

Original Research Article

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Impact of Skill Development Training Programmes on Scientific Backyard Poultry Farming in Bathinda District of Punjab (India)

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ABSTRACT

Keywords

Impact, Backyard poultry, Management, Poultry, Skill development etc

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A study was conducted to assess the impact of skill development programmes on the level of adoption of backyard poultry farming practices in Bathinda district of Punjab. The information was collected from 469 respondents with the help of well-structured interview schedule cum questionnaire. The results of the study revealed that after getting the training, 207 farmers (44.14%) adopted poultry farming as a subsidiary occupation. Before training, majority (80.3%) of the rural poultry farmers were unaware about the improved management practices. However after getting skill development training, 88.9 percent of farmers became aware about the health practices and a majority of them (79.02%) adopted these management practices. The constraints identified were high death rate of birds (91.8%), unavailability of quality poultry equipments (83.1%), lack of veterinary aids (79.7%) and high input cost (71.5%). It indicates that government should design a module to provide soft loan, veterinary aids and quality poultry equipments to the backyard poultry farmers for their betterment. The training imparted to the farmers increased their knowledge and they got acquainted to new technologies of poultry farming.

Introduction

Livestock and Poultry provide a major contribution to the Indian Economy (Nath *et al.*, 2012). Poultry production in India emerges as a poultry industry from backyard poultry production system. Nowadays, availability of poultry products in the rural areas is very low or unavailable due to their higher prices. Poultry farming is very old profession for providing cheap, readily harvest table protein rich eggs & meat with

high quality of nutrients for home consumption. Although, this bird was found in the Indian jungles before India's independence but it was identified by the Britishers during hunting in the jungles.

The recent research on this bird is done in the developed countries. During the early days small units of poultry farming was started in India. There is need to understand the perception of farmers on rearing of backyard poultry farming for the supplementation of

family diet. The product under backyard poultry is very high in nutritious value and easily available for the sustainability of rural poor. Mandal *et al.*, (2006) described nicely while giving a definition to the backyard poultry production system, According to them it is a low input or no input business and is characterized by indigenous night shelter system, scavenging system, with little supplementary feeding, natural hatching of chicks, poor productivity of birds, local marketing and no health care practice.

According to the Indian government's National Action Plan for Egg & Poultry-2022 (NAPEP), backyard poultry accounts for 20 percent of India's poultry sector, which is worth over ₹ 800 billion. Across the country, around 30 million farmers are engaged in backyard poultry farming, estimates the 19th Livestock Census of India.

Though, rural backyard poultry has significant contribution in national egg production but it is still neglected in the consumption pattern. The few birds reared in rural areas have the sequencing habit with very low housing, feeding and management facilities which results in very low profit to the families. So there is a need to develop awareness regarding suitable breeds under backyard along with feeding, housing and disease control practices. This can put great impact on the rural farming families to develop backyard poultry system.

The native chicken varieties adopted in free-range backyard conditions for centuries contribute about 11 percent of total egg production in India (Kumaresan *et al.*, 2008). Due to their low productivity (annual egg production@ 50-60 eggs/hen/year), their contribution to the total egg output was almost static for the last few decades. The role of backyard poultry farming in sustaining and enhancing poor peoples' livelihoods in

developing countries is well recognized among the development community (Ahuja *et al.*, 2008). There is also growing evidence to demonstrate the role of backyard poultry in enhancing the food and nutrition security of the poorest households, reducing the livelihood vulnerability and insecurity, and promotion of gender equity (Ahuja and Sen, 2007). Backyard poultry is an important source of animal protein despite, the level of monthly income from backyard poultry farming being very low.

Realizing the potential offered by backyard poultry farming Krishi Vigyan Kendra, Bathinda initiated skill development training programmes on poultry farming especially focussed on backyard poultry production in rural areas of Bathinda district of Punjab. Backyard poultry production improves the socio economic status of rural farmers by adoption of this subsidiary occupation at village level. These need based skill development trainings have played a significant role in popularising backyard poultry among the rural youth, ex-service men, labourers, farmers and farm women. However, rare work has been carried out to study the impact of these skill development training programmes. Therefore, the present work has been designed to study the impact of these programmes organized by the Krishi Vigyan Kendras on the adoption of backyard poultry farming.

