



# Pre-post training evaluation analysis on biosecurity awareness of small-scale backyard poultry farmers in Sri Lanka



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## Introduction

- Biosecurity is critical in mitigating the risks of disease outbreaks in poultry farms.
- Small-scale backyard poultry production in Sri Lanka plays a unique role in providing a source of livelihood for many rural communities meeting protein and micronutrient needs in resource-poor settings.
- Limited knowledge, attitudes, and practices among farmers regarding poultry diseases, vaccination, and bio-security measures leads to high prevalence of disease.
- Therefore, training small-scale backyard poultry farmers is important in preventing disease, thereby safeguarding animal health and ensuring food safety.

## Objectives

- The objective is to assess the impact of training workshops on small-scale backyard poultry farmers' awareness and understanding of biosecurity measures.
- To identify the most effective training method to improve the awareness of the bio-security among backyard farmers

### Hypothesis

**Bespoke training for backyard poultry farmers may improve their awareness on key bio-security measures**

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## Methods

- The research employed a two-phase approach
- Five workshops were conducted with the participation of 178 farmers who were selected using a convenient sampling method.
- A pre-training evaluation to establish baseline knowledge levels and a post-training evaluation to measure the impact of the educational intervention using same structured questionnaire.
- Two different types of training methods (Type 1, Type 2) were used to assess the impact of training methods.
- Quantitative approach utilized for data analysis



## Results

- Demographic data showed that 45.5% of farmers were 18- 40 years old with 58.4% with secondary level education and with a male-to-female ratio of 44:56.

**Table 01:**Awareness of farmers towards different bio-security perspectives over pre-post-evaluations

BIOSECURITY PERSPECTIVE	PRE-EVALUATION	POST EVALUATION	WSRT STATISTIC	P-VALUE	EFFECT SIZE
Poultry Disease	44.94	89.61	-10.198	<0.001	
Poultry Vaccination	59.01	91.61	-8.308	<0.001	
<b>Overall Awareness</b>	<b>45.69</b>	<b>89.61</b>	<b>-10.857</b>	<b>&lt;0.001</b>	<b>0.81377</b>

**Table 02:**Awareness of farmers towards different bio-security perspectives over pre-post-evaluations and training method type.

BO-SECURITY PERSPECTIVE	TRAINING METHOD	WSRT	P-VALUE	EFFECT SIZE
<b>Poultry Disease</b>	Type 1	-7.103	<0.001	-0.54801
	Type 2	-7.377	<0.001	-0.53802
<b>Poultry Vaccination</b>	Type 1	-7.052	<0.001	-0.54407
	Type 2	-4.766	<0.001	-0.3476
<b>Overall Awareness</b>	Type 1	-7.815	<0.001	-0.60294
	Type 2	-7.536	<0.001	-0.54962

## Discussion

- The average awareness of both poultry disease and vaccination were improved significantly ( $P < 0.001$ ) after the training.
- The overall farmers' awareness of biosecurity also improved significantly ( $P < 0.001$ ) after the training
- The improvement in overall biosecurity awareness dependent on the training approach.
- In the present study combination of practical sessions and discussions (Type 1) were better than the formal lecture method (Type 2) ( $P < 0.001$ ).
- The results showed a positive impact of targeted biosecurity training programs on farmers' awareness and practices.

## Recommendations

- Future educational initiatives should build on farmers existing knowledge and appropriate training methods.
- Enhancing biosecurity awareness in livestock communities by accelerating farmers' awareness and innovations will positively impact achieving SDG 2: End hunger, Achieve food security & and improve nutrition, & promote sustainable agriculture



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