CURRENT STATUS OF IMPORTANT ANIMAL DISEASES IN THE PHILIPPINES

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Bureau of Animal Industry
Department of Agriculture, Philippines

Workshop on Management and Control of Important Transboundary Animal Diseases in the Asian Pacific Region

July 25-29, Manila, Philippines
Natural disease barriers

- Archipelago
- 300,000 sq km
- 7,500 islands
- Phil. does not share land borders with other Asia-Pacific countries.
Entry points for TADs

85 airports
(10 international gateways)

429 fishing ports and 821 commercial ports.
The Philippine LIVESTOCK INDUSTRY
# Distribution of the Livestock Industry

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>Smallholder</th>
<th>Commercial</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of heads</td>
<td>Percent (%)</td>
<td>Number of heads</td>
</tr>
<tr>
<td>Carabao</td>
<td>2,842,768</td>
<td>99.58</td>
<td>12,070</td>
</tr>
<tr>
<td>Cattle</td>
<td>2,367,997</td>
<td>93.44</td>
<td>166,246</td>
</tr>
<tr>
<td>Goat</td>
<td>3,613,645</td>
<td>98.35</td>
<td>60,541</td>
</tr>
<tr>
<td>Hog</td>
<td>7,782,290</td>
<td>64.85</td>
<td>4,217,432</td>
</tr>
</tbody>
</table>

MAJORITY reared by Smallholder farmers
Poultry industry distribution

- 17.7% Native, 31,253,663
- 44.5% Broiler, 78,598,499
- 37.7% Layers, 66,616,937

MAJORITY reared by Commercial farmers
Poultry distribution

BROILERS

LAYERS

NATIVE
Organizational Structure
Abbreviated organogram to highlight livestock agencies

Department of Agriculture (DA)

OFFICE OF THE SECRETARY

DA REGIONAL FIELD OFFICES (DARFOs)
- Regional Animal Disease Diagnostic Laboratories (RADDLS)

Livestock agencies
- Philippine Carabao Center (PCC)
- National Dairy Authority (NDA)
- Bureau of Animal Industry (BAI)
- National Meat Inspection Service (NMIS)

Stakeholders and partners
- Farmers/Industry Groups
- Allied Industries
- Academe and Other Institutions
- Veterinary Offices of Local Government Units (LGUs)*

* Under the Department of Interior and Local Government (DILG)

Slide from Dr. Emelinda L. Lopez
Rationalized Organizational Structure

Bureau of Animal Industry (BAI)

OFFICE OF THE DIRECTOR

ANIMAL FEEDS VETERINARY DRUGS AND BIOLOGICS CONTROL DIVISION
- Registration, Certification and Licensing Section
- Registration, Certification and Licensing Section
- Inspection, Monitoring and Evaluation Section
- Veterinary Biologics Assay Section
- Animal Disease Diagnosis and Reference Laboratory
- Animal Feeds Analysis Section
- Veterinary Drug Production and Assay Section
- Animal Disease Control Section
- Veterinary Epidemiology Section
- Animal Facilities Regulation Section
- Animal Information and Advocacy Services Section
- Quarantine Stations

VETERINARY LABORATORY DIVISION
- Research Management Section
- Technology Packaging and Transfer Section
- Animal Products Development Section
- Quarantine Policy and Coordination Section
- Accreditation and Licensing Section
- Quarantine Stations

LIVESTOCK RESEARCH AND DEVELOPMENT DIVISION
- Research Management Section
- Technology Packaging and Transfer Section
- Animal Products Development Section
- Quarantine Policy and Coordination Section
- Accreditation and Licensing Section
- Quarantine Stations

ANIMAL HEALTH AND WELFARE DIVISION
- Animal Disease Diagnosis and Reference Laboratory
- Animal Feeds Analysis Section
- Veterinary Drug Production and Assay Section
- Animal Disease Control Section
- Veterinary Epidemiology Section
- Animal Facilities Regulation Section
- Animal Information and Advocacy Services Section
- Quarantine Stations

NATIONAL VETERINARY QUARANTINE SERVICES DIVISION
- Quarantine Stations

RESEARCH AND DEVELOPMENT CENTERS
- National Swine and Poultry R & D Center
- National Beef Cattle R & D Center
- National Feed Resources R & D Center
- National Small Ruminants R & D Center

OFFICE OF THE DIRECTOR

BUREAU OF ANIMAL INDUSTRY (BAI)

