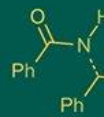


International Journal of Advanced Biochemistry Research



ISSN Print: 2617-4693
ISSN Online: 2617-4707
NAAS Rating (2026): 5.29
IJABR 2026; SP-10(6): 1460-1463
www.biochemjournal.com
Received: 25-03-2026
Accepted: 29-04-2026

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Income and employment generation of commercial poultry farmers in temperate and sub-tropical areas of Jammu and Kashmir: A comparison

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DOI: <https://www.doi.org/10.33545/26174693.2026.v10.i6Sq.8856>

Abstract

The study aimed to assess the income and employment generation of commercial broiler farmers in two distinct regions of Jammu and Kashmir. For this purpose, one representative district was purposively selected from each region, focusing on those with a higher concentration of poultry farms. Jammu district was chosen from the sub-tropical zone, while Budgam district was selected from the temperate zone. Data collection was carried out using a structured interview schedule to evaluate the farmers' knowledge in both areas. The data obtained were analyzed using suitable statistical methods, including percentages, frequencies, means, standard error, standard deviation, and the t-test. The income from poultry per 1000 birds in temperate area in small, medium and large sized farms was ₹ 313435.45, ₹ 345783.23 and ₹ 382989.48 respectively. While in sub-tropical area, income from poultry per 1000 birds in small, medium and large sized farms was ₹ 345895.98, ₹ 398912.84 and ₹ 415524.25 respectively. The average gross income in temperate and sub-tropical area was ₹ 592116.87 and ₹ 749523.54 respectively. In temperate area, average 119.5, 183 and 234 man-days employment were generated at small (1500 birds), medium (2530 birds) and large farms (4500 birds) from various poultry farming activities, respectively. While in sub-tropical area, average 136, 190 and 294 man-days employment were generated at small (1633 birds), medium (2916 birds) and large farms (5500 birds), respectively. The sub-tropical area had more income generated from commercial poultry farming practices than temperate area poultry farmers. It was also evident from the independent sample 't' test analysis that there was significant difference ($p < 0.05$) in annual income from broiler poultry farming between the two areas.

Keywords: Jammu and Kashmir, Income, Gross income, employment generation and 20th livestock census

Introduction

The poultry sector has emerged as one of the fastest-growing components of the agricultural economy in India, significantly contributing to rural income and employment generation. According to Mehta & Nambiar (2007) [5], the rapid expansion of India's poultry sector is driven by rising urban demand, income growth, and changing dietary habits. In Jammu and Kashmir (J&K), where agriculture forms the backbone of the rural economy, commercial poultry farming offers a promising avenue for livelihood enhancement, especially in temperate and sub-tropical zones marked by diverse agro-climatic conditions.

As per the 20th Livestock Census (2019), the poultry population in Jammu and Kashmir stood at approximately 8.16 million, marking a considerable rise from previous years. Ali (2007) also noted that livestock and poultry sectors contribute significantly to rural poverty reduction through regular income and employment generation, especially for landless and marginal farmers. Similarly, Islam and Nath (2014) [3] emphasized that poultry farming serves as a vital tool for employment generation and women empowerment in northeastern India, which shares agro-ecological similarities with J&K.

Despite these encouraging trends, Rashid & Bandy (2013) [7] observed that poultry farming in Kashmir faces constraints such as high input costs, seasonal market fluctuations, and inadequate veterinary support, all of which can affect profitability. Understanding the dynamics of poultry farming across agro-climatic zones is critical for framing effective regional policies, as stressed by Makhdoomi & Ganai (2020) [4] in their analysis of Kashmir's poultry sector.

This study aims to assess the role of commercial poultry farming in enhancing rural income and employment, analyze the comparative advantages of temperate versus sub-tropical zones, and identify the socio-economic implications for farming households in J&K. The findings are expected to contribute to evidence-based policymaking and promote sustainable rural livelihoods in the region.

Methodology

Two representative districts—Budgam from the temperate region and Jammu from the sub-tropical region—were purposively chosen based on having the highest concentration of poultry farms. In each district, four blocks with the largest number of poultry farms were also selected purposively, resulting in a total of eight blocks. From each block, 15 poultry farms were randomly chosen, bringing the overall sample to 120 poultry farmers across the eight blocks. A structured interview schedule was used to assess the income and employment generation of commercial poultry farmers in two different agro-climatic zones of Jammu and Kashmir.

