

Women's Knowledge and Livelihood Outcomes from Backyard Poultry Rearing in Maudaha Block, Hamirpur, Uttar Pradesh

Satyajeet Ranjan¹, Pooja², Abhishek Pandey³, Surendra Verdia⁴

¹Associate Programme Manager, BAIF Institute for Sustainable Livelihoods and Development–Prayagraj, Uttar Pradesh, India

²Senior Project Officer, BAIF Institute for Sustainable Livelihoods and Development–Prayagraj, Uttar Pradesh, India

³Chief Programme Executive, BAIF Development Research Foundation–Prayagraj, Uttar Pradesh, India

⁴Regional Director-North, BAIF Development Research Foundation

Abstract: *Backyard poultry can serve as a practical household livelihood option in rural areas because it can be operated at a relatively small scale and managed alongside routine domestic and agricultural work. This study examined whether training combined with practical support was associated with changes in women's poultry-management knowledge, household poultry income and chick survival in eight villages of Maudaha block, Hamirpur district, Uttar Pradesh. Fifty women participated in the intervention. Their knowledge was assessed before the intervention and again after an approximately 120-day production cycle. The intervention combined technical training, 50 chicks for each participant, support for an improved poultry housing unit and technical guidance during rearing. Knowledge increased in all five areas assessed. Feeding knowledge rose from 34% to 82%, vaccination knowledge from 20% to 76%, disease-management knowledge from 24% to 74%, housing knowledge from 30% to 80%, and brooding knowledge from 22% to 78%. Average household poultry income increased from about ₹3,800 to ₹24,000 per cycle, while chick mortality fell from 58% to 10.6%. The results indicate that practical training supported by inputs and follow-up guidance was associated with better poultry-management practices and improved selected livelihood outcomes among the participating households. The findings are specific to the study group and intervention period; broader claims would require larger samples, longer follow-up and an appropriate comparison group.*

Keywords: Backyard poultry; rural women; livelihood; poultry management; knowledge improvement; chick mortality; household income; Hamirpur; Bundelkhand

1. Introduction

Livestock activities form part of the livelihood system of many rural households, yet women's contribution to these activities is often carried out within the household and may not translate into a dependable personal income stream. Small-scale poultry rearing offers one possible route for strengthening household-level livelihood opportunities because birds can be kept close to the home and the activity can be integrated with other responsibilities.

The usefulness of backyard poultry, however, depends substantially on day-to-day management. Inadequate housing, irregular feeding, limited awareness of vaccination, weak disease-prevention practices and poor brooding arrangements can increase bird losses and reduce the economic return from a poultry unit. These constraints can be particularly important for households operating with limited resources and limited access to technical services.

The present study was undertaken in Maudaha block of Hamirpur district, Uttar Pradesh. It focuses on a practical intervention involving women from eight villages and examines changes between the pre-intervention and post-intervention situations. The study specifically considers five areas of poultry-management knowledge feeding, vaccination, disease management, housing and brooding along with poultry-related household income and chick mortality.

2. Materials and Methods

2.1 Study setting and participants

The study was carried out in Maudaha block of Hamirpur district, Uttar Pradesh, covering eight villages. The intervention included 50 women who were engaged in, or identified for, backyard poultry as a livelihood activity. Participants were selected on the basis of their involvement and interest in poultry-based livelihood activities.

The intervention was designed to combine information with practical application. Rather than relying on classroom-based training alone, participants received poultry inputs, housing support and technical guidance during the production period.

2.2 Baseline assessment

A baseline assessment was conducted before the intervention to establish the participants' existing level of knowledge. Structured interactions were used to assess understanding of feeding, vaccination, disease management, housing and brooding. Information concerning poultry income and chick mortality was also considered so that the pre-intervention situation could be compared with the post-intervention results.

2.3 Intervention and technical support

Following the baseline assessment, participants received practical training covering feeding, brooding, vaccination, disease prevention and housing management. Each participant was provided with 50 chicks and support for an improved poultry housing unit. Technical guidance was also provided during the production cycle to help participants apply the recommended practices under household conditions.

2.4 Post-intervention assessment

The post-intervention assessment was conducted after approximately 120 days, corresponding to one production cycle. The same broad knowledge areas used during the baseline assessment were considered again. Changes were examined in terms of knowledge levels, average poultry income per household per cycle and chick mortality.

3. Results

3.1 Changes in poultry-management knowledge

The baseline assessment indicated relatively limited knowledge among participants in several areas of poultry management. The lowest initial knowledge levels were recorded for vaccination, brooding and disease management. After training and practical exposure, all five assessed areas showed improvement.

Knowledge area	Before intervention (%)	After intervention (%)
Feeding practices	34	82
Vaccination knowledge	20	76
Disease management	24	74
Housing management	30	80
Brooding practices	22	78

The largest percentage-point increase was recorded for feeding practices, which rose from 34% to 82%. Participants developed greater awareness of feeding schedules, suitable feeding practices and the use of locally available feed resources. Vaccination knowledge increased from 20% to 76%. The change indicates stronger awareness of vaccination and preventive health measures. Disease-management knowledge moved from 24% to 74%, reflecting improved awareness of recognising health problems and responding to signs of illness.

Knowledge concerning housing increased from 30% to 80%. Participants were exposed to practices related to cleanliness, ventilation, protection of birds and maintenance of suitable housing conditions. Brooding knowledge increased from 22% to 78%, with training covering temperature management, cleanliness, early access to feed and water, and protection of chicks during the early rearing period.

