Indian Journal of Poultry Science (2024) 59(3): 385–388, Short Communication
https://doi.org/10.56093/ijps.v59i3.22

Empowerment of rural women and sustainable livelihood through native chicken farming in Karur district of Tamil Nadu

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(Received on March 12, 2024; accepted for publication on December 11, 2024)

ABSTRACT

Bharathy, N., Vasanthakumar, P. and Akila, N. 2024. Empowerment of rural women and sustainable livelihood through native chicken farming in Karur district of Tamil Nadu. Indian Journal of Poultry Science, 59(3): 385-388.

In order to provide sustainable livelihood to economically weaker sections of society by facilitating subsidiary income and supplemental nutrition, a rural poultry rearing scheme was implemented in Karur Paramathi block of Karur district of Tamil Nadu. Inputs such as Aseel birds, cages, feeds and health care were provided to 8 common livelihood groups comprising of 300 members. Capacity building activities related to rearing of birds, operation and maintenance of feed grinder, egg incubator and vaccination of birds including ethnoveterinary practices were imparted. Performance assessment was done one year after the input supply. Mean number of birds alive per beneficiary was 4.78±0.11. Mean number of eggs consumed per day per family was 4.3±2.12. Overall hatchability (%) of eggs was 68.2±0.03. Supplementary income to the tune of INR 1200±47 per month per family was recorded. The adoption (%) of various key technologies involved in rural poultry farming varied from 15.0 to 98.66 percent. The adoption of technology towards health care was more than 72 % as compared to others. The major constraints faced by the scheme beneficiaries while rearing native chicken was loss of young chicks by predator attack and conflicts among the users of egg incubator. From this study, it can be inferred that rural poultry rearing scheme was found to improve the livelihood in economically backward areas and enhance nutritional status of family.

Keywords: Rural women, Common Livelihood Group (CLG), Native chicken

INTRODUCTION

Native chicken rearing offers a steady income to the women in rural areas and improves food security of the family. Small-scale poultry farming requires low investment but generates high returns (Khalander *et al*., 2023). It empowers women, providing economic independence and social benefits. Additionally, native chickens are resilient, thriving on local resources and contributing to poverty reduction (Jha and Chakrabarti, 2017). Rural poultry farming requires low investment with high economic returns, helping to alleviate protein deficiency among the poor. Over 50% of landless and marginal farmers in India depend on poultry and small ruminant rearing. It provides both nutrition and vital income for rural communities (Sri Balaji *et al*., 2023).

The project area Karur Paramathi block is the most backward and frequently drought affected area in Karur district of Tamil Nadu. The low literacy rate (64.88% against district average of 75.9%) and frequent drought are the major reasons for the backwardness. The average annual rainfall of Karur Paramathi is 700 mm. Because of drought and industrial backwardness, there is no scope for employment in agriculture as well as industries thus making the block as backward area. The introduction of high-performance poultry breeds is a viable option to motivate the farmers towards rural poultry (Vasanthakumar *et al*. 2021 and Vinothraj, 2020). There is a possibility of promotion of rural poultry to provide employment, livelihood and to ensure food security in this region. Keeping this in view, a rural poultry rearing scheme was implemented in Karur Paramathi block of Karur district of Tamil Nadu under the aegis of State Balanced Growth Fund of State Planning Commission of Tamil Nadu in order to overcome the unemployment problem and also to improve the nutritional security of economically deprived people in that locality.