Results and Discussion

1 Annual income from poultry farming

Table 1 reveals that in temperate area, cent percent of the broiler poultry farmers having small sized farms had low income from poultry farm. Whereas in sub-tropical area, also cent percent of the broiler poultry farmers having small sized farms had low income from poultry farm. Among medium sized farms in temperate area, majority (62.5%) of the broiler poultry farmer had low income from poultry farm, followed by medium (37.5%). Whereas in sub-tropical area, majority (63.27%) of the broiler poultry farmers having medium sized farms had medium income from poultry farm, followed by low income (36.73%). Among

large sized farms, majority (62.5%) of the broiler poultry farmer had medium income from poultry farm, followed by high income (37.5%) in temperate area. While as in sub-tropical area among large sized farms, half of the broiler poultry farmers had medium income from poultry farming and remaining half had high income from broiler poultry farming. The income from poultry per 1000 birds in temperate area in small, medium and large sized farms was ₹ 313435.45, ₹ 345783.23 and ₹ 382989.48 respectively. While in sub-tropical area, income from poultry per 1000 birds in small, medium and large sized farms was ₹ 345895.98, ₹ 398912.84 and ₹ 415524.25 respectively. The average income from broiler poultry farming in temperate and sub-tropical area was ₹ 475419.65 and ₹ 531592.6 respectively. It was evident from the independent sample 't' test analysis that there is significant difference ($p < 0.05$) in annual income from broiler poultry farming between these two areas. The average income in sub-tropical area was higher than temperate area, this might be because of the reason that in sub-tropical area, broiler poultry farmers were rearing more number of birds and batches per year and lower feed and chick price than temperate area. The results revealed that income from broiler farming was significantly higher in the sub-tropical zone than in the temperate zone. This finding aligns with Singh & Kaur (2017) [8], who found that climatic conditions and proximity to input markets considerably influence profitability in Punjab's poultry sector. Higher income in the sub-tropical area could also be attributed to the availability of cheaper feed and day-old chicks, a trend also highlighted by Kumar & Mishra (2011) [2] in Odisha. Furthermore, NABARD (2020) [6] emphasized that economies of scale—such as large flock size and batch frequency—are crucial factors in enhancing income from broiler farms, especially in warm climatic zones with better infrastruc

Table 1: Distribution of broiler poultry farmers according to income from poultry

Annual income from poultry	Temperate area (n = 60)			Subtropical area (n = 60)		
	Small farms (n = 12)	Medium farms (n = 40)	Large farms (n = 08)	Small farms (n = 03)	Medium farms (n = 49)	Large farms (n = 08)
Low income (₹ 345940-625910)	12(100.00)	25(62.50)	0(0.00)	03(100.00)	18(36.73)	0(0.00)
Medium income (₹ 625911-905880)	0(0.00)	15(37.50)	05(62.50)	0(0.00)	31(63.27)	04(50.00)
High income (₹ 905881-1185850)	0(0.00)	0(00.00)	03(37.50)	0(0.00)	0(0.00)	04(50.00)
Income per 1000 birds (in ₹)	313435.45	345783.23	382989.48	345895.98	398912.84	415524.25
Mean ± SD	475419.65±63281.65			531592.60±117755.37		
t-value	6.152*					

(Figures in the parentheses indicate percentage) (* significant at 5% level of significance)

2. Gross annual income

Table 2 reveals that in temperate area, majority (75%) of the broiler poultry farmers having small sized farms had low gross income (₹ 415560-732040), followed by medium income (₹ 732041-1048520, 25%). Whereas in sub-tropical area, majority (66.67%) of the broiler poultry farmers having small sized farms had low gross income, followed by medium income (33.33%). Among medium sized farms in temperate area, majority (67.5%) of the broiler poultry farmer had low gross income, followed by medium income (32.5%). Whereas in sub-tropical area, majority (73.47%) of the broiler poultry farmers having medium sized farms had medium gross income, followed by low income (26.53%). Among large sized farms, in temperate area majority of the broiler poultry farmers had medium gross income (75%) and

remaining 25 percent had high gross income. While in case of sub-tropical area, majority (62.5%) of the broiler poultry farmer had medium income from poultry farm, followed by high income (₹ 1048521-1365000, 37.5%). The average gross income in temperate and sub-tropical area was ₹ 592116.87 and ₹ 749523.54 respectively. It was evident from the independent sample 't' test analysis that there was significant difference ($p < 0.05$) in annual income from broiler poultry farming between the two areas. Our findings that gross annual income was higher in the sub-tropical zone corroborate Ali (2007) [1] and Mehta & Nambiar (2007) [5], who reported that productivity and revenue from poultry enterprises are generally higher in regions with better access to markets, lower mortality rates, and consistent chick supply.

