



ISSN: 2456-2912

VET 2023; SP-8(5): 32-36

© 2023 VET

www.veterinarypaper.com

Received: 24-05-2023

Accepted: 08-07-2023

Sunilkumar

Department of LPM, Veterinary
College, Bidar, Karnataka, India

Vivek M Patil

Department of LPM, Veterinary
College, Bengaluru, Karnataka,
India

Prashant Waghmare

Department of LFC, Veterinary
College, Bidar, Karnataka, India

Satish Chandra Biradar

Department of LPM, Veterinary
College, Bidar, Karnataka, India

Prakashkumar Rathod

LRIC (Deoni), Bidar,
Karnataka, India

Channappagouda Biradar

Department of VAHEE,
Veterinary College, Bidar,
Karnataka, India

Vidyasagar

Department of LPM, Veterinary
College, Bidar, Karnataka, India

Corresponding Author:

Vivek M Patil

Department of LPM, Veterinary
College, Bengaluru, Karnataka,
India

Study of the backyard poultry management practices in Bidar district of Karnataka

Sunilkumar, Vivek M Patil, Prashant Waghmare, Satish Chandra Biradar, Prakashkumar Rathod, Channappagouda Biradar and Vidyasagar

Abstract

The study was conducted to record the backyard poultry management practices in Bidar district of Karnataka State. A multistage random sampling procedure was used to select the 150 respondents in 30 villages for the study. A structured interview schedule was used to elicit the data from the respondents. The findings of the study revealed that most of the farmers reared backyard poultry in free range system using locally available materials. Generally, the adult birds were housed together during the night with little consideration of space available per bird. The farmers provided feed twice a day in the morning and evening, and birds were kept the whole day in scavenging system. Overall frequency of egg collection was found to be 1.68 ± 0.038 times per day. Majority of farmers did not vaccinate or provide any medication to the birds. Most farmers sold eggs and birds directly to consumer. Demand for backyard poultry and eggs was low in summers. There was also a lack of organised market facilities in the area. The overall market weight (2.06 kg) and market age (28.42 weeks) in the study indicated poor genetic makeup of backyard poultry and lack of proper supplementary feeding. The overall sale price of eggs of Rs. 12.31 in the present study varied with change in demand and prices during the festive seasons. Many of the backyard poultry farmers had a poor knowledge about the scientific housing, feeding, breeding and health care management practices.

Keywords: Backyard poultry, Bidar, Karnataka, management, feeding, breeding

Introduction

Backyard poultry rearing is common among rural and landless families. In village poultry systems the production of poultry meat and eggs is extremely efficient in terms of feed and water inputs. These nutritious products can supplement household grain-based diets. Family poultry have a special place as they are under the control and managed by the women, children and the elderly. They require low investment, yield high economic returns, assist in pest control and provide manure for fertilizer. Backyard poultry enterprise has supported the poor, landless farmers and other members of the backward classes to enhance their livelihoods, increase their assets and climb out of poverty (Islam *et al.*, 2021) [6]. Desi eggs and birds have high demand in the markets as people believed that local eggs and meat are of high nutritive quality. It is apparent that desi birds or look alike of desi birds fetch more prices both for eggs as well as meat (Sailo & Rahman, 2017) [16].

According to the 20th Livestock Census, India had a total poultry population of 851.81 million (including backyard poultry population of 317.07 million), which was a 45.80% rise over previous livestock census. In India, about 15 per cent of the total poultry output is derived from backyard poultry production. The poultry population in Karnataka is 59.5 million and has increased by 25.94% over the previous census. This study was undertaken to record the various management practices followed by backyard poultry farmers in Bidar district of Karnataka.

Methodology

The present study was carried out during the period 2021-22 using a multi-stage stratified sampling procedure to select the talukas, villages and respondents.

Bidar district has a poultry population of about 7,34,095, of which Humnabad taluka contains highest poultry population of 6,04,406 followed by Aurad 53,667, Basavakalyan 18,866, Bidar 28,025 and Bhalki 14,778. (AHVS, 2019) [1]. In the first stage of selection, Bidar, Aurad and Humnabad talukas were selected for the study based on the larger population of desi poultry birds and consultations with officials of the Animal Husbandry department regarding the availability of the backyard poultry rearing in larger proportion in Bidar district. 150 respondents were selected from 30 villages, with 5 respondents per village and 10 villages per taluka. The data was collected using a well-structured and pre-tested interview schedule. Housing dimensions were recorded using a metal tape. Relevant data pertaining to the study was collected and analysed using frequency and percentage analysis.

