

Impact of Skill-Based Training Programs on Performance of Small-Scale Poultry Entrepreneurs

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How to cite this paper: Patil, S., Jadhav, P., Mahale, M., & Hanmante, A. (2021). **Impact of Skill-Based Training Programs on Performance of Small-Scale Poultry Entrepreneurs.** *International Journal of Livestock Research*, 11(4), 114-122. <https://doi.org/10.5455/ijlr.20201005094801>

Received : Sep 24, 2020
Accepted : Feb 21, 2021
Published : Apr 30, 2021

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Abstract

India is the world's fifth-largest egg producer and the eighteenth largest producer of broilers. Krishi Vigyan Kendras (KVKs) in India is fully functioning for application and demonstration of flagship technologies in agricultural and allied sciences, and to organize skill-based training programs for entrepreneurship development. Therefore, the present study aims to assess the characteristics of poultry entrepreneurs, dimensions of their established poultry enterprises and the impact of skill-based training organized by KVK on poultry entrepreneurs. An ex-post-facto design of social research was used to conduct a study. By using a random sampling method, 40 poultry entrepreneurs were selected as respondents for the study. Data was collected from sampled respondents by interviewing them personally. The study revealed that skill-based training organized by KVK made a good impact on knowledge gain and skill acquisition about different poultry breeds, debeaking, feeding, vaccinations, brooding and raising methods. A study reported high production efficiency and performance of poultry entrepreneurs. There was an increase in livelihood options, employment generation and annual income of entrepreneurs due to poultry farming. However, the monopoly of large-scale private industries in the supply of chicks, feed, and vaccination; and in deciding price, created threats to small-scale entrepreneurs. Therefore, the present study recommends that government agencies and line departments of States may take initiatives for deciding selling prices of poultry birds and that prices may be published in national and regional dailies. This will help to small-scale poultry entrepreneurs in sustaining enterprise during the slack season.

Keywords: Entrepreneurs, Livelihood, Performance, Poultry, Skill Training

Introduction

Poultry is one of the fastest-growing segments of the agricultural sector in India. While the production of crops has been rising at a rate of 1.5 to 2 per cent per annum, that of eggs and broilers has been rising at a rate of 8 to 10 per cent per annum. Poultry industry contributes about 0.77% of the national GDP and approximately 10% of the livestock GDP and employs over five million people in the country. As a result, India is the world's fifth-largest egg producer and the eighteenth largest producer of broilers. India ranks 17th on world's poultry production index. The organized sector of the poultry industry is contributing nearly 70% of the total output and the rest 30% in the unorganized sector. Layer industry is well dominated in southern states especially, Andhra Pradesh, Tamil Nadu and Maharashtra producing nearly 70% of the country's eggs production. Driving this expansion are a combination of factors such as growth in per capita income, a growing urban population and falling real poultry prices. In the context, questions are being raised about the impact of the scaling up of production-through structural factors, externalities and policies-on unorganized sector, especially on small-scale producers. Do the transaction costs, policy distortion and environment externalities place the small-scale producer at a disadvantage? Why do some poultry farms have a higher income than others? Do large farms earn more profit per unit of output than small ones? What explains the differentials in profitability? To address these questions and to fulfil the gap, Krishi Vigyan Kendra (KVK), Ratnagiri has organized many skill-based training programs for small-scale entrepreneurs. Therefore, the question is what is the post-training performance of participant trainees? Does their acquired knowledge, skill and management tasks could make any differential impact on their entrepreneurial performance? With this question in mind, the present study was conducted to assess the socio-economic characteristics of poultry entrepreneurs, dimensions of their established poultry enterprise and the impact of skill-based training on poultry entrepreneurs.

