

Backyard Poultry Farming, a Suitable Intervention for Tribal People for their Livelihood Support and Nutritional Security

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ABSTRACT: After analyzing the situation, background and cultural scenario, KVK, Mayurbhanj scientists intervene to make this practice as more productive, remunerative and commercial by introducing improved breeds like Vanaraja, Gramapriya, Kharagnath etc. those are phenotypically similar to existing poultry population. The benefit and cost ratio in Vanaraja and local breeds recorded as 2.66 and 2.27 respectively in Assam as found by Islam *et al* (2015). The 21 days old chicks were being supplied to the various SHGs, individual growers etc. They were trained about the minimal management practice, vaccination, feeding etc. To find out the effectiveness of the technology the study was made with an objective to assess the knowledge gained and adoption of the technology alongwith the constraints faced and suggestion for better penetration from the respondents. From the list of practicing farmers of KVK under improved backyard poultry farming, hundred numbers of respondents were selected randomly. From the study it was found that moderate knowledge was gained by the respondents on the improved poultry farming and adoption was satisfactory with 64.0 and 21.0 percentages in medium and high categories respectively. The respondents perceived as the unavailability of structured market structure was the major constraint and mostly suggested for the establishment of assured market system. There is huge scope & perspective in the improved poultry farming in the district. The farmers are very much spirited and enthusiastic to adopt the enterprise in entrepreneurship basis. Although the quality of egg and meat of improved breeds is at par with the local breeds, there is very wide gap in the price of local and exotic breeds. But the traders are manipulating the tribal farmers. In this respect the market system should be strengthened.

Keywords: Adoption, Knowledge, Livelihood, Poultry farming, Tribal people

I. Introduction

Livestock and poultry provide a major contribution to India's economy. (Nath *et al* 2012). In rural economy poultry farming contributes an important role especially for the socio-economic development of the weaker section of the society in the state of Odisha. It generates self employment, provides supplementary income and supplements protein rich diet at relatively low cost. In the state, the source of egg and meat production is mostly from exotic layers and broilers as well as the traditional local breeds. The high yielding layers and broilers cannot survive under sub-optimal nutritional and managerial condition within stressful environment. The local breeds are very low productive with laying capacity of 20-30 eggs per year and very slower growth. These breeds need to be replaced by superior breeds phenotypically similar to existing poultry population. In the district of Mayurbhanj, poultry rearing is traditional practice among the tribal people with local breeds. There is a huge base of poultry rearing in the rural mass which constitute about 90 % of the total population. As per the livestock census of the year 2006-07, there are about 8.3laks population of poultry birds of local breeds in the district which will reach upto 9.0 laks now-a day. It is a very good livelihood option for the landless tribal people as well as a suitable small scale enterprise for the marginal & small farmers those are major share of the farming community. Livestock and poultry is an imperative factor for improving the nutritional security of rural people in India (Pathak and Nath, 2013).

After analyzing the situation, background and cultural scenario, KVK, Mayurbhanj scientists intervene to make this practice as more productive, remunerative and commercial by introducing improved breeds like Vanaraja, Gramapriya, Kharagnath etc those are more productive laying 150-200 egg annually and growth upto 2.5 kg in only 3 months period (Pathak and Nath, 2013). The benefit and cost ratio in Vanaraja and local breeds recorded as 2.66 and 2.27 respectively in Assam as found by Islam *et al* (2015).

But the problem was non- availability of the chicks of the improved breeds and brooding of day old chicks upto a manageable stage. In addition to this managerial practices mostly about the vaccination for major diseases and feed management by low cost household wastages were not properly known by the rearers. To overcome the problem a poultry brooding unit was established with help of the District Administration during 2007-08 where the day old chicks are reared up to 21 days in the KVK campus. The first 21 days were the critical period of chick mortality and requires high managerial practice (Pathak and Nath, 2013). The day old chicks were collected from CPDO and department hatcheries. The 21 days old chicks were being supplied to the various

SHGs, individual growers, watershed groups, WIGs and other entrepreneurs. They were trained about the minimal management practice, vaccination, feeding etc. Farmers' fair, field and exhibition were conducted in various occasions involving different success groups, extension officials, entrepreneurs, input dealers and marketing people. The success was also well diffused through mass media like T.V coverage, Radio Programme, Newspaper publications and leaflets

Till date more than 60,000 nos. of poultry chicks have been supplied from KVK to the different sectors all around the district. There were 1, 50,517 nos of improved poultry breeds in 2008-09 as compared to the 70,979 nos in 2006-07 in the district (the recent animal census was not done). There are also different entrepreneurs have come up for supplying the chicks by establishing the poultry brooding units. The farmers with 100 nos. of chicks in different phases earned more than Rs.15, 000/- only in 6 months. A poultry hatchery was established by the department of animal resource development of the state government in the last April, 2011 due to increase in the demand of the chicks as the technology is spreading widely day by day.

