



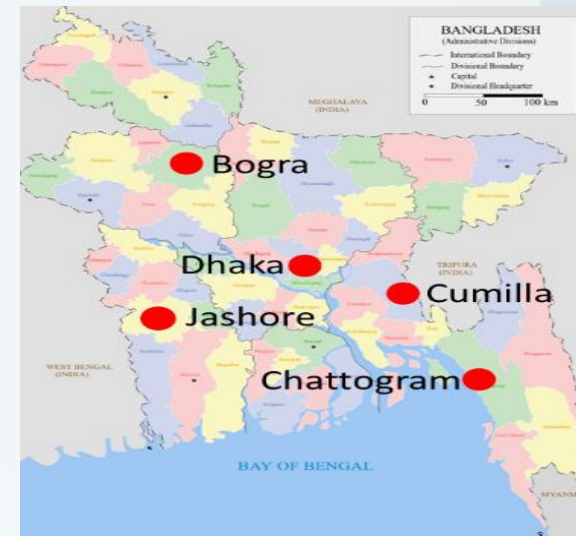
Investigation of risk factors for avian influenza virus contamination of Live bird markets (LBM) in Chattogram, Bangladesh

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• Introduction

- Live bird market (LBM) are essential to the
 - Poultry trading "Hub"
 - Hotspots for the emergence, risk and transmission of AIVs
- LBM play a critical role in the poultry value chain, they also act as a public health threat to amplification, spread and dissemination of AI viruses.
- Despite frequent detection AIV in LBM, the risk factors of AIV contamination on stall level within LBM of Bangladesh are poorly understood



• Hypothesis & Objective

- We hypothesize that avian influenza virus subtypes (H5N1 and H9N1) detection is associated with biosafety and biosecurity measures at the stall level
- This study aims to identify risk factors into stall associated with LBM biosecurity and management

• Methods

- A cross sectional study was conducted for broiler, Sonali and deshi chickens into the LBM stalls
Between August 2021 and January 2022 Random sampling
- A total 4354 oropharyngeal and cloacal swab samples in 344 stalls were collected from live healthy chickens and a questionnaire was used to record the information about biosecurity and management practice
- Samples were placed in VTM and testing of M gene subsequently AIV subtypes H5 and H9

• Results

- Of 4354 tested sample by RT-PCR, 644 were positive. Of market samples H5 (14%) and H9 (98%)

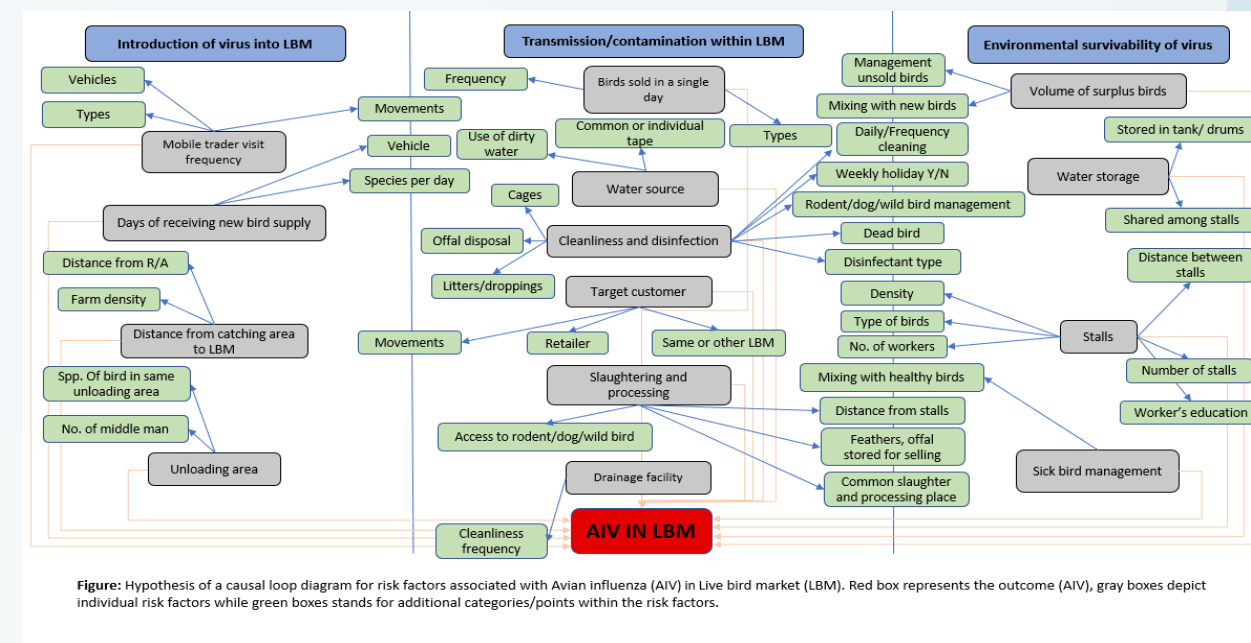
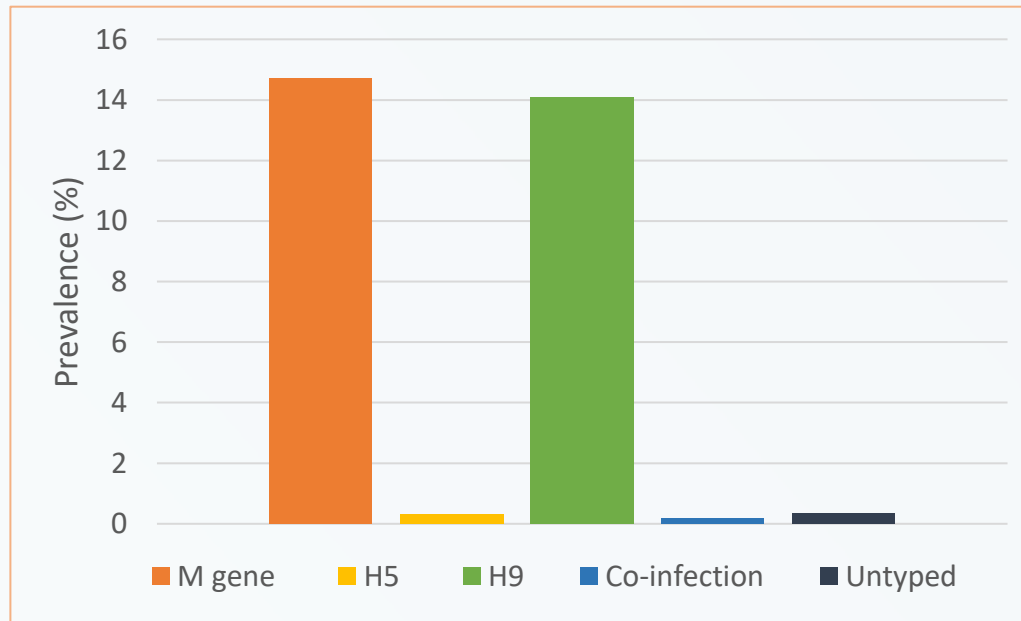


