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## Study of managerial practices of backyard poultry in Jammu district of Jammu and Kashmir

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### Abstract

The study was conducted in Jammu district of Jammu and Kashmir state with the objective to study the feeding, breeding, housing, health care and marketing practices followed in backyard poultry rearing. The data was collected from 120 respondents belonging to 10 randomly selected villages of Jammu district. They reared the birds in extensive system (free range with night shelter) and no supplementary feed was given to birds to increase production. Natural hatching was the main source of chicks (65.17%) and majority of the respondents (84.16%) do not purchase chicks from reliable source. All the respondents provided night shelter to the birds and majority of them were kutch type. Majority of the respondents (92.5%) birds were not vaccinated against diseases. Self treatment of the birds was prevalent in the area with majority of using ayurvedic type of medicine. All the respondents sell their birds and majority of them (80%) sold their birds directly to the consumers. Majority of the respondents also experienced price fluctuation.

**Keywords:** Backyard poultry, Managerial practices, natural hatching, vaccination and fluctuation

### Introduction

Indian poultry farming under backyard system is as old as our civilization. It carries a pivotal position in current Indian economy and has evolved as an extremely business oriented enterprise Sreenivas *et al.*, (2013) [17] Importance of backyard poultry production has been globally recognized to overcome the problems of poverty, hunger and malnutrition in developing countries. In this system, hens (8-12) are kept in each family and reared by women along with other household chores. Birds receive housing only in the form of night shelter (Jha and Chakrabarti, 2017) [7] The eggs and meat of birds reared in the backyard farming fetches higher premium due to high consumer acceptability, even in the urban sectors where plenty of eggs and poultry meat from commercial units are available. Backyard poultry hardly requires any infrastructure and is potent tool for up-liftment of the poor. Hence, poultry rearing can enhance household food security and contributes to poverty reduction through provision of food, income and employment. There is evidence that small investment in small-scale poultry farming generate handsome returns and contribute to poverty reduction and increased food security in regions where a large share of the population keeps some poultry birds in their backyard. (Mack, *et al.*, 2005; Pica-Ciamarra and Otte, 2010) [11, 13].

Total poultry population in Jammu and Kashmir has increased from 38.08 lakh in 2007 to 53.21 lakh in 2012, registering an increase of about 40% between the two census periods (19<sup>th</sup> Livestock). Egg and poultry meat are the only cheap source of nutritional security item to be placed rightly in daily basket of urban and poor. Jammu district is most populous district of Jammu and Kashmir with population of about 1,526,406 people. Agriculture is the main occupation of people. Due to small land holding, it has become imperative to diversify agriculture activities and go for allied activities like poultry farming in the district. To make the backyard poultry system a successful venture for rural poor, it is imperative that the existing practices followed in backyard poultry rearing must be studied and evaluated. Jharkhand is having dominated population of tribal people. The tribal village of Jammu district was found deprived of having scientific techniques for poultry rearing leading to the plummeting of its productivity. There is enormous possibility of improvement in backyard poultry to provide employment, livelihood and food security in rural areas. Keeping this in view, the study was carried out with the objective to study the feeding, breeding, housing, health care and marketing practices followed in backyard poultry rearing.

## Methodology

The study was conducted in Jammu district of Jammu and Kashmir state. The State of Jammu and Kashmir is situated between 32.17<sup>o</sup> and 36.58<sup>o</sup> north latitude and 74.26<sup>o</sup> and 80.30<sup>o</sup> east longitude. The total area of the State of Jammu and Kashmir is 22,22,236 square kilometers. Two blocks selected were Bishnah and Marh. Five villages were selected randomly from each of the two selected blocks. Thus, a total of ten villages were selected. Twelve backyard poultry owners were selected from each village, through systematic random sampling technique. Thus a total of 120 respondents were selected in all as the sample. Interview schedule about poultry management practices adopted by the farmers was prepared and data was collected by direct but free and formal interview of the selected farmers. The data for observations on growth, feed given, egg production, egg weight, egg consumed, egg sold, bird live weight basis sold during farming was collected by administration of a well-structured data sheet. The farmers were imparted training before start of the intervention and exposure visit were also conducted to gain more practical knowledge by the stake holders. The descriptive statistics were used to analyze the data. After collection, the data was systematically arranged, tabulated and analysed using standard statistical methods.

