

**CONVENTION ON  
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**CONFERENCE OF THE PARTIES TO THE  
CONVENTION ON BIOLOGICAL DIVERSITY**Eighth meeting  
Curitiba, Brazil, 20-31 March 2006**REPORT OF THE MEETING ON THE IMPACT OF AVIAN INFLUENZA ON WILDLIFE***Note by the Executive Secretary***I. INTRODUCTION**

1. In the past few months, no day has passed without news about avian flu and its spread. Since February 2006, the highly pathogenic avian influenza virus has now been detected in 26 countries stretching from Asia to Europe and extending into Africa. Many lives have been claimed, with the latest reported just two days before the meeting, in Egypt. A report of the World Health Organization and the Food and Agriculture Organization of the United Nations indicates that 300 million farmers around the world have lost the equivalent of US\$ 11.4 billion as their flocks were killed in efforts to prevent the disease from spreading.
2. In response to global concern over the highly pathogenic avian influenza, the Executive Secretary and the Chair of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) agreed to convene a brainstorming meeting to assess the impact of the virus on biodiversity, on its conservation, sustainable use and the sharing of benefits from the utilization of genetic resources. In order to allow broad participation of the scientific and wider community in the exchange of information and experiences, the Executive Secretary organized an electronic discussion from 21 February to 10 March 2006. The results of the electronic discussions contained in annex I to this report were presented to the meeting.
3. The agenda of the meeting is included in annex II. Forty-eight participants attended the meeting (annex III), including 37 from Governments or national institutions and 11 from international organizations or non-governmental organizations (NGOs) dealing with avian influenza issues.
4. The meeting was opened at 9 a.m. by the Executive Secretary of the Convention, Mr. Ahmed Djoghlaif. After his statement, the Chair of SBSTTA welcomed the participants and described the objectives and expected outputs of the meeting. Mr. Rodolfo Navarro Nunes from Brazil welcomed the participants on behalf of the host country.
5. The following presentations were made :

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- 1) Diana Bell and Scott Robertson (by tele-conference) – University of East Anglia on “*Conservation implications of H5N1*”;
- 2) Bert Lenten – Executive Secretary of the African-Eurasian Waterbird Agreement (AEWA), also on behalf of the Convention on Migratory Species (CMS) and the Scientific Task Force on Avian Influenza on “*Activities of the Scientific Task Force on Avian Influenza*” and “*CMS and AEWA recommendations on avian influenza*”;
- 3) Nick Davidson – Ramsar Convention on “*Highly pathogenic avian influenza and its consequences for wetland and waterbird conservation and wise use*”;
- 4) Juan Lubroth – FAO-OIE on FAO-OIE activities in this area;
- 5) Luis Fernando Leanes – WHO on “*WHO-AMRO activities regarding avian influenza*”;
- 6) John Hough – UNDP provided some insights;
- 7) Mr. Rodolfo Navarro, on behalf of Karla Baêta – National Health Surveillance Agency, Brazil on “*Sanitary surveillance of ports, airports, borders and bonded enclosures*”;
- 8) William Karesh – Wildlife Conservation Society and IUCN on “*Broader perspectives on avian influenza and other wildlife and human health interfaces*”;
- 9) Reuben Shantikumar – University of California on “*Animal disease: a threat to biodiversity/wildlife conservation and human health*”; and
- 10) Christopher O’Grady – on behalf of Conor Kretsch – COHAB Initiative on “*Links between biodiversity and the emergence and spread of infectious disease entities*”.
- 11) Elizabeth Mrema – UNEP delivered a statement on behalf of Mr. Bakary Kante, Director of the UNEP Division of Environmental Conventions.

6. National and regional perspectives and experiences were presented by experts from of Argentina (María Elena Zaccagnini), Belize (Michael Deshield), China (Dayuan Xue), Egypt (Moustafa Fouda), Indonesia (Terseran Foun Cornelis), Palau (Joel Miles) and Thailand (Chaweewan Hutacherern and Varida Khumnirdpeteb). Laurent Ntahuga of IUCN/EARO described experiences in Eastern Africa.

