

Original Research Article

Impact of skill development training programs on promotion of backyard poultry farming in arid region of Rajasthan

Abstract

A study was conducted to assess the impact of skill development training programmes on promotion of backyard poultry farming practices in arid region of Rajasthan. The information was collected from 120 respondents with the help of well-structured interview schedule cum questionnaire. A majority (99%) of the respondents adopted timely treatment of sick bird and 98 percent farmers adopted feed formulation at household level, culling and selection, use of antibiotics, rearing of quality birds and consulting veterinary doctors. 97 percent respondents use feed supplements, 97 percent respondents provided feed according to age. The data also showed that similar adoption index was obtained for segregation of diseased bird, record keeping and de-beaking (92%), while for feed supplement use was 88 percent, it is clear that maximum gain was obtained in case of consulting veterinary doctors (85%) followed by segregation of diseased birds (84%), feed formulation at household level and rearing of quality birds (82%), record keeping (81%), Feed supplement uses (79%), Post-mortem of dead bird by veterinary doctors (77%), while minimum gain of 53 percent was obtained for culling. The training imparted to the farmers increased their knowledge and they got acquainted to new technologies of poultry farming.

Keywords: Poultry, Respondent, training, de-beaking, segregation

Introduction

Agriculture plays a vital role in the Indian economy. Over 70 per cent of the rural households depend on agriculture. Agriculture is an important sector of Indian economy as it contributes about 19.9% to the total GDP and provides employment to around 58% of the population. Livestock provides livelihood to two-third of rural community. It also provides employment to about 8.8 % of the population in India. India has vast livestock resources. Livestock sector contributes 4.11% GDP and 25.6% of total Agriculture GDP. Indian economy is based on agriculture

and allied sector, besides providing food and nutritional security agriculture and allied sector also create employment to the rural people in the shortest possible time. 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. Now a day, availability of poultry products in the rural areas is very low or unavailable due to their higher prices. Training is very essential for capacity building and for strengthening the business economically by developing scientific attitude to increase their knowledge status and aware present situation of sector throughout country and worldwide. It also creates interest of trainees in the poultry rearing if training is based on their actual need (Bhattarai, 2008). Meticulousness of farmer and their education status are also accountable for adoption

of technological interventions (Rosaria, 1997). The main purpose of training is to bring desired change in the attitude/approach of farmers (Brough, 2004). Knowledge is essential for proper utilization of genetic stock, available resources, economic information and scientific poultry husbandry practices by the farmer to develop their business successfully and is ultimately linked with the increased socio-economic status (Boice, 2005; Eade, 2007; Sharma, 2010). Training improves a person's skill, power of intelligence and also develops the desired attitude required for his work (Dahama and Bhatnagar 1980). Training is the systematic process of acquisition of new skills, attitude and knowledge in the context of improving one's productivity in an organization. The capacity of the trainees in acquiring knowledge and technological skill depends on the receptivity of them.

Farmer rear indigenous or desi poultry birds (Non-descript) with comparative very low egg and meat production in backyard system or free range system. The farmers are unaware of the farm practices and various challenges related to poultry farming especially when the flock size increases. For making poultry farming economically viable in the rural area, basic training related to poultry farming is utmost important. Training changes the level of knowledge and skills of the farmer and provides knowledge regarding identification of improved backyard poultry birds, diseases management, climatic stresses, feeding ingredients and poultry waste management. Therefore, the present work has been designed to study the impact of these programmes organized by the Krishi Vigyan Kendra on the adoption of backyard poultry farming.

Materials and Methods

Krishi Vigyan Kendra Bikaner

is one of the oldest Kendras of Rajasthan to provide training programmes on skill development in poultry farming. The sample of study was 120 trainees who acquired training on scientific poultry farming during the period from 2018-19 to 2020-21. A well-structured interview schedule was prepared on socio-economic characteristics, dimensions of enterprise and performance of poultry entrepreneurs. This information was collected by using a structural questionnaire from the trained farmers by visiting & discussing with them personally and the data was analyzed 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 farmer 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.

Results and Discussion

In this study data presented in Table 1 shows the age, gender, education level, occupation, land holding. Majority (58.33%) of the poultry farmers had age group between 31-40 years which was followed by the age group 20-30 years (25.0%), while 16.67 percent of respondents belonged to age group of more than 40 years. It is obvious from the data that greater part of the respondents, who were between age group of 31-40 years, had maximum adoption percentage of backyard poultry farming. The study indicated that larger part (82.5%) of the respondents in arid region in Rajasthan was male, which indicated that adoption of poultry farming among rural women, is very low (17.5%). Among the respondents, 50.83 percent were middle school

followed by (26.67%) intermediate, (15.0%) primary educated, (5.0%) graduate and illiterate (2.5%). Similar findings were reported by (Nath et al., 2012).