II. Research Methodology

From the list of practicing farmers of improved backyard poultry farming which was available at KVK level, hundred farmers were selected randomly as the sample for the study involving only tribal farmers of Mayurbhanj district covering eight blocks of all the four subdivision. A pre-tested structured interview schedule was used to elicit information from the respondents. The statements as specified in the schedule were asked systematically. Sufficient probing and clarifications were made to make clear understanding. The data were analyzed using appropriate statistics tool.

III. Results And Discussion

Socio-economic Profile of Respondents: Socio-economic characteristics of respondent farmers those were employed in backyard poultry rearing were analysed and presented in Table 1

Profile of the Respondents

Table.1: Distribution of the respondents according to their Age
N=100

Sl. No.	Category	Number	Percentage
1	Young (18-35 years)	55	55.0
2	Middle (36-50 years)	28	28.0
3	Old (more than 50 years)	17	17.0

From the Table.1 it was indicated that most of the respondents (55.0 percent) belonged to young age group (between 18- 35 years) engaged in the backyard poultry farming.

Table.2: Distribution of the respondents according to their Gender
N=100

Sl. No.	Category	Number	Percentage
1	Male	23	23.0
2	Female	77	77.0

From the above table, it was found that female were more (77.0 percent) dominant than the male counterparts in this profession.

Table.3: Distribution of the respondents according to their Educational Status
N=100

Sl. No.	Category	Number	Percentage
1	Illiterate	44	44.0
2	Primary Level	30	30.0
3	Middle school Level	19	19.0
4	Matriculation and above	07	07.0

From the observation it was evident that most of the respondents had very poor educational background and majority of the respondent were either illiterates or up to primary level.

Table.4: Distribution of the respondents according to their category/caste of tribal
N=100

Sl. No.	Category	Number	Percentage
1	Santal	41	41.0
2	Bhumij	20	20.0

3	Kolha	14	14.0
4	Bathudi	06	06.0
5	Bhuyan	09	09.0
6	Ho	03	03.0
7	Munda	03	03.0
8	Sabar	04	04.0

From the table.4 it was found that majority of the respondents belonged to Santal caste (41.0 percent) which was also conforming to the demographic figure about the distribution of the tribal in the district where Santal caste were predominant.

Table.5: Distribution of the respondents according to their Land holding
N=100

Sl. No.	Category	Number	Percentage
1	Landless and less than 1 ac	78	78.0
2	Within 1-2 ac	16	16.0
3	More than 2 ac.	06	06.0

From the table, it was found that the majority of the respondents belonged to landless and marginal land holding category (78.0 percent).

Table.6: Distribution of the respondents according to their Annual Family Income
N=100

Sl. No.	Category	Number	Percentage
1	Less than 25,000	57	57.0
2	25,000-50,000	34	34.0
3	More than 50,000	09	09.0

From the table.1.6, it was found that majority of the respondents had annual family income in the range less than Rs 25,000 (57.0 percent) followed by in the range of Rs 25,000 to 50,000 (34.0 percent).

Table.7: Distribution of the respondents according to their knowledge gained
N=100

Sl. No.	Component	Extent of knowledge gained			
		Excellent	Very good	Moderately good	Poor
		Number	Number	Number	Number
1	Brooding management	03	09	46	42
2	Feeding management	06	30	49	15
3	Disease management	03	12	45	40
4	Marketing strategy	03	16	42	39
Overall Mean		7.610			
Standard deviation		1.740			

Maximum obtainable score- 16

Table.8: Distribution of the respondents according to their status of knowledge gained
N=100

Sl. No.	Status of knowledge	Number	Percentage	
1	High	>Mean+1SD	09	09.0
2	Medium	In between both	82	82.0
3	Low	<Mean-1SD	09	09.0

From the above study it was derived that the status of the knowledge gained was in the medium range by majority of the tribal poultry farmers due intervention of the improved backyard poultry farming.