Materials and Methods

Locale of Study

The study was conducted in Lanja block of Ratnagiri district in Maharashtra State. A Lanja block is located at 16.85°N 73.55°E with an average elevation of 166 meters above mean sea level. National highway NH66 popularly known as 'Mumbai-Goa' highway passes through Lanja. The nearest railhead is Adivali on Konkan railway is around 15 km away. As of 2011 India census, Lanja had a population of 2,37,000. The males constitute 51.00% and females 49.00% of the population. Lanja has an average literacy rate of 73.00% is nearly equal to the national average of 74.04%. The male literacy is 78.00% and female literacy is 69.00%. This region is having red lateritic soil and receiving about 3500-4000 mm rainfall annually. The temperature varies from 10 degrees Celsius in winter and 40 degrees Celsius in summer. The region is dominated in horticultural especially plantation crops and rice as a staple food crop. Besides, most of the farmers are rearing cow, buffalo, goat and backyard poultry birds.

Experimental Details

The Krishi Vigyan Kendra, Ratnagiri has organized skill based as well as vocational training programs of 5-7 days duration for small-scale entrepreneurs. During the last five years, KVK has organized 15 skill-based training programs on poultry farming. Total 197 farmers, farm women and rural youths were trained on poultry farming, of which 99 trainees were started independent poultry enterprise in Ratnagiri. After conducting skill-building programs, the KVK has sold 19,773 chicks of improved Giriraja breed of poultry to participants trainees. Pre-test and post-test evaluation of participants were carried out during the training program. This helps to know the extent of knowledge gain and skill acquisition by the participants during the training program. Post-test evaluation score was considered as a 'control score' or 'before score' while analyzing data in the study.

Research Design and Sampling Technique

An ex-post-facto design of social research was used to conduct the study as a phenomenon is already happened and the researcher does not put any control on the independent variable as they have already been manipulated (Kerlinger, 1976). Two blocks viz., Lanja and Ratnagiri were selected purposively for study. Because a large number of recipients of poultry training were from these blocks and they have established independent poultry unit on a small-scale basis. The list of recipients of training was obtained from the skill/vocational training register maintained by KVK. The training recipients those have established fully functional poultry unit were considered for the study.

By using a random sampling method, 40 poultry entrepreneurs were selected as respondents for the study.

Data Collection and Analysis

A well-structured interview schedule was prepared on socio-economic characteristics, dimensions of enterprise and performance of poultry entrepreneurs. Constraints and suggestions of the respondent were collected through open-end questions. This designed interview schedule was pre-tested on a non-sample area to remove the ambiguity in questions. After pre-testing of schedule, data was collected from sampled respondents by interviewing them personally. 'Before-After Approach' was adopted to work out the impact of training on performance of poultry entrepreneurs. For this, the post-evaluation score was considered as 'before score' of respondents. The performance score secured by the respondent during data collection was considered as 'after score'. The collected data were subjected to appropriate statistical analysis. Descriptive statistics such as frequency percentage, mean and standard deviation was worked out to reach meaningful inferences.

Results and Discussion

Personal and Socio-Economic Profile of Poultry Entrepreneurs

The results of personal and socio-economic characteristics of poultry entrepreneurs are presented here. From Table 1, it was evident that the majority (45.00%) of poultry entrepreneurs were young and an average age of them was 36.74 years. Fifty per cent of the respondents were educated up to higher secondary level, had a small size of family (up to 4 members) and 47.50 per cent of entrepreneurs possessed less than 1.00 ha of land. It means a majority of poultry entrepreneurs were small and marginal farmers. Further, it was found that 60.00 per cent of parents of poultry entrepreneurs had farming as the main occupation, 22.50 per cent were engaged in business, 10.00 per cent were acted as a servant and wage labour (7.50%). Most of the respondents (67.50%) family income ranged from Rs 2,00,000/- to Rs. 3,00,000/- annum and more than half of the poultry entrepreneurs had 4-6 years of experience in poultry. On average, the sampled poultry owners had 6 years of experience in poultry entrepreneurship. These findings are in agreement with Mathialagan (2014) reported that the majority of the backyard poultry entrepreneurs were young, had better education and belonged to nuclear families in rural areas with small landholdings. Jhirwal *et. al* (2018) also showed that majority (50 per cent) of the poultry entrepreneurs belonged to middle age group, having 10.1 to 15 years of experience and education up to 10th standard. A similar line of findings was reported by A. Razzaq (2011), Babalola (2014) and Esiobu (2014).