MATERIALS AND METHODS

A total of 300 beneficiaries belonging to Pavithram, Punnam, Thumbivadi, Soodamani, Karur Paramathi, Nadanthai, Thukkachi and Karveli villages in Karur Paramathi Block of Karur District were identified and 8 common livelihood groups were formed. Each member was provided one unit of poultry cage with 6 numbers of native (Aseel) chicken (5 female + 1 male) weighing about one kilogram at the age of 3 months. Besides, a total of four units of electrically operated egg incubators (semi-automatic) with a capacity to hold 100 eggs and mini size feed grinders were supplied by combining two clusters. These units were installed at a common place in the villages and operated & maintained by a selected team of two members of the beneficiaries. Skill development and capacity building activities related to rearing of birds, operation and maintenance of feed grinder, egg incubator and health care including vaccination of birds were imparted through hands on

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training and learning by doing methods. Supply of feed ingredients, health care medicines were carried out routinely throughout the study period. The performance of the birds in terms of egg production, egg weight, livability, hatchability of eggs, number of users of egg incubator & feed grinder, egg consumption behavior & marketing, revenue generated under beneficiaries households were studied for a period of one year. The attributes such as adoption level of various technologies imparted, major constraints perceived by the beneficiaries were also recorded through a pretested questionnaire. The data collected on different parameters were analyzed and interpreted (Snedecor and Cochran, 1996).

RESULTS AND DISCUSSION

The data collected from the 300 number of beneficiaries revealed that 20 % of members were male and 80% were female. The mean family size (n) was 4.7±2.30. The mean age (years) was 55.48±6.79. Majority (88%) of the beneficiaries were land less and only 12% of them were small farmers. The assessment of performance of birds in terms of egg production, egg weight, hatchability, livability was carried out one year after the supply of input and the results obtained are furnished in Table 1.

Table 1: Performance of Aseel birds at beneficiaries' household

S.No.	Parameters	Performance
1.	Total number of beneficiaries	300
2.	Total number of birds distributed to the beneficiaries	1800 (6×300)
3.	Number of birds alive per beneficiary at the end of scheme period	4.78±0.11
4.	Age (days) at laying of eggs	163±2.34
5.	Mean number of eggs produced per bird per cycle	16±0.04
6.	Mean egg weight (grams)	46.7±4.4
7.	Mean number of live birds owned by beneficiaries after one year including parent stock	13.23±0.06
8.	Mean number of eggs consumed per day per family	4.3±2.12
9.	Mean number of birds sold per beneficiary	7.5±4.12
10.	Mean hatchability (%) of eggs observed by beneficiaries	68.2±0.03
11.	Mean users (%) of egg incubator	30.1±0.07
12.	Hatchability (%) of eggs using egg incubator	72.4±1.30
13.	Mean mortality (%) of birds in the parent stock	20.3±2.12
14.	Mean monthly additional income per family	Rs.1200/±47

The mean number of birds alive at the end of one year of project period was 4.78±0.11 out of six birds supplied to each beneficiary. The overall bird mortality (%) was 20.33±2.12. The mortality observed in this study was mainly due to predator attack. The age (days) at laying first egg was 163±2.34. Hatchability (%) of eggs using egg incubator was 72.4±1.30. The hatchability observed in this study is similar to the reports of Kumar et. al. (2021). The average number of eggs consumed per family was 4.3±2.12 per day which varied more ranging from 3 to 4 among the families. Similarly, the number of birds sold by each beneficiary was 7.5±4.12. Monthly additional income earned per family was INR 1200±47. Similar findings were reported by Saha (2003); Chaturvedani *et al.* (2015), Chatterjee *et al.* (2015) and Sri Balaji *et al.* (2020 and 2023).

The attempt to improve the nutritional status of family members particularly women and children was achieved through implementation of this project. Nutritional security of the families was as improved due to the consumption of eggs and meat as reported by Rath *et al.* (2015). The marginal increase in monthly income in the present study was mainly due to sale of eggs and live birds. From this study, it can be inferred that supplementary income and improvement in nutrition of family members are possible through rural poultry in rural areas as reported by Kumar *et al.* (2021) and Thangadurai et. al. (2023).

