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Impact assessment of backyard poultry rearing on food security, income generation and living of standard in tribal community of Tonk District of Rajasthan

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Abstract

Backyard poultry rearing is one of the most efficient livestock enterprises to increase income and employment with improved livelihood security. Furthermore, it also plays an important role for providing food security especially nutritional security. Both egg and poultry products, being a rich source of macro and micro nutrients, have a potential role in treating and curing malnutrition, anaemia, night blindness and many more nutritional deficiencies induced diseases. As a high source of bio-available protein and iron, it is a suitable food for sports person. Backyard poultry rearing requires minimum inputs making it most suitable for Tribal community for their economic, social and nutritional upliftment. In the present study, the poultry birds of Kadaknath breed has been demonstrated in Tribal families of Tonk district of Rajasthan under Tribal Sub Plan (TSP) programme. Total number of 1000 poultry birds of Kadaknath breed were provided to 80 tribal families belonging to six villages, Negadia, Mudia, Ghasdi, Bhanakpura, Radhakishanpura and Jalsena of Tonk district of Rajasthan. Before providing poultry birds, Trainings were also organized for the tribal farm women on rearing of Kadaknath breed. Total 80 beneficiaries were selected from these villages for data analysis. Number of eggs laid by Kadaknath breed, average body weight of hen and Cock (kg), consumption pattern of eggs and Chicken at household level, number of chicks sold and total income generated has been assessed. Impact of backyard poultry rearing on the change of the life style of Tribal families was also assessed. The results of the studies showed that Backyard poultry rearing showed significant positive relationship in increasing their income and improving their living of standard with nutritional security.

Keywords: Poultry, tribal families, egg, chick, nutritional security

1. Introduction

Malnutrition and other nutritional deficiencies are the main concern in Tribal community with livelihood insecurity. With livelihood opportunity, Backyard poultry rearing provides food and nutritional security in Tribal community. India has a rank of 3rd and 5th respectively in poultry egg and meat production the world (FAO, 2020). Thirty percent of poultry products come from unorganized sector. Village poultry production is also known as backyard poultry rearing is an important component of livelihood for the upliftment of Tribal community (Roland-Holst *et al.*, 2007) ^[9]. Backyard poultry rearing plays a crucial role in sustaining livelihood of Tribal community with enhanced supply of poultry products including eggs and chicken improving nutritional status of the community. Backyard poultry rearing encourages to provide important support to farm women in income and employment generation making them self sufficient in decision making in Tribal community (FAO, 2020). Icing on the cake is that backyard poultry rearing gives a high and quick return investment opportunity (Sonaiya, 2007) ^[12]. Hence for breaking the trap of poverty, backyard poultry rearing is one of the most suitable recognized entry point to livestock production with minimum inputs (Guèye, 2007) ^[4].

Backyard poultry rearing has been integrated with human livelihoods for thousands of years enhancing diet, income, and food and nutrition security of the rural poor (Alders and Pym, 2009) ^[2]. Egg and Meat from chickens make a very high-quality food source providing essential macro nutrients along with micronutrients. Animal based food is concentrated in bio-available vitamin A, riboflavin, vitamin B12, iron and zinc. These nutrients are generally deficient in vegetarian food especially in Tribal community (Turk, 2013) ^[13].

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The nutritional needs of children, adolescents, pregnant and lactating mothers are high in comparison to other age groups. Their nutritional demands can easily be fulfilled by backyard poultry rearing with enhanced consumption that has positive impact on children's nutritional status with enhanced linear growth. It, in turn, leads to increased income and productivity in Tribal community (Wong *et al.*, 2017)^[14].

