Food and Agriculture Organization of the United Nations

EVIDENCE-BASED RISK MANAGEMENT ALONG THE LIVESTOCK PRODUCTION AND MARKET CHAIN

MYANMAR

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Australian Aid

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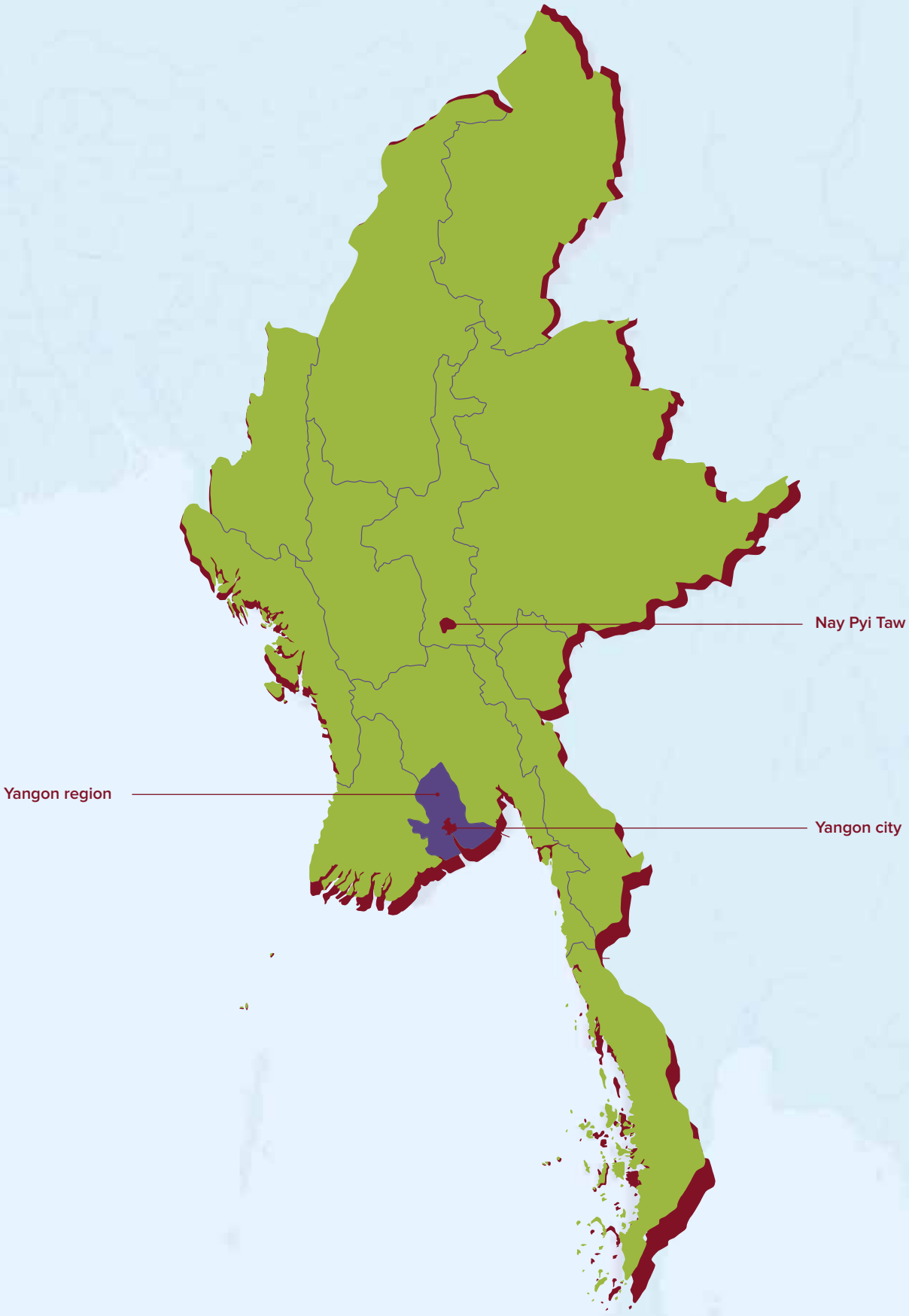
BETTER POULTRY PRODUCTION PRACTICES IN YANGON POULTRY PRODUCTION ZONES