VETERINARY LABORATORY DIVISION

LIVESTOCK RESEARCH AND DEVELOPMENT DIVISION

ANIMAL HEALTH AND WELFARE DIVISION

NATIONAL VETERINARY QUARANTINE SERVICES DIVISION

RESEARCH AND DEVELOPMENT CENTERS

Slide from Dr. Emelinda L. Lopez
Laboratory Support

- **Philippine Animal Health Center**
  - Now the Animal Disease Diagnosis and Reference Section of the BAI-Veterinary Laboratory Division
- 12 Regional Animal Disease Diagnostic Laboratories (RADDLS)
  - currently functional
- LGU diagnostic laboratories
  - Bulacan – Animal Disease Diagnostic Laboratory (ADDL)
  - Negros Occidental (Bacolod City) – Provincial Veterinary Office (PVO)
  - Negros Oriental (Dumaguete City) – PVO
  - Puerto Prinsesa City (PPC) – City Veterinary Office (CVO)
- Rabies laboratories
  - RADDLs
  - DOH-Research Institute for Tropical Medicine (RITM)
  - Ilocos Norte - Provincial Rabies Diagnostic Laboratory (PRDL1)
- Avian Influenza laboratories
  - RADDL II, III, VII, IX, X, and XII
ROUTINE Animal Disease Reporting

REGION
DARFO Regional Animal Disease Diagnostic Laboratories (RADDLs)

PROVINCE
Prov. Veterinary Office or Prov. Agriculturist Office

CITY OR TOWN
Veterinary Office or Agriculturist

VILLAGE
Livestock Inspectors or Agric. Tech.
The last case of RINDERPEST was reported in 1955.
“Profiling of Economically Important Diseases of Swine and Cattle in the Philippines …”

- P168 million loan from USDA’s Food for Peace program
- Collaboration of BAI with UPLB College of Veterinary Medicine
  - Renovate academic laboratories
  - Characterize disease agents of swine and cattle in the Philippines.
  - Develop rapid test kits
NAC-ADCE
National Advisory Committee for Animal Disease Control and Emergency.

Regular consultation of top industry leaders
• Since 2014, 16 BAI seminar-workshops on outbreak investigation and management
• Trained more than 400 animal health workers
Outline

1. Country Profile
2. Veterinary Services
3. Priority Diseases
Priority Diseases

- Phil. Dept. of Agriculture adopted the OIE list of diseases as Notifiable in the Philippines.
- List = >100 animal diseases
## Current Focus: Animal Diseases

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Foot and Mouth Disease (FMD)</td>
</tr>
<tr>
<td>2</td>
<td>Highly Pathogenic Avian Influenza (HPAI)</td>
</tr>
<tr>
<td>3</td>
<td>Newcastle Disease (ND)</td>
</tr>
<tr>
<td>4</td>
<td>Hog Cholera or Classical Swine Fever (CSF)</td>
</tr>
<tr>
<td>5</td>
<td>Hemorrhagic Septicemia (Hemosep)</td>
</tr>
<tr>
<td>6</td>
<td>Rabies</td>
</tr>
<tr>
<td>7</td>
<td>Anthrax</td>
</tr>
<tr>
<td>8</td>
<td>Blackleg</td>
</tr>
<tr>
<td>9</td>
<td>Porcine Reproductive and Respiratory Syndrome (PRRS)</td>
</tr>
<tr>
<td>10</td>
<td>Caprine Arthritis Encephalitis (CAE)</td>
</tr>
<tr>
<td>11</td>
<td>Infectious Laryngotracheitis (ILT)</td>
</tr>
<tr>
<td>12</td>
<td>Surra</td>
</tr>
<tr>
<td>13</td>
<td>Fasciolosis</td>
</tr>
</tbody>
</table>

**Source:** BAI Animal Health Division
## 5 Priority diseases in Asia-Pacific

<table>
<thead>
<tr>
<th>Disease</th>
<th>Phil. Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foot and Mouth Disease (FMD)</td>
<td>Free, OIE certified</td>
</tr>
<tr>
<td>Highly Pathogenic Avian Influenza (HPAI)</td>
<td>Never been reported</td>
</tr>
<tr>
<td>Classic Swine Fever (CSF)</td>
<td>Endemic</td>
</tr>
<tr>
<td><strong>Peste des petites ruminants (PPR)</strong></td>
<td>Free, OIE certified</td>
</tr>
<tr>
<td>Rabies</td>
<td>Ongoing eradication (2020)</td>
</tr>
</tbody>
</table>
CLASSICAL SWINE FEVER

• Endemic throughout the country
• Major cause of swine mortality
• Limits the Philippine potential export of pork and pork products
Prevalence

• 2002 to 2013
• Among unvaccinated pigs under smallholder systems

30 to 60%
In 2002, the government launched the CSF Eradication Program.

- Mass immunization
- Disease surveillance
- Serological monitoring
- ID CSF-protected zones
- Legislative support
No CSF outbreaks in Central and Southern Philippines from 2010-2014.

Bukidnon-demonstrated in 2011 serological absence of CSF ab

CSF-free local declaration: 2014
Three Phases

Preparatory Phase (2014-2015)
Organization
Multi-sectoral consultations, research scoping and organizational valuations

Second phase (2016-2020):
Control
epidemiological characterization, mass vaccination, zones and compartments.

