

# Capital Investment Structure of Broiler Production Units in Kathua District of J&K State

Sudhakar Dwivedi<sup>1\*</sup>, Shubham Sharma<sup>1</sup>, Ashish Kumar Isher<sup>1</sup>,  
Pawan Kumar Sharma<sup>2</sup>, P.K. Rai<sup>3</sup> and Jasbir Singh Manhas<sup>4</sup>

<sup>1</sup>Division of Agricultural Economics & Agri-Business Management, SKUAST-Jammu, J&K, India

<sup>2</sup>Krishi Vigyan Kendra, Kathua, SKUAST-Jammu, SKUAST-Jammu, J&K, India

<sup>3</sup>Advance Centre of Horticulture Research, SKUAST-Jammu, J&K, India

<sup>4</sup>Division of Agricultural Extension Education, SKUAST-Jammu, J&K, India

\*Corresponding author: dwivedi.sudhakar@gmail.com

Received: 10-01-2019

Revised: 14-04-2019

Accepted: 19-05-2019

## ABSTRACT

The present paper entitled "Capital Investment Structure of Broiler Production Units in Kathua District of J&K State" was carried out on the basis of primary data collected through pre-tested schedule-cum-questionnaire with personal interview method. For purpose of the study, three groups of broilers units were selected purposely and classified as per bird size. Group I included birds below 2000 in numbers, group II included birds 2001-5000 in numbers and group III included birds 5001 & above in numbers. 15 broiler units were selected from each group, thus a total of 45 broiler units were studied. Kathua district of Jammu & Kashmir was selected purposively as the district has highest numbers of broiler production units.

**Keywords:** Broiler, investment, production, capital

In India, poultry industry has made rapid progress in the last three decades not only in size but also in productivity, technology up gradation and quality as per strictest EU/USA norms. India is the fifth largest producer of poultry meat in the world after USA, China, Brazil and Mexico (Anonymous, 2006). Poultry meat production increased from 81 thousand tonnes in 1961 to 1900 thousand tonnes in 2005 with an increase of 8.7 per cent and 6 per cent per annum during the eighties and nineties respectively (Pradeshi, *et al.* 2003). Poultry production is unique in that it offers the highest turnover rate and the quickest returns to investment outlay in the livestock enterprises (Sanni and Ogundipe, 2005). Funds invested in poultry production are recovered faster than in any other livestock enterprise. The rate of

growth in production of poultry is the highest when compared with ruminants and other monogastric animals (Braenkaert *et al.* 2002) and the cheapest, common and the best source of animal protein (Ojo, 2002).

## MATERIALS AND METHODS

For purpose of the study, three groups of broilers units were selected purposely and classified as per bird size: Group I included birds below 2000 in numbers, group II included birds 2001-5000 in numbers and group III included birds 5001 & above in numbers. 15 broiler units were selected from each group, thus a total of 45 broiler units were studied. Kathua district of Jammu & Kashmir was selected

purposely as the district has highest numbers of broiler production units.

The data on family composition, education status, capital investment etc. has been collected through personnel interview method with the help of pre-tested schedule and questionnaire; while secondary data will be collect from different sources.

## RESULTS AND DISCUSSION

### Socio-economic and resource structure of broiler farms

In this present study, attempt has been made to find out the family composition, educational status, and capital investment of selected broiler units. Family composition and family size has important role in utilization of farm labour as agricultural enterprises are labour intensive by nature. Farm resources are defined as factors of production which help in farm production. The absolute values of input and output as well as relationship between them and among the various constituents of input factors are determined by the farm resource structure. Therefore, the study of farm family composition and resource structure is essential for proper analysis of the farm economy and to know the economics of individual enterprises.

The family composition and family size are the important factors that affect the size of broiler enterprise and marketed surplus. The family labour is used for performing various day by day operations in the broiler farms. The availability of family labour depends on composition of family.

The information related to family composition in different farm size groups is presented in Table 1. In group first, total family size was 4.12 persons, out of which 1.53 (37.10%) were males, 1.26 (30.64%) were females and about 1.33 (32.25%) were children. In groupsecond, total family size was of 5.72 persons, out of which 1.73 (30.23%) were males, 1.53 (26.75%) were females and 2.46 (43.02%) were children. In group third, total family size was of 6.28 persons, out of which about 2.13 (34.05%) were males, 1.73(27.65%) were females and children accounted for 2.40 (38.30 %).

On an average, the total per farm size of the farm family for all categories was 5.37 persons, with 1.77 (33.80%) males, 1.90 (28.35 %) females and 2.08 (37.85 %) children. This indicates that as the size of enterprise increases with respect to the size of farm families.

