Report

National Workshop for Development of Avian Influenza Strategy and Surveillance Guideline in Wild Birds

Bogor; April 14th-16th, 2008

KOMNAS FBPI

USDA

WILDLIFE CONSERVATION SOCIETY

LIPI

WETLANDS INTERNATIONAL

IdOU

CIVAS

Report

National Workshop for Development of Avian Influenza Strategy and Surveillance Guideline in Wild Birds

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PREFACE

Avian influenza (AI) is a disease which has generated serious concern worldwide. Type A avian influenza viruses could be naturally found in many species of water fowl/bird and shorebirds. There has been an increase in reports of the H5N1 virus infecting and killing wild birds, including several species of migratory birds.

Several organizations in Indonesia are known to have done studies to detect the presence of AI viruses in wild birds that pass Indonesia. But until now, information regarding the studies is still at each organization.

The National Workshop for Development of Avian Influenza Strategy and Surveillance Guideline in Wild Birds was held on April 14th to 16th, 2008, at Hotel Salak The Heritage in Bogor, West Java. The workshop was attended by representatives from National Committee on Avian Influenza Control and Pandemic Influenza Preparedness (Komnas FBPI), Ministry of Forestry, Ministry of Agriculture, FAO, United State Department of Agriculture (USDA) and other international agencies, NGOs, associations, universities, laboratories, and research institutes. The workshop has discussed national strategies which are expected to assist the government and other parties in conducting HPAI monitoring and surveillance in wild birds, both at regional and national level.

The workshop has produced the following recommendations: a special team is necessary to perfect the National Strategy and Action Plan, a guideline that includes all aspects of avian influenza surveillance in wild birds should be developed, and coordination between sectors must be improved.

May this report be useful for all workshop participants and other parties interested in AI control and prevention in wild birds in Indonesia.

Sincerely,

Report Team (CIVAS)

I. INTRODUCTION

1.1. Background

Avian Influenza (AI) is a disease which has generated serious concern worldwide. This disease, caused by AI viruses type A subtype H5N1, is capable of infected animals (particularly poultry) and humans. The risk of human infection has made the world concerned about the possible development of AI into a pandemic influenza. Avian influenza has also caused great losses, both material and non-material. Millions of birds have died due to AI infection. Besides poultry death, AI has also claimed human lives. Worldwide, more than 250 people have died because of AI infection (WHO, 2008). In Asia, AI first emerged in 1997 in Hong Kong and since then has spread to other Asian countries (Guan *et al.,* 2004).

In Indonesia, AI first emerged in poultry in August 2003. At that time AI had attacked many commercial poultry farms and caused the death of hundreds of thousands of birds. Until now, millions of birds have died because of this disease. In July 2005, the first AI case in human was reported. In Indonesia, per May 19th, 2008, 135 AI human cases with 110 fatalities have been reported by Komnas FBPI. AI control in poultry is still not optimal. The continuous fall of human victims from time to time indicates the failure of AI control in poultry. If AI control efforts in poultry are not optimized, the possibility of increase in human AI victims becomes greater. This inference is made based on the current route of AI virus transmission, which is still from animal (poultry) to human.

Type A avian influenza viruses could be naturally found in many species of water fowl/bird and shorebirds. There has been an increase in reports of the H5N1 virus infecting and killing wild birds, including several species of migratory birds (Monke and Corn, 2007).

In Asia, H5N1 virus infection has been documented to cause death in more than 40 species of wild birds, including egrets, herons, geese, gulls, and falcons (Monke and Corn, 2007). A main cause of H5N1 virus spread in Asia is movement of domestic birds, nevertheless wild birds also has high potential to spread virus. Therefore to significantly increase national biosecurity, it is imperative to develop a system capable of detecting HPAI viruses carried in by wild birds.

Several organizations in Indonesia are known to have done studies to detect the presence of AI viruses in wild birds that pass Indonesia. But until now, information regarding the studies is still at each organization. Each organization also has its own specific surveillance method, occasionally their study locations are overlapping, and there is no species priority and standardization of sampling and testing methods.

From the many issues described above, it is imperative to build communication and network between the many organization/institutions which have, are, and will conduct surveillance in wild birds, whether from the government, academicians, NGOs, or private sector. It is also important to immediately develop a national strategy approved by all parties and the Indonesian government to encourage everybody to contribute their resources and commitment in controlling and preventing avian influenza. The national strategy will become a guideline for the government and other parties in conducting HPAI monitoring and surveillance in wild birds at both regional and national level.

