The State of the Avian Influenza Vaccine in the Philippines

A White Paper by the German-Philippine Chamber of Commerce and Industry, Inc.

AHK Deutsch-Philippinische Industrie- und Handelskammer
German-Philippine Chamber of Commerce and Industry

In collaboration with

Boehringer Ingelheim

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About GPCCI
The German-Philippine Chamber of Commerce and Industry (GPCCI) belongs to the international network of German Chambers of Commerce Abroad (AHKs) which is represented by 150 offices in 93 countries. GPCCI is the official representation of German businesses in the Philippines; a bilateral membership organization with around 300 members; and a service provider to companies in their market entry and expansion.

Executive Summary

In October 2024, the German Philippine Chamber of Commerce and Industry (GPCCI) hosted a roundtable discussion (RTD) on the efforts being done to combat the spread of Avian Influenza (AI) in the Philippines. This event brought together the Bureau of Animal Industry (BAI), the Food and Drug Administration (FDA), the Department of Agriculture (DA) to discuss *"The Urgency of Vaccines in Preventing Avian Influenza in the Philippines"* which is a relevant topic in the poultry industry.

The roundtable addressed several pressing objectives, focusing on assessing the current impact of Avian Influenza (AI) on the poultry industry and public health, exploring the role of vaccines in preventing future outbreaks. Discussions centered on sustainable solutions, with emphasis on vaccination programs, enhanced biosecurity measures, and the value of government-industry science partnerships.

Contextual Background

Since 2017, the Philippines has been affected by Avian Influenza. Different strains have been detected in the country and has affected numerous provinces. HPAI poses a constant threat to the poultry industry especially that there is no commercially available AI vaccine yet. The total layer production in the Philippines is estimated around 47.76 million birds. *(Deltaman, 2024)* But according to industry experts, total laying population would reach about 70 to 90 million birds nationwide with most of the highest producing provinces located in Central Luzon and CALABARZON. These are all at risk of infection of HPAI.

Although there are still no human infections in the Philippines caused by H5N1, a subtype of the influenza A virus infects birds (commonly known as *avian influenza* or *bird flu*), there have been around 261 cases from January 1, 2023, to September 27, 2024, that have been reported from 5 countries in the western pacific region. The case fatality rates seen in these cases reached about 54% with the latest case being reported in Cambodia on August 2024. *(WOAH, 2024)*

The absence of the AI vaccine to control the spread of the disease and the continued presence of HPAI in the country is placing livelihoods not just in these high producing provinces but other provinces as well with layer farms, food security and public health at risk.

Key Stakeholders and Partnerships

Key Stakeholders impacted by HPAI is the entire poultry industry, primarily by layer farmers all throughout the country. The RTD aims to bring together the associations and agencies involved in the control, monitoring, and controlling of the disease as well as those who are economically impacted by its effects.

Department of Agriculture Bureau of Animal Industry (DA-BAI)

Philippine College of Poultry Practitioners (PCPP)

Philippine Egg Board Association (PEBA)

Philippine Chamber of Agriculture and Food Inc. (PCAFI)

United Broilers Raisers Association (UBRA)

Batangas Egg Producers Association (BaEPA)

Current Landscape

Avian Influenza is a highly contagious viral disease affecting several species of food producing birds, as well as pet birds and wild birds. Mammals including humans can occasionally contact the disease in which mortalities have been seen. According to the World Health Organization (WHO), Avian Influenza continues to cause severe losses in poultry production and since it can infect humans, poses a zoonotic risk to the human population in many countries.

Just recently, Avian Influenza cases has been detected in New Zealand for the first time. The subtype detected belonged to a Highly pathogenic Avian Influenza H7N6 and was seen in commercial layer hens after observing a spike in mortality. Other countries having confirmed cases of HPAI in the 4th Quarter of 2024 include Japan, which had cases in mid–October with the H5N1 serotype which was connected to 12 subsequent outbreaks affecting around 1.2 million birds. South Korea as well had their share of cases during the end of October, and it was confirmed that the subtype present was H5N1 as well. A total of 22,000 ducks and 233,000 chickens tested positive. *(Linden, 2024)*

The timeline of the spread of Avian Influenza in the Philippines could be traced back to 2017. A farm in Guimba, Nueva Ecija tested positive for avian influenza particularly with the subtype (H5N6). Succeeding infections occurred in 2020 (H5N6), 2022 (H5N1, H5N8) and in 2023 (H5N1, H5N6, H7N7). The H5N1 subtype, classified as a Highly Pathogenic Avian Influenza (HPAI) has been detected in a total of 24 provinces and out of these, 10 remained non-AI free by the end of 2023.