## II. IMPORTANT FACTS

7. The threats posed by avian flu go beyond migratory species, waterbirds, birds in general, and wetlands. Many mammals have been reported to have been infected not only experimentally or in captivity but also in the wild. Yet there is no systematic monitoring of infection in nature. Some of the animals that are being infected belong to threatened taxa and populations. There are a number of knowledge gaps in particular with regard to the epidemiology of the virus; the geographic, temporal and ecological distribution of the virus; the root causes of emergence, resurgence and spread of the virus; and the sources of infection in outbreaks.

8. Highly pathogenic avian influenza (HPAI) H5N1 virus is not taxa-specific and appears to be highly pathogenic in a wide range of avian and mammalian species. Fatal infection of HPAI H5N1 have been reported in species belonging to 13 out of 27 avian orders, i.e., around 48 per cent, including the largest avian order, the Passeriformes, which contains nearly 6,000 of the total 9,917 avian species. These 13 orders comprise 84 per cent of all bird species.

9. Mammalian orders in which fatal HPAI H5N1 infections have been reported include the carnivores, primates, rodents, artiodactyla, and lagomorphs. The last four were found in experimental infection. Known carnivore species include the Bengal tiger, the leopard, the domestic cat, the stone marten and the Owston's civet. There are also unconfirmed reports in domestic dogs. It is highly likely that other mammalian infections have occurred but have gone unreported.

10. This list of known affected species includes 54 globally threatened and near- threatened species at high risk of exposure.

11. It is important to note that South-east Asia, where HPAI has become endemic in poultry over the past couple of years, is also a global hotspot for mammalian and avian biodiversity, including, for example, 23 species of Mustelidae and Viverridae (civets, etc.). Most of these are already threatened with extinction as a result of expanding international wildlife trade.

12. There is scientific evidence that outbreaks of many diseases, including severe acute respiratory syndrome (SARS), malaria, and the Human Immunodeficiency Virus (HIV) pandemic, have resulted from human impacts on habitats and wildlife — including, *inter alia*, ecosystem change, the bushmeat trade and the wildlife trade. The current international spread of the H5N1 strain of avian influenza virus may also be facilitated by these activities, and it is possible that human impacts on biodiversity could increase the risk of this and other diseases being transmitted to human populations.

13. The current approach in dealing with avian flu is more from a public health, epidemiological and veterinary perspective, focusing on short-term solutions. The Millennium Ecosystem Assessment and other initiatives, such as Ecohealth (UNEP, 2006), look at pandemics as ecological imbalance issues. This perspective is in agreement with the ecosystem approach which requires efforts to address the root causes of the issues in a holistic manner.

14. Reduced genetic diversity in poultry, due to the drive towards “monoculture” in the last 50 years, has resulted in reduced resistance to many diseases. The risk of a major devastation of the animal populations around the globe by one single pathogenic agent has increased many fold.

15. The measures taken to control or prevent the spread of avian influenza can have adverse impacts on biodiversity, directly or indirectly. In poorer countries that depend on backyard poultry for protein, temporary loss of culled poultry may increase subsistence hunting for wild species. Many human populations depend on wild birds directly for food security; the Inuit depend upon migratory waterfowl in the Spring.

16. There is an added risk to threatened bird species on oceanic islands. Their small population size and the presence of introduced predators and pathogens make them particularly vulnerable. These islands need to be particularly vigilant about trade in poultry and wild birds, and consider a total ban on imports.

17. Reinforcing what was agreed in the context of the Agreement on the Convention of African-Eurasian Migratory Waterbirds (AEWA), the Convention for the Conservation of Migratory Species of Wild Animals (CMS) and the Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat, it is emphasized that the culling of wild birds and mammals, and destruction of habitats are not scientifically sound methods of controlling the spread of the highly pathogenic avian influenza H5N1 virus but in fact can increase its spread.

