

Inter-state propagation of black chicken

for empowerment of rural women in Jammu and Kashmir

Mandeep Singh Azad¹, Pragya Bhadauria^{2*}, Banarasi Lal³, Keshava⁴ and Rajbir Singh⁵

ICAR-Agricultural Technology Application Research Institute, Zone-1, Ludhiana, Punjab
Krishi Vigyan Kendra, Reasi, Jammu and Kashmir 182 301

In the last decade, poultry sector has come up in a big way in some of the districts of Jammu and Kashmir like Jammu, Kathua, Udhampur, Pulwama, Srinagar and Budgam. It is gaining impetus in the state as there is a handsome collection of profit due to quick returns in this business, availability of maize, plenty of manpower and a huge market for consumption of poultry and poultry products. Many educated unemployed youths are taking poultry farming as a sustainable means of earning their livelihood.

The state has enormous potential and conducive environment for poultry development on commercial lines, still, there is deficit in egg by 46% and poultry meat by 31% despite 84% of the population being non-vegetarian. Per capita consumption of egg is 100 and poultry meat is 1.2 kg per person per annum in urban areas but in rural areas, it is only 15 eggs and 0.15 kg of poultry meat. The GoJK intends to tap the possibilities of rural poultry production to promote and support rural masses for livelihood security, entrepreneurship development and nutritional security. Despite the strenuous efforts, poultry farming is not picking up pace in these areas and small poultry farmers are in great loss from the big market players who have taken over the whole market of Jammu and Kashmir. These big companies in the market have made it tough for local poor poultry producers to compete in terms of rates and quality. The only way out is to make the rural backyard poultry an economic venture rather than merely a subsistence tool so that farmers can get a good market return on investment and it can also contribute to nutritional security.

Keywords: Black meat, Empowerment, Jammu, Kadaknath, KVK, Open scavenging system, Reasi

Kadaknath: A unique black chicken

Poultry farming is not new in Jammu and Kashmir (J&K) and most of the backyard poultry production in the state comprises of desi birds. Indigenous breeds produce only 60-80 eggs per year and meat production is also very less. However, backyard poultry production can be easily boosted in the state with the introduction of improved breeds of poultry with more egg and meat production efficiency. Improved breeds of low technology input birds are bred for this purpose, which is genetically more efficient in

production in comparison to the local poultry. The birds grow faster than native birds and are mostly of dual purpose.

Realising the potential of backyard poultry, the State government is promoting various indigenous breeds of poultry for both biodiversity conservation and livelihood generation that can successfully reap the financial benefits and maintain the poultry heritage. Among this, Kadaknath (Fig. 1), a native breed of chicken inhabiting Jhabua and Dhar districts of Madhya Pradesh is now spreading its wings to other states of

India. Kadaknath birds can be easily reared similar to free-range chicken under village conditions and provide economic benefits to the farmers. The eggs and meat of Kadaknath are widely preferred because of their pigmentation, taste, leanness and suitability for special dishes and often fetches higher prices. Consumers prefer Kadaknath meat due to its desirable flavour and lean meat as compared to broiler meat. Black meat possesses less amount of cholesterol (0.73%-1.05%) but is rich in proteins (25%), vitamins and have medicinal properties as well. It

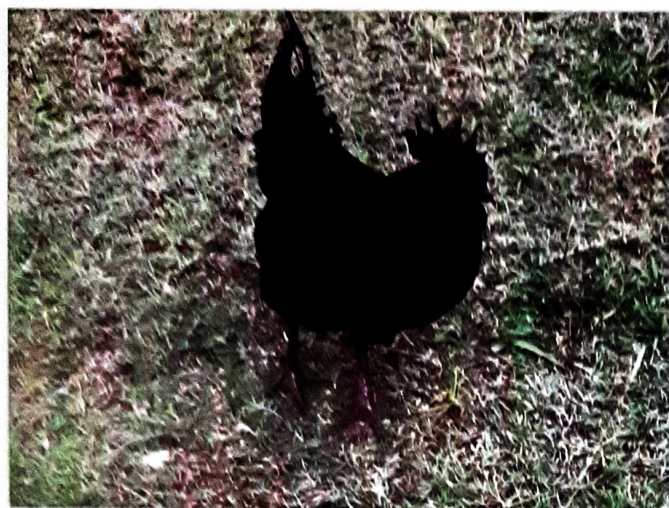


Fig. 1. Kadaknath, a black bird



Fig. 2. Front line demonstration and capacity building of farmers at village Dhirthi

contains vitamins B₁, B₂, B₆, B₁₂, C and E, niacin, calcium, phosphorus and iron. Increased demand for a healthier diet among consumers has led to the promotion of Kadaknath birds in other agro-climatic conditions also. Comparison of various economic parameters and meat quality of Kadaknath and desi chicken are depicted in Table 1 and 2, respectively.