1.2. Objective

Objectives of this workshop are:

1. Mapping of organization/institutions conducting surveillance in wild birds, including mapping of their method and results.
2. Mapping of wild bird surveillance areas or locations.
3. To determine wild bird species for surveillance priority at certain time periods.
4. To develop guidelines for disease surveillance in wild birds in Indonesia.
5. To decide the function and responsibility of the government and other related parties in AI control.
6. Capacity building and develop networking for diseases surveillance in wild bird in Indonesia.
7. To develop a fund raising strategy.

1.3. Output

Output of this workshop is an Avian Influenza National Strategy and Surveillance Guideline in Wild Birds approved by all parties involved and the Indonesian government.

II. TIME AND LOCATION

The workshop was held on April 14th to 16th, 2008, at Hotel Salak Bogor The Heritage in Bogor, West Java.

III. ORGANIZING COMMITTEE

This workshop is collaboration of:

- National Committee on Avian Influenza Control and Pandemic Influenza Preparedness (Komnas FBPI)
- United States Department of Agriculture (USDA)
- Ministry of Forestry (MoF)
- Ministry of Agriculture (MoA)
- Center for Indonesian Veterinary Analytical Studies (CIVAS)
- Wildlife Conservation Society (WCS) Indonesia
- Indonesia Institute of Science (LIPI)
- Wetland International
- Indonesian Environmental Information Center (PILI-NGO Movement)
- Indonesian Ornithologist Union (IdOU)
- Kutilang Foundation (Yayasan Kutilang)

IV. EVENT

The National Workshop for Development of Avian Influenza Strategy and Surveillance Guideline in Wild Birds was initiated by remarks from Komnas FBPI, United States Department of Agriculture, and Indonesia Ministry of Agriculture, and was officially opened by a representative from the Indonesia Ministry of Forestry. The first day of the national workshop was started with a seminar. The seminar presented 16 speakers from the government, NGOs, research institutes, laboratories, and international agencies. The seminar was attended by 89 participants.

The next two days was filled with the workshop. The workshop was attended by 49 participants. In day two, participants divided into 4 (four) discussion groups:

- Discussion Group 1, discuss about notifiable diseases in wild birds and reference laboratories
- Discussion Group 2, discuss about collection, handling and laboratory testing of samples (Guideline Part 1)
- Discussion Group 3, discuss about capturing and marking wild birds (Guideline Part 2)
- Discussion Group 4, discuss about networking and capacity building of avian influenza surveillance in wild birds

In day three, last day of the workshop, participants were divided into 2 (two) discussion groups, all assigned to develop a National Strategy for Avian Influenza Surveillance in Wild Birds. The last session of the national workshop was ended with conclusions and recommendations. The national workshop was officially closed by Dr. drh. Heru Setijanto from Komnas FBPI.