Materials and Methods

Krishi Vigyan Kendra Bathinda (Punjab) is one of the oldest Kendras of Punjab to provide training programmes on skill development in poultry farming. The sample of study was 469 trainees who acquired skill development training on scientific poultry farming during the period from 2016-17 to 2019-20. This information was collected by using a structural questionnaire from the

trained farmers by visiting & discussing with them personally, and the data was analysed for assessing the adoption of backyard poultry structure among farmers. To ascertain the adoption level of management practices by the farmers before and after the training, adoption scale was provided with the list of technologies adopted by the farmers to tick on, thereby indicating the level that was in the adoption scale and to identify constraints militating against adoption level. Data was analyzed with both descriptive and inferential statistics. The basic data of respondents is given in the Table 1.

Results and Discussion

In this study data presented in Table 2 shows the age, gender, education level, land holding, occupation, flock size, source of finance, and annual income from poultry units. Majority (46.4%) of the poultry farmers had age group between 26-35 years which was followed by the age group 36-45 years (31.4%), while 12.6 percent of respondents belonged to old age group of more than 45 years and 9.7 percent had age between 16-25 years. It is obvious from the data that greater part of the respondents, who were between age group of 26-35 years, had maximum adoption percentage of backyard poultry farming. The study indicated that larger part (77.8%) of the respondents in Bathinda district were male, which indicated that adoption of poultry farming among rural women is very low. Among the respondents, 38.6 percent were primary educated followed by middle school (37.7%), intermediate (14.5%), graduate (5.8%), and illiterate (3.4%). Similar findings were reported by (Nath *et al.*, 2012).

It is also revealed from Table 2 that majority (77.8%) of the respondents belonged to farming community. 16.9 percent respondents were landless labourers followed by businessmen (5.3%). It was concluded that

majority of the backyard poultry farmers were engaged in farming. It shows that majority (35.7%) of the respondents had less than 20 birds per flock, which was followed by the 21-40 birds per flock, 41-60 birds per flock (18.4%) and more than 60 birds per flock (12.1%). The small flock size may be attributed to lack of funds and marketing, or even high mortality rate due to low adoption of improved poultry management technologies by farmers before training. However, with the help of training this could be improved in future. Lawal *et al.*, (2009) noted that poultry farmers expanded their flock size due to adoption of improved poultry techniques.

It is obtained from the study that the major source of finance was from their personal savings. Majority (71%) of the respondents supported this view. Role of money lenders or villagers is only 20.3 percent followed by financial institution (8.7%). About 37.7 percent of the respondents obtained an annual income of Rs 10,000-15,000 from backyard poultry, and 31.9 percent obtained Rs 15,000-20,000. While, 30.4 percent of the respondents obtained income of Rs 20,000-40,000 from their business per annum. If farmers increase production by adopting new technologies, they can increase their profit and income per year. The level of income realized from the venture even at small scale, may be the reason why farmers attended the training in order to learn new and more techniques in poultry production that may enhance productivity.

Adoption of improved management practices by farmers before training

The data presented in Table 3 revealed that 42 percent respondents were aware of culling, 28 percent of de-beaking, 27 percent respondents provided feed according to poultry age, 23 percent farmers were using antibiotics and 19

percent farmers were rearing quality birds, however low adoption was recorded in post-mortem of dead bird by veterinary doctors (7%), brooding management (13%), preparing feed formulation at household level (14%), record keeping (14%) and in use of feed supplementation (12%). Use of disinfectants in farm and segregation of diseased birds obtained mean score of 18 percent. Thus, the data revealed that before training maximum respondents had medium to low adoption of poultry farming. It also showed that before training of improved management practices, poultry farmers were not much aware about the post-mortem of dead birds by veterinary staff, feed supplement uses, brooding management, record keeping and feed formulation at household level. Similar findings were also reported by Ezeibe *et al.*, 2014.

Adoption of improved management practices by farmers after training

There is a significant adoption of all the improved poultry management practices after training (Table 3). A vast majority (99%) of the respondents adopted timely treatment of sick bird and 98 percent farmers adopted culling, feed formulation at household level, and rearing of quality birds. 96 percent respondents consulted with veterinary doctors and provided feed according to age. The data also showed that similar adoption index was obtained for frequent visit to birds and de-beaking (92%), while for record keeping of birds was 89 percent. The view for above management practices were also supported by Ithika *et al.*, 2013. Percentage gain in various improved backyard poultry rearing techniques is given in the figure 1. From, the figure it is clear that maximum gain was obtained in case of feed formulation (84%) followed by rearing of quality birds (79%) while minimum gain of 56 percent was obtained for culling and use of disinfectants.