In 2024, there has been a total of 34 cases of H5N1 recorded while cases of Low Pathogenic Avian Influenza amounted to around 6 cases. All Low Pathogenic Avian Influenza cases have been resolved. All samples collected by the Bureau of Animal industry (BAI) were sent to the Australian Centre for Disease Preparedness for sequencing, with subtype H5N1 clade 2.3.4.4B being the present in most of the samples submitted. *(Cabanayan, 2024)*

In a social media post on Facebook dated December 11, 2024, by the DA-BAI page, they have confirmed the detection of a new subtype of Highly Pathogenic Avian Influenza in a duck farm in Talisay, Camarines Norte in the Bicol region. The strain detected was of the subtype H5N2 which is still considered a Highly Pathogenic Avian Influenza subtype. Subsequent testing of the surrounding chicken population within the 1 Kilometer radius showed negative results for Avian Influenza *(Business Mirror, December 2024)*

As of the Avian Influenza Status report by the Bureau of Animal Industry, dated January 3, 2025, there are currently 5 regions, 9 provinces, 53 municipalities, and 136 barangays that are currently affected by Avian Influenza. The report also shows that there have been 17 areas that have recovered. The detected new subtype in Camarines Norte is the only ongoing case of Avian Influenza according to the BAI update.

AVIAN INFLUENZA

Avian Influenza Status Update as of 3 January 2025

Number of Remaining Affected Areas as of 3 January 2025

REGION	PROVINCE
5	9
CITY/MUNICIPALITY	**BARANGAY**
53	136

Remaining Affected Areas

REGION	PROVINCE/CITY
CAR	Kalinga
CAR	Benguet
III	Pampanga
III	Nueva Ecija
III	Tarlac
III	Bataan
III	Bulacan
IV-A	Laguna
V	Camarines Norte
NCR	Manila

Areas that Recovered Freedom from Avian Influenza

REGION	PROVINCE	
V	Camarines Sur	DA MC No. 30 Series of 2022
XI	Davao del Sur	DA MC No. 30 Series of 2022
IV-A	Rizal	DA MC No. 1, Series of 2023
XII	South Cotabato	DA MC No. 10, Series of 2023
I	Ilocos Sur	DA MC No. 18, Series of 2023
IV-A	Batangas	DA MC No. 23, Series of 2023
VI	Capiz	DA MC No. 27, Series of 2023
IV-A	Quezon	DA MC No. 38, Series of 2023
III	Aurora	DA MC No. 39, Series of 2023
I	Ilocos Norte	DA MC No. 45, Series of 2023
I	Pangasinan	DA MC No. 46, Series of 2023
XII	Cotabato	DA MC No. 51, Series of 2023
II	Isabela	DA MC No. 55, Series of 2023
BARMM	Maguindanao del Sur	DA MC No. 56, Series of 2023
XII	Sultan Kudarat	DA MC No. 11, Series of 2024
VIII	Leyte	DA MC No. 44, Series of 2024
II	Cagayan	DA MC No. 46, Series of 2024
Total Recovered Areas	**17**	

Source: DA BAI Avian Influenza Status Update as of 03 January 2025

Challenges

Sources of the Disease:

According to the Philippine Egg Board Association, there are many challenges surrounding the proper control and prevention of avian influenza. But to control the disease, we must define the sources of an infection which adds a layer of difficulty in the prevention of the disease.

During the GPPCI roundtable, Mr. Francis Uyehara, the President of the Philippine Egg Board outlined the possible sources of the disease, as their group has seen over the months that Avian Influenza has continuously caused cases in the country. Some of the sources pointed out include:

1. The **presence** of migratory birds
2. Late or **non-reporting** of suspected cases
3. **Illegal movement** from H5N1 affected farms.

Though there are more possible sources, but the abovementioned ones contribute to the continued presence of Avian Influenza in the country.

According to BAI data on the status of Avian Influenza as of August 30, 2024, there has been a total of 137,199 heads of chicken claimed by the disease and around 1,595,419 heads culled in the process. Combined HPAI has claimed around 1,732,618 chickens as of August 30, 2024, amounting to around Php 606,416,300 but the President of the Philippine Egg board argues that the number of heads and the corresponding amount could be a lot higher at around 17,326,180 heads which is 10 times the figure BAI has released.

PEBA: Estimated Avian Influenza Scale Projection

Actual Scale	No. of Affected Layer Birds	Average Cost per Bird (PHP)	Losses (PHP)
(source: BAI)	1,732,618	350	606,416,300
x5	8,663,090	350	3,032,081,500
x8	13,860,994	350	4,851,330,400
x10	17,326,180	350	6,064,163,000

Source: PEBA Presentation on Layer Industry Perspective: Impact of Avian Influenza in the PH (2024)

In the Bureau of Animal Industry's Avian influenza Protection Plan, as presented to the World Organization of Animal Health, they have outlined some of the challenges and their action plans to mitigate these, to implement the Avian Influenza National Plan. Some of these challenges were also echoed by the Philippine Egg board Association but added additional challenges on their side.