Table.9: Distribution of the respondents according to adoption of technology
N=100

Sl. No.	Component	Extent of adoption of technologies			
		Fully adopted	Satisfactorily adopted	Partially adopted	Least adopted
		Number	Number	Number	Number
1	Brooding management	0	0	27	73

2	Feeding management	03	15	55	27
3	Disease management	0	06	40	54
Overall Mean		4.730			
Standard deviation		1.135			

Maximum obtainable score- 12

Table.10: Distribution of the respondents according to adoption of poultry rearing
N=100

Sl. No.	Status of adoption		Number	Percentage
1	High	>Mean+1SD	21	21.0
2	Medium	In between both	64	64.0
3	Low	<Mean-1SD	15	15.0

From the above study it was derived that the status of adoption of improved backyard poultry farming was in the medium range by majority of the tribal poultry farmers followed by high range.

Table.11: Correlation of the independent variables with the knowledge gained and adoption of improved backyard poultry rearing by the respondents
N=100

Sl. No.	Independent variables	Correlation coefficient (r-value)	
		Knowledge gained	Adoption
1	Age	0.0165	-0.0263
2	Gender	-0.0407	-0.0044
3	Educational status	0.1979*	0.0656
4	Caste of tribals	0.0676	-0.0272
5	Land holding	-0.0415	0.0087
6	Annual family income	-0.0239	-0.0939

*significant at the 1% level of probability

To find out the relationship between the knowledge gained and adoption with the independent variable of socio-economic traits, Pearson's test was employed. As per finding that was depicted in the table. 11 it was observed that only educational status was positively correlated with the knowledge gained. All other variables were none significantly correlated with knowledge and adoption of backyard poultry farming.

Table.12: Constraints faced as perceived by the respondents for rearing improved backyard poultry
N=100

S. N.	Constraints	Most Appropriate	Appropriate	Least Appropriate	Mean	Rank
		%	%	%		
1	Poor availability of quality chicks	39.0	46.0	15.0	2.24	II
2	Difficulty in availability of inputs like feeds, medicines etc.	21.0	51.0	28.0	1.93	III
3	Disease outbreak and mortality	06.0	24.0	70.0	1.36	VIII
4	Absence of structured market system	46.0	36.0	18.0	2.28	I
5	Poor Extension and advisory services	10.0	38.0	52.0	1.58	VI
6	Destruction of backyard planting due to its voracious eating habit	09.0	24.0	67.0	1.42	VII
7	Inferior quality of meat than local breed	24.0	34.0	42.0	1.82	V
8	Poor acceptability by the consumers	18.0	52.0	30.0	1.88	IV

Maximum obtainable score- 3

From the analysis of the above table, it was inferred that absence of structured market system was the most critical constraints faced by the respondents followed by poor availability of quality chicks and then availability of inputs.

Table.13: Suggestions as laid by the respondents for overcome difficulties and better outcome of the improved backyard poultry rearing
N=100

S. N.	Suggestions	Most useful	Useful	Least useful	Mean	Rank
		%	%	%		
1	Timely availability of quality chicks locally in cheaper rate	43.0	48.0	18.0	2.25	II
2	Availability of low cost inputs should be ensured	28.0	36.0	36.0	1.92	IV
3	Timely vaccination schedule and regular health check up	28.0	45.0	27.0	2.01	III
4	Establishing Structured Market network	43.0	45.0	12.0	2.31	I
5	Employment paravet workers for regular extension and advisory services	09.0	33.0	58.0	1.51	V
6	Creation of more brooding units	06.0	24.0	70.0	1.36	VI
7	Popularizing techniques by mass media	06.0	15.0	79.0	1.27	VII

Maximum obtainable score- 3

As per the finding from the above table, it was seen that establishment of structured market system was most needed followed by timely available of quality chicks and regular vaccination & health check up for effective adoption of improved backyard poultry farming.

IV. Conclusion

There is huge scope & perspective in the improved poultry farming in the district. The farmers are very much spirited and enthusiastic to adopt the enterprise in entrepreneurship basis. Only the drawback is to develop the market structure as the local trader are exploiting the growers in respect of price. There is very wide gap in the price of local and exotic breeds. The eggs and meat of local breed fetches more money than exotic breed. Although the quality of egg and meat of improved breeds is at par with the local breeds, it supposed to get more price as per the local poultry. But the traders are manipulating the tribal and women growers. In this respect the market system should the strengthened.

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