

***Pre-Post Training Analysis of Knowledge on Poultry Diseases,
Vaccination, and Biosecurity of Small-Scale Backyard Poultry Farmers in
Sri Lanka***

D. Ihalage^{1*}, A. Silva- Fletcher², S. Satharasinghe³, H.M.M. Thilakshika¹, R.S.
Kalupahana¹

¹*University of Peradeniya, Peradeniya, Sri Lanka*

²*Royal Veterinary College, London United Kingdom*

³*Department of Animal Production and Health, Sri Lanka*

**ihalage.deepthi@gmail.com*

This study investigates the effectiveness of target-specific training methods in improving the knowledge of small-scale backyard poultry farmers in Sri Lanka regarding poultry diseases, vaccination, and biosecurity practices. With the increasing global concern over the spread of infectious diseases among poultry populations, effective biosecurity practices are essential to mitigate disease transmission and safeguard public health and food security. The research employs a two-phase approach: a pre-training evaluation to establish baseline knowledge levels and a post-training evaluation to measure the impact of the educational intervention. In both training phases, data were collected through the same structured questionnaire. The training pedagogy integrates two distinct methods: combination of discussions and hands-on farm demonstrations (Type 1) and a formal lecture method (Type 2). The formal lecture method provides a theoretical understanding of biosecurity principles and the hands-on farm demonstrations offer practical insights into implementing biosecurity measures effectively within the farm environment. Five workshops were conducted with the participation of 178 farmers (Type 1 n=84, Type 2: n=94) selected using a convenient sampling method. Demographic data showed that 45.5% of farmers were 18- 40 years old with 58.4% with secondary education with a male-to-female ratio of 44:56. Quantitative analysis reveals that the overall knowledge of farmers significantly improved (WSRT =-10.859 /P<0.001) after the training from 45.69 to 89.61. When comparing the impact of pedagogical methods both training types are statistically significant (type 1: W= -7.815/P<0.001, type 2: W=-7.536/P<0.001) with the effect sizes of -0.60 and -0.54 respectively. This shows that type 1 training has addressed the diverse needs and challenges faced by small-scale farmers rather than type 2 as it indicates medium effect size according to Cohen's classification. Understanding the impact of this pedagogical approach through training evaluations will inform the development of future training programs aimed at promoting biosecurity practices and ensuring food safety.

Keywords: Biosecurity, Food Safety, Training

Acknowledgment: UKRI GCRF One Health Poultry Hub and Sri Lanka Veterinary Association