

Socio-Economic Importance of Indigenous Poultry in Nepal

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Received date: March 22, 2016, Accepted date: May 27, 2016, Published date: June 08, 2016

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Abstract

In Nepal, more than 65% of people depend upon agriculture. Contribution of agricultural sector in Gross Domestic product (GDP) of Nepal is 33%. Among them contribution of livestock sector in total GDP is 26.8% and poultry sub sector within livestock contributes 8% of Agriculture Gross Domestic product (AGDP) and Indigenous poultry is widely prevalent which contributes 55% of total poultry population. Poultry can convert feed efficiently in short period of time and give income in short time of period. But Nepal, Village farmers lack knowledge about poultry health and Poor husbandry practices limit production as well as income generation. Indigenous breeds of Nepal are Shakini, Ghanti khuile and Pwankh Ulte. If we are able to do Genetic improvement through selection as well as improve health husbandry, we can significantly increase the production. So for the improvement of the indigenous breed of poultry, we need to identify some economically important traits of indigenous breed which can be improved. Some important traits of indigenous breeds of poultry are Total eggs per clutch and good mothering ability. This paper is the literature review related to the Socio-economic importance of Indigenous Poultry in Nepal.

Keywords: Poultry; Nepal; Livestock; Eggs

Introduction

Agriculture is the major sector of Nepalese economy. Therefore, the development of agriculture sector is key for the development of national economy. Livestock, including poultry is an integral part of the agricultural part of the agricultural production system in Nepal, providing draft power, manure and high value animal protein such as meat, milk and eggs for the human consumption. Agricultural production is the main product and more than 65% of the population depends upon agriculture [1]. Contribution of agricultural sector in Gross Domestic product (GDP) of Nepal is 33% [2]. Among them contribution of livestock sector in total GDP is 26.8% and poultry sub sector within livestock contributes 8% of Agriculture Gross Domestic product (AGDP) and Indigenous poultry is widely prevalent which contributes 55% of total poultry population [3,4]. Farmers with a small land holding of between 0.2 and 0.5 hectares land keep almost 25% of the livestock. A distinct pivoted role of the livestock is well established in the farming system of Nepal since it functions as a supplier of mature and high value animal protein.

Indigenous poultry in Nepal

Indigenous poultry is one of the oldest domesticated Birds. There was no particular date since when people reared the backyard chicken but it is believe that people used to the kept wild chicken in past and transformed the as indigenous breed. In village conditions, nearly all farmers rear a few chickens and the birds that are managed under a back yard system utilizing their free time at home and Reared mostly by women and children. BYP form a part of the family consumption, a means of celebration, sacrifice to the God and a source of income by selling surplus locally when required. BYP mainly constitutes indigenous breeds; *Sakini*, *Ghanti Khuile*, *Puwankh Ulte*, ducks, turkeys etc.

Currently new species like *Giriraja*, *Koiler* are under consideration and much work has been started to establish it. Few imported breeds like New hampshire, Australop and Plymouth rock are also found - Backyard poultry distribution program - but lack of health care, poor nutrition and high predation rates, have meant that this distribution policy has suffered adversely. Hilly region has highest percentage of BYP followed by terai. Ethnically, Tharu and Muslim community is at first to own BYP in terai region while Magars in hill. BYP relies on free range scavenging which is the sole cause of slow growth although they grew hardy.

Importance of indigenous poultry for nutrition and income

In rural communities village poultry plays an essential role in homestead food production for household consumption and supplementary income. Nutritionally village poultry contributes to meeting the essential nutrient needs of families. Chicken and eggs provide a readily available, high-quality and inexpensive source of proteins, vitamins, and micronutrients accepted by all ethnic groups. Village also increases food security for vulnerable families. Economically village can provide a ready source of cash. Chickens and eggs can be sold or bartered to meet needs such as staple foods, school fees and supplies, medicine, clothing, as well as emergencies. Simple changes in chicken management can increase production considerably and improve the living standard of many rural families through increased nutrition and income generation resulting from the sale of surplus chickens or eggs.

Production characteristics of indigenous poultry chicken

- The average BYP size is 5-10 per house hold with maximum of 50.
- Hens start laying at 24-30 weeks of age (8-10% never lay).
- Egg wt average 40 gm.
- Produce average 2-4 clutch/year; average 12 eggs/clutch.
- 70% eggs hatch; 9 chicks/clutch hatch.
- Only 40% of chicken hatched reach adulthood.