Literacy is the common attribute/aspect of adoption of modern enterprises and improved technology for

**Table 1:** Family composition in different categories

| Broiler farms  | Male                | Female              | Children            | Total                |
|----------------|---------------------|---------------------|---------------------|----------------------|
| Group I        | 1.53 (37.10)        | 1.26 (30.64)        | 1.33 (32.25)        | 4.12 (100.00)        |
| Group II       | 1.73 (30.23)        | 1.53 (26.75)        | 2.46 (43.02)        | 5.72 (100.00)        |
| Group III      | 2.13 (34.05)        | 1.73 (27.65)        | 2.40 (38.30)        | 6.28 (100.00)        |
| <b>Overall</b> | <b>1.77 (33.80)</b> | <b>1.90 (28.35)</b> | <b>2.08 (37.85)</b> | <b>5.37 (100.00)</b> |

*Figures in parentheses indicate percentage.*

**Table 2:** Education status in different farm size Group (person/farm)

| Particulars          | Group-I              | Group-II             | Group-III            | Overall              |
|----------------------|----------------------|----------------------|----------------------|----------------------|
| Illiterate           | 1.26 (30.64)         | 1.93 (33.72)         | 1.20 (19.15)         | 1.47 (27.38)         |
| Primary              | 0.93 (22.58)         | 1.40 (24.41)         | 1.33 (21.27)         | 1.22 (22.71)         |
| Secondary            | 0.93 (22.58)         | 1.67 (29.07)         | 1.73 (27.65)         | 1.44 (26.81)         |
| Graduation and above | 1.00 (24.20)         | 0.73 (12.80)         | 2.00 (31.93)         | 1.24 (23.10)         |
| <b>Total</b>         | <b>4.12 (100.00)</b> | <b>5.73 (100.00)</b> | <b>6.26 (100.00)</b> | <b>5.37 (100.00)</b> |

*Figures in parentheses indicate percentage.*

better production. The standard of education moulds the farmer's response to improved technology and market performance. This is especially true of poultry enterprise which warrants a better quality of input management. For this purpose the educational status of the sample farms families has been examined here. Illiterate are those who can neither read nor write and literate are those who can read and write.

The educational status of sampled farms under study and depicts that about 30 (1.26 persons) per cent family members in first group farms are illiterate and about 70 (3.55 persons) per cent members are educated in which about 23 (0.93 persons) per cent having primary level of education, about 23 (0.93 persons) per cent having secondary level of education and about 24 (1 person) per cent members are educated at graduation and above level (Table 2).

In group second about 34 (1.93 person) per cent family members were illiterate, while about 66 (3.8 persons) per cent members were educated at different level of education. In case of third group farms about 19 (1.20 persons) per cent members were illiterate and about

21 (1.33 persons) per cent members obtained primary level of education, about 28 (1.73 persons) per cent obtained secondary level of education and about 32 (2 persons) per cent members obtained graduation and above level of education. On an overall farms, about 27 per cent family members were illiterate, about 23 per cent were educated at primary level, about 27 per cent were educated at secondary level and about 23 per cent were educated at graduation level and above.

The ownership and type of farms of respondents is presented in Table 3. Overall, 88.83 per cent broiler units established on owned area in which 100 per cent units of group II and about 53 per cent broiler units were located on leased in land (group I and group III). 100 per cent of broiler units came under proprietary (single individual) of owners in all categories of broiler farms under study. There was no broiler unit under partnership.

The sources of water and power supply to the broiler units on the sampled broiler farms under study are presented in Table 4. There were three sources i.e.

**Table 3:** Ownership of farms and types

| Characteristics          | Broiler farms |               |               | Overall       |
|--------------------------|---------------|---------------|---------------|---------------|
|                          | Group-I       | Group-II      | Group-III     |               |
| <i>Ownership status</i>  |               |               |               |               |
| Area owned               | 86.58         | 100.00        | 79.92         | 88.83         |
| Leased in                | 13.42         | 0.00          | 20.08         | 11.17         |
| <b>Total</b>             | <b>100.00</b> | <b>100.00</b> | <b>100.00</b> | <b>100.00</b> |
| <i>Type of ownership</i> |               |               |               |               |
| Proprietary              | 100.00        | 100.00        | 100.00        | 100.00        |
| Partnership              | 0.00          | 0.00          | 0.00          | 0.00          |
| <b>Total</b>             | <b>100.00</b> | <b>100.00</b> | <b>100.00</b> | <b>100.00</b> |