18. Research into wildlife disease has been chronically under-funded unless there have been obvious and direct implications for human health. It is necessary to think beyond mechanisms of spread to implications for ecosystem stability and services, and species loss.

### **III. SUMMARY OF THE MAIN CONCLUSIONS OF THE MEETING IN THE CONTEXT OF THE EIGHTH MEETING OF THE CONFERENCE OF THE PARTIES TO THE CONVENTION ON BIOLOGICAL DIVERSITY**

19. The participants in the Meeting on the Impact of Highly Pathogenic Avian Influenza on Wildlife which took place in Curitiba, Brazil, on 19 March, 2006, noted that the following points needed to be brought to the attention of the eighth meeting of the Conference of the Parties to the Convention on Biological Diversity.

**Background – other initiatives in this field**

20. The third meeting of the Parties to AEWA, the ninth meeting of the Conference of the Parties to the Ramsar Convention, and the eighth meeting of the Conference of the Parties to the Convention on Migratory Species adopted resolutions that thoroughly cover issues of avian influenza in relation to waterbirds, migratory species and wetlands. Substantial work has already been done, and continues, on avian influenza by the Scientific Task Force on Avian Influenza convened by CMS, in line with the collaboration on implementation through the conventions' joint work plans.

21. Major contributions to this issue have also been made by the Food and Agriculture Organization of the United Nations (FAO), the World Health Organization (WHO), and the World Organization for Animal Health (OIE), amongst others.

**Why is this also relevant to the Convention on Biological Diversity?**

22. There are links between the HPAI H5N1 virus, biodiversity loss and the Millennium Development Goals, in particular the goals relating to poverty eradication. However, these links need to be clearly described.

23. In addition to the role of Governments in supporting ongoing initiatives on HPAI by AEWA, CMS and the Ramsar Convention, there are clear areas where the Convention on Biological Diversity can build upon these initiatives and add significant value, in particular due to its wider scope and its ecosystem approach. Duplication of effort should of course be avoided, but there are significant synergies possible across these and other multilateral environmental agreements.

24. Some of the additional areas where the Convention on Biological Diversity has a clearly identified, but not necessarily exclusive, stake and responsibility include, *inter alia*:

(a) Non-migratory species, avian species other than waterbirds and environments other than wetlands, particularly in view of the growing body of evidence of the transmission of avian influenza to mammals and other wildlife and to globally threatened taxa and populations of these;

(b) Ensuring the maintenance of the genetic diversity of wild and domesticated species as a measure to maintain the resilience of species and populations;

(c) Inline with the clear message from the findings of the Millennium Ecosystem Assessment, biodiversity plays a crucial role, *inter alia*, for the regulation and control of infectious diseases, mitigates against natural and human-induced hazards and supplies vital natural products and therapeutic compounds with medicinal and economic value; and

(d) Providing a holistic approach to problem solving regarding the intricate linkages between human health, animal health and the health of the environment.

**Pressing needs in the context of the Convention on Biological Diversity**

25. The meeting noted the following immediately obvious needs:

(a) The avian influenza/wildlife e-forum is a useful interactive tool for gathering information and exchanging ideas as a follow-up to the recommendations from this meeting and therefore its continuation should be encouraged;

(b) Ongoing activities relating to the HPAI virus under UNEP, CMS, AEWA, FAO/OIE and WHO have strong political backing;

(c) Non-governmental conservation organizations, national and international organizations, including in particular the WHO, OIE and FAO need greater support and capacity assistance so that they can (i) coordinate and integrate their efforts; and (ii) gather, synthesize and disseminate detailed site information of historic outbreaks in order to improve the understanding of routes and temporal aspects of the spread of the HPAI virus;

(d) Welcoming the fact that the Executive Secretary recently joined the Scientific Task Force on Avian Influenza established by the CMS Secretariat, it is necessary to use that expertise to gather more information beyond waterbirds and wetlands and disseminate needed data widely and avoid unnecessary duplication of efforts on issues relating to the HPAI virus;