Adoption level (%) of technologies

The adoption level (%) of various key technologies imparted with respect to rural poultry farming varied from 15.0 to 98.66 (Table 2). The adoption levels were more with respect to vaccination, deworming, ethno-veterinary practices whereas low adoption level was observed with respect to supplementary feeding of birds during post project period and cultivation of azolla. This attitude may be due to involvement of additional expenses. However, significant improvement in revenue generation and food security of family evinced from per capita income and egg consumption pattern. Similar observations have been recorded by Elamathi *et al.* (2020) and Ghosh (2023).

Table 2: Adoption level (%) of technologies in rural poultry rearing

Sl. No.	Parameter	Response (Number of beneficiaries)	Adoption level (%)
1	Vaccination of birds	Adopted: 218 Non adopted: 82	72.66
2	Deworming of birds	Adopted: 153 Non adopted: 147	51.00
3	Use of ethno veterinary medicine	Adopted: 243 Non adopted: 57	81.00
4	Supplementary feeding of birds (Post project period)	Adopted: 122 Non adopted: 178	40.66

5	Cultivation of azolla	Adopted: 45 Not adopted: 300	15.00
6	Use of incubators for hatching eggs	Adopted: 115 Non adopted: 185	38.33
7	Increase in per-capital income	Increase: 281 No increase: 19	98.66
8	Consumption of eggs by the family	Adopted: 272 Non adopted: 28	90.66

The perceptions and satisfaction of scheme beneficiaries were ascertained through interview and questionnaire developed for the purpose and the results are given in Table 3. The observations revealed that though majority of beneficiaries were well satisfied regarding skill development and supply of inputs, the plan to expand the economic activity was low probably due to difficulty in protecting chicks from predators, mortality of birds and non-availability adequate grazing area for backyard rearing etc.

Table 3: Feedback collected from the scheme beneficiaries

S.No.	Parameter	Response (%)
1	Number of birds supplied	
	Sufficient	62
	Insufficient	38
2	Exposure to new skills	
	Yes	89
	No	11
3	Sufficiency of feed ingredients supplied during the implementation of the scheme	
	Adequate	85
	Inadequate	15
4	Plan to expand the number of birds reared in future	
	Required	12
	Not required	88

Constraint analysis

The constraints faced by the beneficiaries upon rearing native chicken and while using the egg incubator and dry feed grinder during day-to-day operations were assessed by ranking the constraints listed (Table 4) using a pretested questionnaire.

Table 4: Major constraints perceived by the scheme beneficiaries

Sl.No	Constraints	Rank	Percentage (%)
1.	Loss of chicks by the attack of predators	I	57
2.	Conflict among the beneficiaries while using community feed grinder and egg incubator	II	34
3.	Mortality of birds due to diseases	III	9

More than half (57%) of the beneficiaries marked loss of young chicks by predator attack as first constraint (Table.4) followed by nearly one third (34%) of beneficiaries marked second constraint as conflict among beneficiaries while using the feed grinder and incubator. Similar findings have been reported by Thangadurai *et al*. (2023). This study indicated that brooding of chicks and protection from predators requires additional care and strategies to overcome the same. Rajkumar *et al*. (2021) also narrated the various opportunities and constraints perceived in backyard poultry farming as observed in this report. Ruchi *et al.* (2024) analysed the threats and opportunities in poultry sector which corroborates the findings of this study. From this study, it can be inferred that rural poultry rearing scheme was found to improve livelihood in backward areas and enhance nutritional status of family.

ACKNOWLEDGEMENT

The authors duly acknowledge financial assistance received through State Balance Growth Fund (SBGF) under State Planning Commission, Government of Tamil Nadu.

REFERENCES

Chatterjee, R.N. and Rajkumar, U. 2015. An overview of poultry production in India. *Indian Journal of Animal Health*, **54**(2): 89-108.

Chaturvedani, A.K., Lal, N., Khyalia, N.K. and Pratap, J. 2015. Empowering tribal women through backyard poultry in Bastar district of Chhattisgarh. *Journal of Krishi Vigyan*, **3**(2s):19-22.

