

MULTIFACETED ROLE OF INDIGENOUS CHICKEN IN INDIA: A REVIEW

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ABSTRACT

This article attempts to review the role of indigenous chicken in rural India. Indigenous chicken farming is an age-old practice and an important tool to reduce poverty among the most under-privileged section of the Indian society particularly the rural tribes. It results in socio-economic development, nutritional and livelihood security, empowerment of women etc. among rural people. The surplus income earned from poultry rearing was used on education (33 %) and food (30 %). Majority (49.5 %) of the respondents reared indigenous chicken to meet petty expenses in Assam. Majority (67.5 %) of the indigenous chicken farmers were women, hence decisions for hatching, selling of surplus chicks eggs etc. were made by the women and they may be empowered greatly through improvement of their skills. It is an eco-friendly approach, where birds can exhibit their normal and natural behavior. Birds are kept mostly on scavenging system, where they acquire their feeds through natural foraging, kitchen wastes etc. Rural poultry farming has been responsible to produce 40 per cent meat and 44 per cent egg requirement in India. Chicken eggs and meat are the only cheapest and best sources of protein, vitamin and minerals with high biological value for rural poor and marginal sections of people. In many parts of India, indigenous communities particularly tribal people not only consume chicken and eggs but also use them extensively in indigenous rituals performed to satiate gods, spirits of ancestors and nature, ward-off demons and evil spirits, get rid of bad luck, sacrificed during initiation of agriculture activities and new business, weddings, birth and death ceremonies. The additional income earned from indigenous chicken farming was used to improve their socio-economic status.

Key words: Indigenous chicken; livelihood security; nutritional security; women empowerment; socio-economic development; socio-cultural values

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INTRODUCTION

Traditional poultry farming accounts for 80 per cent of the world's poultry production contributing a major role in rural economy (Mack *et al.*, 2005). More than 70 per cent of the Indian population are living in villages and

most of them are poor, marginal farmers and landless laborers (Shivarama *et al.*, 2014). Indigenous chicken farming under backyard system is an age-old practice among resource poor rural people particularly among rural tribes in India. Backyard poultry farming is an integral component of 89 per cent of the total rural livestock holders in India (Joshi *et al.*, 2019). It is a manageable and encouraging enterprise to improve the socio-economic and nutritional status of rural people, especially landless or poor with low initial investment for high economic return. Role of backyard poultry farming in sustaining and enhancing poor people's livelihood in developing countries is well recognized (Ahuja *et al.*, 2008; Pradeepa *et al.*, 2015). Indigenous poultry plays a significant role to raise their living standard through employment and income. India has total poultry population of 851.81 million, out of which 534.74 million (62.78 %) are improved and 317.07 million (37.22 %) are backyard poultry (DAHD, 2020). Similarly, Assam has 46.7 million poultry of which 45.78 million are contributed by backyard rearing (DAHD, 2020), indicates that more than 98 per cent of the total poultry are reared under backyard system. In addition, more than 95 per cent of the total egg production in Assam is still contributed by indigenous chicken. Hence, indigenous chicken has significant contribution to egg production, although they have poor production potential. Chicken plays an important role in empowering women and builds the capacity to carry out her responsibility of caring home and family issues (Bagnol, 2001; de Bruyn *et al.*, 2015). Backyard poultry is predominantly indigenous chicken with lower genetic potential for both egg and meat production but are able

to survive, reproduce and produce eggs and meat in the harshest rural conditions. In addition to money, poultry also control pest and provide manure, they are used in festivals, ceremonies, treating illness and for meeting social obligations (Alders, 2004). Hence, an attempt has been made to consolidate the role of indigenous chicken under following sub-heads:

Provides livelihood security

The backyard poultry has found special favour with the poor (landless, marginal and small farmers), tribal, scheduled castes and other backward classes to supplement and enhance their livelihoods to climb up the poverty ladder as well as asset accumulation (Shinde *et al.*, 2006, Mandal *et al.*, 2006). The eggs and meat produced from indigenous chicken always fetches a premium price in the market as the demand of such product is always high because of their better taste and acceptability among the consumers. About half (49.5 %) of the indigenous chicken farmers meet their day-to-day expenses by selling their chicken and eggs in Assam (Islam *et al.*, 2021). The ready cash earned from selling of eggs and meat are mostly used to pay school fees, mobile expenses, to purchase medicines and cosmetics and other essential items by the farmers. Sometimes the amount may be used to purchase other livestock such as goat, pig etc. to improve their livelihoods. When there is crop failure due to natural calamities such as flood, drought etc. backyard poultry may act as insurance of the rural farmers. Indigenous chicken can also serve as "insurance" in the fight against shocks and stresses, such as crop failures and sickness. It also functions

as a "savings account" which can be tapped into quickly to meet household needs (Fotsa, 2012).

