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Mini Review

Backyard Poultry Farming

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Abstract

With increase in population, the demand for protein is increasing. Poultry being a good source of protein and yet cheap makes it an affordable commodity for general people. Poultry rearing gives chances to economical weaker section of society to gain profits however principal constraint to profitability is the high mortality rate in young chicks, due to a combination of disease, predation, malnutrition and climatic exposure. Backyard poultry farming can be of utmost importance in such situations because mostly indigenous breeds are reared in this type of farming and such breeds are resistant to harmful environmental conditions. Other interventions involving vaccination of the flock against disease have been demonstrated to impact dramatically on survival of the birds and on household food security and profitability.

Keywords: Protein; Profitability; High Mortality; Backyard Poultry Farming; Indigenous Breeds; Vaccination

Introduction

In the era of modern and sophisticated technology, backyard/rural poultry rearing is the backbone of poultry production in India. A major share (around 40%) of food supply in the form of eggs and poultry meat in rural and semi-urban areas is met by traditional poultry production in which chicken species is at the top in popularity. Because of special flavor and taste of eggs and meat of country chicken, the demand of these products is more and they are sold with 35-40 per cent prime price than the same products of exotic and improved chickens. Further it is the most economical venture for rural poultry keepers as the input cost is very low or as good as negligible. It can very well uplift the living standards of rural poor by rearing 5-50 birds, managed by housewives or children. In the last quarter of 20th century in the name of development commercial exotic breeds rearing in poultry especially in chickens was so much overemphasized in India that the rural people with scanty resources also started practicing commercial poultry in backyard. But the improved birds obviously could not perform and thrive well under rural conditions. Secondly, the change posed risks of losing our own genetic resources of poultry. The backyard poultry rearing was encouraged and boosted with more scientific approach to enhance its efficiency of production.

Reasons (Benefits/Scope) for Boosting Backyard Poultry Rearing

- **Sustenance of indigenous breeds:** Indigenous breeds are resistant to common disease and are also heat tolerant. They can survive on its own without any special nourishment and care. On other hand, exotic varieties and strains are delicate and need special care at every stage of maturity.

- **Lesser or negligible input:** The local hens used in the backyard poultry production scavange their own food. Poor and economically weaker section of people can also raise these birds. Thereby, adding to income source; meat and egg procuction.

- **Unique characteristics of indigenous poultry birds**: To thrive in tropical areas, the genetic makeup of the indigenous breeds is unique. The characteristic like naked and frizzled neck gene helps in heat dissipation. Another example is kadaknath, commonly known as "kali masi" have a unique black flesh. This fibrino- melanosis character helps in heat dissipation and has medicinal values also.

- Identification of country breeds by rural masses: The country breeds have peculiar color. These birds are used by rural people for the religious ceremonies, which is an important aspect of their rural life. Thereby, increasing demand of desi over exotic breed.

- **Increasing liking for country birds:** In general, not only villagers but urban people also prefer desi birds reared in free range/backyard system for its specialties of game and taste in Indian market, as well as abroad. This is because of awareness among city dwellers about health, avoiding consumption of birds which have been put to stress of intensive systems of rearing or may carry some carcinogenic residual effects directly or indirectly through feed or medicines. These birds fetch good price in the urban areas. The products of country birds are being sold at premium price of nearly two to three times higher than that of improved birds reared in intensive systems.

- **Ensure nutritional security**: Nutritional security needs availability of animal protein in sufficient quantity. The poultry is a major, quality source of protein yet cheap. Since the substantial increase in poultry products availability is concentrated in urban areas with intensive production from exotic breeds, the nutritional security to rural masses can only be granted by making these products available in adequate quantities locally.

Challenges of Backyard Poultry Keeping

- Too much negligence should be avoided. Regular attention is essential.

- The up granted birds may become sluggish and may not be able to run, becoming prey to predators easily. This can lead to more mortality and thus result in economic losses due to other reasons also.

- Local laws may not permit to rear adequate strength of birds.

- Preventive measures in time to stop out beaks may not be available in rural remote areas for most of diseases in poultry.

- Decrease in availability of fallow land or backyard space and kitchen gardens day by day for scavenging of birds.

- Declining of availability of weeds, seeds and crop residues because of adoption of modern multi-crop production system.

- Reduction in number of insects, worms and pests (Prime source of protein for these birds) because of ample use of insecticides and pesticides on crops.

- Improved drainage systems of concrete/brick alleys in villages further reduce availability of insects and greens.

- Non-availability of suitable germ plasma for backyard poultry production.

- Lack of knowledge of scientific rural poultry production and marketing of poultry products.

- Inadequacy of appropriate health care of birds.

Measures (strategies) for improvement of backyard poultry rearing

Only distribution of desi birds to rural poultry keepers is not the complete solution for improving backyard poultry production, as it is being thought most of the times. The comprehensive understanding of local poultry raising system, its limitations, opportunities and circumstances of traditional poultry keeping system is essential for achieving gradual improvement. The reasons of failures of past attempts to improve must be analyzed, so as to design efficient future plans for development, which may have less risk and more productivity.

Following is some of the strategies which can be thought in this angle

Housing and protection

The night shelter with adequate protection from rain, draft wind and predators is essential for these birds. Adverse conditions in respect of these requirements can lead to decreased productive

performance, increased mortality and more health risk. For 2 to 3 hens a coop and for 10 to 15 hens a small mud hut of 1 to 1.2 m having one side mesh wall is adequate but for 50 and more hens little bit elaborate shelter is advisable [1]. An economical lean roof shelter attached to the wall of residence building in the backyard along with fenced run may be provided. The roof may be supported with temporary posts with a height of 2 meter and three side walls of shelter may be fitted with chicken mesh. For 50 hens, area of 3 x 2.3 m for night shelter is sufficient

Genetic make-up of birds

Two strategies can be followed to improve the germ plasma of local birds to enhance productive performance.