Table 2: Distribution of broiler poultry farmers according to gross annual income

Gross annual income (in Rupees)	Temperate area (n = 60)			Subtropical area (n = 60)		
	Small farms (n = 12)	Medium farms (n = 40)	Large farms (n = 08)	Small farms (n = 03)	Medium farms (n = 49)	Large farms (n = 08)
Low income (₹ 415560-732040)	09(75.00)	27(67.50)	0(0.00)	02(66.67)	13(26.53)	0(0.00)
Medium income (₹ 732041-1048520)	03(25.00)	13(32.50)	06(75.00)	01(33.33)	36(73.47)	05(62.50)
High income (₹ 1048521-1365000)	0(0.00)	0(0.00)	02(25.00)	0(0.00)	0(0.00)	03(37.50)
Mean ± SD	592116.87±81229.9			749523.54±104522		
t-value	8.1234*					

(Figures in the parentheses indicate percentage) (* significant at 5% level of significance)

3. Percent contribution of income from poultry farming

Table 3 reveals that in temperate area, among small broiler poultry farmers the highest percent average was 65.96 percent from the poultry agriculture and business, followed by 73.5 percent (poultry + agriculture) and lowest percent average income was 67.86 percent from poultry and horticulture. Whereas in sub-tropical area, among small sized farms the highest percent average was 69.5 percent from the poultry and agriculture followed by 61.85 percent (poultry + business). Among medium sized farms in temperate area, the highest percent average was 78.28 percent from the poultry and agriculture, followed by 75.15 percent (poultry + business) and lowest percent average income was 59.46 percent from poultry and horticulture. Whereas in sub-tropical area, among medium sized farms the highest percent average was 65.53 percent from the

poultry and business followed by 59.25 percent (poultry + agriculture + business) and 53.68 percent (poultry + service). Among large sized farms in temperate area, the highest percent average was 73.25 percent from the poultry and business, followed by 61.64 percent (poultry + agriculture + business). Whereas in sub-tropical area, among large sized farms the highest percent average was 69.85 percent from the poultry and agriculture followed by 62.5 percent (poultry + agriculture + business) and 57.54 percent (poultry + service). The analysis of income contribution from poultry relative to other income sources highlights poultry's centrality in mixed farming systems. According to Singh & Pathak (2018) [9], poultry is a reliable and recurring income source that complements agriculture and business activities, especially for smallholders with limited landholdings.

Table 3: Distribution of Broiler poultry farmers according to their percent contribution of income from poultry farming

Percent contribution of income	Temperate area			Sub-tropical area		
	Small farms (n = 12)	Medium farms (n = 40)	Large farms (n = 08)	Small farms (n = 03)	Medium farms (n = 49)	Large farms (n = 08)
Poultry + Agriculture	73.50	78.28	0.00	69.50	0.00	69.85
Poultry + Business	0.00	75.15	73.25	61.85	64.53	0.00
Poultry + Service	0.00	0.00	0.00	0.00	53.68	57.54
Poultry + Horticulture	67.86	59.46	0.00	0.00	0.00	0.00
Poultry + agriculture + Business	75.96	0.00	61.64	0.00	59.25	62.50

4. Employment generation

Table 4 reveals that total average man-days generated per year in temperate and sub-tropical area was 536.5 and 620 man-days, respectively. In temperate area, among small sized farms the maximum man-days generated were from feeding and watering (31 man-days), followed by supervision (28 man-days), cleaning (25 man-days), healthcare (15 man-days), weighing (14 man-days) and others (5 man-days). While in sub-tropical area, among small sized farms the maximum man-days generated were from feeding and watering (42 man-days), followed by supervision (31 man-days), cleaning (24 man-days), healthcare (15 man-days), weighing (16 man-days) and others (8 man-days). Among medium sized farms in temperate area, the maximum man-days generated were from feeding and watering (49 man-days), followed by supervision (46 man-days), cleaning (36 man-days), healthcare (23 man-days), weighing (20 man-days) and others (9 man-days). While in sub-tropical area, among large sized farms the maximum man-days generated were from feeding and watering (61 man-days), followed by supervision (43 man-days), cleaning (32 man-days), healthcare (23 man-days), weighing (22 man-days) and others (09 man-days). Among large sized farms in temperate area, the maximum man-days generated were from cleaning (60 man-days), followed by feeding and watering (56 man-