Since 2007, multiple strains of H5N1 highly pathogenic avian influenza (HPAI) virus have entered Myanmar and caused reported outbreaks. The country is at risk for zoonotic avian influenza A (H7N9) virus incursion. Furthermore, active surveillance in live bird markets regularly detects H5N1 and H5N6 HPAI viruses and low pathogenic avian influenza (LPAI) H9N2 viruses.

Complex diseases require multifaceted and innovative approaches that tackle the problem and mitigate their risk from various aspects. In Myanmar, the project, “Evidence-Based Risk Management along the Livestock Production and Market Chain” works collaboratively between the Livestock Breeding and Veterinary Department (LBVD), and the Food and Agriculture Organization of the United Nations (FAO) Emergency Centre for Transboundary Animal Diseases (ECTAD). The project is supported by the United States Agency for International Development and the Australian Government.

The project seeks to better manage the avian influenza risk in the Myanmar poultry production sector. It addresses avian influenza risk reduction in Yangon poultry production zones (PPZ) and at the national level. In the PPZ it provides technical advice to poultry farmers on good production practices and engages with the private sector for economic benefit. Nationally, it advises government stakeholders on evidence-based avian influenza prevention and control, as well as vaccination policies.

Location of Yangon poultry production zones



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Project activities timeline

2017

Aug — Country inception workshop held in Yangon

2018

Mar — Project advisory committee formed

Jul — 1st phase of H9 avian influenza prevalence survey conducted in Yangon PPZ

Oct — Healthy Eggs Production Group (HEPG) created

Nov — 2nd phase of H9 avian influenza prevalence survey conducted in five states/regions across Myanmar

Risk communication workshop held in Nay Pyi Taw

May — Farm biosecurity assessment scheme developed in which the grading system was linked to Myanmar good animal husbandry practices (GAHP)

Sep — Table-top outbreak simulation exercise on zoonotic H7N9 avian influenza held in Nay Pyi Taw

Myanmar AI vaccination policy workshop held in Nay Pyi Taw

2019

Mar — Policy notes provided to Myanmar Government for review of H9 avian influenza vaccination policy

LBVD emergency risk communication strategy finalized and translated into Burmese

June — Results of the H9 egg serosurvey presented at the ISWAVLD symposium 2019

Feb-Mar — Third-party certification system developed in collaboration with Myanmar Organic Agriculture Group (MOAG), applied by HEPG members

April — Rapid assessment of gender roles in the poultry value chain in Yangon PPZ conducted

Final project review workshop held

May — Antibiotic residue testing in eggs initiated in collaboration with the Yangon Veterinary Assay Laboratory

Jul — First eggs from HEPG sold in Yangon City Mart supermarkets

Improving risk management in Yangon poultry farms for evidence-based policymaking and risk reduction

Review of avian influenza control policy
- Vaccination policy advice
- Revision of AI contingency plans

Evidence-based decision support

Improvement of farm biosecurity
- Stepwise improvement in farm biosecurity and risk management
- Evidence-based policy for control of AI

Risk communication

Yangon poultry production zones

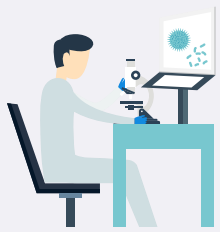
Steps towards farm certification
- Biosecurity guidelines/SOPs
- Review of available certification systems
- Explore possibilities of farm certification

Avian influenza status
- Survey H9N2 avian influenza prevalence
- Questionnaire on biosecurity and husbandry practices
- Evidence of avian influenza status for policy change