Constraints militating against poultry production among respondents

From the study it was observed that majority of the backyard poultry farmers faced problems like high death rate of birds (Table 4). The highest mean score (91.8%) was recorded for this parameter, while unavailability of quality poultry equipments showed mean score of 83.1 percent.

High death rate of birds and unavailability of quality poultry equipments were identified as major constraints and ranked at first and second position, respectively. Lack of veterinary aids obtained mean score of 79.7 percent and ranked third. High input cost of poultry unit exhibited mean score of 71.5 percent and achieved rank fourth. Difficulty in finance also perceived major constraints in poultry, and it gained mean score of 67.6%. Lack of technical support ranked sixth, and obtained mean score of 57 percent. The similar findings are reported by Thorat (2005).

It is also evident from Table 4 that similar mean score of 55.6 percent was obtained for non-availability of improved breeds and dependency of market on brokers; while lack of initial capital showed mean score of 43.5 percent. Illiteracy among poultry farmers obtained a mean score of 34.8 percent which shows that if respondents were illiterate they would not gain the technology rapidly.

Poor quality of feed was also a major constraint which obtained 38.6 percent mean score, while 37.7 percent was obtained for high risk. Low egg production in summers was also a significant constraint for the development of poultry industry and the capacity of small producers in the particular field. Access to credit is of core importance to all the aspects of poultry industry as these may hide expansion (Olyemi *et al.*, 2000).

Table.1 Basic data and adoption percentage of respondents

Year	Total no. trainees	No. of trainees who adopted poultry farming	Adoption percentage (%)
2016-17	99	38	38.38
2017-18	101	42	41.58
2018-19	94	43	45.74
2019-20	175	84	48.00
Total	469	207	44.14

Distribution of respondent based on socioeconomic characteristics of the backyard poultry farmers

Characteristics	Frequency	Percentage
Age (years)		
16-25	20	9.7
26-35	96	46.4
36-45	65	31.4
>45	26	12.6
Gender		
Male	161	77.8
Female	46	22.2
Education level		
Illiterate	7	3.4
Primary	80	38.6
Middle school	78	37.7
Intermediate	30	14.5
Graduate	12	5.8
Land Holding		
<1 acre	71	34.3
1-2 acre	92	44.4
>2 acre	44	21.3
Occupation		
Farming	161	77.8
Land less labours	35	16.9
Businessmen	11	5.3
Flock size		
< 20 bird	74	35.7
21-40	70	33.8
41-60	38	18.4
>60	25	12.1
Source of finance		
Personnel saving	147	71.0
Money lender or village person	42	20.3
Financial institution	18	8.7
Annual Income (Rs.)		
10000-15000	78	37.7
15000-20000	66	31.9
20000-40000	63	30.4

Table.3 Adoption level of improved management practices before and after the training

Sr. no	Management Practices	Adoption index (%)		Gain (%)
		Before	After	
1	Use of disinfectants in farm	18	74	56
2	Record keeping	14	89	75
3	Frequent visit to birds	19	92	73
4	Brooding management	13	74	61
5	Culling & selection	42	98	56
6	Use of antibiotics	23	81	58
7	De-beaking	28	92	64
8	Feed formulation at household level	14	98	84
9	Timely treatment of sick bird	21	99	78
10	Post-mortem of dead bird by veterinary doctors	7	72	65
11	Segregation of diseased birds	18	87	69
12	Feed supplement uses	12	88	76
13	Provide feed according to age	27	96	69
14	Rearing of quality birds	19	98	79
15	Consulting veterinary doctors	21	96	75
	Mean value	19.7	88.9	69.2

Table.4 Distribution of respondents according to the problems faced

S no.	Constraints	Frequency	Mean Score	Rank
1	Lack of veterinary aids	165	79.7	III
2	Unavailability of quality poultry equipments	172	83.1	II
3	Not available improved breeds	115	55.6	VII
4	High death rate of bird	190	91.8	I
5	Lack of technical support	118	57.0	VI
6	Poor quality of feed	80	38.6	IX
7	Dependency of market on Brokers	115	55.6	VII
8	Lack of family support	30	14.5	XV
9	Religious constraints	25	12.1	XVI
10	Difficulty in finance	140	67.6	V
11	Lack of initial capital	90	43.5	VIII
12	Illiteracy among farmers	72	34.8	XII
13	High input cost	148	71.5	IV
14	High risk	78	37.7	X
15	Difficulty in inputs availability	25	12.1	XVI
16	Low egg price through whole sale	40	19.3	XIV
17	Lack of transportation	75	36.2	XI
18	Low egg production in summers	70	33.8	XIII