(e) SBSTTA, in accordance with its mandate in Article 25 of the Convention, could further assess the interlinkages between ecosystem health, in particular human-induced ecosystem disturbances such as climate change and variability, and the risks and spread of avian influenza caused by the HPAI H5N1 virus and other pathogens. However, SBSTTA should build on existing initiatives and not duplicate efforts unnecessarily. Careful consideration should be given to the role SBSTTA should play and how that role should evolve. The work should take into consideration: (i) socio-economic and cultural considerations; (ii) global development goals; (iii) ongoing initiatives by other agencies and organizations; and (iv) the possible role of wildlife trade as a reservoir/mechanism of spread of zoonotic diseases on several continents;

(f) Strong mechanisms for monitoring and surveillance, including of illegal poultry and wildlife trade worldwide, are needed, as well as proactive national contingency plans and legal frameworks to ensure compliance;

(g) Governments and scientists — including, *inter alia*, ecologists, veterinarians, virologists — should develop further capacity for cross-sectoral cooperation and harmonization within and between countries in developed and developing regions on issues of disease and ecosystem health;

(h) Parties should be urged to support the Cooperation on Health and Biodiversity Initiative (COHAB) and similar proposals addressing the links between biodiversity and health as one of the measures which should be taken to address the issue of the global spread of the H5N1 virus and other pathogens, and the wider relationship between animal health, human well-being and wildlife conservation;

(i) The Global Environment Facility (GEF) and other donors should be invited to support projects for the establishment of Wildlife Veterinary Units and regional and subregional wildlife disease training centres in developing countries, for capacity-building in the management of wildlife diseases, and provide resources to carry out more research into the epidemiology of wildlife diseases, including avian influenza; and

(j) Relevant authorities should be requested to make available to countries project funding, from the January 2006 Beijing Pledging Conference for avian influenza and human pathogenic preparedness, for biodiversity issues related to the H5N1 pandemic.

*Annex I*

**SUMMARY OF THE CONTRIBUTIONS TO THE E-DISCUSSION FORUM <sup>1/</sup>**

The electronic discussion was held from 21 February to 10 March to draw information and suggestions from a wide community on the following three main themes:

1. Geographic and ecological distribution of the highly pathogenic avian influenza (HPAI) H5N1 virus and the disease it causes, including methods and routes of spread/transmission, with a focus on its impact on mammals;
2. Measures/initiatives for the surveillance, control and prevention of the HPAI H5N1 virus at the global, regional and national level, and their known or potential short- and long-term impacts on biodiversity goods and services; and
3. Recommendations to Governments attending the eighth meeting of the Conference of the Parties to the Convention on Biological Diversity to protect biodiversity from the highly pathogenic avian influenza H5N1 virus, to the benefit of all life on Earth.

The contributions of various experts and practitioners to the e-forum are compiled below.

**Theme 1. Geographic and ecological distribution of the highly pathogenic avian influenza (HPAI) H5N1 virus and the disease it causes, including methods and routes of spread/transmission with a focus on its impact on mammals.**

*Lists of animals* that have been infected by the HPAI H5N1 virus in nature, in captivity or experimentally have been compiled (i.e. [http://www.nwhc.usgs.gov/disease\\_information/avian\\_influenza/affected\\_species\\_chart.jsp](http://www.nwhc.usgs.gov/disease_information/avian_influenza/affected_species_chart.jsp)).

H5N1 is highly pathogenic in a wide range of avian orders. A number of mammalian taxa, particularly carnivorous /scavenging species, can also be infected, certainly experimentally but also in captivity and in nature. There is no systematic monitoring of infection in nature.