1. **Limited capacity of Regional Laboratories**
Continuous capacitation of both national and regional laboratories as well as collaboration with private partners to strengthen laboratory capacity and expand its network. As of August 2024, the DA has 16 regional laboratories with 7 laboratories capable of conducting Polymerase Chain Reaction for Avian Influenza Type A and 14 privately owned laboratories accredited to conduct AI testing during outbreaks. (Bucad, 2024)

2. **Delay on no-reporting of suspected cases of Avian Influenza**
Increase awareness of farmers through continued Information and Education Campaigns (IEC)

3. **Resistance of farmers against depopulation and other disease measures**
Increase rate of indemnification to encourage reporting. The current rates of indemnification are:

Poultry Species	Amount per Bird (PHP)	Amount per Bird (USD)
Layers / Ducks / Breeders (10 weeks and above only)	100	1.77
Broiler (2 weeks and above only)	60	1.06
Gamefowl	160	2.66
Quail / Pigeons	15	0.27

Source: DA Administrative order no. 37 series of 2020: "Guidelines for granting Cash Assistance to reportable Avian Influenza Affected Poultry Farms"

4 **Deviation and non-compliance to national policies/ guidelines (movement regulation, illegal AI vaccine use)**
Dialogue with local government implementers on how to better implement movement regulations to protect local poultry industry.

5 **Delay in the commercial availability of Avian Influenza Vaccine**
Increase awareness of farmers through continued Information and Education Campaigns (IEC)

According to The Philippine Egg Board Association, there is a discrepancy between the figure of the reported AI Cases versus the Non-reported AI cases and cites reasons why most farmers do not report AI outbreaks/ cases.

Economic Impact
Mandatory culling of infected and at-risk population of birds. These depopulation methods lead to significant financial losses for farm owners from small to large operations alike. Ultimately most farms may face the possibility of being permanently shut down.

Lack of Government Support
There is insufficient/ delayed compensation assistance which could lead to delays and mismanagement in the control of the outbreak leading further complicating the situation. But according to a report to the World Organization of Animal Health, as of August 2024 the Philippine Government has already provided around Php 146,740,260 ($ 2.6 Million) to farmers who were affected by Avian Influenza since the start of the HPAI H5N1 outbreak in 2022 pursuant to DA Administrative order No. 37 Series of 2020: “Guidelines for granting Cash Assistance to reportable Avian Influenza Affected Poultry Farms”.

Market Access and Social Pressure from Neighboring Farms
Neighboring farms will also face shipping bans and restrictions leading to financial difficulties and long-term loss more market share.

Reputation and Publicity
Reporting a farm or being reported as a farm with Avian Influenza can harm the farm’s reputation with buyers, suppliers, and the public in general. Consumers will avoid their products due to concerns about the diseases even after the diseases is contained.

Role of Vaccination in the Control of Avian Influenza

Avian Influenza has seen an increase in the number of cases in most European countries despite enhanced biosecurity measures and stringent monitoring and surveillance programs. The missing piece of the prevention puzzle is the availability and use of Avian influenza Vaccines *(De la Pena, 2024).*

According to a presentation by the Philippine College of Poultry Practitioners during the RTD discussion, the ideal Avian Influenza vaccine should be done with a vaccine with a clade- specific, autogenous, or at least a homologous vaccine. All vaccination campaigns should be in accordance with the World Organization of Animal Health (WOAH) and government regulators which is the Department of Agriculture – Bureau of Animal Industry.

Types of Avian Influenza Vaccines

1

Vectored Vaccines

Otherwise known as recombinant vaccines. Uses viral vectors/ carriers such as Fowl pox virus (FPV) or Herpes Virus for Turkeys (HVT) to deliver genetic material that can be transcribed by the host cells coding for a desired antigen to illicit the desired immune response. These vaccines are usually given in the hatchery, but some vectored vaccines can be given in the field. They can be combined with other significant diseases such Infectious Bursal Diseases (IBD). These vectored vaccines have the capability to differentiate vaccinated animals (chickens) from infected ones which we refer as DIVA capability. Vectored vaccines usually need inactivated AI vaccines in the field. (DIVA – Differentiating Infected from Vaccinated Animals)

2

Inactivated Vaccines

Whole Virus: Utilizes the whole avian influenza virus after inactivation. Inactivated vaccines confer long duration of immunity but require multiple administrations/ dosing when included in a vaccination program. These inactivated whole virus vaccines need frequent updating to ensure that the strains in the vaccine match the current circulating strains. Unlike vectored vaccines, inactivated whole virus vaccines are not DIVA capable. We cannot differentiate infected from vaccinated animals.