days), supervision (49 man-days), healthcare and weighing (23 man-days each) and others (15 man-days). While in sub-tropical area, among large sized farms the maximum man-days generated were from cleaning (84 man-days), followed by feeding and watering (71 man-days), supervision (62 man-days), healthcare (32 man-days), weighing (30 man-days) and others (15 man-days). In temperate area, the average number of man-days generated by broiler poultry farming per 1000 birds in small, medium and large sized poultry farms was 79.67, 72.33, 52 man-days respectively. While in sub-tropical area, the average number of man-days generated by broiler poultry farming per 1000 birds in small, medium and large sized poultry farms was 83.26, 65.15 and 53.45 man-days respectively. Sub-tropical area broiler poultry farmers were generating a greater number of man-days as compared to temperate area broiler poultry farmers as they were rearing large flock size and more number of batches per year. Participation of females in performing various poultry farming activities was found to be negligible in both the areas except in large sized farms of sub-tropical area. In temperate area, average 119.5, 183 and 234 man-days employment were generated at small (1500 birds), medium (2530 birds) and large farms (4500 birds) from various poultry farming activities, respectively. While in sub-tropical area, average 136, 190 and 294 man-days employment were generated at small (1633 birds), medium

(2916 birds) and large farms (5500 birds), respectively. In view of these findings, could be concluded that broiler poultry farming create viable entrepreneurial opportunities to create employment to rural people. The study found a higher number of man-days generated in sub-tropical areas, particularly on large farms. Islam & Nath (2014)^[3] similarly observed that poultry farming in Assam substantially increases rural employment through labor-intensive tasks

like feeding, cleaning, and marketing. Moreover, Rashid & Banday (2013)^[7] emphasized the importance of improving technical know-how and farm management skills to further enhance employment potential in Kashmir. Singh & Pathak (2018)^[9] also highlighted the underutilized role of women in poultry farming and suggested promoting inclusive participation to increase both income and employment outcomes

Table 4: Distribution of broiler poultry farmers according to their employment generation

	Temperate area (n = 60)															Sub-tropical area (n = 60)														
	Small farms (n = 12)					Medium farms (n = 40)					Large farms (n = 08)					Small farms (n = 03)					Medium farms (n = 49)					Large farms (n = 08)				
Activities	Family labour	Hired labour		Family labour	Hired labour		Family labour	Hired labour		Family labour	Hired labour		Family labour	Hired labour		Family labour	Hired labour		Family labour	Hired labour		Family labour	Hired labour		Family labour	Hired labour				
	F	M	F	M	Total	F	M	F	M	Total	F	M	F	M	Total	F	M	F	M	Total	F	M	F	M	Total	F	M	F	M	Total
Supervision	0	24	0	4	28	0	41	0	5	46	0	42	0	7	49	0	28	0	3	31	0	39	0	4	43	0	55	0	7	62
Feeding + watering	0	12	0	19	31	0	18	0	31	49	0	22	0	34	56	0	16	0	26	42	0	23	0	38	61	0	21	6	44	71
Cleaning	0	9	0	16	25	0	12	0	24	36	0	22	0	38	60	0	8	0	16	24	0	10	0	22	32	0	26	16	42	84
Healthcare	0	3	0	12	15	0	6	0	17	23	0	8	0	19	27	0	4	0	11	15	0	7	0	16	23	0	9	0	23	32
Weighing	0	4	0	10	14	0	6	0	14	20	0	8	0	19	27	0	5	0	11	16	0	5	0	17	22	0	9	0	21	30
Others	0	1.5	0	5	6.5	0	2	0	7	9	0	4	0	11	15	0	1	0	7	8	0	3	0	6	9	0	6	0	9	15
Total	119.5					183					234					136					190					294				
Avg. birds	1500					2530					4500					1633.33					2916.32					5500				
Per 1000 birds	79.67					72.33					52.00					83.26					65.15					53.45				
Grand Total	536.5															620														

(F = Female, M = Male)

Conclusion

This study concludes that commercial broiler poultry farming plays a vital role in generating income and employment in both temperate and sub-tropical regions of Jammu and Kashmir, with the sub-tropical region demonstrating a higher economic return. The evidence suggests that broiler poultry farming can serve as a sustainable livelihood strategy in rural areas, aligning with the findings of Islam & Nath (2014)^[3] and Singh & Pathak (2018)^[9]. However, constraints such as high input costs, limited veterinary services, and lack of technical training—especially in temperate zones as noted by Rashid & Banday (2013)^[7] and Makhdoomi & Ganai (2020)^[4] need to be addressed through targeted policy interventions. Strengthening infrastructure, promoting cluster-based models, and enhancing market linkages could help unlock the full potential of the poultry sector in Jammu and Kashmir.

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