*With regard to the geographic, temporal and ecological distribution of the HPAI H5N1 virus and the avian flu*, the following points were highlighted:

- There has been much discussion of the relative roles played by movement of poultry *versus* migratory birds as mechanisms of HPAI dispersal to new countries. It is believed that this debate has diverted attention away from equally important questions relating to the range of wild avian and mammalian species that may be adversely affected.
- In any new country, it is important to consider all possible sources of viral exposure. Legal and illegal poultry trade can be an important mechanism of spread.
- While acknowledging that infected wild birds may be able to disperse the HPAI viruses over limited distances, reports indicate that wild birds and mammals are more likely to be sentinels for the presence of HPAI infections in poultry (that is be locally infected via poultry).

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<sup>1/</sup> The summary presented here does not represent necessarily the views of the Secretariat of the Convention on Biological Diversity. It is merely a synthesis of the contributions made to the e-forum.

*The following gaps in knowledge, which are critical in designing strategies for the control or prevention of spread of the HPAI H5N1 virus, were identified:*

- Root causes of emergence, resurgence and spread of the lethal virus. There are indications of linkages between ecosystem disturbance and outbreaks;
- Sources of infection in outbreaks;
- Nature of species at highest risk from infection and those that may act as useful indicators for the presence of the virus in ecosystems;
- Role of the movement of infected material, including feed or fertilizer derived from poultry products;
- Behaviour of the virus in wild birds and the wider environment;
- Impact of measures taken to control the spread, more specifically impact of culling on further spreading the virus; and
- The opportunity for further viral dissemination into ecosystems through access to scavenging species (avian and mammalian).

It should be noted that the current approach in dealing with avian flu is more from a public health, epidemiological and veterinary perspective, focusing on short-term solutions. The Millennium Ecosystem Assessment and other initiatives such as Ecohealth (UNEP, 2006) look at pandemics as ecological imbalance issues. This approach is in agreement with the ecosystem approach of the Convention on Biological Diversity and direct efforts to address the root causes of the issues.

*Needed:* coordinated multidisciplinary research to further document the linkages between ecosystem health, HPAI H5N1 avian flu and human and animal health.

*Gaps in accessibility to information*

- No ready access to information from past/recent avian influenza virus (AIV) surveillance from other countries, even in the same region — , especially information on which species that are being sampled, numbers and locations — and information on host susceptibility and competence (i.e., whether or not any given species of migratory bird actually can transmit the H5N1 virus if infected). This information may be available at the national level.

*Needed:*

- An international **clearing-house mechanism** for disseminating results from active environmental monitoring programmes for HPAI, particularly for rare or threatened species. Information on the temporal spread of the virus, supported by genetic studies on virus origins, will also be of importance in establishing any potential links between the spread of the disease and ecosystem disturbance.
- Provision of advice to national Governments, currently hampered by lack of ready access to results of past/recent AIV **surveillance** activities from other countries. Ready access to relevant information could facilitate a more strategic approach to developing surveillance programmes at the national level and enhance predictive ability.

**Theme 2. Measures/initiatives for the surveillance, control and prevention of the HPAI H5N1 virus at the global, regional and national levels, and their known or potential short and long-term impacts on biodiversity goods and services.**

Measures taken for the control and prevention of avian influenza at the global, regional and/or national levels that should/could include, *inter alia*:

- An early warning system. CMS has been tasked by UNEP to establish an early warning system for avian flu, including an analysis of migration paths and hotspots for possible contact between migratory birds and poultry, i.e., areas where domesticated animals and

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wildlife have to share the same habitat, and the mapping of those areas that must be alerted of a possible outbreak; and

- Vaccination, confinement, quarantine and culling.

When considering impacts of measures taken, the following need to be taken into account:

- In those countries most dependent upon backyard poultry as a source of protein temporary loss of poultry following widespread culls may affect the health of human populations and increase already unsustainable levels of subsistence hunting for wildmeat (bushmeat). Effective compensation to owners of culled poultry is vital in these countries (particularly those African countries already facing severe food shortages following drought) and is likely to require international aid.
- Many relevant organizations do not support culling or destruction of waterbird habitat. These strategies are costly and ineffective, and are likely to make matters worse. They may disperse infected birds over a wide area or crowd birds into remaining areas, making them more vulnerable to infections. Culling attempts may kill or cause disturbance to non-target species of conservation concern. In fact the three resolutions adopted by the Ramsar Convention, AEWa and CMS last year have unanimously condemned both culling and measures that destroy or substantially modify wetlands and other habitats on the grounds that such measures might exacerbate the problem by causing further dispersion of infected birds. Governments should continue to inform the media and local officials on the potential ecological and economic costs of these approaches.