Table 1: Distribution of poultry entrepreneurs based on personal and socio-economic characteristics

Characteristics	Category	Per cent (N=40)	Average	Minimum	Maximum
Age (Years)	Young	45	36.74	28	56
Education	Higher secondary	50	HSC/Diploma	Primary	Graduate
Family size	Small family	62.5	3.41	2	7
Landholding	Small and marginal	47.5	1.2	0.2	2.5
Parental occupation	Farming	60	Farming	Wage labour	Service
Annual income	Rs 200001 to 3,00,000/-	67.5	1,82,224/-	1,00,000/-	3,50,000/-
Experience in poultry (Years)	4-6 years	52.5	5.84	2	16

Dimensions of Poultry Units Established by Entrepreneurs

Distribution pattern of poultry entrepreneurs based on a different dimension of established poultry units such as type of breed reared, source of birds, purchase rate, the capacity of the unit, sources of feed and vaccination were studied and its data is depicted in Table 2. It was revealed that 62.50 per cent of poultry entrepreneurs reared Giriraja poultry birds and 30.00 per cent preferred to rear broiler breed. Most (55.00%) of the entrepreneurs have purchased poultry chicks/birds from KVK and some have established own hatching center. Maximum (55.00%) of the entrepreneurs have purchased 4 weeks of birds from KVK at the rate of Rs 73 and 20.00 per cent have purchased one-day chicks for Rs 20. The majority (40.00%) of entrepreneurs were reported that they have poultry units of 501 to 1000 birds/batch capacity and 32.50 per cent were possessed units up to 500 birds/batch capacity.

Table 2: Distribution of poultry entrepreneurs according to dimensions of their poultry enterprise

Category	<i>f (N=40)</i>	%
Type of breed reared		
Non-descript (Local)	2	5
Broiler	12	30
Giriraj	25	62.5
Layers	1	2.5
Source of birds		
Own hatching center	9	22.5
Other entrepreneurs	5	12.5
Private companies	2	5
KVK	22	55
Central Poultry Development Organization (CPDO)	2	5
Rate of purchase (Rs/bird)		
Rs 20 for 1-day chicks	8	20
Rs 21 to 25 for 1-day chicks	7	17
>Rs 25 for 1-day chicks	3	7.5
Rs 73 for 4 weeks birds	22	55
The capacity of unit (No of birds/batch)		
Up to 500	13	32.5
501 to 1000	16	40
1001 to 2000	4	10
>2000	7	17.5
Source of feed		
Homemade (Maize + Soya)	8	20
Venky's	24	60
Godrej	8	20
Source of vaccination		
Medical store	31	77.5
Veterinary dispensary	9	22.5

Similar results were reported by Parveen *et al.* (2013), he found that a higher flock size (23.44/household) was maintained by rural women after training than before training (12.4/household). Most of them (60.00%) poultry entrepreneurs used Venky's feed. The beneficial effect of probiotic supplementation to broiler diet in terms of increased body weight and body weight gain is well documented in the literature (Banday and Risam, 2001). Very small per cent were used homemade (Maize + Soya) feed for body weight gain. This indicates they are trying to reduce the production cost of small-scale poultry birds. The majority (77.50%) of poultry entrepreneurs purchased vaccine from a medical store and made self-vaccination, however, meagre per cent of respondents called veterinary practitioners from government dispensary to make vaccination of chicks.

Impact of Skill-Based Training on Performance of Small-Scale Poultry Entrepreneurs

In the present investigation, the impact of skill-based training on performance of poultry entrepreneurs was studied under different indicators such as knowledge, skill acquisition, improvement in management tasks and production efficiency.