Situation analysis

Dhirthi is a small village, located near Shri Mata Vasihno Devi University, Karkyal, Jammu. The establishment of some big institutes like SMVDU University, Shri Mata Vaishno Devi Narayana Superspeciality Hospital, Student hostel, Delhi Public School, Private

Banks, etc., has resulted in the development of a good market for meat and egg in this area. Moreover, the village has a male dominating family system in which all income from agricultural produce goes to male farmers. It was observed that there is always a shortage of money with the women. Considering the market option, promotion of gender equality and introduction of the unique breed of chicken in a different geographical area, Krishi Vigyan Kendra, Reasi has given a new facelift to this village in the form of Kadaknath village.

Initially, KVK Reasi procured six Kadkanath parent birds from Krishi Vigyan Kendra, Kanker, Chhattisgarh in 2015-16. These breeds were reared at KVK farm and after six months,

the eggs from these birds were hatched to produce chicks. These chicks were again reared at KVK farm for about two months and then distributed to 30 beneficiaries with 10 birds each. Later on, 20 more interested women farmers were included (Fig. 2).

Plan implementation and support

Awareness creation is often the first step in disseminating a technology package, and to a large extent, the level of awareness could determine the level of adoption of the technology. KVK Reasi disseminated the technology through participatory methods and provided the knowledge and skills to the farmers with respect to backyard poultry production. Initially, poor women farmers belonging to SC/ST category, who were interested in backyard poultry farming, were selected and trained on scientific poultry farming practices through one day and vocational training. Various scientific management techniques were taught w.r.t. feeding, housing, healthcare and general husbandry practices and the birds were distributed during the training programmes to the participants. Regular and timely visits were made to these farmers for further consultancy and guidance. Disease diagnostic visits were made in case of disease outbreaks and proper medication was given by KVK scientists free of cost. Data was collected on a regular basis for weight gain, egg weight, growth and egg production. Parameter wise

Table 1. Comparison of various economic parameters of the Kadaknath breed as compared to desi chicken

Particular	Kadaknath chicken	Desi chicken
Eggs production in a year (No.)	110-120	70-80
Weight of egg (g)	40-45	30-35
Egg colour	Dark Brown	Light Brown
Price of egg (₹/egg)	10-15	5-8
Egg spoilage during hatching (%)	20	30
Tenderness of meat	Lean and soft	Hard
Meat colour	Black	Light Red
Market price (₹/kg)	600-800	200-250
Health benefits	More	Less

Table 2. Comparison of meat quality of Kadaknath and desi chicken

Properties	Kadaknath	Desi chicken
Protein content (%)	25	18-20
Fat content (%)	0.73-1.05	13-25
Linoleic Acid (%)	24	21%
Cholestrol (mg/100 g)	184.75	218.12

observations showed significantly better performance of Kadaknath over local breed in respect of average body weight of male at 3 months (1.5-2 kg), average body weight of female at 3 months (1.0-1.5 kg), average age at first laying (140-150 days), average egg production (100-120) per annum and weight of each egg (50-55 g).

It was observed that rearing day-old chicks by farmers were problematic due to high chick mortality. In order to resolve this, the KVK developed its own poultry demo unit using locally available materials like bricks and grass as roof material. In order to provide these birds with an open backyard environment, KVK Reasi prepared an open net house system in which these birds were kept in open during day-time and at shed at night. Day-old chicks were reared at the KVK campus for about two months and then distributed to the beneficiaries at a weight of around 600-700 g. The demo poultry unit with Kadaknath poultry birds is a source of attraction and encouragement for local farmers and they are now ready to start their own poultry shed using these low-cost materials. As demands for these birds increased, KVK Reasi procured more Kadaknath birds from CPDO, Chandigarh. After a few years of efforts to popularise this breed, Dhirthi village became Kadaknath Village and a centre of attraction for the whole district, as people from different parts of the district began to purchase these nutrition rich and high medicinal quality meat and egg.

Outcome

These birds were reared in an open scavenging system in day-time and kept in wooden or iron cages at night. They are mostly being fed on kitchen waste, broken rice and crop and field residues. Households engaged in BYP obtain a small but steady flow of income by selling eggs on a daily basis, at the rate of ₹ 10-12 per egg. It was observed that on average 4 birds were sold for meat purposes whereas 6 birds were kept for egg purposes by each household. The total gross income from eggs per bird @ 10 ₹/egg was about ₹ 1,300.



Fig. 3. Demonstration Unit at KVK, Reasi

Total income from the sale of eggs from six birds comes out to be ₹ 7,800.

Farmers also sell live birds at price ranging between ₹ 600-800/kg live weights. Average income by the sale of meat (1.4 kg) @ ₹ 600/kg was about ₹ 3,360. Average annual income generated from backyard poultry birds was calculated to be ₹ 11,160 per household. Economics is depicted in Table 3. Although high variation in the income of households was observed, a positive association between economic condition, availability of grains, literacy of family and income was observed.