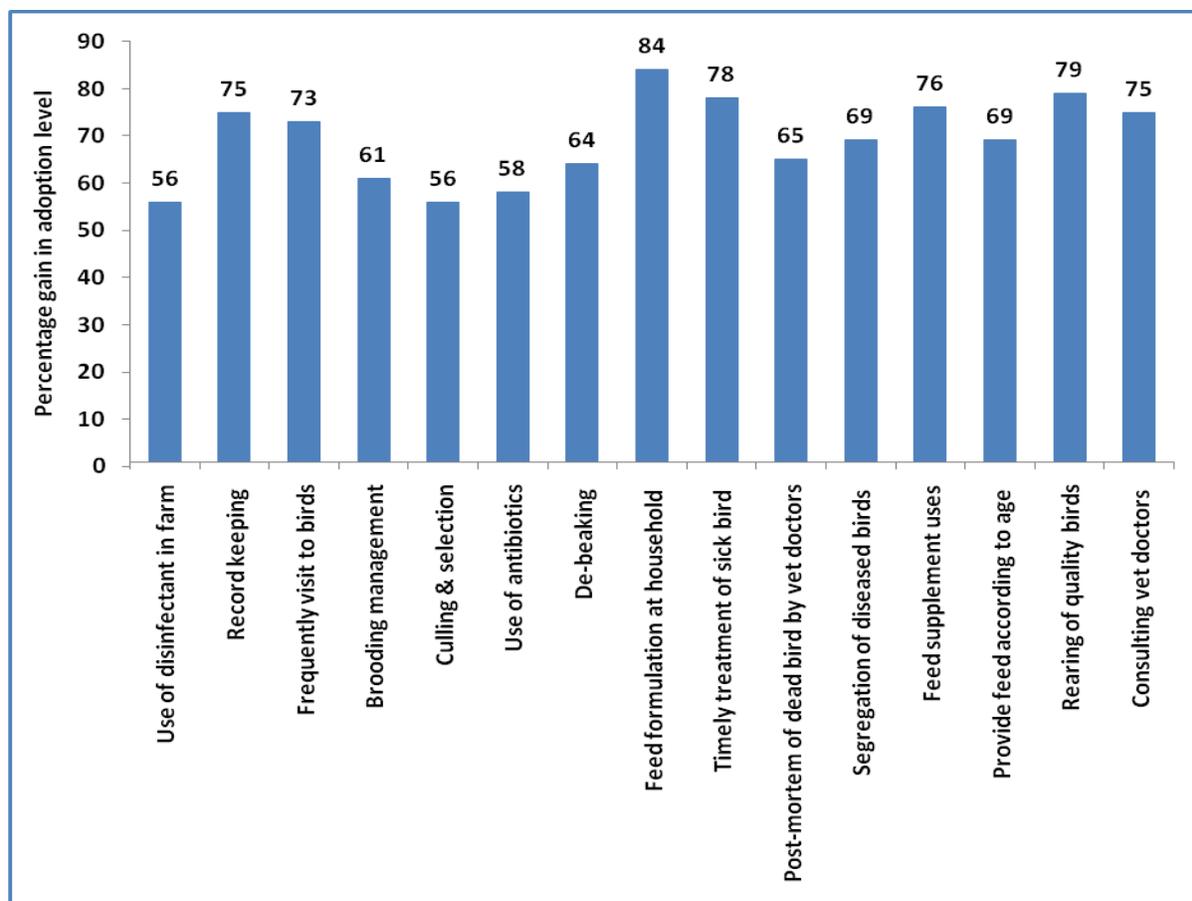


Fig.1 Percentage gain in the adoption level of technology

The study concluded that the training programmes have a tremendous impact on the adoption level of scientific methods of backyard poultry farming by rural farmers. Among different management practices timely treatment of sick birds had highest level of adoption percentage and least adoption percentage was observed for post-mortem of dead birds by veterinary doctor.

Apart from this, major constraints in poultry farming were non-availability of quality birds, high death rate of birds, unavailability of quality poultry equipments, lack of veterinary aids and high input cost. It also revealed that rearing of quality birds and feed formulation technologies are emerging trends among the rural poultry units. This study also shows that the skill development training programmes are very useful for the rural youth as it brings

more and more farmers under the umbrella of new skill training programmes to meet out daily expenditures from the subsidiary occupation.

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