**Table 4:** Sources of water and power for the broiler units

| Characteristics               | Broiler farms      |                    |                    | Overall            |
|-------------------------------|--------------------|--------------------|--------------------|--------------------|
|                               | Group-I            | Group-II           | Group-III          |                    |
| <i>Source of water supply</i> |                    |                    |                    |                    |
| Open well                     | 01 (6.66)          | 03 (20.00)         | 02 (13.33)         | 2.00 (13.33)       |
| Tube well                     | 11 (73.34)         | 10 (66.67)         | 10 (66.67)         | 10.34 (68.94)      |
| Panchayat tap                 | 03 (20.00)         | 02 (13.33)         | 03 (20.00)         | 2.66 (17.73)       |
| <b>Total</b>                  | <b>15 (100.00)</b> | <b>15 (100.00)</b> | <b>15 (100.00)</b> | <b>15 (100.00)</b> |
| <i>Source of power supply</i> |                    |                    |                    |                    |
| Public                        | 15 (100.00)        | 15 (100.00)        | 15 (100.00)        | 15 (100.00)        |
| Private                       | 00 (00.00)         | 06 (40.00)         | 09 (60.00)         | 5 33.33            |
| Both                          | 00 (30.00)         | 06 (40.00)         | 09 (60.00)         | 5 33.33            |

**Table 5:** Capital investment in different categories of broiler farms (₹/farm)

| Particulars               | Group-I                  | Group-II                 | Group-III                 | Overall                  |
|---------------------------|--------------------------|--------------------------|---------------------------|--------------------------|
| <b>Long term assets</b>   |                          |                          |                           |                          |
| <i>Farm building</i>      |                          |                          |                           |                          |
| Dwelling                  | 123300.00 (46.76)        | 326300.00 (48.44)        | 655000.00 (49.85)         | 368200.00 (49.07)        |
| Cattle shed               | 9000.00 (3.41)           | 31050.00 (4.61)          | 91000.00 (6.93)           | 43683.33 (5.82)          |
| Poultry shed              | 53000.00 (20.10)         | 147500.00 (21.90)        | 287750.00 (21.90)         | 162750.00 (21.69)        |
| Storage house             | 36750.00 (13.94)         | 84000.00 (12.47)         | 95500.00 (7.27)           | 72083.33 (9.61)          |
| <b>Total</b>              | <b>222050.00 (84.21)</b> | <b>588850.00 (87.41)</b> | <b>1129250.67 (85.94)</b> | <b>646716.89 (86.18)</b> |
| <i>Medium term assets</i> |                          |                          |                           |                          |
| Feeders                   | 4500.00 (1.71)           | 13000.00 (1.93)          | 29000.00 (2.21)           | 15500.00 (2.07)          |
| Waters                    | 3500.00 (1.33)           | 11200.00 (1.66)          | 19650.00 (1.50)           | 11450.00 (1.53)          |
| Bukhari                   | 6715.00 (2.55)           | 8875.00 (1.32)           | 10990.00 (0.84)           | 8860.00 (1.18)           |
| Light                     | 650.00 (0.25)            | 800.00 (0.12)            | 1100.00 (0.08)            | 850.00 (0.11)            |
| Others                    | 1630.00 (0.62)           | 2100.00 (0.31)           | 2800.00 (0.21)            | 2176.67 (0.29)           |
| <b>Total</b>              | <b>16995.00 (6.45)</b>   | <b>35975.00 (5.34)</b>   | <b>63540.00 (4.84)</b>    | <b>38836.67 (5.18)</b>   |
| <i>Current assets</i>     |                          |                          |                           |                          |
| Sponger                   | 1355.00 (0.51)           | 6150.00 (0.91)           | 18520.00 (1.41)           | 8675.00 (1.16)           |
| Screw driver              | 461.50 (0.18)            | 1155.00 (0.17)           | 1900.50 (0.14)            | 1172.33 (0.16)           |
| Hammer                    | 1466.66 (0.56)           | 3666.66 (0.54)           | 9466.66 (0.72)            | 4866.66 (0.65)           |
| Buckets                   | 3312.00 (1.26)           | 3850.00 (0.57)           | 9880.00 (0.75)            | 5680.67 (0.76)           |
| Jugs                      | 2300.50 (0.87)           | 3320.00 (0.49)           | 4500.50 (0.34)            | 3373.67 (0.45)           |
| Small tubs                | 5100.00 (1.93)           | 9555.00 (1.42)           | 13250.00 (1.01)           | 9301.67 (1.24)           |
| Vessel with lid           | 7186.25 (2.73)           | 11082.50 (1.65)          | 31585.50 (2.40)           | 16618.08 (2.21)          |
| Nails                     | 855.75 (0.32)            | 4369.50 (0.65)           | 14585.50 (1.11)           | 6603.58 (0.88)           |
| Miscellaneous             | 2600.45 (0.99)           | 5677.76 (0.84)           | 17452.82 (1.33)           | 8577.01 (1.14)           |
| <b>Total</b>              | <b>24638.11 (9.34)</b>   | <b>48826.42 (7.25)</b>   | <b>121141.48 (9.22)</b>   | <b>64868.67 (8.64)</b>   |
| <b>Grand total</b>        | <b>263683.11</b>         | <b>673651.42</b>         | <b>1313931.48</b>         | <b>750422.00</b>         |