Seminar

Monday, 14 April 2008	
08:30 – 08:35	**Opening Ceremony by Master of Ceremony (MC)**
08:35 – 08:45	Heru Setijanto : National Committee on Avian Influenza Control and Pandemic Influenza Preparedness (Komnas FBPI)
08:45 – 08:55	Eliza Wagner Representative from the United Stated Government
08:55 – 09:05	Ronny Mudigdo Representative from the Indonesia Ministry of Agriculture
09:05 – 09:15	Tonny Soehartono Representative from the Indonesia Ministry of Forestry (Opening)
09:15 09:30	Coffee Break
National Strategy (Moderator: Indra Exploitasia)	
09:30 – 09:45	Darin Collins (WCS-GAINS) : *International Networks and Strategies for H5N1 Avian Influenza Surveillance of Wild Birds: Europe, Africa and North America*
09:45 - 10:00	Dewi M Prawiradilaga (LIPI) : *Collaboration of Asian Countries in AI Surveillance in Wild Birds*
10:00 - 10:15	Discussion
National Strategy (Moderator: Yus Roosila Noor)	
10:15 – 10:30	Tonny Soehartono (Ministry of Forestry, Directorate General of Forestry Protection and Nature Conservation) :*The Wild Bird and Avian Influenza*
10:30 - 10:45	Ronny Mudigdo (Ministry of Agriculture, Directorate of Animal Health) : *Policies and Strategies for Avian Influenza Mitigation in Animals*
10:45 – 11:00	Endang Burni P (Ministry of Health) : *Policy for Wild Bird Control and Pandemic Influenza Preparedness*
11.00 – 11:15	Discussion
Wild Birds in Indonesia (Moderator: Ani Mardiastuti)	
11:15 – 11:30	Yus Roosila Noor - Wetland IP : *Water Bird Migration in Indonesia*
11:30 – 11:45	Wishnu Sukmantoro - Raptor Indonesia *Migration of Migratory Raptors and Barn Swallow*
11:45 – 12:00	Hery Djoko Susilo : *Ministry of Forestry Task Force: Outcome of the Avian Influenza Control Activity in Wild Birds and Other Wild Animals*
12:00 – 12:15	Discussion
12:15 – 13:15	Lunch
Capturing and Sample Testing Guideline (Moderator: Adam Supriatna)	
13:15 – 13:30	Ign Kristianto Muladi – IdOU : *Guidelines for Surveillance in Wild Birds*
13:30 – 13:45	Wilson Novarino – IBBS : *Capturing and Banding Ethics as an Important Part in Avian Influenza Surveillance*
13:45 – 14:00	R.M Abdul Majid - Bogor Veterinary Research Center: *Laboratory Procedures for Testing Samples*
14.00 – 14:15	Discussion
AI Surveillance Activity in Wild Birds Session 1 (Moderator: Wilson Novarino)	
14:15 – 14:30	Boripat Siriaroonrat – FAO : *Guidelines for AI Surveillance in Wild Birds*
14:30 – 14:45	Kerri Pederson - USDA : *Surveillance of Highly Pathogenic Avian Influenza in Wild Migratory Birds in the US*
14:45 – 15:00	Discussion
15:00 – 15:30	Coffee Break

AI Surveillance Activity in Wild Birds Session 2 (Moderator: Wishnu Sukmantoro)	
15:30 – 15:45	Kathryn A. Barbara - NAMRU/IdOU/Balitbangkes : *Avian Influenza Surveillance in Migratory, Resident and Capture Bird in Java, Indonesia*
15:45 – 16:00	Dewi Elfidasari - Universitas Al Azhar : *H5N1 Avian Influenza Virus Surveillance in Wild Water Birds in Pulau Dua Conservation Area in Serang.*
16:00 – 16:15	Zulfi Arsan - WCS IP : *Global Avian Influenza Network for Surveillance of Wild Birds (GAINS) Indonesia –Surveillance Activities*
16:15 – 16:30	Discussion
16:30 - 16:45	**Closing**

Workshop

Tuesday, 15 April 2008	
07:00 - 08:00	Breakfast
08:15 - 08:30	Group Division: § Discussion Group 1, discuss about notifiable diseases in wild birds and reference laboratories § Discussion Group 2, discuss about collection, handling, and laboratory testing of samples (Guideline Part 1) § Discussion Group 3, discuss about capturing and marking wild birds (Guideline Part 2) § Discussion Group 4, discuss about networking and capacity building of avian influenza surveillance in wild birds
08:30 - 10:00	Leading Presentation in each discussion group
10:00 - 10:15	Coffee Break
10:15 - 12.00	Group Discussion
12:00 - 13:00	Lunch
13:00 - 15:00	Group Discussion *continued…….*
15:00 - 15:15	Coffee Break
15:15 - 17:00	Presentation of Group Results & Discussion
19:00 - 21:00	Dinner
Wednesday, 16 April 2008	
07:00 - 08:00	Breakfast
08:00 - 08:30	Leading Presentation: Development of National Strategic Plan
08:30 - 10:00	Group Discussion
10:00 - 10:15	Coffee Break
10:15 - 12:00	Group Discussion *continued…….*
12:00 - 13:00	Lunch
13:00 - 15:00	Presentation of Group Results & Discussion
15:00 - 15:15	Coffee Break
15:15 - 16:30	Discussion and Recommendation
16:30 - 17:00	Closing Ceremony

V. SEMINAR PRESENTATION

(in CD attached)