Elamathi, T.M., Divya, S., Chandra, D., Promod, K.T. and Biswas, A. 2020. Current scenario of rural backyard poultry farming in selected villages in Salem district of Tamil Nadu. *Indian Journal of Extension Education*, **56**(3):133-136. DOI: 10.5958/2454-552X.2020.00022.5

Ghosh, G.N.2023.Women inclusive Indian poultry. *Indian poultry review* –the magazine of Indian poultry industry. **57**(11): 22-27.

Jha, B.K. and Chakrabarti, A. 2017. Back yard poultry farming as a source of livelihood in tribal village: An economic appraisal. *International Journal of Agricultural Science and Research*, **7**: 267-274.

Khalander, N., Vasanthakumar, P., Kannan, D. and Senthilkumar, S. 2023. Qualitative and quantitative morphological characterization of Aseel chicken. *Indian Journal of Poultry Science*, **58**(1): 7-9. DOI: 10.5958/0974-8180.2023.00003

Kumar, M., Dahiya, S.P. and Ratwan, P. 2021. Backyard poultry farming in India: A tool for nutritional security and women empowerment, *Biological Rhythm Research*, **52**(10): 1476-1491. DOI: 10.1080/09291016.2019.1628396.

Rajkumar, U., Rama Rao, S.V., Raju, M.V.L.N. and Chatterjee, R.N. 2021. Backyard poultry farming for sustained production and enhanced nutritional and livelihood security with special reference to India: A review. *Tropical Animal Health Production*, **20**:53(1):176. DOI: 10.1007/s11250-021-02621-6. PMID: 33611639.

Rath, P.K., Mandal, K.D. and Panda, P. 2015. Backyard poultry

farming in India: A call for skill upliftment. *Research Journal of Recent Sciences*, **4**(1): 1-5.

Ruchi, S., Sandeep, S. and Singh, T.J. 2024. Indian poultry sector: Strategies for nutritional, socio-economic and environmental security. *Indian Journal of Poultry Science*, **58**(2): 89-97. DOI: 10.5958/0974-8180.2023.00017.X

Saha, D. (2003). Status of rural poultry production in North 24 Parganas district of West Bengal. M.V.Sc. Thesis, Indian Veterinary Research Institute, Izatnagar, Uttar Pradesh.

Snedecor, G.W. and Cochran, W.G. 1996. Statistical Methods.8th Edition, Iowa State Press, Ames, Iowa, USA.

Sri Balaji, N., Ravi, P. and Jayanthi, D. 2020. Empowerment of tribal women through desi chicken enterprise in Ayodhyapattinam block of Salem District in Tamil Nadu, India. *International Journal of Current Microbiology and Applied Sciences,* **9**(5), 2427-2430.

Sri Balaji, N., Ravi, P. and Jayanthi, D. 2023. Empowerment of tribal women through desi chicken enterprise in Pethanaickenpalayam block of Salem District in Tamil Nadu, India. *Biological Forum – An International Journal,* **15(**4), 06 - 08.

Thangadurai, R., Sivakumar, K. and Vennila, M. A. 2023. Adoption of TANUVAS Aseel backyard chicken adoption by rural poultry farmer of Dharmapuri district. *Indian Journal of Animal Sciences,* **93**(12): 1230 -1232.

Vasanthakumar, T., Hudson, G.H., Vijayakumar, P., Singaravadivelan, A., Paramasivam, A. and Ramachandra, M. 2021. Production performance of TANUVAS Aseel chicken in Cauvery delta region of Tamil Nadu. *Journal of Entomology and Zoology Studies,* **9**(2): 390-392.

Vinothraj S, Alagesan P, Pachiappan P, Saravanakumar S, Siva M and Srinivasan D. 2020. Production performance of TANUVAS Aseel poultry breed in western Zone of Tamil Nadu, India. *International Journal of Current Microbiology and Applied Sciences,* **9**(9): 2447-2450.