## Results and Discussion

**Feeding Management:** Practice prevalent in the study area was of leaving the birds for scavenging in the morning and also giving handful of grains. Majority of the respondents (75.83%) provided both (grains and kitchen wastes) to the poultry as feed material. Again majority respondents (86.67%) provided feed once a day. Majority of birds (82.50%) scavenging time was of 6-10 hours. Findings are in accordance with those of (Panda and Singh. 2000) <sup>[12]</sup> and (Gawande *et al.* 2007) <sup>[6]</sup> No supplementary feed was given to the birds by the respondents. (Dwinger *et al.* 2003) <sup>[5]</sup> also reported the same. Majority (40.83%) of the respondents reported that poultry drank water from drains and tap. Tap as source of drinking water was reported by 16.67% respondents, whereas drain was a source of water for 10.83% poultry. Canal and hand pump water was source of drinking water for 5.83% of the respondent's poultry. The results of present study are in consonance with the results of (Mandal *et al.* 2006) <sup>[10]</sup> It was observed that proper drinkers were rarely used and poor hygienic conditions prevailed in the study area. Similarly (Ali 2012) <sup>[2]</sup> in his study in Sudan found that poultry owners rarely used proper drinkers for their bird and the drinkers were not properly cleaned.

**Breeding Management:** In the present study it was found that for majority of the respondents (64.17%) source of chicks was natural hatching at home. Other sources of chicks were from other poultry owner (20%), relatives (6.67%), market (4.17%) and government agency (5%). However, (Khandait *et al.* 2011) <sup>[9]</sup> observed that in Maharashtra source of chicks was natural hatching of eggs at home. Majority of the respondents (56.66%) used 10-15 eggs during natural hatching. Similarly, reported that on an average 12 to 13 eggs were incubated per hen in their study in Kashmir. Time for setting hen for hatching was reported to be night by majority (77.50%) of the respondents with only 11.67% and 10.83% of the respondents set hen for hatching during morning and night respectively. It was also found that all the respondents took care of hen during hatching. Data also revealed that majority

of the respondents (84.16%) were not purchasing chicks from reliable source. Again majority of the respondents (96.67%) were not purchasing chicks of one age. Adult birds were also purchased by majority (55%) of the respondents and were purchased mainly to start backyard poultry enterprise and to continue flock by natural hatching.

**Housing Management:** Majority of the respondents (40%) were in the group with 6 marla - 2 kanal scavenging area, about 25% were in the group with the scavenging area of 2-4 kanal, 17.5% of the respondent's birds scavenging area was in the group with less than 6 marla and 6.60% of the birds were in the group with the scavenging area more than 6 kanal. Hence, there was lack of sufficient scavenging area. (Khan *et al.* 2008) <sup>[8]</sup> also reported lack of sufficient land in his study done in Uttar Pradesh. In the study area, all the respondents (100%) provided night shelter to the poultry birds. Similar results have been again observed by (Khan *et al.* 2008) <sup>[8]</sup> in Uttar Pradesh. The respondents generally made houses with locally available material. In the present study, it was observed that majority (34.16%) of the respondents provided shelter to the birds in kachha houses, about 32.50% of the respondents were found to provide the shelter in mixed houses where only 17.50% of the respondents were found to provide the shelter under pucca house. Temporary night shelter was provided by 15.83% respondents. Height of night shelter in the group of 2-4 feet was reported by majority of the respondents (68.33). Similar results have been reported by (Saha *et al.* 2009) <sup>[15]</sup> who observed that poultry rearing practices in backyard system was done mostly in the small kachha house under the scavenging system. Among traditional farmers, backyard poultry is a handy enterprise with low-cost initial investment, but high economic return along with guarantee for improving protein deficiency among the poor.

**Health Care Management:** overwhelming majority (92.50%) of the respondents had not vaccinated their birds against diseases and vaccinated birds were those birds which were purchased from government agencies. No regular vaccination of the bird was reported as they were lacking the knowledge about the importance of vaccination in backyard poultry. Similarly, (Mandal *et al.* 2006) <sup>[10]</sup> and (Khan *et al.* 2008) <sup>[8]</sup> reported that poultry owners never vaccinate their birds. On the another hand, (Ahire *et al.* 2007) <sup>[11]</sup> study on the adoption of poultry management practices in Solapur district, revealed that majority of the respondents vaccinated their birds. Due to lack of veterinary services in the villages, majority (85.83%) of the respondents practiced treatment of diseased birds by themselves. Disease treatment by LSA was reported by 11.67% respondents and only 2.5% of the respondents got their poultry treated from veterinarian. Majority of the respondents (80.83%) birds were treated by Ayurvedic type of medication. Almost all of the respondents (99.16%) were found not following "all in all out" programme. Moreover majority of the respondents (65.83%) were found observing flock for any sign of disease and this practice helped in early diagnosis of disease which prevented large scale morbidity and mortality. Method of carcass disposal in the study area was by burial by the majority (69.16+%) of the respondents. It was followed by throwing out dead birds (24.16%) and self consumption of dead bird (6.60%).