Figure: Hypothesis of a causal loop diagram for risk factors associated with Avian influenza (AIV) in Live bird market (LBM). Red box represents the outcome (AIV), gray boxes depict individual risk factors while green boxes stands for additional categories/points within the risk factors.



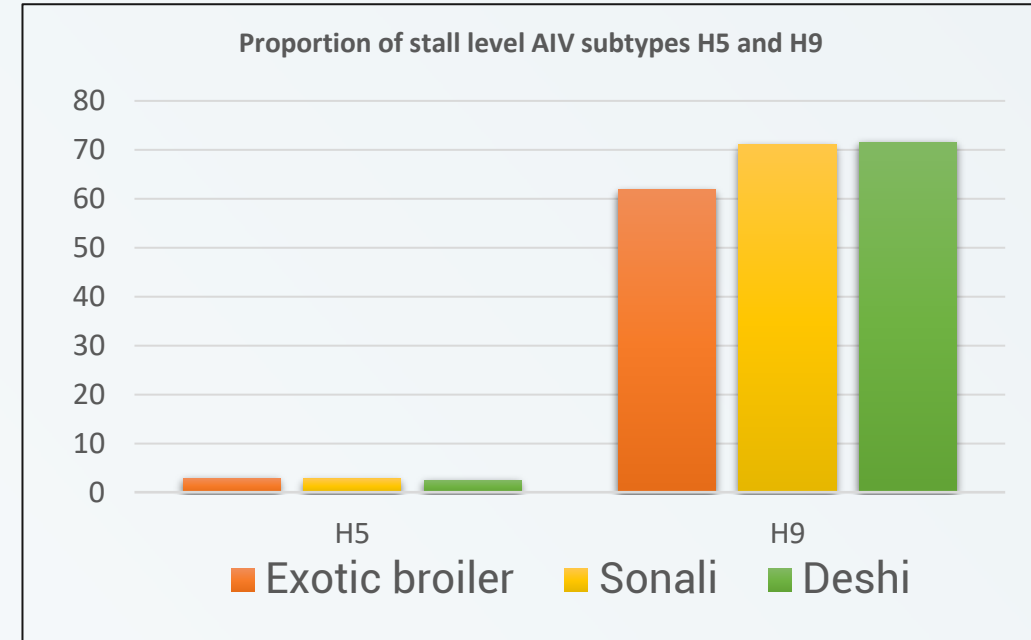
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• Discussion

- The higher prevalence of avian influenza virus subtypes at stall of the LBM
 - Higher detection of H9 compare to H5
- High proportion of H9 positive were found at stall
 - Deshi (71.6%) and sonali (71.1%) compare to exotic broiler (61.9%)



• Conclusions

- Effective and protective **measures and mitigation strategies** for risks outlined

• Recommendations

- Intervention might reduce the burden of H9 AIV subtypes into the **LBM stalls**

Acknowledgement