Upgrading

Inspite of much more adaptability of local birds for rural environment like hardness, bearing stress of feeding and tropical climate, resistance to diseases because of natural selection for millenniums, and their growth is slow and productivity is very low. To improve these traits of economic importance, their upgradation by crossing with exotic males of chicken (discarding cross-bed males) for 6 generations is of much help.

Rearing of improved desi fowls

Chickens of high yielding germ plasm of improved desi fowls or developed with native fowl base should be selected for rearing especially the birds which lay around 160-180 eggs per annum under intensive system. These birds are well-accepted by rural masses as the phenotypically look like local birds. Some of the examples of such chicken are: Giriraja, Varroaja, Grahalakshmi, Upchari layers [2].

Supplementary nutrition

Because of reduction in natural feed resources day by day for scavenging, it has become essential to supplement birds with compounded feed. Secondly the scratch feeding with single grain does not fulfill the need of balancing of nutrition which also cannot be met in scavenging with only fallen grains, leaves, weeds, root bulbs, fruits, kitchen waste, insects, worms, etc. Hence ready- made concentrate mixture with adequate levels of minerals and vitamins are being recommended nowadays as supplementary nutrition to enhance overall productivity in backyard rearing. As an alternative own mixed concentrate supplement can be made by mixing ingredients like cereals and their by- products, animal or vegetable protein feedstuffs, agro-industrial by-products, minerals and vitamins in an appropriate quantity. Around 25-40 gm of this concentrate per bird/day has been advised for balancing the nutrition, which can be preferably fed in the evening hours [2].

Disease prevention and Control

Health care mainly in the form of vaccination like Ranikhet disease in particular is must for desired success in backyard poultry production. But, hatching of small number of chicks scattered throughout the year becomes a big hurdle for the success of vaccination program. Synchronization of hatching of chicks might be useful to overcome this problem. If adequate numbers of chicks are hatched out within a week in adjacent 2-3 villages, they can be easily vaccinated with F1/Lasota strain to prevent aforesaid deadly ailment. Periodical deworming prior one week of R2B vaccinations can eradicate worms successfully. Further, periodical administration of coccidiostats, antistress medicines like electrolytes can also be beneficial to enhance the resistance and production. During rainy season, coccidiosis can be prevented by using coccidiostats on preventive level. For synchronization of hatching, September to November and February to march is the most suitable period of year because the native fowls are in peak production [3].

Training to farmers

A short-term training of around 10 days to farmers for application of scientific management practices to the best possible extent can further help in disease control, which indirectly improves the productive performance also. Such an approach might be of lot of use for the poor poultry keepers to improve their living standards along with nutritional status.

Semi-scavenging model for rural poultry production

The term semi-scavenging means a small poultry flock reared partly under controlled management and under scavenging system where the scavenged feed becomes the substantial quantity of the total feed consumed. A semi- scavenging poultry model is an integrated system to provide supplies and services for establishing and growth of semi-scavenging poultry rearing in rural area. The model can be supported and operated by village co-operative society or NGO in collaboration with Government. This is an essential part of operation as small amount of credit is necessary to operate the scheme because landless poor or destitute women do not have their own funds to run such activities. Around 10-15 semi-scavenging hens can be raised by members of the groups (mostly women) to generate the same income earned by woman as a day labour [4]. This also facilitates staying of woman at home for taking care of children and other family necessities.

Awareness strategies for rural poultry production

It is needy to initiate an appropriate extension education program to mobilize and make aware rural poultry farmers for scientific poultry keeping, encouraging group activities and imparting training on various aspects of efficient backyard poultry farming [5].

Extension Strategies

- Rural poultry farmers should be made aware about scientific poultry keeping.
- They should be given knowledge of housing, feeding, management, health care and marketing.
- They should be pursued for mobilization, group activities and enhance their tendency to adopt poultry rearing.
- To increase the efficiency of production the farmers should be given skillful training.
- The benefits of poultry keeping should be demonstrated to rural masses.
- Non-formal education on poultry husbandry should be introduced.

Communication Strategies

- Information on various aspects of poultry rearing should be made available and their specific needs and problems be tackled in such a way that they will have more interest in caring out the farming.
- Utilization of appropriate interpersonal channels such as farm and home visits, demonstrations, group discussions, educational tours or client's visit to organized farms, state agricultural universities/colleges and research institute, be arranged.
- An appropriate media mix should be used, so as to have access to meaningful information and technology.
- All possible modes of communication like film shows, folk songs, puppet shows, TV broadcasting, radio talks be used for effective communication.
- Lastly, the communicators used should be such that they can be empathized with an individual or group.

Technological Strategies

- The scientific management practices for backyard poultry production should be introduced.
- If required the scientific and indigenous management practices should be blended to have effective management.
- Technology should be judged for suitability of local needs and if required it should be modified.
- Finally, technologies should be dissipated to rural poultry producers through appropriate channel of communication.

Conclusion

Backyard poultry makes a significant contribution to the livelihoodsof economical weaker households in terms of nutrition, income and fulfilling some religious right. It provides supplementary incomes mostly in the hands of women and assets the people as essential supplement to survive drought. So, keeping in mind the challenges, benefits, scope of backyard poultry farming proper strategies should be implemented by the farmers/rearers to boost up or improve the backyard poultry rearing in our country.

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