- 80% of these loses occur in the first 4 weeks of age.
- Wt gain.
- At - 2 months - 0.5 kg.
- Adult – rooster at 4 months 2 kg and hen at 6 months 1.3 kg.

Socio-economic advantage of Indigenous poultry

- Income of poor families.
- Pest control, minimum environmental impact.
- Require minimum labor inputs- children and women can handle.
- Inexpensive to rear.
- Dual purpose.
- Survive under difficult conditions.
- No requirement of intensive knowledge, etc.
- More resistance to common diseases.
- Meat and eggs are of higher preference and price.
- Chicken meat and eggs content quality source of protein, vitamins, and micronutrients.
- Chicken meat and eggs are excellent source of iron, zinc, and vit-A.
- Chicken meat and eggs are especially important for children, and nursing mother

Comparison of village and commercial chicken production

Comparison of village and commercial chicken production is in Table 1 below.

Factor	Village chicken	Commercial chicken
Labor inputs	Minimum	Considerable
Housing	Use of local material, inexpensive	Use of conventional material, expensive
Nutrition	Scavenging, left over, no supplementary, inexpensive	Balance ration, expensive
Water	Well water, left over, natural resources	Clean water
Production	potential of improvement	High-but requires high level of inputs
Meat quality	Little fat, pleasant flavor, tougher texture	Broilers have more fat, less flavor, soft texture
Adaptability	Good	Poor
Reproduction	Good hatching and mothering ability; hens lay, brood, hatch and look after young	Poor hatching and mothering ability
Veterinary inputs	Very limited- Deworming and ND vaccination	Essential to control of many viral, bacterial and protozoan diseases
Environmental impact	Minimum, organic fertilizer and pest control	Use of antibiotics, ammonia production

Table 1: Comparison of chicken production.

Comparison of village and commercial chicken flocks

Comparison of village and commercial chicken flocks is given in Table 2 below.

Criteria	Village flocks	Commercial Flocks
Flock Size	Small	Large
Age	Mixed age	Single age
Housing	Trees, simple chicken houses	Large Chicken unit
Source	Natural incubation	Artificial incubation

Table 2: Comparison of commercial chicken flocks.

Socio-economic analysis of indigenous poultry

In rural communities, Indigenous poultry plays an essential role in homestead food production for household consumption and supplementary income. Nutritionally, village poultry contributes to meeting the essential nutrient needs of families. Chicken and eggs provide a readily available, high quality and inexpensive source of proteins, vitamins, and micronutrients accepted by all ethnic groups. Indigenous poultry also increases food security for vulnerable families. Economically too, it can provide a ready source of cash, thanks to rising market of the chicken and other poultry products in all parts of the country.

Let us think about the income from an adult chicken. An adult hen can give five clutches in a year and at least she can lay 18 to 20 eggs in a clutch means she produces up to 100 eggs in a year. If hatchability is 80 per cent then 80 chicks could be produced in a year. As well as if mortality rate is 20 per cent, we will get a high as 55 chicks in a year. Given such parameters, a farmer can sell at least 26 adult chickens in a year. Considering the cost of a local live chicken is Rs 700 in the market, the farmer can pocket Rs 18,200 from an adult hen. This is the minimum income from one chicken but it has potentials beyond this too. So, poultry farming has a great scope in poverty alleviation in the village. Unfortunately, preference has been given only to the commercial operations by promoting crop production, large livestock, and large commercial flock by government.

Conclusion

The indigenous breeds have always been of great importance for genetic improvement as most of the economic traits have been found on them that can better be improved by well-established genetic engineering. The well distribution system of poultry has been found in all the development regions can make it easy for a decentralized improvement program.

The production of poultry has not been well sufficient to fulfill the national demand, production by small holders being a major limiting factor. Although the production seems to be quite efficient regarding their raising system, proper scientific production system can improve the economic traits of poultry. Production of high quality forages and the feed ingredients can play supportive role to improve the total production besides planned and systematic genetic engineering tools. The productive traits are mostly affected by environmental factors so allocation of developed breeds as per the environment would play utmost role in optimizing the total production. The products of poultry (egg and meat) have always been playing in uplifting the life standard of small holders and total GDP of the country. The extension of subsistence type of raising system to scientific allocation with proper government support would be helpful in producing optimum results with the resource available.

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