years. The percentage contribution of eggs and poultry meat in total meat production was 4.47 percent in 1951-52, which reached to a little over 9 per cent in 2018-19. It has also a tremendous potential of contributing to the foreign exchange earnings of the country by way of increased exports of poultry and poultry products.

Status of poultry production in India

India is one of the largest producers of poultry meat and eggs in the world. As India is the 3rd largest egg producer after China and USA with annual production of 95.22 billion eggs. Total poultry meat production in India is also 5th largest chicken producer after China, USA, Brazil and Pakistan (Agricultural Statistics at a glance 2017, GoI). Currently the total poultry population in country is 729.21 million poultry birds (as per the 20th Livestock Census of India). The per capita availability is around 74 eggs per annum in India, while as per National Nutrition Institute this should be about 180 eggs per person and per capita consumption of poultry meat is estimated at around 3.6 kg per year, which is low compared to the world average of around 17 kg per year. About 2-2.5 million tons of poultry litter, a valuable organic fertilizer, is produced as a by-product every year (Annual Report 2017-18 Ministry of Agriculture and Farmer Welfare, GoI).

Status of poultry production in Rajasthan

Rajasthan ranks 14th in egg production and contributes 10 per cent of meat production in India. Rajasthan has 80.24 lakh poultry birds. There are total 20,000 poultry rearers in Rajasthan. From the livestock census 18th to 19th the percent change in poultry bird's population was identified as positive i.e.

60.69 per cent in Rajasthan. In Rajasthan, the production of eggs has increased from 710 million in 2005-06 to 1,363 million in 2016-17. Meat production was estimated at 68 thousand tonnes in 2005-06 and it has increased up to 180 thousand tonnes in 2016-17 (Economic Review 2017-18).

In Rajasthan, Ajmer district ranks first in both egg and broiler production in the state. There are total 27 lakh poultry birds in Ajmer district and about 95 per cent of eggs are produced by 2,000 farmers and approx 45 lakh layer farming is in this district and it has the highest contribution, *i.e.* 45.12 per cent of total poultry birds in the state during 19th Livestock Census of 2012. The second largest poultry producing district of Rajasthan is Jhunjhunu with 15.78 lakh poultry bird population.

Materials and Methods

For selection of poultry farm, a complete list of all potential poultry farms of Ajmer has been prepared. The list has been arranged in chronological order according to the poultry population there after categorized into two size group *viz.*, small (1 to 15000 poultry birds) and large size (more than 15000 poultry birds) categories. Ten poultry farms five from small scale farms and five from large scale farms were selected randomly.

Cost and return estimation

The various cost components identified can be broadly classified into 'fixed costs' and 'variable costs'.

Fixed costs

The relevant components of fixed cost are depreciation on building and equipments, interest on fixed capital and salary to permanent labour

Variable cost

Variable cost includes those recurring components in poultry production are cost of feed, labour charges, veterinary expenses, repair and maintenance charges, cost of litter and miscellaneous expenses (cost of water charges, stationary, post, telephone, fuel and lubricants etc.).

Total cost

The total cost of poultry production was computed as the sum total of fixed costs and variable costs. It reflects total implicit and explicit costs that are incurred in poultry production.

Receipts or returns from poultry

Gross returns from the poultry farm are calculated separately on each farm, per year, per bird. The receipts considered for this study are the sale of eggs, culled birds for table purpose, farm manures and sale of empty gunny bags.

Net returns are calculated for each farm, per year, per month and per day by deducting the

total cost from the gross receipts.

$$\text{Net Returns} = \text{Gross Returns} - \text{Total Cost}$$

Marketing channels

Marketing channels were searched out on the basis of the poultry product reaches from producer to consumer i.e. route followed by producer for marketing his product. The information collected from poultry producers and market traders, regarding disposal pattern and purchase of poultry products was pooled together to identify marketing channels in poultry product trading.