VI. WORKSHOP RESULTS

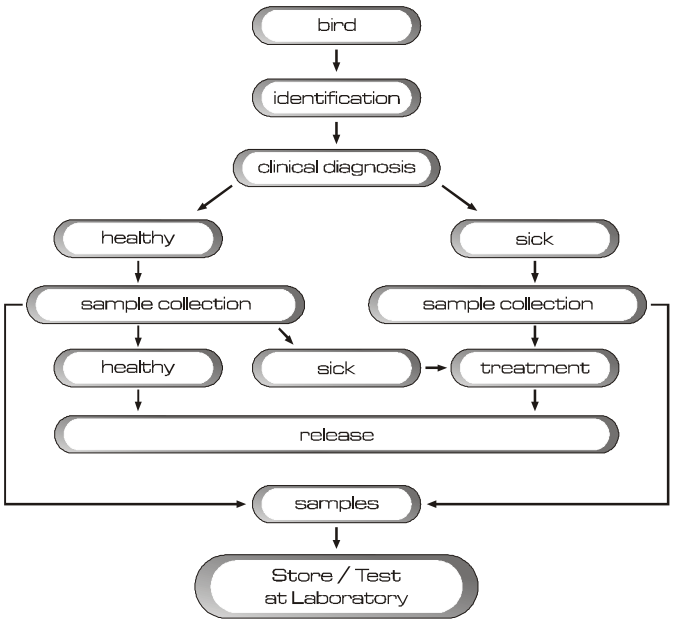
Tuesday, 15 April 2008
Group Discussion I

Surveillance System			
Data collection	*In-situ*	Surveillance period	§ Twice a year during migration period § For high risk areas, immediately if there is a case (incidental)
		Target species	§ Indicator species § Reservoir species
		Target Area	§ Migratory/"commuter" bird habitat including conservation area § High risk area (related HPAI outbreak, farming area)
	Ex-situ	Surveillance period	§ Permanent resident; X time § Incidental
		Target species	§ Aves
		Target Area	§ Zoo § Captive breeding company § Animal Rescue Center § Wild animal trader § Bird market
Testing (Reference laboratory and tests)	Laboratory		§ Veterinary Disease Investigation Centers (Wates, Maros, Denpasar, Medan, Bukit Tinggi, Lampung, Banjar Baru) § Veterinary Research Center (Bogor) § University (IPB, UGM, UNAIR, UNUD)
	Tests		§ Serological test; all birds particularly reservoirs (HPAI dan LPAI) and LPAI exposure history for indicator species § PCR; all birds § Isolation; all birds positive on PCR § Sequencing; all birds positive on PCR à in accordance with the existing regulations
Data Analysis (establish system à database)			§ database; data input refers to the GAINS template and the ministry of agriculture § data access; develop a protocol for data sharing
Reporting			§ Reporting mechanism; data à technical office (ministry of forestry) à ministry of agriculture
Response: develop a special protocol for wild birds			§ Ex-situ: quarantine and biosecurity § In-situ: isolation area, improve biosecurity around outbreak area, and information regarding outbreaks

Discussion Group 2

Collection, Handling, and Laboratory Testing of Samples
Guidelines adjusted from OIE (2005), FAO (2006) and FAO (2007) guidelines.

1. Flow Chart for Handling of Wild Birds for Sample Collection



2. Collection, Handling, and Laboratory Testing of Samples

a. Sample Type:
   - Cloacal swab
   - Oropharyngeal swab
   - Blood
   - Organ :
     Fresh organs are for virological tests while preserved organs are for histopathological test. Dead bird : brain, trachea, lung, spleen, duodenum, kidney, pancreas (FAO-4, 2006; Chapter 6, 23).
   - Environment (feces, water, etc)

b. Equipment:
   Sampling equipment for PCR testing is recommended to be made of synthetic materials. (FAO-5, 2007; Chapter 7, 83-90).

c. Sample Collection Method:
   Refer to Guidebook (FAO 4, 2006; Chapter 2, 6, 7, 8, 9).
   Bird handling for taking samples:
   - Raptor
     § Secure Beak
     § Secure Claws
     § Secure Wings
   - Method : close bird's eyes with a towel, tie/tape bird (beak, claws and wings), sampling order (blood, cloacal swab, oropharyngeal swab).

d. Sample Handling (including storage and transport):
   - Blood (Refer to FAO-5, 2007; 90-92).
   - Swab (Refer to FAO-5, 2007; 93 and FAO-4, 2006; Chapter 7).
   - Organ (Refer to FAO-4, 2006; Chapter 6 & 8)
   - Environmental:
     - Feces (Refer to FAO-5, 2007; 93)
     - Water (Keep cool at +4-10 ^{o}C), etc.

e. Laboratory Test:

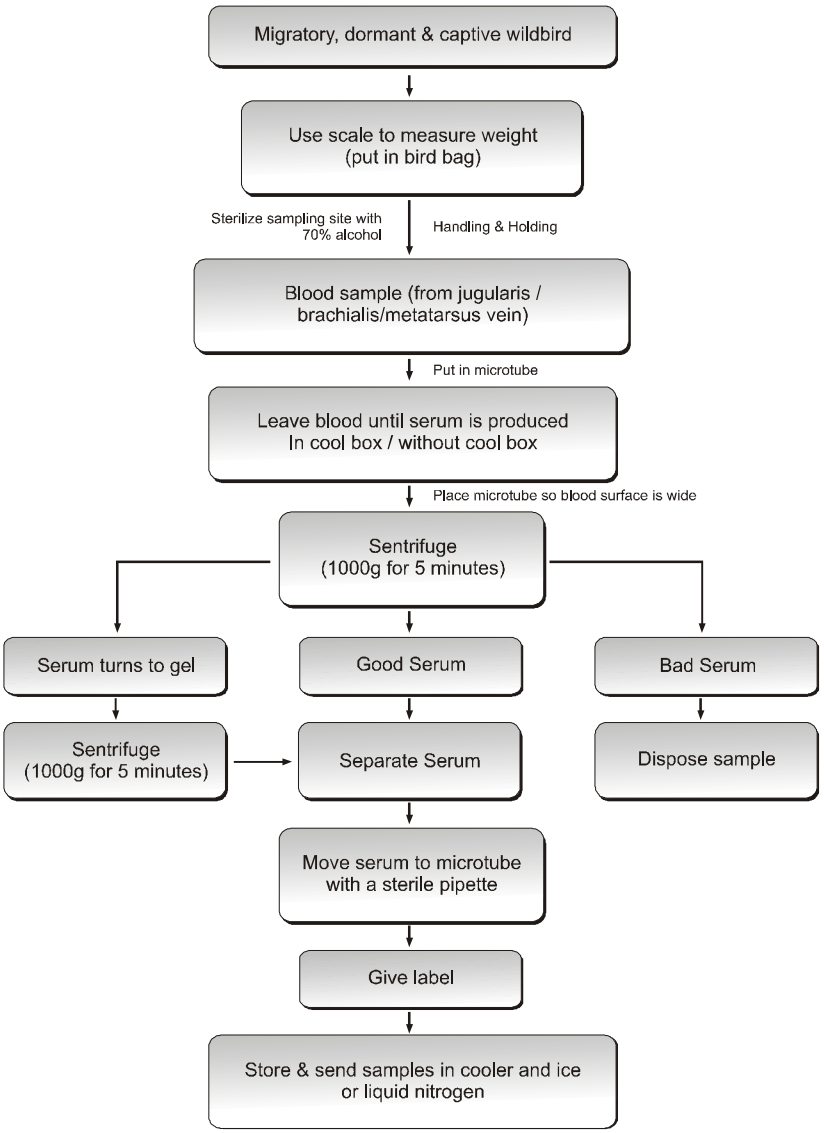
   - Serologic Test
     Conduct *Enzyme Linked Immunosorbent Assay* (ELISA) or *Agar Gel Immunodiffusion* (AGID) tests to detect antibodies against Avian Influenza A and *Haemaglutination Inhibition* (HI) test with H5N1 antigens to detect antibodies against H5.
   - Virus Isolation
     Isolate with specific pathogen free (SPF) or specific antibody negative (SAN) embryonated eggs
   - Virus Identification and Characterization
     Virus identification could be done with Polymerase Chain Reaction (PCR) on field swab samples, isolates from 9 to 11 days old embryonated eggs, and fresh organs. Serotyping is done using standard serum panels. Virus detection could also be done with immunohistochemistry techniques on organs. Virus characterization could be carried out at reference laboratories.
   - Histopathology
     Done on samples preserved in formalin.
   - Necropsy
     Recently dead birds are opened to collect organ samples.