**Marketing:** All the respondents sold their birds to generate income. (Das *et al.* 2008) <sup>[4]</sup> also reported that in Bangladesh backyard poultry plays an important role in generating extra income. Majority of the respondents (58.33%) sold their birds in the age group of 3-7 months. Similarly, majority of the respondents (54.16%) sold their bird weighing 2-3 kg. It was found that majority of the respondents (80%) were selling their birds directly to the consumer as they came to the respondent house to buy the poultry. Others ways of selling were: selling to shopkeeper, selling in village market and to middle man by 13.33%, 4.16% and 2.50% respectively. (Rehman 1995) <sup>[14]</sup> also reported that gujjars of J&K sold 72.19% of the birds directly to consumers. Majority of the respondents (37.50%) sold their backyard poultry eggs in the

range of ` 6-7 per eggs. Live birds fetched maximum price in the range of ` 200-` 300 as was revealed by 54.16% of the respondents. (Selvam 2004) <sup>[16]</sup> in his study at five villages of Namakkal district found that prices for poultry products from backyard poultry fetch more money than commercial egg and boilers. Further, study revealed that fluctuations in the price of live bird and eggs was experienced by 69.16% of the respondents. Majority of the respondents (65%) reported that poultry products from backyard poultry fetch more money due to fluctuation during winter. Only few of the respondents (4.16%) fetch more money during festival by selling

**Distribution of respondents according to feeding management practices adopted**

S. No. 1	Trait/ Category of Trait Feeding Management	Bishnah (n=60)		Marh (n=60)		Total (N=120)	
		No.	Percent	No.	Percent	No.	Percent
1.1 Scavenging time							
	Less than 6 hrs	5	8.33	6	10	11	9.16
	6-10	49	81.66	50	83.33	99	82.5
	More than 10 hrs	6	10	4	6.66	10	8.33
1.2 Time							
	Once	12	24	14	28	26	5
	Twice	35	70	31	62	66	37.5
	Thrice	3	6	5	10	8	57.5
1.3 Feed in Scavenging System							
	Kitchen wastes	4	6.6	6	10	10	8.33
	Grain	10	16.66	9	15	19	15.83
	Both	46	76.66	45	75	91	75.83
1.4 Source of Drinking Water							
	Pond	11	18.33	7	11.66	18	15
	Tube-well	3	5	3	5	6	5
	Tap	11	18.33	9	15	20	16.66
	Drain	3	5	10	16.66	13	10.83
	Canal	2	3.33	5	8.33	7	5.83
	Hand pump	3	5	4	6.66	7	5.83
	Drain & tap	27	45	22	36.66	49	40.83

**Breeding management**

**Distribution of respondents according to breeding management practices adopted**

S No. 1	Category of Trait Breeding Management	Bishnah (n=60)		Marh (n=60)		Total (n=120)	
		No.	Percent	No.	Percent	No.	Percent
1.1 Source of Chicks							
	Natural hatching	40	6.67	37	61.67	77	64.17
	Other poultry owner	10	16.67	14	23.33	24	20
	Purchase from govt agency	3	5	3	5	6	5
	Market	3	5	2	3.33	5	4.17
	Relative	5	8.33	3	5	8	6.67
1.2 Egg use during Natural Hatching for incubation							
	Less than 10	4	6.66	3	5	7	5.83
	10-15	24	40	28	46.66	52	43.33
	15-20	20	33.33	18	30	38	31.66
	More than 20	12	20	11	18.33	23	19.16
1.4 Time for setting hen for hatching							
	Morning	8	13.33	6	10	14	11.66
	Evening	5	8.33	8	13.33	13	10.83
	Night	47	78.33	46	76.66	93	77.5
1.5 Care for Hen during hatching							
	Yes	60	100	60	100	120	100
	No	-	-	-	-	-	-
1.6 Purchasing Chicks from reliable source of chicks							
	Yes	9	15	10	16.66	19	15.83
	No	51	85	50	83.33	101	84.16
1.7 Purchase chicks of one size							
	Yes	57	95	58	96.67	115	95.83
	No	3	5	2	3.33	5	4.16
1.8 Purchase of Adult Chicks							
	Yes	34	56.66	32	53.33	66	55
	No	26	43.33	28	46.67	54	45