More resilient poultry production

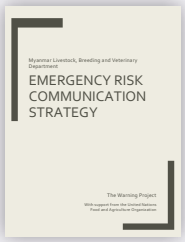
Farm biosecurity categorization
- Assessment of farm biosecurity
- Creating action plans for improving farm biosecurity

Policy level progress



Evidence for review of H9 avian influenza vaccination policy collected

AI control and prevention policy reviewed



LBVD risk communication strategy developed

Project outputs

01 Good practices identified

15 farms improved their biosecurity measures

1 farmers group committed to good practices and developed production guidelines

02 Stakeholder coordination strengthened

4 stakeholder advisory meetings organized

03 Government AI control and prevention policy reviewed

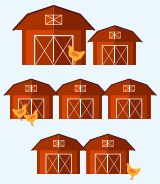
1 avian influenza control and prevention policy reviewed - LBVD has officially asked for a change in AI vaccination policy for H9N2

04 Farm accreditation requirements defined, and farm biosecurity and management improved

3 certification schemes reviewed

1 farm certification system developed in collaboration with a local NGO

6 stakeholder meetings held with farmers on certification systems

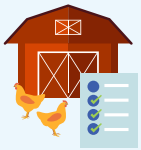


15 farms assessed, graded and followed up on the action plan implementation

3 trainings on farm management/ biosecurity and the proper use of disinfectants held

2 focus group discussions with women stakeholders held

1 rapid assessment of gender roles in Yangon PPZ conducted



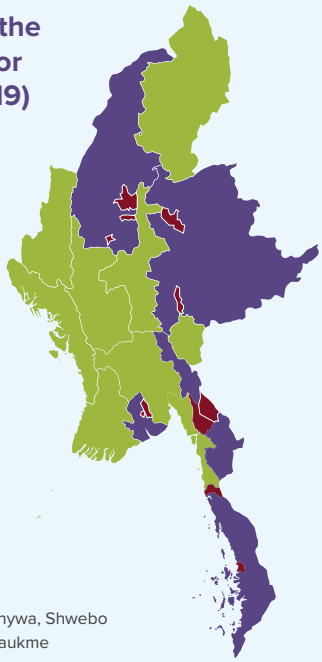
1 farm production record book developed

1 guideline for the HEPG developed

05 Better information on the status of the country for H9 AI infection gathered

2 egg surveys conducted:

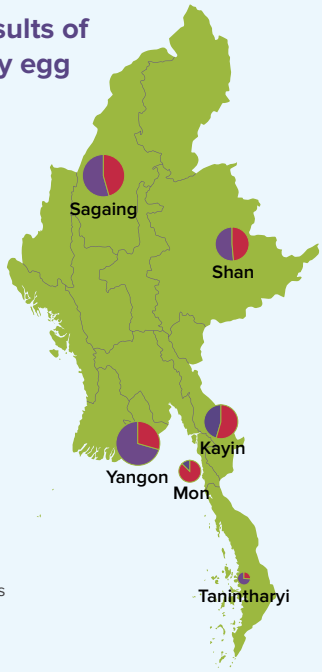
Sampling area of the egg sero-survey for avian influenza (H9)



First phase -
Yangon PPZ (zones 1, 2 and 3)

Second phase -
1. Sagaing region: Kanbalu, Monywa, Shwebo
2. Shan state: Nyaungshwe, Kyaukme
3. Tanintharyi region: Myeik
4. Kayin state: Hlaingbwe, Hpa-An
5. Mon state: Yae

Overview of results of the H9 antibody egg sero-survey



- Myanmar states/regions
- H9 negative samples
- H9 positive samples

Pie-charts diameter proportional to number of farms sampled

Results show that H9 antibody-positive chickens are found widely throughout the country. H9 antibodies were detected in all six states/regions sampled and in every poultry production zone (PPZ) except Monywa in Sagaing region.