Results and Discussion

Housing practices: The details of the housing practices in the study area are given in Table 1. Almost two-thirds of the farmers reared backyard poultry in free range/extensive system where they only provided night shelter to their birds. The birds reared were well suited for rearing under backyard

system and required less investment in rearing. The respondents generally made small houses about 1 to 2 feet above the ground level in order to prevent the attack from predators. Locally available materials were predominantly used viz. brick/bamboo walls, mud/bamboo mesh floors, GI/asbestos sheet/straw roofs, and muddy dung/straw litter material. The poultry houses were primarily constructed by men. Generally, the adult birds were housed together during the night with little consideration of space available per bird. Weekly cleaning of house by women was the common practice. Plastic bags were used on the shelter house to protect birds from rain and cold air. Many of the farmers had not provided any nesting house to the hens. Majority of them used small plastic, metallic/ aluminium pot as feeding trough and water trough. Some respondents housed the birds in the poultry houses or plastic baskets in the afternoon in order to avoid disputes with neighbours and attack of predators. Chicks were kept separately housed with hens in order to avoid huddling and consequent death. Similar findings were reported by Mandal *et al.* (2006) [10], Rajini and Vasanthakumar (2004) [15], Khandait *et al.* (2011) [9] and Sudhir (2021) [18].

Table 1: Housing practices of backyard poultry farmers (%)

Attribute	N	Humnabad	Bidar	Aurad	Overall
Type of housing system					
Free range/Extensive	97	64.0	62.0	68.0	64.7
Semi-intensive	53	36.0	38.0	32.0	35.3
Space provided for Chick (sq. ft.)					
<0.5	150	100	100	100	100
Space provided for Hen (Square feet)					
0.5 – 1	8	10	6	0	5.3
1-1.5	41	22	32	28	27.3
1.5 – 2	101	68	62	72	67.3
Space provided for Cock (sq. ft.)					
0.5 – 1	14	8	8	12	9.3
1-1.5	43	24	30	32	28.7
1.5 – 2	93	68	62	56	62.0
Floor material					
Mud	54	58.0	58.0	56.7	54.0
Bamboo net	34	26.0	34.0	31.3	34.0
Metal net	12	16.0	8.0	12.0	12.0
Wall material					
Brick	83	50	58	58	55.3
Mud	11	4	10	8	7.3
Bamboo net	48	42	24	30	32.0
Metal net	8	4	8	4	5.3
Roof material					
Asbestos sheet/GI sheet	65	42	46	42	43.3
Bamboo net	10	6	6	8	6.7
Metal net	23	14	14	18	15.3
Straw	54	38	34	36	34.7
Litter material					
Saw dust	11	6	8	8	7.3
Muddy dung	78	52	56	48	52.0
Straw	44	32	26	30	29.3
Dry leaves/ gunny bags	18	10	12	14	12.0
Height of poultry house from ground level (feet)					
0 to 1	50	38	34	28	33.3
1 to 2	65	40	38	52	43.3
2 to 3	20	14	16	10	13.3
more than 3	15	8	12	10	10.0
Resting place for birds at night					
Kitchen store	3	4	2	0	2.0
Main house	6	8	4	0	4.0
Woven basket	20	12	12	16	13.3
Chicken house	70	44	46	50	46.7
Shelter	51	32	36	34	34.0
Construction of bird house					

Adult male	90	58	72	50	60.0
Adult female	53	34	28	44	35.3
Young boys	7	8	0	6	4.7
Poultry house cleaning frequency					
Daily	21	20	10	12	14.0
Weekly	74	50	62	36	49.3
Monthly	55	30	28	52	36.7
Poultry house cleaned by					
Adult male	26	22	18	12	17.3
Adult female	89	44	56	78	59.3
Boys	8	4	12	0	5.3
Girls	25	26	14	10	16.7
Hired labour	2	4	0	0	1.3

Feeding practices: The details of the backyard poultry feeding practices are given in Table 2. Majority (64.7%) of respondents in the study area provided feed twice a day in the morning and evening. Birds were kept the whole day in scavenging system to find their own food and eat insects, earth worms, small green plants, vegetables and feeds available in free range system. Most of the farmers additionally provided kitchen waste, broken rice and boiled rice on open mud floor area, with clean drinking water in the

evening. No water was supplied to birds in the morning; the farmers let birds drink water from small water pits in the scavenging area. Most of the farmers used metallic or plastic feeding and watering troughs kept in the poultry house. These findings are in line with those of Mandal *et al.* (2006) [10], Gupta *et al.* (2006) [5] and Sudhir (2021) [18]. However, Semmaran *et al.* (2007) [17] reported that 84.17% of the Giriraja poultry farmers in Karnataka fully adopted supplementary feeding.