Sub-unit: Inactivated sub-unit vaccines are usually derived from recombinant vaccines. Some are combined with other equally economically impactful diseases such as Newcastle's Disease. Being an inactivated vaccine, they also require multiple administrations and doses to confer protection. They are DIVA Capable unlike inactivated whole virus vaccines.

3

mRNA

mRNA based Avian Influenza vaccines are relatively new technology in terms of vaccine development. Making its acceptance difficult in some countries. mRNA vaccines work by translating proteins inside host cells. It requires specialized cold-chain (storage) requirements to properly store these vaccines.

Biosecurity programs are measures undertaken by farms to prevent entry of diseases. This includes decontamination of both personnel and equipment as well as the control of personnel entering and exiting farm premises. These programs are already a common practice in the Philippines, not just for poultry farms, but for livestock farms in general. Surveillance programs are in place already in the country. It includes routine testing via blood collection and nasopharyngeal swabs for layer flocks as well as Polymerase Chain Reaction (PCR) testing for flocks that will test positive (+) for AI antibodies.

Vaccination against Avian Influenza aims to complement the existing prevention and control programs set forth by the national government. It also aims to prevent the spread of the virus from affected areas thus lowering the potential human exposure which may cause possible mortalities. Vaccination will also pre-empt any potential outbreaks in highly vulnerable areas leading to significant economic losses. The long-term goal of vaccination is not just the control of HPAI but more importantly its eventual eradication.

Significant number of Layer farmers are trying to mitigate the existing Avian Influenza risk by using smuggled AI vaccines due to the uncertainty of the availability of commercially available vaccines. To date, there is still no commercially available vaccines in the market. All potential vaccine candidates are still undergoing the trial and registration process.

Recommendations

1 Expedite the registration of the AI vaccine to make it commercially available to farmers

It is essential to enable the effective registration and quick availability of high-quality vaccines and animal health products to protect the livelihood of farmers and communities. This not only helps prevent unnecessary livestock loss, but also protects humans against transferable diseases. There is a need to provide an efficient and simplified registration process for the registration of Avian Influenza Vaccine for it to be available to farmers at the soonest possible time. This will enable the farmers to prevent further spread of the disease and protect their flock from possible economic impact.

2 Finalize the National Vaccination campaign guidelines and efficiently cascade to all involved stakeholders

These guidelines will serve as a working framework for stakeholders and government agents and LGU's to refer to when vaccination against Avian Influenza commences. A cascade to involved personnel and offices would provide clear lines of communication and protocol among stakeholders and government offices. Private-public consultation is necessary to ensure sufficient tech and knowledge transfer as well as the formulation of implementable policies.

3 Foster a close working relationship with different stakeholder groups affected by the Avian Influenza outbreak

Early collaboration is essential in preventing and controlling any AI outbreak. There is a need to maintain an open line of communication among government agencies, Layer/ Broiler Associations, and animal health companies to consistently communicate and coordinate actual field conditions and how to create and roll out viable and realistic solutions to industry problems.

4 Implement a national surveillance program that will go hand in hand with the National Vaccination campaign against AI

The Bureau of Animal Industry has added personnel to beef up surveillance efforts, assigning a total of 155 personnel to the different Regional Field Offices of the Department of the Agriculture and an additional 334 personnel for the Regional Veterinary Quarantine Offices to further monitor animal movement and transport.

5 Collaborate with Private companies in conducting Information and Education Campaigns.

To help in boosting the promotion of public information and education campaigns, the Department of Agriculture can look into strategically partnering with animal health companies that have the expertise in Avian Influenza to provide content and materials and help spread awareness about the disease.

Conclusion

Avian Influenza is a viral disease that affects numerous avian species. Since 2017 it has been present in the Philippines causing mortalities in different poultry and avian operations. The government has programs in place to diagnose, control and prevent further spread of the disease but certain factors prevent stakeholders such as farm owners to comply with these programs. A collaborative effort between the government and other industry players such as farm owners, industry associations, academe, and private companies is needed to mitigate the risk of AI.

The weak biosecurity of some commercial farms and the absence of a commercially available vaccine are other factors seen by stakeholders the continued transmission of the virus. The inability to have options to protect their flocks has driven farmers to mitigate the situation by resorting to the use of smuggled AI vaccines as well as under reporting cases or not reporting cases at all. Biosecurity and surveillance strategies are in place, the availability of a commercial vaccine will significantly complement these strategies as well as stop the use of illegal AI vaccines. A multi-faceted approach is essential to the success of the control and prevention programs.

This whitepaper has outlined some recommendations that, through coordination between the government and associated parties and organizations, can effectively manage further spread of this zoonotic disease to other animal species including dairy cattle, wild cats, as well as humans. There is no documented human to human transmission of Avian Influenza to date.

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