f. Waste management

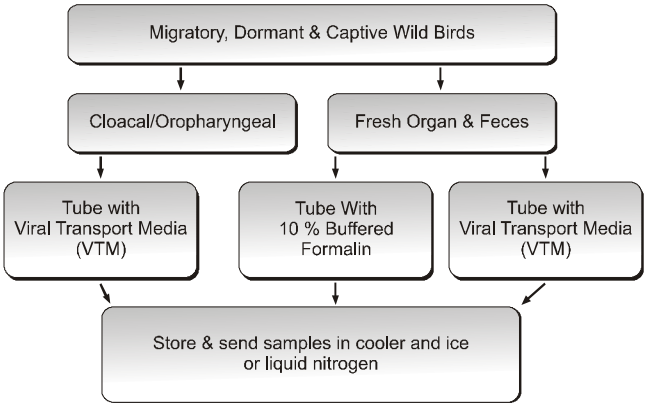
   - Disinfect all tools and equipment
   - All items and materials that could not be effectively decontaminated should be burned and buried.

g. Personal Safety (FAO-4, 2006; Chapter 12)

Flow Chart for Blood Sample Collection



Flow Chart for Swab Sample Collection
(Cloacal and Oropharyngeal) and Organ/Feces



Group Discussion 3

Guidelines for Wild Bird Capture and Marking

§ A guideline is needed for wild bird capture and marking. It should be adjusted to Indonesia's conditions related to the availability of human resources, equipment, etc.

§ Many existing guidebooks (FAO and Kutilang-IdOU) could be used as reference.

1. Permit
   - Office authorized to issue permits for capturing and marking birds (in general and related to AI specific activities)
   - Procedures for acquiring permit
2. Capturing and Marking Tools
   - Tools, procedures, and access to use it
   - Tools and markers (bands) used are standard equipments commonly used by banders
   - Safe traditional methods could be used
   - Marker is a standardized band, ring or flag
   - Alternative markers need to be designed if standard markers are difficult to obtain
   - Each bird sampled must be marked
   - Should a special mark be developed for AI?
3. Capturing and Marking
   - The AI Team should include ornithologists, veterinarians, and other partakers related with AI
   - The person capturing and marking birds should be someone with experience or is qualified as a 'bander'
   - Trainings or assistant during sampling could be done to transfer bird capturing and marking skills
   - List everybody who have and are still capturing and marking birds
4. Bird Capturing and Marking Process
   - Bird capturing and marking procedures should be simple and user friendly
   - Capturing and marking of adult birds and juvenile birds is different (marking of juvenile is at 2-3 days before they leave the nest)
   - The number of birds sampled highly depends on the human resources available
   - Releasing of birds should consider the bird's health status. Sick birds should be treated under the supervision of a veterinarian
   - There should be appropriate caging for captured birds, both large and small, before birds are sampled
   - Sampling time must consider :
     - Sampling hour (morning - afternoon)
     - Tide in – tide out
     - For juveniles, time when the parents return to the nest
   - Birds should not be handled too long (maximum 4 hours).
   - Capturing techniques for other species (eg: raptor, urban birds (swallow, house sparrow)). For swallow (wild birds used by human) è should there be a special manual? Terrestrial wild birds: A special manual is necessary for sampling in birds other than water birds.

5. Data
   - Standardized data sheet
   - Protocol for data exchange and database
   - Photo documentation for all birds sampled
6. Target species
   - Water birds (Migratory and dormant)
   - Raptor
   - Urban wild birds (house sparrow, swallow, etc.)

Discussion Group 4

Networking and Capacity Building for Avian Influenza Surveillance in Wild Birds

1. National Strategy Road Map
   a. Coordination between offices and institutes
   b. Capacity building
   c. Information dissemination and access
   d. Policy :
      - Permit mechanism
      - Operation mechanism
      - Reporting mechanism
      - Sample handling mechanism
2. Strategy and Objective
   a. Coordination and Synergy
      - Strengthen coordination and synergy at Komnas FBPI level and between members of the ministry of forestry taskforce
      - Establish and improve surveillance networking
   b. Policy and Procedure
      - Develop policies and procedure for permits related to research, capture, and sampling of wild birds
      - Develop a surveillance guidebook (case reporting, rapid response, sample and specimen handling, and monitoring)
   c. Organizational Capacity Development
      - Improve human resources, technical capacity (facilities and infrastructure, etc), and funding for surveillance in wild birds at both national and international level
   d. Information Dissemination
      - Improve public knowledge and awareness
      - Strengthen networking and information
      - Open access to information