Women farmers were advised to hatch a few eggs for chick production so that the breed can be propagated. As a result, these farm women were selling the newborn chicks to nearby villages @ 50-70 ₹/chick. Around 70% of the farm women produced the next generation chicks from the parent birds (Fig. 4).

Impact

Before the KVK intervention, only 10-15% of women farmers of Dhirth village were engaged in the BYP farming and were not generating any income from these eggs. After conitious efforts of KVK Reasi now



Fig. 4. Next generation being propagated by farmer

Table 3. Economics of each household from BYP by raising Kadaknath birds

Description	Amount
Total number of households in the village	90
Number of households engaged in backyard poultry farming in total	50
Average flock size (No. of Birds)	10
Average birds sold for meat purpose (No. of Birds)	04
Average birds kept for egg purpose (No. of Birds)	06
Average body weight of bird at the time of marketing (kg)	1.4
Average market price per bird (₹)	600
Income from sale of bird for meat purpose at weight 1.4 kg @ ₹ 600	840
Total benefit from meat birds/Household @ 840 ₹/bird (1.4 kg) × 4 birds (₹)	3,360
Average number of eggs produced in a year from the day of distribution (₹)	130
Average market price per egg (₹)	10
Benefit from eggs/ Bird (130 × 10) (₹)	1,300
Total benefit from eggs/ Household (1300 × 6) (₹)	7,800
Net income generated (egg + meat) (₹)	11,160

around 50-60% women farmers are engaged in backyard poultry farming and are getting income round the year. In terms of the impact, it is seen that earlier with desi breeds, these farmers used their produce for domestic consumption only but now they are selling the eggs directly to the SMVD university, SMVD hospital and bank employees. Some of the farmers even have developed linkage with the hotels and shops on the highway and sell their

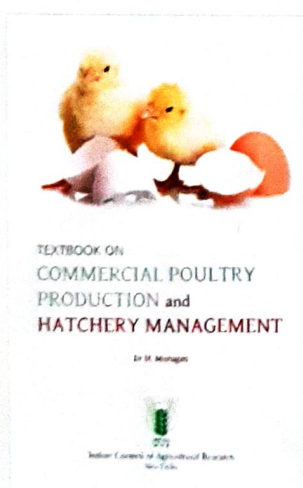
produce to these places. Due to the adoption of the improved breed, there is a tremendous change in the life of these women. Apart from imparting financial and economic independence to the women, it has also indirectly helped in socio-economic development of the villages by active involvement of rural women in economic activities. Social status of the farm women have improved and they are economically sound by earning an income of

₹ 11,000-12,000/annum. Encouraged by the experiment, more women are approaching the KVK to empower themselves in the field of backyard poultry.

As a result of the horizontal spread of the technology, out of 90 families of Dhirth village, 50 families are rearing these birds and generating a small but steady income round the year. Similarly, 130 families in the whole district were distributed these birds and they have started rearing these birds. Due to the popularisation of nutritional facts of the meat from Kadaknath by KVK, people from many parts of Jammu are coming directly to these farmers for purchasing this unique black meat bird. Observing the popularity of these birds, farmers from different parts of the district are now visiting KVK, Reasi in order to introduce these birds in their village.

^{1,3}Scientists KVK Reasi, SKUAST, Jammu (J&K); ²Scientist, ICAR-ATARI, Zone-1, Ludhiana; ⁴Principal Scientist, Division of Agril. Extension, ICAR New Delhi; ⁵Director, ICAR-ATARI, Ludhiana. *Corresponding author's e-mail: pragya.bhadauria@icar.gov.in

Textbook of Commercial Poultry Production and Hatchery Management



The textbook on Commercial Poultry Production and Hatchery Management has been brought out by ICAR, keeping in mind the importance of poultry industry in the current agricultural scenario. It is a major industry in livestock sector offering promising employment opportunities throughout India for veterinary and animal science graduates.

The book has been designed and written in a lucid manner to prepare an exhaustive information source for undergraduate students with special reference to Indian farming and business conditions. The book consists of 16 chapters on different aspects of the poultry production. Each chapter has practice exercise at the end for better understanding of concepts. We hope that this book will be able to serve its purpose.

TECHNICAL SPECIFICATIONS

No. of pages : i-vi + 162 • Price : ₹ 350 • ISBN No. : 978-81-7164-183-3

For obtaining copies, please contact:

Business Unit

Directorate of Knowledge Management in Agriculture
Indian Council of Agricultural Research
Krishi Anusandhan Bhavan-I,
Pusa, New Delhi 110 012

Tel : 011-25843657, Fax 91-11-25841282; e-mail : bmicar@gmail.com