Map source: ©Shutterstock

06 Capacity for early disease detection, reporting and response strengthened

3 trainings for lab staff conducted for avian influenza diagnosis

07 Risk communication enhanced

1 risk communication workshop held

1 risk communication strategy developed

Successes

Success story

Evidence-based policy support for avian influenza vaccination

Low pathogenic H9N2 avian influenza infection causes severe production and economic losses to poultry farmers and is a zoonotic threat. Poultry farmers in Myanmar wish to use avian influenza (H9N2) vaccine to protect their flocks. However, LBVD needs strong evidence for decision-making on avian influenza vaccination policy.

A nationwide survey on H9 antibodies in chicken eggs was conducted to provide evidence on H9 avian influenza distribution. Six states/regions in two survey phases were sampled and eggs were tested at the Mandalay, Yangon Veterinary Diagnostic Laboratories (VDL). All six states/regions had H9 antibody-positive eggs (ranging from 24% to 86%), providing strong evidence that H9 avian influenza viruses are widely distributed. The results of the survey support LBVD decision-making on avian influenza vaccination policy permitting that vaccinations can safeguard profitable poultry production and decrease the risk of zoonotic transmission to humans. As a result, an avian influenza policy workshop was conducted. Stakeholders from the private sector and LBVD officials discussed the pros and cons of implementing avian influenza vaccination in Myanmar.

Success story

Building zoonotic influenza preparedness and response capacity in animal health services

Myanmar's capacity to respond to zoonotic influenza (including avian influenza) is being strengthened through extensive revision of national avian influenza contingency plans. The new avian influenza control plan was tested in a table-top simulation exercise workshop that modelled zoonotic avian influenza infection on live bird market (LBM) workers and H7 antibodies tested in small scale broiler farms. A multi-stakeholder One Health approach was adopted with participants from LBVD, Public Health, city live bird market (LBM) administration, the private sector and the University of Veterinary Science. Participants were assigned roles in emergency response coordination, just as it would happen in a real outbreak. The workshop agreed on priority avian influenza control actions with all stakeholders who would likely be involved in a real case scenario.

Simulation exercises are essential for emergency preparedness, and I am thankful for the opportunity to have participated in this enriching workshop.

Dr Thant Nyi Lin, University of Veterinary Science, was very satisfied with the learning experience.

Success story

Improving biosecurity in Yangon poultry production zones

Improving farm biosecurity is crucial in minimizing the risk of avian influenza. While most poultry farmers in Yangon PPZ are aware of biosecurity practices from past trainings, practical implementation is often neglected. The FAO ECTAD team developed a farm biosecurity grading scheme and assessed biosecurity standards in 15 poultry farms in Yangon PPZ. Thereafter, biosecurity improvement action plans for each farm were developed.

Farm owners and staff were trained on biosecurity practices, proper use of disinfectants, and early reporting and sample submission upon observation of sick poultry. In the final assessment conducted in February 2019, all participating farms had significantly improved in farm biosecurity.

> **I am confident we have succeeded in conveying key biosecurity principles to the farmers, which we hope they will apply in the future,**
>
> Dr Kyi Mar Aung, FAO ECTAD national consultant for biosecurity.

Conclusions

The project provided evidence to influence a change in Myanmar's vaccination policy, which will help in reduce the risk of avian influenza and provide economic benefits to the farmers.

The project successfully explored various approaches to enhance risk reduction and improve farm management practices in Yangon PPZ.

A farmer driven initiative involving a pilot certification scheme was developed with MOAG, which is a step forward in developing a certification scheme in Myanmar which is linked to ASEAN GAHP.

Good practices have been identified which are applicable to other PPZs and to poultry producers in other states and regions. All 15 targeted farms have improved biosecurity measures.