open well, tube well and panchayat tape for water supply to the broiler units. Tube wells were the major source of water supply as 11 broiler units in first group, 10 units in second group and 10 units in third group used tube well for water requirement. Only 8 broiler units from all three groups were using panchayat taps for broiler production. All the poultry units were having public electric connection for power supply. For the assured power supply, 6 poultry units in group second and 9 poultry units in group third were having additional sources (generator and inverter) of power supply in their poultry farms.

The pattern and magnitude of investment in fixed farm resources and variable resources in farm

enterprise are the important indicators of the income generating capacity of the farmers/ entrepreneurs. Generally three types of farm resources are used in a poultry enterprise viz. long term assets which includes dwelling house, cattle shed, poultry shed and storage house. Medium term assets include feeders, waters, electric motor, bukhari, light and others (fans and coolers etc.) and current assets include sponger, screwdriver, hammer, buckets, jugs, small tubs, vessel with lid, nails and miscellaneous items.

Per farm capital investment by different categories of broiler entrepreneurs are presented in Table 5. The total capital investment per farm was ₹ 263683.11 for group first, ₹ 673651.42 for group second and

₹ 1313931.48 for group third with an overall average of ₹ 750422.00. The overall average value of farm building was ₹ 646716.89 (86.18%) while it was ₹ 222050.00 (84.21%) for first group, ₹ 588850.00 (87.41%) for second group and ₹ 1129250.67 (85.94%) for third group farms. Under this section of capital investment contains the value of dwelling houses, cattle shed, poultry shed and storage house. The overall value of dwelling house (₹ 368200) stood highest in farm building component followed by the value of poultry shed (₹ 162750.00), storage house (₹ 72083.33) and cattle shed (₹ 43683.33). The overall value of medium term assets per farm was ₹ 38836.67. Overall, the value of feeders (₹ 15500.00) stood highest followed by the value of water (₹ 11450), value of bukhari (₹ 8860.00), light (₹ 850) and others (₹ 2176.67). The value of current assets were presented in third part of Table 5 which revealed that overall average was ₹ 64868.67, varied from ₹ 24638.11, ₹ 48826.42 and ₹ 121141.48 for group first, second and third, respectively.

## CONCLUSION

The proportion of children was high in overall family size. The educational status was at par to national level of literacy which indicates good sign of overall social and economic development. Per farm capital investment (dwelling houses, cattle shed, poultry shed and storage house) was ₹ 7.04 lakh, whereas the value of medium term assets per farm was ₹ 37664.87. It can be concluded that the farm capital investment increases with the increase in size of farm size. There was specific type of assets required for poultry enterprises, which were generally not utilized in other type of agricultural enterprises.

## REFERENCES

- Anonymous, 2006. Executive guide to World Poultry Trends. Watt Publishing Company, Mt. Morris, Illinois.
- Braenkaert, R.D.S., Gavrial, L., Jallade, J. and Seiders, R.W. 2000. Transfer of technology in poultry production for developing countries. Paper presented in Worlds Poultry Congress, Montreal, Canada, 20-24.
- Dwivedi, S., Sharma, P.K. and Sehar, H. 2010. Investment and income pattern in poultry production: A case study of Baramulla District of Jammu and Kashmir. *Research Journal of Agricultural Sciences*, 1(3): 262-265.
- Ojo, S.O. 2002. Increasing household protein consumption through improved livestock production. *Proceedings of Nigerian Society of Animal Production*, 27(4): 342-344.
- Pradeshi, P.G., Kulkarni, A.N., Mule, R.S., Poul, S.P., Baswade, S.V. 2011. Effect of sanitary measures on performance of broiler chickens in Marathwada region of Maharashtra, India. *Veterinary World*, 4(8): 371-373.
- Sanni, S.A. and Ogandipe, S.O. 2005. Economics of some modules of broiler production in Kaduna State, Nigeria. *Nigerian Journal of Animal Production*, 32(1): 102-107.