Results and Discussion

Cost and returns from broiler and layer farming

Per bird average cost incurred in producing broiler for small size and large size farms has been presented in Table 1. It is evident from the table 1 that the total cost incurred in broiler farming for small scale farms is more than that of large scale farms. The major cost items has been found as cost of feed followed by cost of day old chicks and salary to permanent labour.

Table.1 Per bird cost of broiler production for small size and large size poultry farms in Ajmer district (in ₹)

S.No.	Particulars	Small scale farms	Large scale farms
A. Fixed cost			
1.	Depreciation on building @ 5% value of the building	2.50 (2.04)	2.80 (2.45)
2.	Depreciation on equipments@ 2% value of the equipments	2.20 (1.79)	2.68 (2.35)
3.	Salary to permanent labour	23.14 (18.86)	20.00 (17.53)
4.	Interest on fixed capital @10 % per annum	6.50 (5.30)	6.54 (5.73)
Total Fixed Cost (TFC)		34.34	32.02

		(27.99)	(28.06)
B.	Variable cost		
1.	Day old chicks @ 5 % mortality	37.00 (30.16)	37.00 (30.16)
2.	Feed @ 4 kg per bird	39.20 (31.96)	39.20 (31.96)
3.	Wages for casual labour	5.56 (4.54)	5.56 (4.54)
4.	Medicine and veterinary charges	4.36 (3.55)	4.36 (3.55)
5.	Water and electricity	1.76 (1.43)	1.76 (1.43)
6.	Cost of litter	0.22 (0.18)	0.22 (0.18)
7.	Repair and maintenance charges	0.16 (0.13)	0.16 (0.13)
8.	Other miscellaneous expenses	0.07 (0.06)	0.07 (0.06)
Total Variable Cost (TVC)		100.79 (72.27)	88.33 (72.01)
Total Cost (TFC+TVC)		139.47 (100.00)	122.67 (100.00)

Figures in parentheses indicates percentage share in total cost

Table.2 Per bird returns from broiler production for small and large size poultry farms in Ajmer district (in ₹)

S .No.	Particulars	Small scale farms	Large scale farms
1.	Sale of birds (broilers)	175.00 (96.08)	170.00 (96.53)
2.	Sale of manure	7.00 (3.84)	6.00 (3.40)
3.	Sale of empty gunny bags	0.14 (0.08)	0.12 (0.07)
Gross Returns		182.14 (100.00)	176.12 (100.00)
Net Returns (Gross Returns-Total Cost)		59.47	62.00

Figures in parentheses indicates percentage share in gross returns

Table.3 Per bird cost of small and large size layer farms in (in₹)

S.No.	Particulars	Small scale farms	Large size farms
A. Fixed cost			
1.	Depreciation on building @ 5% value of the building	6.24 (1.28)	7.13 (1.59)
2.	Depreciation on equipments @ 2% value of the equipments	6.00 (1.23)	6.50 (1.45)
3.	Salary to permanent labour	20.45 (4.18)	20.40 (4.55)
4.	Interest on fixed capital @10 % per annum	12.87 (2.63)	14.54 (3.25)
Total Fixed Cost (TFC)		45.56 (9.32)	48.57 (10.84)
B. Variable cost			
1.	Day old chicks @ 5 % mortality	21.50 (4.40)	18.00 (4.02)
2.	Feed @ 40 kg per bird	360.56 (73.72)	324.89 (72.49)
3.	Wages for casual labour	1.89 (0.39)	1.80 (0.40)
4.	Medicine and veterinary charges	46.65 (9.54)	43.44 (9.69)
5.	Water and electricity	8.50 (1.74)	7.54 (1.68)
6.	Cost of litter	1.30 (0.27)	1.00 (0.22)
7.	Repair and maintenance charges per annum	1.98 (0.40)	1.24 (0.28)
8.	Other miscellaneous expenses	1.12 (0.22)	1.73 (0.38)
Total Variable Cost (TVC)		443.50 (90.68)	399.64 (89.16)
Total Cost (TFC+TVC)		489.06 (100.00)	448.21 (100.00)