Wednesday, 16 April 2008
Group Discussion 1

No	Strategy	Objective	Activity	Time	Responsibility
1	Coordination and Synergy	Strengthen coordination and synergy at Komnas FBPI level	1. Regular meeting of komnas members on surveillance in wild birds 2. Rapid response meeting	1. Every (4) months 2. As soon as possible	Komnas FBPI
		Coordination between members of the Ministry of Forestry taskforce in conducting surveillance in wild birds	1. Regular meeting of taskforce members on surveillance in wild birds 2. Rapid response meeting	1. Every (3) months 2. As soon as possible	Ministry of Forestry (MoF)
		Develop and improve networking for surveillance in wild birds	1. Broaden network with partners outside members of the Ministry of Forestry AI taskforce 2. Technical collaboration (Ministry of Forestry, Ministry of Agriculture, Ministry of Health, Ministry of Internal Affairs)	1. Throughout the year 2. Throughout the year	1. Ministry of Forestry 2. Komnas FBPI
2	Policy and Procedure	Apply policies and procedure for permits related to research, capture, and sampling of wild birds	Compile and socialize policies and procedure for permits related to research, capture and sampling of wild birds across all sectors	Four months for compiling and socialize throughout the year	Ministry of Forestry
3	Information Collection and Management	Establish and develop an information management system for surveillance in wild birds	1. Determine data (refer to the Ministry of Agriculture that will adopt the GAINS template) and reporting standardization 2. Decide target species (priority species) 3. Determine species target area (migratory and colonial bird habitat) including conservation areas and high risk areas (related to HPAI in poultry and human) 4. Data collection and mapping in in-situ and ex-situ area 5. Open information access across sectors 6. Develop a reporting and verification mechanism	Discussed in group 2 and 3	Discussed in group 2 and 3
		Improve public knowledge and awareness	1. Campaign through mass media (printed and electronic press) 2. Make publications (leaflet, brochure) 3. Improve knowledge about conservation through extensions (stop killing wild birds for conservation)	1. Throughout the year 2. Throughout the year 3. Throughout the year	1. Komnas FBPI and MoF 2. Komnas FBPI and MoF 3. Ministry of Forestry
		Strengthen information network	Establish a mailing list	A week after the wild bird workshop	Ministry of Forestry, Taskforce

Group Discussion 2

1. Development and implementation of guidelines for surveillance in wild birds (case reporting, rapid response, handling of samples and specimen, and monitoring).

No.	Activity	Time	Responsibility
1.	Establish a special team to develop the guidelines for AI surveillance in wild birds Team member should be from all sectors	2 weeks from now	KOMNAS FBPI, Wild Bird Workshop Organizing Committee
2.	Socialization to perfect the guideline draft a. Website b. Seminar c. Send through mail	1 month (Last week of May)	KOMNAS FBPI, Ministry of Forestry
3.	Finalize guidelines for AI surveillance in wild birds	Recommend: 1 month after event	Guideline development team

2. Application of the Flow Chart for Handling of Wild Birds for collection, handling, and laboratory testing of samples. Application of guidelines for Capture and Marking of Wild Birds (permit, tools and equipment, capture and handling, documentation, target species)

No.	Activity	Time	Responsibility
1.	Determination of target species and areas	As soon as possible: ex-situ à every 3 months; in-situ, when there is a case & in migratory birds à every 6 months	Competent institutions / organizations
2.	Apply permit procedures (include in guidelines) (WG 1)	As soon as possible	Directorate of Animal Health; Ministry of Agriculture (notification), Ministry of Forestry
3.	Surveillance	Adjusted to schedule	Competent institutions & organizations (requirements included in guidelines)
4.	Reporting of Surveillance Results: a. Seminar b. Scientific publication c. Report	2 months after surveillance	Those conducting the surveillance to the Ministry of Forestry and Ministry of Agriculture

3. Improve human resources, technical capacity (facilities and infrastructure, etc), and funding for surveillance in wild birds at both national and international level

No.	Activity	Time	Responsibility
1.	Training and assistance: a. Capturing methods b. Handling c. Sample collection in wild birds d. Public communication	Every 6 months	Competent institution/ organizations, KOMNAS FBPI
2.	Formal education : Scholarship	Annually	Educational institutes & donor agencies
3.	Place veterinarians in each Center for Conservation of Natural Resources (BKSDA)	Annually	Ministry of Forestry and BKN
4.	Provide facilities for the Wild Bird Health Post (POSKESBURLI)	As soon as possible	Ministry of Forestry

VII. CONCLUSION AND RECOMMENDATION

The National Workshop for Development of Avian Influenza Strategy and Surveillance Guideline in Wild Birds has been held for 3 days, from April 14th to 16th, 2008, at Hotel Salak the Heritage in Bogor. The workshop was attended by 49 participants from Komnas FBPI, Ministry of Forestry, Ministry of Agriculture, FAO, USDA and other international agencies, NGOs, associations, universities, laboratories, and research institutes.