Table 3: Distribution of poultry entrepreneurs according to their knowledge

Knowledge domain	Before training (N=40)	After training (N=40)	Gain in knowledge (N=40)
Improved Poultry Breeds	24 (60)	40 (100.00)	16 (40.00)
Vaccination			
1 ml Lasota in nose/eye on 7 th day	9 (22.50)	32 (80.00)	23 (57.50)
1 ml Gumboro in nose/eye on 12 th day	7 (17.50)	28 (70.00)	21 (52.50)
1 ml Booster Lasota in nose/eye on 28 th day	4 (10.00)	19 (47.50)	15 (37.50)
<i>Brooding up to 4 weeks (2 Watt/bird)</i>	13 (32.50)	32 (80.00)	19 (47.50)
Feeding Practices			
Maize crumble up to 4 days	16 (40.00)	31 (77.50)	15 (37.50)
<i>Gowran</i> starter (5-30 days)	17 (42.50)	37 (92.50)	20 (50.00)
<i>Gowran</i> finisher (31 st day onwards)	15 (37.50)	35 (87.50)	20 (50.00)
Disinfection /Sterilization			
Application of karsolin 10 ml	4 (10.00)	24 (60.00)	20 (50.00)
Use of potassium paramagnet and formalin (1:2 ratio)	5 (12.50)	23 (57.50)	17 (45.00)

(Figure in parentheses indicates percentage)

Knowledge Gain

Data in Table 3 indicated that majority of entrepreneurs have gained knowledge about poultry breeds (40.00%), vaccination such as Lasota (57.00%), gumboro (52.50%) and booster Lasota (37.50%). Further, 47.50 per cent of the entrepreneurs have gained knowledge about brooding up to 4 weeks, and feeding practices such as the use of maize crumble, *gawran* starter and finisher after exposure to the skill-based training program. Maximum entrepreneurs have acquired knowledge regarding the application of karsolin and use of potassium paramagnet for disinfection after participation in training. The knowledge level of beneficiaries on backyard poultry production technology was higher for the least cost method of egg storage, deworming, feeding technique and hatching (Mathialagan, 2014).

Table 4: Distribution of poultry entrepreneurs according to their skill acquisition

Type of skill	Before training (N=40)	After training (N=40)	Skill Acquisition (N=40)
Debeaking	0 (0.00)	14 (35.00)	14 (35.00)
Feeding practices	12 (30.00)	38 (95.00)	26 (65.00)
Vaccination	5 (12.50)	33 (82.50)	28 (70.00)
Brooding	6 (15.00)	30 (75.00)	24 (60.00)
Deep litter raising methods	2 (5.00)	12 (30.00)	10 (25.00)

(Figure in parentheses indicates percentage)

Skill Acquisition

Data regarding impact of training on acquisition of skill is presented Table 4 revealed that higher percentage of entrepreneurs (65.00%) had acquired skill regarding feeding practices, vaccination methods (70.00%), brooding (60.00%), debeaking and deep litre raising method (25.00%) after exposure to skill-based training programs organized by the KVK. Before undergone training, very few respondents have possessed the skill of debeaking, feeding, vaccinations, brooding and raising methods. It could be inferred that training programs organized by KVK have made a positive impact on the acquisition of different entrepreneurial skills by the participants.

Management Tasks

Table 5 indicates the change in different poultry management task performed by entrepreneurs while running small-scale poultry. It was found that training programs improved the management tasks of the participants. Majority

70.00 per cent had regularly performed brooding up to 4 weeks and gumboro vaccination on 13th day, and 65.00 per cent of the respondents given Lasota vaccine on 7th day, and, 75.00 per cent of entrepreneurs gave watering and feeding by using appropriate vessels after going through the training program. However, none of the entrepreneurs performed debeaking on 3rd and 8th week age of the birds. The reason might be less preference of customer for the purchase of debeaked birds as they do not look natural. These findings are in line with the results reported by Mathialagan (2014).