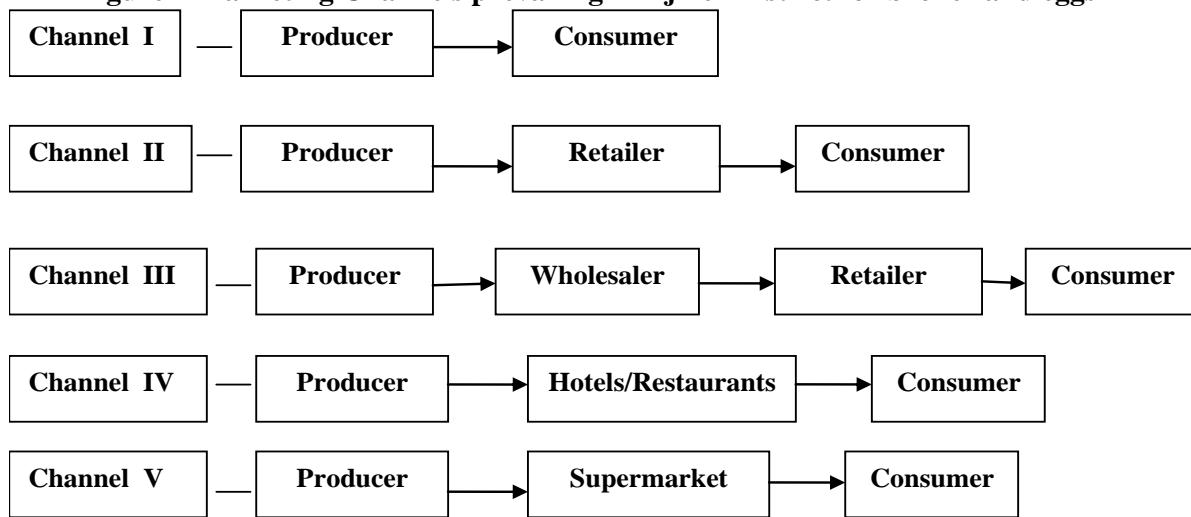
Figures in parentheses indicates percentage share in total cost

Table.4 Per bird returns from small and large size layer farms (in₹)

S .No.	Particulars	Small scale farms	Large scale farms
1.	Sale of eggs	718.00 (92.37)	708.00 (93.16)
2.	Sale of birds (cocks)	38.65 (4.97)	35.00 (4.60)
3.	Sale of manure	18.40 (2.37)	15.50 (2.04)
4.	Sale of empty gunny bags	2.28 (0.29)	1.50 (0.20)
Gross Returns		777.33 (100.00)	760.00 (100.00)
Net Returns (Gross Returns-Total Cost)		288.27	311.79

Figures in parentheses indicates percentage share in gross returns

Figure 1 Marketing Channels prevailing in Ajmer District for broiler and eggs



From the Table 2 it can be concluded that gross and net returns from small farms have been calculated as ₹ 182.14 and ₹ 59.47, respectively and for large farms these were ₹ 176.12 and ₹ 62.00. Gross returns were found as more for small scale farms and net returns were higher for large scale farms because of low total cost.

Cost and returns from small and large size layer farms

Per bird cost for egg production on small and large size layer farms has been shown in Table 3. Per bird total cost was ₹ 489.06 and ₹ 448.21 for small and large size layer farms, respectively. The major cost item was found to be cost of feed, medical and veterinary charges.

The gross and net return from per bird for small and large size layer farms has been shown in Table 4. The table revealed that per bird gross returns for small size layer farms in Ajmer district was calculated as ₹ 777.33 and for large layer farms it was ₹ 760.00. The net returns from per bird for small and large size layer farms have been calculated as ₹ 288.27 and ₹ 311.79, respectively.

Marketing channels

The marketing channels prevailing in Ajmer district for small and large poultry farms has been presented in Figure 1. The figure shows that poultry producers of Ajmer district have been found to adopt five marketing channels for disposal of their poultry products from their farms to consumers.

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