

Investigating Biosecurity protocols in commercial broiler poultry farms in Gujarat



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Objectives

- Evaluating the adoption of biosecurity measures as well as identifying and addressing the barriers and loopholes critical for ensuring effective biosecurity measures
- To understand the knowledge, farm practices and perceptions of broiler farmer

Introduction

- The World Health Organization's (WHO) global action plan on antimicrobial resistance (AMR) emphasizes the "One Health" approach to tackle AMR. Drug-resistant microorganisms can be transmitted between animals and humans through direct contact or through contaminated food; therefore, a well-coordinated approach in humans and animals is crucial to efficiently limit it.
- Addressing weaknesses and shortcomings in the poultry distribution network and implementing robust biosecurity policies on poultry farms has been proven to be highly effective in controlling disease outbreaks, improving overall productivity, and reducing the use of antibiotics.

Method

- A one-day training program focused on biosecurity in poultry was conducted at Kamdhenu University in Anand, Gujarat, India which was attended by **39 male broiler farmers**.
- The data was collected using pre-training questionnaire, a biosecurity scorecard, a Poultry Distribution Network (PDN), and a post-training questionnaire. The cleaned final data was used for analysis

Result

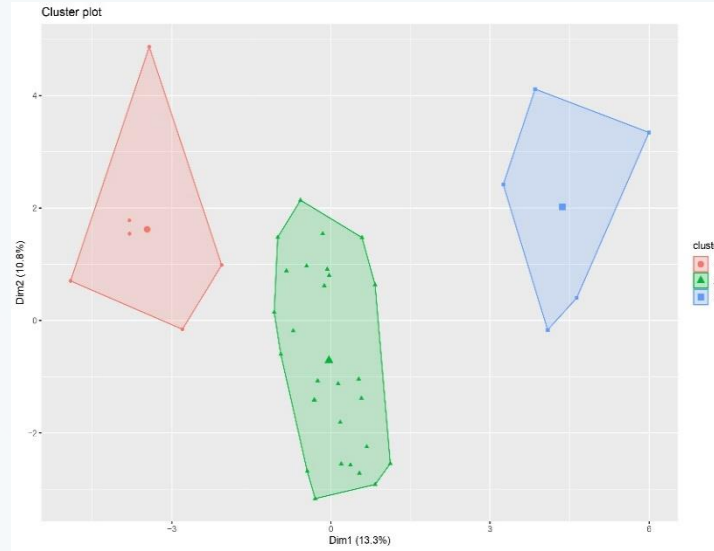
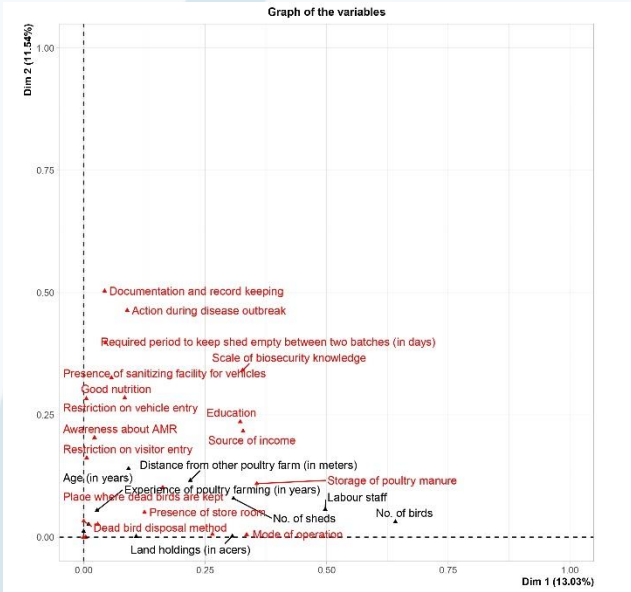
- The descriptive data show that the average age of participants is 37.82 ± 1.538 and more than 50% of farmers have only secondary education. Out of the total, 21% of participants had small (< 5000 birds), 41% medium (5000 – 10,000 birds) and 33% large size (> 10,000 birds) commercial farms. **Colisepticaemia (92.3%), Avian influenza (64.1%) and Infectious Bursal Disease (48.7%)** are the major diseases observed at the broiler farm.
- The Factor Analysis of Mixed Data indicates that dimension 1 contributes 13% of the total variance and dimension 2 contributes 11.5% of total variance. The variables: **number of birds, number of labor staff (Dim. 1), documentation and record keeping, Minimum required period to keep shed empty between two batches and scale of biosecurity knowledge (Dim. 2)** have more than 70% contribution to variation distribution.

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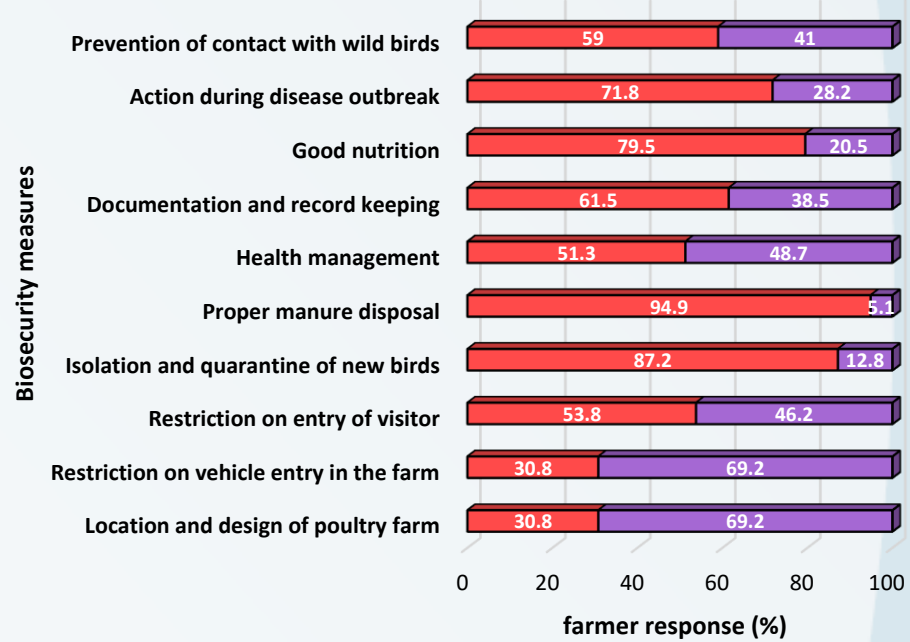
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Result



Biosecurity measures adopted at the farm



Graph of correlation between variables and principal dimensions

Cluster Plot in principal dimensions

Conclusion

Farmers are adapting biosecurity measures despite limited knowledge. The knowledge gap could potentially lead to the spread of infectious diseases and pathogens, making it absolutely essential to take immediate and decisive action to address this issue.

The study recommends enhanced information dissemination to improve the adoption of biosecurity measures.