Table 2: Feeding practices of backyard poultry farmers (%)

Attribute	N	Humnabad	Bidar	Aurad	Overall
Type of feeding ingredients					
Broken rice	43	34	28	24	28.7
Boiled rice	30	20	16	24	20.0
Broken wheat	14	10	6	12	9.3
Maize/Jowar	19	10	16	12	12.7
Kitchen waste	44	26	34	28	29.3
Type of feeding and waterer					
Not used	12	6	6	12	8.0
Mud/earthen pots	23	18	14	14	15.3
Plastic	32	18	30	16	21.3
Metallic	83	58	50	58	55.3
Frequency of feeding					
Once daily	44	22	32	34	29.3
Twice a day	97	72	64	58	64.7
Ad-lib	9	6	4	8	6.0
Time of feeding					
In the morning	39	26	26	26	26.0
Morning and evening	98	66	64	66	65.3
Evening	13	8	10	8	8.7
Source of drinking water					
Tap water	87	64	64	46	58.0
Pond water	53	36	24	46	35.3
River water	10	0	12	8	6.7

Breeding practices: The details of the backyard poultry breeding practices are given in Table 3. Almost all the farmers allow eggs to hatch in home under broody hen and provide naturally made bamboo basket. This might be due to low income and easy availability in the study area. Majority of farmers used home eggs as a source of fertile/hatching eggs. Overall frequency of egg collection was found to be

1.68± 0.038 times per day. The findings were in accordance with those of Mandal *et al.* (2006) [10] and Nath (2012) [12]. The number of eggs used for natural hatching was 15.67 ± 0.328 eggs/bird/year. The findings were not in line with the findings of Bhurtel (1996) [2] who reported that 52% of the respondents had set 8 to 10 eggs for incubation under one broody hen.

Table 3: Breeding practices of backyard poultry farmers (%)

Attribute	N	Humnabad	Bidar	Aurad	Overall
Source of chicks					
Natural hatching at home	135	82	88	100	90.0
Other poultry owner	12	12	12	0	8.0
Local market	3	6	0	0	2.0
Source of fertile/hatching eggs					
Own house	111	70	80	72	74.0
Other poultry owner	39	30	20	28	26.0
Frequency of egg collection (times/day)		1.66 ± 0.068	1.78 ± 0.059	1.60 ± 0.070	1.68 ± 0.038
Eggs used for natural hatching (eggs/bird/year)		16.36 ± 0.469	15.54 ± 0.611	15.12 ± 0.608	15.67 ± 0.328

Health care practices: The details of the healthcare practices followed by backyard poultry farmers are given in Table 4. Majority of farmers did not vaccinate or provide any medication to the birds; only few farmers had done Lasota vaccination twice a year. Majority of farmers got deworming and medications done whenever birds got ill or showed abnormal behaviour. In most cases, women cleaned the poultry house so as to control parasitic infestation. Majority of farmers did not disinfect the poultry house. None of them used multivitamin or antibiotic supplements. This was due to the lack of awareness about vaccinations and other health care

practices regarding backyard poultry. It could also be due to the assumption that desi birds had very high innate immunity and did not need supportive health care. The findings of the study are in agreement with the findings of Rai *et al.* (2000)^[14] and Prakash *et al.* (2000)^[13]. However, they are not in agreement with the findings of Rajini and Vasanthakumar (2004)^[15], who reported that some farmers dewormed the birds at six weeks of age and gave protective vaccinations against Ranikhet disease at seven weeks of age and thereafter, deworming was done at bi-monthly intervals.