Among poultry breeds, Kadaknath breed is hardy and highly resistant for diseases. Kadaknath breed is dual purpose breed of poultry in India. Its origin is Madhya Pradesh. Kadaknath breed is famous for its black meat chicken that is also known as Kalamasi which has superior quality texture and taste. Kadaknath hen starts laying egg from six months onwards. Eggs are laid in two to three clutches in a year with 25 to 30 eggs per clutch. The average egg production by Kadaknath is 80 to 90 eggs per year per bird. Average egg weight of Kadaknath is 47 grams. The demand of Kadaknath breed is increasing day by day because of its medicinal values. Kadaknath meat chicken has 10 times higher iron content in comparison to ordinary chicken thus useful in treating and curing anaemia in non-vegetarian Tribal community. Kadaknath also has an antioxidant carnosine which is beneficial for eyesight. Kadaknath eggs are a richer source of protein as compared to other ordinary eggs with high biological value suitable for curing malnutrition. Unlike other poultry breed, Kadaknath breed can survive even on Kitchen waste making it most appropriate for Backyard poultry rearing. The best advantage of Kadaknath breed is that it has more protein, low cholesterol and less fat as compared to ordinary poultry breed making it a profitable livestock enterprise (Kumar *et al.*, 2021)^[16].

Backyard poultry rearing with Kadaknath breed is one of the best ways in income generation with food and nutritional security at local level for rural poor Tribal families through the sale of poultry and its products (Islam *et al.*, 2014)^[5]. In rural area, Backyard poultry rearing acts as insurance in stress and drought condition. It is a boon for marginal farmers to provide an assured income source to fulfill their needs like children education, expenditure on wedding with improved purchasing power (Akintunde, 2015)^[8]. This enterprise is so much important that Agricultural Innovations Project enlisted poultry farming as one of the few income generating activities involving farm women at large level. Household level studies conducted in Africa revealed that women earned significant incomes from poultry sales, even after accounting for household consumption (Alabi *et al.*, 2006)^[1]. The objective of the study was to find out the contribution of backyard

poultry rearing in social, economic and livelihood upliftment of Tribal families. Another objective of this study was to find out the role of Backyard poultry rearing on food and nutritional security at household level in Tribal families of Tonk district of Rajasthan.

Materials and Methods

The Scheduled Castes (SCs) and Scheduled Tribes (STs) are the two important social segments with sizable population spread in India. They are historically characterised by low level of income, poor economic condition and illiteracy. Recognising the situation, Government of Bharat (India) has been implementing several programmes with a view to induce the development of these socially deprived people. TSP (Tribal Sub Plan) Programme for economic upliftment of ST population is one of the important programmes implemented by Government with the support from financial institutions since 1980-81.

The Tribal Sub Plan has been running in Krishi Vigyan Kendra, Tonk, Banasthali Vidyapith for the upliftment of livelihood of tribal community of Tonk district. Under the Tribal Sub Plan, total number of 1000 poultry birds of Kadaknath breed were provided to 80 tribal farmers belonging to six villages, Negadia, Mudia, Ghasdi, Bhanakpura, Radhakishanpura and Jalsena of Tonk district. Before providing poultry birds, Trainings were also organised for the tribal farm women on rearing of Kadaknath breed. Total 50 beneficiaries were randomly selected from these villages for data analysis. No. of eggs laid by Kadaknath breed, average body weight of hen and Cock (kg), consumption pattern of eggs and Chicken at household level has been assessed. Living of standard or the life style of tribal families was also assessed using a questionnaire.

Results and Discussion

Data mentioned in table (No 1) shows that Kadaknath breed laid 90 eggs out of which 24 number of eggs consumed at household level and 56 eggs were sold by tribal family at Rs. 10 per egg. Average 4.0 kg of chicken was consumed at household level by Tribal family enhancing nutritional security. The average weight of hen and cock was recorded as 1.5 kg and 2.0 kg respectively. Total 8 chicks were sold at Rs. 600 per chick. Total income Rs 4400 per bird increased per Tribal family. After adding all the Kadaknath birds given to Tribal family, the average income Rs 52,800 increased from Backyard poultry rearing improving their livelihood.

Table 1: Economic evaluation of Kadaknath breed per bird per year

S. No.	Economic evaluation of Kadaknath breed per bird per year	Values	Rs Earned per bird
1	No. of egg laid by Kadaknath breed	90	-
2	Average body weight of hen (Kg)	1.5	-
3	Average body weight of Cock (Kg)	2.0	-
4	No. of egg consumed at household level	24	240
5	No. of Egg Sold in market	56	560
6	Kg of Chicken consumed at household level	4.0	1600
7	No of Chick sold	08	2000
	Total Rs (earned from per bird) =		4400

Table no 2 depicts the impact of backyard poultry rearing on the change of the life style of Tribal families. 46 percent improvement in food quality of tribal families was recorded showing food and nutritional security that in turn is helpful to alleviate malnutrition prevailing in particular community.