In the seminar, presentations were divided into the following sessions:

- National Policy
- International Policy
- Wild Birds in Indonesia
- Capturing and Sample Testing Guidelines
- Wild Bird Surveillance in Indonesia

In the workshop, there was two discussion sessions, where participants were divided into 4 (four) groups for the first session and 2 (two) groups for the second session. The topics were :

- Notifiable diseases in wild birds and reference laboratories
- Collection, handling, and laboratory testing of samples
- Capture and marking of wild birds
- Networking and capacity building for AI surveillance in wild birds

From the presentations, several points were concluded :

- Avian influenza is still a global issue
- Several countries have successfully overcome the challenges of AI while Indonesia is still struggling and still has the most human victims
- So far all the data and information available still could not clearly describe the role of wild birds in avian influenza spread related to both farm (poultry) and human cases
- Many surveillance activities for avian influenza in wild birds have been done in Indonesia by research institutes, universities, conservation agencies, and NGOs
- There are guidebooks, published by FAO and IdOU, that could be used for surveillance in Indonesia, but Indonesia still needs a special guidebook that covers all avian influenza surveillance aspects for wild birds that is applicable for Indonesia's situation
- There is an urgent need to develop a National Avian Influenza Surveillance Strategy and Action Plan for wild birds

In regards with the issues above, workshop participants recommended :

- Development of National Strategy and Action Plan :
  a. Assign the special workshop team to finish the National Strategy and Action Plan
  b. Give 2 (two) month to finish the document
  c. Use information and data from the workshop for the National Strategy and Action Plan
  d. Entrust Komnas FBPI to work on the legislations needed to legalize the document
- Develop a guidebook that covers all avian influenza surveillance aspects for wild birds that could be nationally applied in Indonesia
- Strengthen coordination between sector through Komnas FBPI
- Include ecological issues and wild bird conservation in programs and funding from Komnas FBPI

Bogor, 16 April 2008

Report Team

VIII. PARTICIPANT

Seminar Participants

No.	Name	Institution
1.	Ir. Anwar, MSc.	Research and Development Center for Forest and Nature Conservation (P3HKA), Forestry Research & Development Institute
2.	Dwi Mulyawati	SBI Info
3.	drh. Erianto Nugroho	Center for Indonesian Veterinary Analytical Studies (CIVAS)
4.	Drs. Hasmar Rusmendro	Faculty of Biology, Nasional University
5.	Hikmat Kasmaran	Biology Stream, Faculty of Mathematic and Science, Padjajaran University
6.	Intan Silviana, SKM., MPH.	Faculty of Public Health Science, Indonesia Esa Unggul University
7.	Irene Lorinda Indalao, SSi.	Biomedical and Pharmacy Research and Development Center, Health R&D Center, Ministry of Health, Republic of Indonesia
8.	Karyadi Baskoro, MSi.	Biology Stream, Faculty of Mathematic and Science, Diponegoro University, Semarang
9.	Made Sri Prana	Indonesia Bird Conservation
10.	Dr. Agus Dwi Susanto, Sp.P	Medical Faculty, Indonesia University
11.	drh. Ooy S.K.	Tegal Alur Animal Rescue Center, BKSDA DKI Jakarta
12.	drh. R. D. Wiwiek Bagja	Indonesian Veterinary Medical Association (PDHI)
13.	Ririn Ramadhany, SSi.	Biomedical and Pharmacy Research and Development Center, Health R&D Institute, Ministry of Health, Indonesia
14.	Dr. Siti Sumarmi	Faculty of Biology, Gadjah Mada University
15.	drh. Sunandar	Center for Indonesian Veterinary Analytical Studies (CIVAS)
16.	drh. Syafri Edwar	Tegal Alur Animal Rescue Center, BKSDA DKI Jakarta
17.	drh. T. Arsentina Panggabean, MAP.	Veterinary Public Health Laboratory of DKI Jakarta
18.	Dr. Ir. Tonny Soehartono	Directorate of Biodiversity Conservation, Directorate General of Forest Protection and Nature Conservation, Ministry of Forestry, Republic of Indonesia
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