Table 4: Health care practices of backyard poultry farmers (%)

Attribute	N	Humnabad	Bidar	Aurad	Overall
Vaccination frequency					
Once/year	14	10	16	2	9.3
Twice/year	21	10	14	18	14.0
Thrice/year	4	8	0	0	2.7
Not done	111	72	70	80	74.0
Treatment after noticing illness/ abnormal behaviour					
Yes	90	52	60	68	60.0
No	60	48	40	32	40.0
Frequency of treatment					
Monthly	41	24	32	26	27.3
Twice/year	24	18	16	14	16.0
Thrice/year	6	4	2	6	4.0
Never	79	54	50	54	52.7
Disinfection of bird house					
Once/year	35	20	24	26	23.3
Twice/year	50	38	30	32	33.3
Never	65	42	46	42	43.4

Marketing practices: The details of the backyard poultry marketing practices are given in Table 5. The results indicated that most farmers sold eggs and birds directly to consumer followed by village market and shopkeeper, respectively. Demand for backyard poultry and eggs was low in summers. There was also a lack of organised market/ proper marketing facilities in the area. Similar findings were reported by Khandait *et al.* (2011)^[9] and Deka *et al.* (2013)^[3] who reported that backyard poultry owners sold their birds/eggs by themselves or in village markets. The overall market weight (2.06 kg) and market age (28.42 weeks) in the study indicated poor genetic makeup of backyard poultry and lack of proper supplementary feeding. In contrast, Gopinath (2013)^[4] reported higher marketing age of backyard poultry from 6.53 months in Mysore to 7.44 months in Mandya. However, in Assam, reported lower market age of 5 months. Lesser (1 to

1.5 kg) market weight was also reported by Khandait *et al.* (2011)^[9].

The overall sale price of eggs of Rs. 12.31 in the present study varied with change in demand and prices during the festive seasons. The rates were higher than those reported by Deka *et al.* (2013)^[3] who reported an average price of Rs.9.98. This variation could be due to inflationary changes in prices over the years. The average selling price of adult male and female backyard poultry birds at the farmers' doorstep was found to be Rs. 466.00 and 337.67, respectively. The market price of country chicken is driven mainly by festivals. (Mengesha *et al.*, 2008)^[11]. The results were not in agreement with the findings of Deka *et al.* (2013)^[3] who reported a price of Rs. 300-500 for a four-month-old pullet or cockerel, and Rs. 600 for a one-year-old adult bird.

Table 5: Marketing practices of backyard poultry farmers

Attribute	N	Humnabad	Bidar	Aurad	Overall
Backyard poultry birds generated (per year)					
Sold		16.86 ± 0.560	20.34 ± 0.628	22.72 ± 1.081	19.97 ± 0.495
Consumed		37.78 ± 0.822	36.30 ± 0.831	35.88 ± 1.284	36.65 ± 0.579
Total		54.64 ± 0.922	56.64 ± 1.045	58.60 ± 1.730	56.63 ± 0.747
Backyard poultry eggs generated (per year)					
Sold		219.8 ± 9.525	220.2 ± 7.225	214.4 ± 7.285	218.13 ± 4.640
Consumed		314.1 ± 8.169	290.8 ± 13.738	283.0 ± 12.422	295.95 ± 6.789
Total		516.9 ± 22.045	536.0 ± 24.641	548.0 ± 23.956	533.62 ± 13.559
Marketing stage					
Market body weight of bird (kg)		1.860 ± 0.046	2.290 ± 0.035	2.050 ± 0.040	2.060 ± 0.027
Market age of birds (in weeks)		28.32 ± 0.313	28.58 ± 0.196	28.36 ± 0.288	28.42 ± 0.154
Sale price (Rs.)					
Egg (per piece)		12.48 ± 0.361	12.64 ± 0.407	11.82 ± 0.320	12.31 ± 0.211
Male live bird (per bird)		460.0 ± 6.389	464.0 ± 6.395	474.0 ± 5.932	466.00 ± 3.612
Female live bird (per bird)		338.0 ± 4.180	340.0 ± 4.041	335.0 ± 4.345	337.67 ± 2.409

Sale location – Eggs					
Village market	29	20	24	14	19.3
Direct to consumer	92	66	62	56	61.3
Shopkeepers	29	14	14	30	19.3
Sale location – Birds					
Village market	29	16	24	18	19.3
Direct to consumer	73	56	50	40	48.7
Shopkeepers	34	20	24	24	22.7
Neighbouring village market	14	8	2	18	9.3

Conclusion

Backyard poultry farming plays an important role in the livelihood of rural people of Bidar district by providing additional income, nutritional security and employment, especially to rural womenfolk. Many of the backyard poultry farmers had a poor knowledge about the scientific housing, feeding, breeding and health care management practices. The existing market for backyard poultry birds and eggs is highly disorganized. Efforts must be made to aggregate the produce through cooperative societies or farmers' producers' organizations (FPOs) to make this rearing system more remunerative and stable. Considering the hardy nature and productive performance of these birds, there is vast potential for development of improved backyard strains.