Empowering rural women

In India, 70 to 80 per cent of people live in villages and most of them are engaged in agriculture and allied works (Dube, 2011). The agriculture is getting feminized as men are migrating to rural non-farm sector. Majority (67.5 %) of the indigenous chicken farmers were women, hence decisions for hatching, culling of surplus chicken, selling of eggs and live birds etc. were made by the women in Assam (Islam *et al.*, 2021). Likewise, in many regions of the world and unlike other livestock species, women have the possibility of making decision to sell and or consume poultry meat and eggs without the need to formally negotiate with their husband/partner (Dumas *et al.*, 2017). Chicken is a source of self-reliance for women, since chicken and egg sales are decided by women, both of which provide women with an immediate source of family income to meet household expenses (Aklilu *et al.*, 2007). Though rural backyard poultry production could not contribute more income but this poultry farming system improved the skill of most of the poor women and helped them for boosting their socio-economic and nutritional status (Okitoi *et al.*, 2007). Indigenous chicken farming also improves the knowledge and skill of the farm women, thus helps in their empowerment. As majority of activities of indigenous chicken farming under backyard system are carried out by women folks, they may be empowered greatly when participate as poultry advisor, extension worker, vaccinator etc.

Platform for organic poultry farming

The main objectives of organic farming are to establish and maintain soil-plant, plant-animal and animal-soil interdependence and to produce a sustainable agro-ecosystem based on local resources (Biradar *et al.*, 2011). India has a vast scope for promotion of organic farming in the export market without compromising with the national food security as farming by tribes and under rain-fed condition is generally organic, since very little chemical inputs are used (NAAS, 2005). In USA also, there is a rapid growth of organic meat sector, which is predominantly chicken meat (Singh *et al.*, 2019). Production of organic chicken meat is easier as compared to other livestock meat due to its short production cycle and lower production cost (Biradar *et al.*, 2011). The existence of traditional backyard poultry farming can be used as a platform for organic poultry farming in India, where no harmful residues existed in eggs and meat. India's export of organic food products rose by 51 % year on year to USD 1 billion (Rs. 7,078 Crores) during 2020-21, which were totally plant origin (Annon, 2021), in spite of huge population of poultry in the country. Backyard poultry farming is an eco-friendly approach, where birds can exhibit their normal and natural behavior. Birds are kept mostly on scavenging system, where they acquire their feeds through natural foraging, kitchen wastes etc. Village poultry production is eco-friendly and does not compete for scarce land resources (Mekonnen, 2007; Sonaiya, 1997). Indigenous or local breeds or breeds developed with organic and free range may be used for organic poultry farming (Singh *et al.*, 2019).

Provide nutritional security

India ranks 3rd in egg production and 5th in broiler production in the World and produces 88 billion eggs and 3.46 million tones broiler meat (DAHD, 2018). The per capita availability of egg and meat is 69 and 2.5 kg of per annum respectively, which is much lower than the ICMR (Indian Council of Medical Research) recommendation of 180 eggs and 10.8 kg of meat per annum (BAHS, 2017). Hence, there is a huge gap between supply and demand of egg and meat in India. This gap of supply and demand is again much higher in rural India. Hence, rural people often suffer from various deficiency diseases in India. Prevalence of anaemia is higher in India as compared to other developing countries (Kalaivani, 2009). The District Level Household Survey indicates prevalence of anaemia is very high in preschool children, pregnant and lactating women and adolescent girls in India. More than 50 % of Indians are affected with anaemia and the problem is more severe in women than in men (Malhotra *et al.*, 2004). Further, as per National Family Health Survey-III conducted during 2005-2006, among the Indian states, Assam was the worst affected with 72 % of married women being anaemic, followed by Haryana (69.7 %) and Jharkhand (68.4 %). In a study, Kaur and Kaur (2011) found that 98 % of the rural females in Patiala of Punjab State were anaemic. So, there is a clear indication that rural women are more susceptible to anaemia than urban counterpart. It is seen that, rural women do more physical work, but take nutritionally imbalanced diet mainly due to poverty, lack of awareness and male domination (Kaur, 2014). Under such circumstances, rearing of backyard indigenous

chicken can be one of the best and sustainable options to combat such menace. Panda *et al.* (2008) reported that demand of eggs and meat in the rural areas could be met through backyard poultry rearing. Chicken eggs and meat are the only sources of protein, vitamin and minerals with best biological value at cheapest price for resource poor families and are easily available throughout the year at their households. Bujarbaruah and Gupta (2005) observed that rural poultry farming has been responsible to produce 40 per cent meat and 44 per cent egg requirement in India. Eggs are cheap and easily available source of protein, Vitamin-A, Vitamin B, Riboflavin, Iron and Zinc (Drewnowski, 2010). Chicken and chicken products are excellent sources of some important nutrients such as Vitamin-B¹², which reduces child mortality and also improves the maternal health (Scane, 2007). Indigenous chicken plays a very significant role for protein requirement in developing countries including India (Mapiye *et al.*, 2008).