Table 5: Distribution of poultry entrepreneurs according to their change in management tasks

Management task	Before training (N=40)	After training (N=40)	Change in the management task (N=40)
Brooding up to four weeks	4 (10.00)	32 (80.00)	28 (70.00)
Lasota @ 7 th day	2 (5.00)	30 (75.00)	28 (70.00)
Gumboro @ 13 th day	1 (2.50)	27 (67.50)	26 (65.00)
Booster Lasota @ 28 th day	1 (2.50)	12 (30.00)	11 (27.50)
Debeaking on 3 rd and 8 th week	0 (0.00)	0 (0.00)	0 (0.00)
Watering and feeding through appropriate vessels	4 (10.00)	34 (85.00)	30 (75.00)
Litter management	1 (2.50)	4 (10.00)	3 (7.50)

(Figure in parentheses indicates percentage)

Production Efficiency

The production efficiency of poultry units established by entrepreneurs is presented in Table 6. The production efficiency is the ratio of total per cent of birds to the per cent of mortality in the birds. It is observed that the majority of entrepreneurs (96.00%) were reported high production efficiency and 37.50 per cent belonged to medium category. Very important thing was that none of the entrepreneurs belonged to the low category of production efficiency. The average production efficiency of the entrepreneurs was 96.50 per cent, the minimum was 94.00 per cent and maximum production efficiency was 98.00 per cent. It could be said that the production efficiency of poultry entrepreneurs was improved due to skill-based training programs. Similar to the present finding Ram *et al.* (2017) also assessed the importance of training and concluded that the farmer needs training. Chatterjee and Rajkumar (2015) highlight the importance of farmers training and state that the success of poultry production depends primarily on the locally adapted bird employed, favorable environment and availability of good feed.

Table 6: Distribution of poultry entrepreneurs according to their production efficiency

Category	f (N=40)	%
Low (90.00 to 94.00 %)	0	0
Medium (94.00 to 96.00%)	15	37.5
High (above 96.00%)	25	62.5
Average= 96.50	Min= 94.00	Max= 98.00

Cumulative Performance

The impact of skill-based training programs on the performance of poultry entrepreneurs is presented in Fig. 1 indicates that 65.00 per cent of entrepreneurs belonged to the outstanding category, followed by very good (22.50%) and good (12.50%) category of performance.