It is also revealed from Table 1 that majority (87.5%) of the respondents belonged to farming community, 10.0 percent respondents were landless labourers followed by businessmen (2.5%). It was concluded that majority of the backyard poultry farmers were engaged in farming.

Table 1:-Distribution of respondent based on socioeconomic characteristics of the backyard poultry farmers

Characteristics	Frequency	Percentage
Age (years)		
20-30	30	25
31-40	70	58.33
>40	20	16.67
Gender		
Male	99	82.5
Female	21	17.5
Education level		
Illiterate	3	2.5
Primary	18	15
Middle school	61	50.83
Intermediate	32	26.67
Graduate	6	5.0
Occupation		
Farming	105	87.5
Land less labours	12	10.0
Businessmen	3	2.5
Land Holding		
<2hac	13	10.83
2-3hac	67	55.84
>5hac	40	33.33

Knowledge level or score of poultry farmer:-

Improper implementation of programs, illiteracy, poor marketing system, lack of scientific knowledge and farms mechanization are the major constraints to uplift socio- economic of the farmers. Poultry birds are very sensitive to the adverse climatic condition due to feather body and lack of sweat gland. The stress over a period of time can deteriorate the production performance and high incidences of stress-related diseases are avoided by providing feed supplement and promoting better housing facilities. Properly ventilated house, clean environment and scientific waste management strategies are the pre-requisite for poultry farming. Poultry house provides protection from harmful animals and the area of house depends upon the flock size. Before keeping the birds inside the poultry house, fumigate the farm or disinfectant with approved chemical with great precaution. Wooden and rice bran can be used for making litter and litter should be dry and clean. Poultry feeder drinker and other equipment should be kept at proper place and the number of feeder and drinker depend upon the flock size and area of house. Most of the farmers are unaware and very less number of farmers using scientific management techniques in his/her poultry farm. The impact of training was

significant and average knowledge score of the trainees increased from 4.98 to 15.02 (out of 20; Table 2). Similar to present finding Ram et al., 2017 also assess the importance of training and concluded that the farmer needs training. Chatterjee et al., 2015 highlights the importance of farmers training and state that the success on poultry production depends primarily on the locally adapted bird employed, favourable environment and availability of good feed. However, Kabir et al., (2015) also studied the impact of poultry farming on socio-economic condition of Bangladeshi farmer and concluded that the 38% of the farmer's socio- economic condition got improved due to family poultry farming.

Table.2 Knowledge level or score of poultry farmer (based on questionnaire)

S. No.	Poultry Farm Management Practices	Average Score (Out of 20)	
		Before Training	After Training
1	Housing, Sanitation and waste management	5.76	14.24
2	Disease Management and Schedule Vaccination	3.05	16.95
	Poultry Nutrition and Feed Formulation	8.26	11.74
3	Stress Management of Poultry	2.72	17.28
4	Abnormal Behaviour of Poultry	5.11	14.89
5	Overall Average Score	4.98	15.02

Training needs areas among poultry farmers:-

The training needs of poultry farmers for major activities are represented in the Table 3. The comparative less important areas required training in the order were as Chicks rearing/Brooding management, Feed preparation/formulation, Vaccination & Preventive measures, Disease diagnosis & healthcare, Poultry shed & Housing management, Feeding & watering management, Layer management, Bird/meat/egg marketing, Incubation/hatching, Culling/Selection of birds, Chick purchasing, Compost preparation, Breeding/mating aspect and maintenance of records/accounts. However, knowledge about breeding / mating aspect and brooding among rural poultry is very crucial which can increase productivity as well as sustainability of the system. Selection of cockerel and replacement of male in the flock is compulsory to reduce inbreeding effect at the farm (Gawande *et al.*, 2007; Kapur, 2008). It could be observed from the results depicted in Table 3 that the Chicks rearing/Brooding management, Feed preparation/formulation, Vaccination & Preventive measures, Disease diagnosis & healthcare are the most important training need areas in which participation is high and those areas are felt to be the fundamental areas. Training activities are very important to pick up their knowledge and aptitude, to increase acceptability/adoption of new scientific/modern interventions. Adoption of technologies was better among higher educated mass. Gender had significant role in finance activities. Majority of the farmers desired training by on-site demonstration method (64.5%). However, rest require training by using the different extension methods like exposure visit (25.5%) and lecture with field trip (10.0%). These findings were in agreement with report of Taneja (1998). Site demonstrations provide multi-session interaction with expert at their farm during frequent visit at any stage of development. On farm demonstrations would help in better appreciation and acceptance of scientific interventions/modern practices. Several farmers prefer indigenous birds because; they are less demanding and less prone to be disease and internal / external parasitic infestation. Moreover, the native birds are more