Socio-cultural values

Backyard poultry plays an important role in the socio-cultural life of rural people as gifts to visitors or relatives and a sacrificial offer to traditional deity (Hamilton-West *et al.*, 2012). Poultry often gives as gifts or served in meals for distinguished guests (Alders and Pym, 2009). In Assam, construction of bridges and various monuments using bricks and stones were cemented by a paste made of rice powder, duck eggs, black lentils and lime during *Ahom* dynasty (1228-1826), indicates the traditional rearing of poultry as a part of life among Assamese. In many African

countries, cockerels are the most common sacrificial animal for religious ceremonies (Gueye, 2007).

Poultry are also involved in human recreational activities in many parts of the world, from pigeon racing to cock fighting (Alders, 2012). Cock fighting is still a male pursuit in a number of countries, including India, Indonesia, Kenya, Mexico and Peru. Owners of fighting cocks have a very close relationship with their birds and prize the status they afford. Such animals can fetch very high prices. Cock fighting is also an age-old socio-cultural activity in Assam. The *desi* (native) chicken enjoys a special place and privilege among indigenous communities' traditions and culture (Sripurap and Das, 2018).

Socio economic development

Majority of Indian population (72.22 %) living in rural areas and about 89 per cent rural livestock householders' rear poultry as an important supplementary source of cash income (Khandait *et al.*, 2011). Poultry is found to have greater outreach to poor than other livestock (Nandi *et al.*, 2007) as keeping a few poultry that scavenge around the homestead for food is more affordable than keeping cattle or small ruminants. The attraction of consumer and farmer to native chickens mainly due to the better taste and flavor of meat and eggs and higher disease resistance compared to commercial broilers has been reported in various countries (Wattanachant *et al.*, 2004; Cheng *et al.*, 2008). Products from rural poultry farming fetches high price as compared to those from intensive poultry farming. Birds reared under free range conditions give eggs and meat with low cholesterol concentration

and high value biological protein compared to those produced under intensive poultry farming. The sale price of eggs and birds on free range rearing were much higher than the sale price of commercial eggs and broilers (Selvam, 2004). Backyard poultry acts as an ATM card for rural women, they can sale eggs and birds whenever they need money to meet the expenses. The additional income earned from backyard poultry was used to improve the socio-economic standards (Singh *et al.*, 2017). With the extra income earned from chicken farming, the farmers gave priority to essential services like electricity (23.48 %), latrine (15.65 %), bathroom (23.48 %) and also 12.66 per cent of them converted their *Kaccha* house to *Pakka* houses and some farmer also bought luxury items like mobile (26.96 %) and DVD player (0.87 %). Market oriented backyard poultry enterprises are being recognized as a stepping stone for the poorest households enabling them to take the first step towards breaking out of the vicious circle of poverty and deprivation. The local chicken may be regarded as "Credit Card" to the rural women that instantly available for sale or barter (Hossen, 2010). There is also growing evidence to demonstrate the role of rural family poultry in enhancing the food and nutrition security of the poorest households, reducing the livelihood vulnerability and insecurity, and promotion of gender equity (Dolberg 2004, Ahuja 2004, Ahuja and Sen, 2007, Otte, 2006). Village poultry are often considered as the starter capital to move out of poverty as these provide high value food and a small cash income (Ahuja *et al.*, 2008; Aklilu *et al.*, 2007). Rural poultry production is being recognized as important component of socio-economic improvement among the

weaker section of society; especially landless labour, small and marginal farm women. Backyard poultry farming generates self-employment, provides supplementary income and supplements protein rich diet at relatively low cost. Poultry production represents an appropriate system to meet the growing need of increasing human population and to provide income to poor farmers, especially women (Gujit, 1994; Alders, 1996; Kitalyi and Mayer, 1998). Production by masses is more sustainable than mass production. The village people can rear small number of birds 10-20 per household in a cluster approach and eggs can be collected in collection centres for further selling. Income generated from backyard poultry farming will facilitate to provide better living condition which ultimately leads to overall socio economic development of the society.

CONCLUSION

Indigenous chicken farming has immense potential to reduce poverty in India. The poor and marginal farmers, which have limited resources, can adopt indigenous chicken farming to improve their livelihood and nutritional security in a sustainable manner. Besides poverty reduction, it may be helpful in improvement of nutritional status of poor rural farmers as eggs and meat are the cheapest and rich sources of high-quality animal protein. It has also a direct role to fight against malnutrition and anaemia among resource-poor section in India. It not only provides employment to rural people but also play a significant role in empowerment of women. Hence, an attempt should be made to improve the productive and reproductive

performances of indigenous chicken along with a support of services like extension, health and marketing to make it more profitable. Therefore, a multi-disciplinary research approaches along with development policies which target rural chicken farmers, which can maximize their production potential for a sustainable livelihood and nutritional security in rural India.

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