3.2 Change in poultry income

Indicator	Before intervention	After intervention
Average household poultry income per cycle	₹3,800	₹24,000

Average poultry-related household income was approximately ₹3,800 per cycle before the intervention. Following the intervention, the corresponding average was approximately ₹24,000 per cycle. The increase occurred alongside better management practices and improved bird survival.

3.3 Change in chick mortality

Indicator	Before intervention	After intervention
Chick mortality	58%	10.6%

Chick mortality declined from 58% before the intervention to 10.6% after the intervention. The reduction coincided with the introduction of improved housing, training and technical support. Because mortality can also be affected by factors such as disease exposure, household management and other production conditions, the result should be interpreted within the context of this intervention.

4. Discussion

The results show a consistent improvement across each of the five technical knowledge areas assessed. The pattern is important because backyard poultry performance depends on a combination of routine practices rather than on a single management action. Better feeding, housing, brooding, vaccination awareness and disease-management knowledge can collectively influence bird survival and the ability of households to obtain economic returns from poultry rearing.

The intervention also combined training with tangible support. Participants received chicks and housing support and were able to practise the recommended techniques during an actual production cycle. Follow-up technical guidance provided an additional opportunity to reinforce the practices introduced during training. This combination of learning and application may help explain the improvement observed between the two assessments.

The economic results were also favourable within the study group. Average poultry income increased from approximately ₹3,800 to ₹24,000 per cycle, while mortality declined substantially. These two changes occurred together with improved management and should therefore be considered as associated intervention outcomes rather than as evidence that the training alone caused the entire income increase.

Several factors may influence poultry income and mortality independently of training, including market prices, feed costs and availability, breed characteristics, disease incidence, household management and access to technical services. The study did not use a separate comparison group, so the findings cannot isolate the exact contribution of the intervention from these other influences.

For rural women, the relevance of backyard poultry may extend beyond the direct financial return. Since the activity can be carried out near the household, women can participate in production while continuing other domestic and agricultural responsibilities. The present assessment did not quantitatively measure changes in decision-making,

confidence or household-level empowerment; such outcomes would require dedicated indicators and a longer-term assessment.

5. Conclusion

The intervention involving 50 women across eight villages of Maudaha block was associated with improvement in all five poultry-management knowledge areas assessed. Feeding knowledge increased from 34% to 82%, vaccination knowledge from 20% to 76%, disease-management knowledge from 24% to 74%, housing knowledge from 30% to 80%, and brooding knowledge from 22% to 78%.

During the same intervention period, average household poultry income increased from approximately ₹3,800 to ₹24,000 per production cycle, while chick mortality declined from 58% to 10.6%. The results suggest that combining practical training with chicks, improved housing and technical follow-up can support better backyard poultry management among participating rural women.

The findings provide a useful basis for considering similar livelihood interventions in other rural areas, including parts of Bundelkhand. Replication should take local feed resources, disease risks, market conditions, household capacity and the availability of continued technical support into account. Future research should use a larger sample, longer follow-up and, where feasible, a comparison group to assess the durability and attributable impact of such interventions.

References

- [1] Kumar, M., et al. (2021). *Backyard poultry farming in India: A tool for nutritional security and women empowerment*.
- [2] Dey Gupta, M., et al. (2022). *Empowering rural women through backyard poultry farming*.
- [3] Singh, M. S., et al. (2022). *Backyard poultry farming and sustainable food systems*.
- [4] Ahuja, V., Dhawan, M., Punjabi, M., & Maarse, L. (2008). *Poultry-based livelihoods of rural people: Case of Kuroiler in West Bengal* (SAPPLPP Document No. 12). South Asia Pro-Poor Livestock Policy Programme.
- [5] Akilu, H. A. (2007). *Village poultry in Ethiopia: Socio-technical analysis and learning with farmers* [Doctoral dissertation, Wageningen University].
- [6] Basu, D. (2019). Gender dimension in agriculture: Participatory approaches and tools for interventions. In *Proceedings of the International Conference on Agriculture and Allied Sciences: Productivity, Food Security and Ecology*. ISBN 978-93-85822-71-1.
- [7] Hashemi, S. M., Schuler, S. R., & Riley, A. P. (1996). Rural credit programs and women's empowerment in Bangladesh. *World Development*, 24(4), 635–653.
- [8] Pan, S. (1994). *Draft country report on AnGr*.
- [9] Pan, S. (2010). *Annual report on conservation of Haringhata Black Chicken* [Unpublished annual report]. Ministry of Agriculture, Government of India.
- [10] Pan, S. (2016). *Annual report on ICAR Network Project on Conservation of Haringhata Black Chicken*.
- [11] Ramaswami, B., Birthal, P. S., & Joshi, P. K. (2005). *Efficiency and distribution in contract farming: The case of Indian poultry growers* (Discussion Paper No. 05-01). Indian Statistical Institute, Planning Unit, New Delhi, India.
- [12] Singh, R. (2015). Factors affecting empowerment of rural women through backyard poultry rearing. *Agricultural Rural Development*, 2, 16–19.
- [13] Thamizhselvi, R. K., & Rao, S. V. N. (2010). Is contract broiler farming exploitative to small farmers? *Indian Journal of Animal Sciences*, 80(12), 1243–1250.
- [14] Vij, P. K., Tantia, M. S., & Pan, S. (2015). Performance of Haringhata Black chicken under field conditions. *Indian Journal of Animal Sciences*, 85(8), 930–932.