sustainable in the prevailing circumstance. Several years after independence due to wrong planning, the status of rural poultry development in targeted area is very poor. It might be due to the reason that the producers do not adopt improved breed and technology at desired level because of un-availability and inadequate supply of chicks, low genetic potential of birds, high mortality during extreme winter and summer, lack of loan facilities and high rate of interest, costly feed, inadequate knowledge about scientific feeding, health care and management etc (Mehta *et al.*, 2002; Pica-Ciamarra and Otte, 2009). Apart from these necessary facilities regarding diagnosis, prevention, vaccination and control measures for safeguarding health and production of poultry need to be extended in village areas (Kataria *et al.*, 2005; Dhama *et al.*, 2008a,b,c; Dhama *et al.*, 2011; Dhama *et al.*, 2013a,b,c,d,e,f). This would help in adaptation and propagation of popular poultry farming as a popular business and source of regular and sustained income in rural areas.

Table 3 :- Training needs areas among poultry farmers

S.No.	Training need area	Trainees / Farmers	Rank
1	Chicks rearing/Brooding management	120	I
2	Feed preparation/formulation	110	II
2	Vaccination & Preventive measures	94	III
4	Disease diagnosis & healthcare	92	IV
5	Poultry shed & Housing management	88	V
6	Feeding & watering management	84	VI
7	Layer management	78	VII
8	Bird/meat/egg marketing	76	VIII
9	Incubation/hatching	72	IX
10	Culling/Selection of birds	70	X
11	Chick purchasing	63	XI
12	Compost preparation	56	XII
13	Breeding/ mating aspect	50	XIII
14	maintenance of records/accounts	48	XIV

Adoption of improved management practices by farmers before training:-

The data presented in Table 4 revealed that 42 percent respondents were aware of culling, 32 percent of use of antibiotics, 29 percent respondents of timely treatment of sick birds, 28 percent of use de-beaking, 26 percent respondents frequent visit to birds, 21 percent respondents provided feed according to poultry age, 18 percent farmers were use of disinfectants in farm and 16 percent farmers were rearing quality birds and feed formulation, however low adoption was recorded in post- mortem of dead bird by veterinary doctors (0%), brooding management (15%), record keeping (11%) and in use of feed supplementation (9%), Consulting veterinary doctors (13%) and segregation of diseased birds obtained mean score of 8 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, segregation of diseased birds 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 4). A majority (99%) of the respondents adopted timely treatment of sick bird and 98 percent farmers adopted feed formulation at household level, culling and selection, use of antibiotics, rearing of quality birds and consulting veterinary doctors. 97 percent respondents use feed supplements, 97 percent respondents provided feed according to age. The data also showed that similar adoption index was obtained for segregation of diseased bird, record keeping and de-beaking (92%), while for feed supplement use was 88 percent. The view for above management practices were also supported by Ithika et al., 2013. It is clear that maximum gain was obtained in case of consulting veterinary doctors (85%) followed by segregation of diseased birds (84%), feed formulation at household level and rearing of quality birds (82%), record keeping (81%), Feed supplement uses (79%), Post-mortem of dead bird by veterinary doctors (77%), while minimum gain of 53 percent was obtained for culling.

Table 4 : -Adoption level of improved management practices before and after the training

Sr. no	Management Practices	Adoption index (%)		Gain (%)
		Before	After	
1	Brooding management	15	79	64
2	Use of disinfectants in farm	18	74	56
3	Feed formulation at household level	16	98	82
4	De-beaking	28	92	64
5	Timely treatment of sick bird	29	99	70
6	Culling & selection	45	98	53
7	Record keeping	11	92	81
8	Use of antibiotics	32	98	66
9	Frequent visit to birds	26	97	71
10	Post-mortem of dead bird by veterinary doctors	0	77	77
11	Feed supplement uses	9	88	79
12	Rearing of quality birds	16	98	82
13	Provide feed according to age	21	96	75
14	Segregation of diseased birds	08	92	84
15	Consulting veterinary doctors	13	98	85

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