Third phase (2020…)
Eradication
Newcastle Disease Outbreak
• High mortalities
• Mostly Chicken
• Some reports on ducks and pigeons
• Hemorrhagic eyes/mouth
• Swollen and cyanotic head.
• Imbalance and incoordination
• “Torticollis”

Total reported mortalities: 868,982
Temporal distribution of counted reports on ND-like mortalities

In-depth study funded by FAO, implemented by BAI and CLSU College of Veterinary Medicine
PLACES

40/81 provinces
### Laboratory confirmation

**DA-BAI-PAHC laboratory**

<table>
<thead>
<tr>
<th>Case No.</th>
<th>Date sub.</th>
<th>Species/type</th>
<th>Specimen</th>
<th>Address</th>
<th>ILT_PCR</th>
<th>ND_PCR</th>
<th>AI_HI</th>
<th>AI_HA</th>
<th>AI_PCR</th>
</tr>
</thead>
<tbody>
<tr>
<td>16-0049</td>
<td>14-Jan-16</td>
<td>Gamefowl/dove</td>
<td>Sera, swabs</td>
<td>Laguna</td>
<td>Neg</td>
<td>Neg</td>
<td>Neg</td>
<td>Neg</td>
<td>Neg</td>
</tr>
<tr>
<td>16-0050</td>
<td>14-Jan-16</td>
<td>Gamefowl</td>
<td>Serum, tissues</td>
<td>La Union</td>
<td>Neg</td>
<td>Positive</td>
<td>Neg</td>
<td>Neg</td>
<td>Neg</td>
</tr>
<tr>
<td>16-0051</td>
<td>14-Jan-16</td>
<td>Gamefowl/native chicken</td>
<td>Tissues</td>
<td>La Union</td>
<td>Positive</td>
<td>Negative</td>
<td>Reactor?</td>
<td>Neg</td>
<td></td>
</tr>
<tr>
<td>16-0053</td>
<td>14-Jan-16</td>
<td>Gamefowl</td>
<td>Tissues</td>
<td>Pampanga</td>
<td>Neg</td>
<td>Positive</td>
<td>Neg</td>
<td>Neg</td>
<td>Neg</td>
</tr>
<tr>
<td>16-0054</td>
<td>14-Jan-16</td>
<td>Gamefowl/native chicken</td>
<td>Tissues</td>
<td>Bulacan</td>
<td>Positive</td>
<td>Positive</td>
<td>Reactor?</td>
<td>Neg</td>
<td></td>
</tr>
<tr>
<td>16-0055</td>
<td>14-Jan-16</td>
<td>Gamefowl</td>
<td>Tissues</td>
<td>Pampanga</td>
<td>Positive</td>
<td>Positive</td>
<td>Reactor?</td>
<td>Neg</td>
<td></td>
</tr>
<tr>
<td>16-0056</td>
<td>14-Jan-16</td>
<td>Native chicken</td>
<td>Tissues</td>
<td>Pampanga</td>
<td>Neg</td>
<td>Positive</td>
<td>Neg</td>
<td>Neg</td>
<td>Neg</td>
</tr>
<tr>
<td>16-0057</td>
<td>14-Jan-16</td>
<td>Native chicken</td>
<td>Tissues</td>
<td>Bulacan</td>
<td>Neg</td>
<td>Positive</td>
<td>Neg</td>
<td>Neg</td>
<td>Neg</td>
</tr>
<tr>
<td>16-0065</td>
<td>14-Jan-16</td>
<td>Turkey, Kabir Chicken</td>
<td>Tissues</td>
<td>Quezon City</td>
<td>Neg</td>
<td>Positive</td>
<td>Neg</td>
<td>Neg</td>
<td>Neg</td>
</tr>
<tr>
<td>16-0066</td>
<td>14-Jan-16</td>
<td>Black chicken</td>
<td>Tissues</td>
<td>Quezon City</td>
<td>Positive</td>
<td>Neg</td>
<td>Neg</td>
<td>Neg</td>
<td></td>
</tr>
<tr>
<td>16-0068</td>
<td>15-Jan-16</td>
<td>Peacock</td>
<td>Tissues</td>
<td>Batangas</td>
<td>Neg</td>
<td>Positive</td>
<td>Neg</td>
<td>Neg</td>
<td>Neg</td>
</tr>
</tbody>
</table>

**Avian Influenza negative**

**ND positive**
Causative agent?

... confirm those obtained with the fusion protein (F0) cleavage 3% nucleotide and amino acid belongs to APMV-1 genotype VIIi except for sample #5.

Presence of a Class II Newcastle disease (AAHL reference 16-00345, PIP18) potentially virulent strain of NDV. All of the samples were sequenced to each other. Based on partial Fusion (F) gene analysis can be found in Appendix A. Virus isolation...
MaBISA

Biosecurity

Information dissemination

Mass vaccination

Arrested movement

Surveillance
Sample Philippine publications for TADs
Thank you