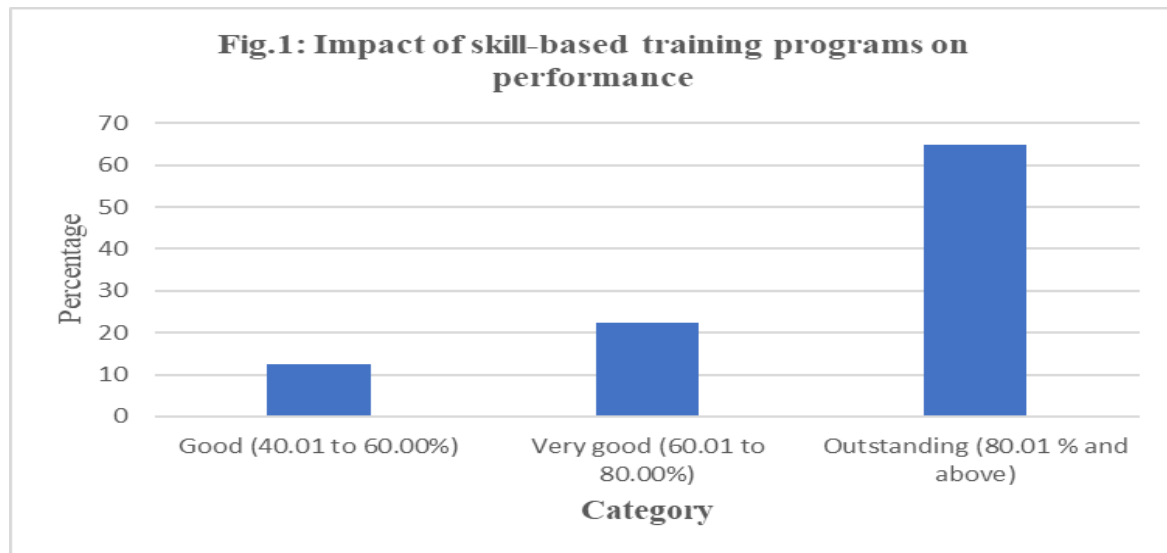


Figure 1: Impact of skill-based training programs on performance

Impact on the Livelihood of Entrepreneurs

There was a positive impact of poultry enterprise on livelihood options, employment and income generation of poultry entrepreneurs. The livelihood options of respondents were increased from 'single' to 'double' (70.00%) and 'multiple' (20.00%) options after starting a poultry enterprise. The average number of persons employed was increased from 1.20 to 2.87. There was a positive and significant impact (127.33%) on average employment generation (Man days/year). The average income was raised from Rs 90,342/- to Rs 1,94,870/- after engagement in poultry entrepreneurship. Kabir *et al.*, (2015) also studied the impact of poultry farming on the socio-economic condition of Bangladeshi farmer and concluded that the 38% of the farmer's socioeconomic condition got improved due to family poultry farming.

Table 7: Impact of poultry enterprise on the livelihood of entrepreneurs

Characteristics	Before Enterprise (N=40)	After Enterprise (N=40)	Per cent Change (N=40)
Livelihood options			
Single	36 (90.00)	0 (0.00)	36 (-90.00)
Double	4 (10.00)	32 (80.00)	28 (+70.00)
Multiple	0 (0.00)	8 (20.00)	8 (+20.00)
Employment generation			
Average no of a person employed	1.2	2.87	1.67
Average employment (Man days/year)	190.1	317.43	127.33
Average income (Rs)	90,342/-	1,94,870/-	1,04,528/-

(Figure in parentheses indicates percentage)

Table 8: Distribution of poultry entrepreneurs according to their problems

Particulars	Frequency (N=40)	Percentage
Unavailability of labour due to a bad smell in poultry	24	60
Increased feeding cost leads to a decline in net profitability	32	80
Market fluctuation	19	47.5
No, intervene from Government in deciding the selling price	26	65
A great influence of private players in supply and demand chain management	35	87.5
Large-scale private industries competing for small-scale hatching center	22	55

Problems Faced by Entrepreneurs in Running Small-Scale Poultry

Most of the entrepreneurs reported that there is great influence of private players in supply and demand chain management (87.50%), increase in feeding cost leads to decline in net profit (80.00%), no intervene from government in deciding selling price (65.00%) and unavailability of labour (60.00%) were major problems in running small-scale poultry units.

Conclusion

The study leads to conclude that most of the sampled poultry entrepreneurs were young, educated and belonged to a small family and having smallholdings. Farming was the main occupation of their parents. The skill-based training organized by KVK made a very good impact on knowledge gain and skill acquisition about poultry breeds, debeaking, feeding, vaccinations, brooding and raising methods. Majority of entrepreneurs reported high production efficiency. There was a positive impact of skill-based training programs on the performance of poultry entrepreneurs. The poultry enterprise made a positive and significant impact on the livelihood of entrepreneurs. There was an increase in the number of livelihood options, employment generation and annual income of entrepreneurs. The influence of private players in supply and demand chain management, increased feed cost leads to decline in net profit; no intervene from the government in deciding selling price were the main problems in running small-scale poultry enterprise. There is a monopoly of large-scale private industries supply of chicks, feed, and vaccination; and in deciding selling price. This creates threats to small-scale entrepreneurs. It is, therefore, recommended that government agencies and line departments of States may take initiatives for deciding selling price of poultry birds and that price may be published in national and regional dailies. This will help to small-scale poultry entrepreneurs in sustaining enterprise during the slack season.

Acknowledgement

We are thankful to respondent poultry entrepreneurs for spending their valuable time during personal interview.

Conflict of Interests

There is no conflict of interest.

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