



# Community involved biosecurity: A new approach to reduce infectious diseases including avian influenza in small-scale poultry farming.



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## Objective:

Development of a model in farm biosecurity practices to reduce endemic infectious diseases like Avian influenza.

## Introduction:

- ❑ Small scale farmers (<3000 birds) don't maintain proper biosecurity measures, most farms are not secured, rodents, lizards and wild birds easily can enter farm area. Indigenous chickens also roam around the shed which poses a big risk of disease transmission.
- ❑ There are several areas that can be improved to reduce disease outbreaks and chicken mortality.



A common small scale commercial farm in Bangladesh

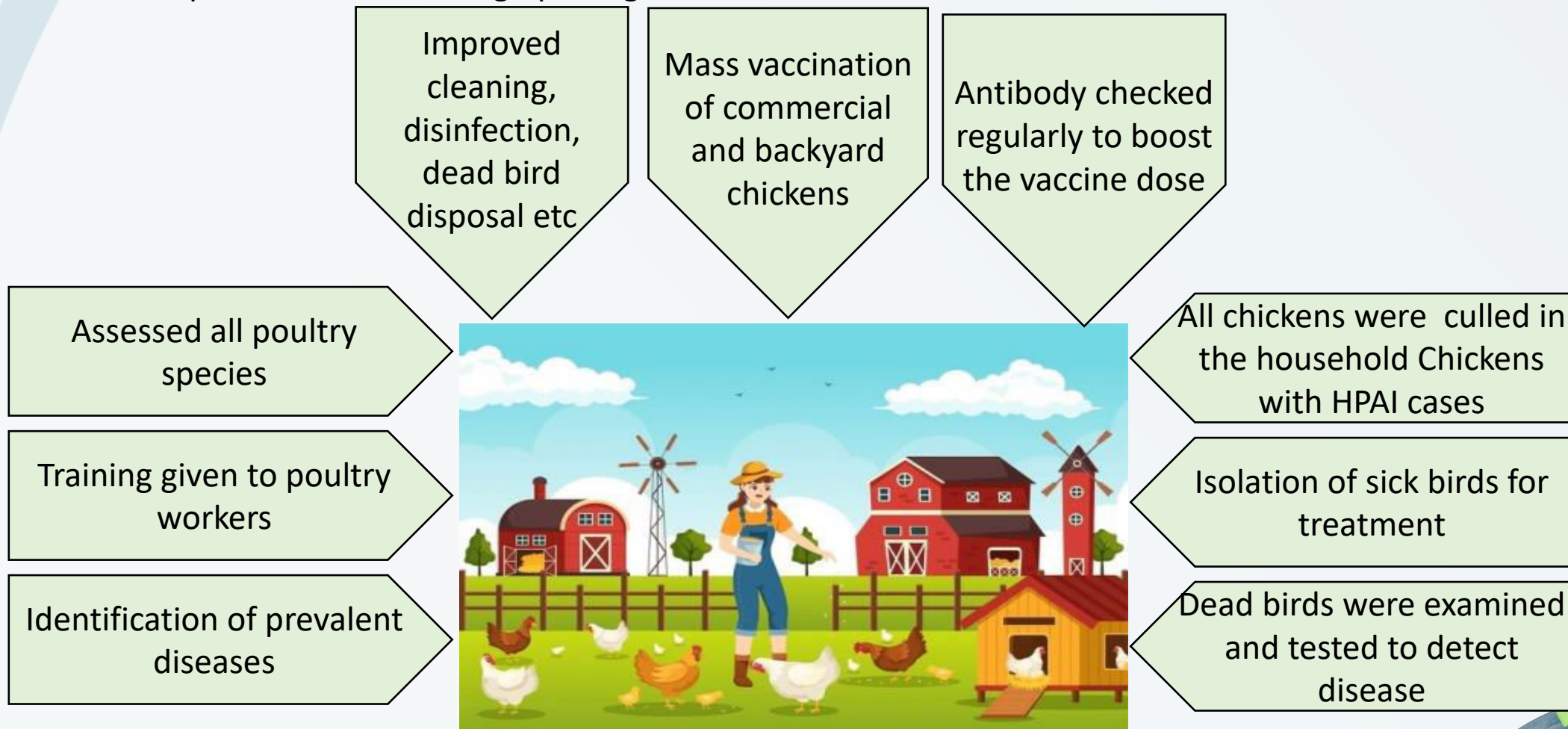
# Community involved biosecurity: A new approach to reduce infectious diseases including avian influenza in small-scale poultry farming.

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## Methods:

- Study was conducted between 2000-2022. A village was selected where a commercial poultry farm was present and there was a previous record of High pathogenic avian influenza outbreaks.



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## Results:

- ❑ After the program, no mortality was reported due to Newcastle disease and Fowl pox outbreaks in the village, similar to PL M Msoffe *et al.* (2010).
- ❑ There were 5 avian influenza suspected samples from native chicken, tested by PCR, and 3 found HPAI. 10 dead birds from commercial farms, all found negative. All live birds from the suspected flock were tested and found negative.
- ❑ Native chicken population increased in village from 869 to 1489, almost double.
- ❑ Farmers feedback showed rise (almost double) in self consumption and sales of chicken.
- ❑ People were more motivated to do farming in the village than previously, similar to Anne Conan *et al.* (2012).

## Conclusions:

- ❑ Backyard chickens and ducks are more vulnerable to infectious diseases including HPAI (H5N1) virus infection due to their scavenging nature.
- ❑ They, specially ducks are the probable reservoir host of AIV, and can spread it to the neighboring commercial flocks.
- ❑ Community involves biosecurity found effective in reducing the rate of infectious diseases load, including avian influenza in commercial poultry.

## References:

1. P.L.M. Msoffe *et al.*, Preparation for the Prevention and Control of Highly Pathogenic Avian Influenza in Rural Tanzanian Village Settings, 2010, *Avian Dis* (2010) 54 (s1): 768–771.
2. A. Conan *et al.*, 2012, Biosecurity measures for backyard poultry in developing countries: a systematic review. *BMC Veterinary Research* 2012, 8:240.

Species	Number of population	
	2020	2022
Chicken	654	1254
Duck	199	215
Pigeon	16	20
Total	869	1489

Table 1

## Acknowledgement:

- Village farm workers.
- Field & lab staffs of BLRI.