References

1. Animal Husbandry and Veterinary Services (AHVS), Government of Karnataka. 20th livestock census data village and ward wise statistical report; c2019.
2. Bhurtel R. Women's participation in rural poultry development. In Proceedings 20th World's Poultry Congress. 1996;3:413-417.
3. Deka P, Borgohain R, Deka B. Status and constraints of backyard poultry farming amongst tribal community of Jorhat district in Assam. *The Asian Journal of Animal Science*. 2013;8(2):86-91.
4. Gopinath CR. Characterization and performance evaluation of indigenous chicken in the Mysore division of Karnataka state. Doctoral dissertation, Ph.D. thesis, Karnataka Veterinary Animal and Fisheries Sciences University, Bidar, India; c2013.
5. Gupta JJ, Doley S, Yadav BPS. Study on rural poultry production in Meghalaya. *Indian Journal of Poultry Science*. 2006;41(1):108-110.
6. Islam R, Kalita N, Sapkota D, Sheikh IU, Mahanta JD, Sarma M. Characterization of Free-range Indigenous Chicken Production System in North-East India (Assam). *Journal of Animal Research*. 2021;11(1):59-70.
7. Jaluladeen A. Poultry production scenario in Kerala: an overview. Unpublished paper, Centre for Advanced Studies in Poultry Science, Kerala Agricultural University, Mannuthy, Thrissur, Kerala, India; c2002.
8. Kalita N, Pathak N, Islam R, Chutia H. Production traits of indigenous chicken in rural condition of Assam. *Indian Journal of Poultry Science*. 2011;46(2):245-246.
9. Khandait Gawande SH, Lohakare AC, Dhenge SA. Adoption Level and Constraints in Backyard Poultry Rearing Practices at Bhandara District of Maharashtra (India). *Res. J of Agri. Sci*. 2011;2(1):110-113.
10. Mandal MK, Khandekar N, Khandekar P. Backyard poultry farming in Bareilly district of Uttar Pradesh, India: An analysis. *Liv. Res. for Rur. Devel*. 2006;18(7):101-122.
11. Mengesha M, Tamir B, Dessie T. Socio-economical contribution and labour allocation of village chicken production of Jammu district, South Wollo, Ethiopia. *Liv. Res. for Rur. Devel*. 2008;20(10):160.
12. Nath BG, Toppo S, Chandra R, Chatlod LR, Mohanty AK. Level of adoption and constraints of scientific backyard poultry rearing practices in rural tribal areas of Sikkim, India. *J of Ani. Feed. Res*. 2012;2(2):133-138.
13. Prakash N, Kumar Rajesh, Pal P. Backyard Poultry in Meghalaya, *Indian J of Ani. Sci*. 2000;73(4):459-461.
14. Rai MK, Kurrey R, Mahilang M, Deb MK, Nirmalkar J, Rai J. A direct DRS-FTIR probe for rapid detection and quantification of fluoroquinolone antibiotics in poultry egg-yolk. *Food chemistry*. 2000;270:459-466.
15. Rajini RA, Vasanthakumar T. A study on the adoption by family poultry farmers residing rear a commercial poultry pocket. In XII Conference of Indian Poultry Science Association and National Symposium on Strategies for Promoting Commercial Poultry Farming in Hills, Palampur, Himachal Pradesh, Souvenir and Abstracts; c2004. p. 209.
16. Sailo F, Rahman S. Marketing practices and constraints in backyard poultry farming in the hills of Mizoram. *Int. J Liv. Res*. 2017;7:200-205.
17. Semmaran M, Sasidhar PVK, Majumdar S, Chander M, Tripathi H. Adoption behaviour of Giriraja backyard poultry by farmers in Karnataka. *Indian Journal of Poultry Science*. 2007;43(3):343-345.
18. Sudhir N. Managerial practices and phenotypic characterization of native chicken of Gulbarga division of Karnataka under field conditions, India; c2021.