The increased income was utilized by the tribal families for providing education to their children. Some income was also utilized for the betterment of their living standards and farm mechanization.

Table 2: Impact of backyard poultry rearing on the change of the life style of Tribal families

S. No.	Parameter	Percent improvement
1	Food quality enhanced	46
2	Garments	30
3	Children education	55
4	Farm expenses	60
5	Farm implements	52
6	Vehicle	11

**Fig 2:** Kadaknath breed demonstrated at Tribal family as Backyard poultry rearing

Conclusion

Backyard Poultry rearing is one of the best and affordable solutions for weaker sections in Tribal community for increasing income to sustainable livelihood. The tribal families can also fulfill their nutritional requirements in an affordable manner. It is also observed that there is a need to develop low cost housing techniques for poultry rearing to control the attack of the wild animals. Backyard poultry rearing can fulfill a wide range of functions that includes food for special festivals, the provision of chicken and egg, safe mode of investment, requiring minimum inputs, minimum human attention and with no environmental pollution. It can be concluded that backyard poultry farming with Kadaknath breed is a proven technology for increasing the farming income in tribal areas particularly in Tonk district of Rajasthan.

References

- Alabi RA, Esobhawan AO, Aruna MB. Econometric determination of contribution of family poultry to women's income in Niger Delta, Nigeria, *Journal of Central European Agriculture*. 2006;7(2):753-760.
- Alders RG, Pym RAE. Village poultry: still important to millions, eight thousand years after domestication.

- World's Poultry Science Journal. 2009;65(2):181–190.
- Gržinić G, Piotrowicz-Cieślak A, Klimkowicz-Pawlas A, Górny RL, Ławniczek-Wałczyk A, Piechowicz L, *et al*. Intensive poultry farming: A review of the impact on the environment and human health, *Science of The Total Environment*. 2023;858(03):15-18
- Guèye EF. The role of family poultry in poverty alleviation, food security and the promotion of gender equality in rural Africa. *Outlook on Agriculture*. 2000;29:129-136.
- Islam R, Kalita N, Nath P. Comparative performance of Vanaraja and Indigenous chicken under backyard system of rearing. *Journal of Poultry Science and Technology*. 2014;2(1):22-25.
- Kumar L, Bhati BS, Bugalia HL. Kadaknath is the most valuable Breed of Poultry in Poultry Farming, *Just Agriculture Multidisciplinary e-Newsletter*. 2021, 2(3).
- Majhi A. Impact of Tribal sub plan (TSP) on livelihoods and food security of tribal fishermen, *International Journal of Current Microbiology and Applied Sciences*. 2020;9(6):932-941.
- Akintunde OK. Determinants of Poultry Farmers' Participation in Livestock Insurance in Southwest Nigeria, *Asian Journal of Poultry Science*. 2015;9(4):233-241.
- Roland-Holst D, Epprecht M, Otte J. External shocks, producer risk, and adjustment in smallholder livestock production: The case of HPAI in Viet Nam: Research Report. Pro-Poor Livestock Policy Initiative A Living from Livestock; c2007.
- Singh DV, Misha A, Singh SRK, Athare T. Impact of backyard poultry rearing on living standard of tribal community in Kandhmal district of Odisha, India, *International Journal of Current Microbiology and Applied Sciences*. 2017;6(12):3908-3914.
- Singh M, Mollier RT, Rayesha G, Nuillie AM, Rajkhowa DJ, Rajkumar U, *et al*. Backyard poultry farming with Vanaraja and Srinidhi: Proven technology for doubling the tribal farmers income in Nagaland, *Indian Farming*. 2000;68(01):80-82.
- Sonaiya EB. Family Poultry, food security and the impact of HPAI. *World's Poultry Science Journal*. 2007;63(1):132-138.
- Turk JM. Poverty, livestock and food security in developing countries, *CAB Rev*. 2013, 8(033). <http://dx.doi.org/10.1079/pavsnr20138033>.
- Wong JT, Bruyn J, Bagnol B, Grieve H, Li M, Rym R, *et al*. Small scale poultry and food security in resource-poor setting: A review, *Global Food Security*. 2017;15:43-52.