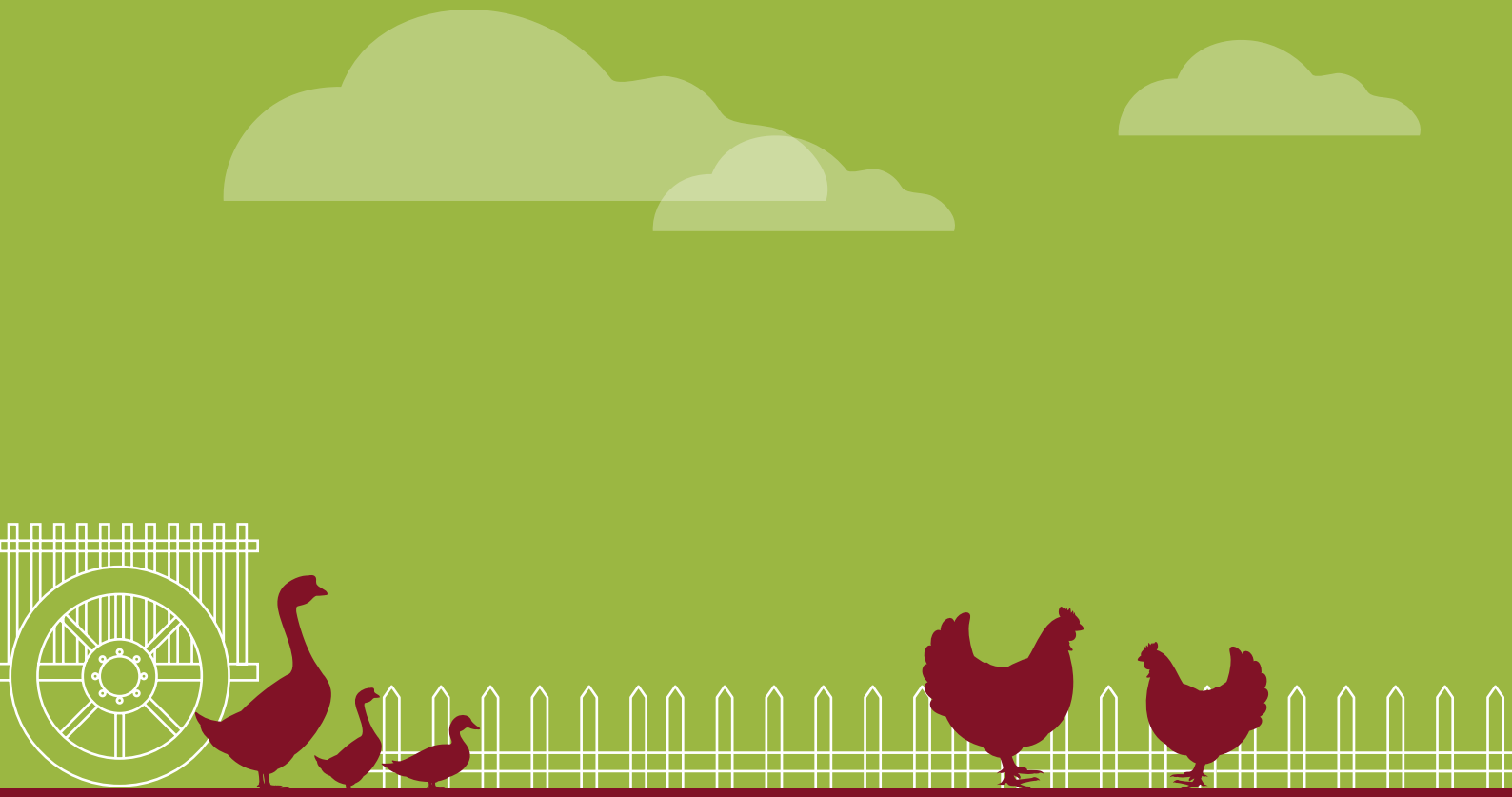
Way forward

Support LBVD in designing and implementing the H9N2 vaccination policy, as well as supporting laboratories in capacity development for vaccination monitoring.

Apply the risk communication strategy to other high impact diseases.

Expand and strengthen the activities of MOAG or other certification body activities and therewith promote GAHP.

Link the antibiotic residue testing activities with suitable (upcoming) projects, such as establishing the national residue testing strategy or projects on AMR.



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