**Housing management****Distribution of respondents according to Housing management practices adopted**

S. No	Category of Trait	Bishnah (n=60)		Marh (n=60)		Total (n=120)	
1	Housing Management	No.	Percent	No.	Percent	No.	Percent
1.1 Scavenging area							
	Less than 6 marla	8	13.33	13	21.66	21	17.5
	6 marla -2 kanal	22	36.66	26	43.33	48	40
	2 kanal-4 kanal	19	31.66	11	18.33	30	25
	4-6 kanal	6	10	7	11.66	13	10.83
	More than 6 kanal	5	8.33	3	5	8	6.6
1.2 Provision for night shelter							
	Yes	53	88.33	57	95	110	91.66
	No	7	11.66	3	5	10	8.33
1.3 Space provided per bird during night shelter (Sq feet)							
	0.5-1.5	10	16.66	7	11.66	17	14.16
	1.5-25	37	66.66	42	70	79	65.83
	>2.5	13	21.66	11	18.33	24	20
1.4 Type of Night Shelter							
	Kutchha	16	30.189	15	26.31	31	47.25
	Pacca	12	22.64	9	15.76	21	29.67
	Mixed	17	32.07	22	38.59	39	40.98
	Temporary	8	15.09	11	19.29	19	15.49
1.5 Height of night shelter (feet)							
	Less than 2	9	20	6	13.04	15	16.48
	2-4	30	66.67	33	71.73	63	69.23
	More than 4	6	13.33	7	15.22	13	14.28

**Distribution of respondents according to Health Care Management practices adopted**

S. No.	Category of Trait	Bishnah (n=60)		Marh (n=60)		Total (n=120)	
1	Health Care Management	No.	Percent	No.	Percent	No.	Percent
1.1 Bird vaccinated against disease							
	Yes	3	5	6	10	9	7.5
	No	57	95	54	90	111	92.5
1.2 Source of vaccination							
	Govt	3	100	6	100	9	100
	Private	0	0	0	0	0	0
1.3 Diseases against which bird is vaccinated							
	Ranikhet	3	5	6	10	9	7.5
	Fowl pox	0	0	0	0	0	0
	Ibd	3	5	6	10	9	7.5
	Marek disease	0	0	0	0	0	0
	Infectious disease	0	0	0	0	0	0
1.4 Disease treatment							
	Self	48	80	55	91.66	103	85.83
	Veterinarian	3	5	0	0	3	2.5
	Lsa	9	15	5	8.33	14	11.66
	Ojha	0	0	0	0	0	0
1.5 Type of Medicine							
	Ayurvedic	45	75	52	86.66	97	80.83
	Allopathic	15	25	08	13.33	23	19.16
1.6 Following of "all in all out" programme							
	Yes	0	0	1	1.66	1	0.83
	No	60	100	59	98.33	119	99.16
1.7 Observing flock for any sign of disease							
	Yes	33	55	46	76.67	79	65.83
	No	27	45	14	23.33	41	34.16
1.8 Method of disposal							
	incineration	0	0	0	0	0	0
	Burial	40	66.66	43	71.66	83	69.16
	Thrown out	17	28.33	12	30	29	24.16
	Consumed	3	5	5	8.33	8	6.6

### Distribution of respondents according to Marketing practices adopted

S. No.	Category of Trait	Bishnah (n=60)		Marh (n=60)		Total (n=120)	
		No.	Percent	No.	Percent	No.	Percent
1	Health Care Management						
1.1 Do you sell birds							
	Yes	53	88.33	49	81.66	102	85
	No	7	11.66	11	18.33	18	15
1.2	Age of selling of birds						
	Less than 3 months	20	33.33	16	26.66	36	30
	3-7 months	33	55	37	61.66	70	58.33
	7 months-1 year	4	6.66	7	11.66	11	9.16
	1-2 years	1	1.66	0	0	1	0.83
	2-3 years	2(3 yrs)	3.3	0	0	2	1.66
1.3	Weight of Bird (Kg)						
	Less than 2 kg	10	16.66	13	21.66	23	19.66
	2-3 kg	34	56.66	31	51.66	65	54.16
	More than 3 Kg.	16	20	16	26.66	32	26.66
1.4	Place of selling of bird						
	Village market	3	5.00	2	3.30	5	8.33
	Direct to consumer	47	78.33	49	81.66	96	80
	Shopkeeper	8	13.33	5	8.33	13	10.83
	Middleman	2	3.33	1	1.66	3	2.5
1.5	Selling price						
1.5.1	Price of selling egg						
	Less than 5	15	25.00	25	41.66	40	33.33
	5-6	13	21.66	18	30.00	31	25.83
	6-7	30	50.00	15	25.00	45	37.5
	7-8	2	3.33	2	3.30	4	3.33

### Conclusion

The present study revealed that the feeding, breeding, housing, health care and marketing practices followed in backyard poultry rearing were not advanced. The backyard poultry owners were having poor knowledge about feeding, breeding, housing, health care and marketing practices which led to poor production performance of backyard poultry birds. Hence sincere efforts should be made to increase awareness of the backyard poultry farmers. New backyard Vaccination and regular medication camps should be organized regularly generate faith in farmers to rear the scavenging chicken in profitable way. Extension services can be utilized to motivate people for using local available ingredients for supplementing feeding to enhance profitability. Mass media needs to effectively used as a source of information dissemination. Moreover, proper policies and strategies are required to be formulated for production by masses rather than mass production.

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