*Needed:* Documentation of known and potential environmental and socio-economic impacts of these measures on the ecology of affected areas (e.g., inter-species relationships and migration) and on biodiversity goods and services.

**Theme 3. Recommendations to Governments attending the eighth meeting of the Conference of the Parties to the Convention on Biological Diversity to protect biodiversity from the highly pathogenic avian influenza H5N1 virus, to the benefit of all life on Earth.**

*Recommendations to the eighth meeting of the Conference of the Parties proposed in the e-forum \**

*Needed:*

- Identify and address root causes of emergence, resurgence and spread of the lethal virus. (e.g., reduced genetic diversity in chicken, ducks, etc. due to the drive towards "monoculture" in the last 50 years with subsequent reduction in resistance to diseases. The risk of devastating animal populations around the globe by one single pathogenic agent has increased many folds).
  - Thus Governments and relevant organizations, e.g., FAO should further encourage/support animal genetic diversity in farming systems.
- Since animal diseases have a direct impact on biodiversity, Governments and relevant organizations should invite the Global Environment Facility (GEF) and other donors to support projects for the establishment of wildlife veterinary units in developing countries, assist in capacity-building of veterinarians in the management of wildlife diseases, and

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\* These are not necessarily the recommendations of the meeting.



provide resources to carry out more research into the epidemiology of wildlife diseases, including avian influenza.

- Review the conservation status and ecological niche of avian and mammalian taxa known to be affected by the HPAI H5N1; highlight those species at highest risk from infection; and consider the implications of these findings for short- and long-term persistence of key taxa. Review information on taxa which may act as useful indicators for HPAI presence in ecosystems, and highlight the need to set up monitoring and surveillance of these.
- Document wildlife trade as a reservoir/mechanism of spread of zoonotic diseases on several continents.
- Increase monitoring/surveillance of illegal poultry trade worldwide.

The issue of HPAI and other emerging diseases highlights the importance of mainstreaming biodiversity into national and international policies on health and development, a goal towards which sufficient progress is not being made. The First International Conference on Health and Biodiversity (COHAB 2005), held in Ireland in August 2005, made several recommendations regarding the relationship between biodiversity, health and development. COHAB 2005 noted in particular that:

- The Convention on Biological Diversity requires that biodiversity is appropriately accounted for in environmental impact assessments, and in all areas of local and national policy, including health, transport, tourism, trade, education etc. However, these requirements are not being adequately addressed in many regions.
- The need to adopt a truly holistic approach that considers the protection of biodiversity and the wider environment as a vital part of all local, national and international health and development objectives is clear. Governments must ensure in particular that programmes for safeguarding human, plant and animal health take due cognizance of the risk which biodiversity loss represents, and that programmes in other sectors do not conflict with that goal. The use of strategic environmental assessments can play a significant role in addressing this issue and in the implementation of the strategic objectives of the Convention on Biological Diversity.
- The relationship between biodiversity loss and the emergence and spread of new and more virulent disease organisms is of great international significance. There is scientific evidence that outbreaks of many diseases, including SARS, malaria, and the HIV pandemic, have resulted from human impacts on habitats and wildlife — including, *inter alia*, ecosystem change, the bushmeat trade and the wildlife trade. The current international spread of the H5N1 strain of avian influenza may also be facilitated by these activities, and it is possible that human impacts on biodiversity could increase the risk of this and other diseases being transmitted to human populations. Failure to address the root causes of disease emergence associated with ecosystem change or impacts on wildlife could have severe global consequences. Therefore, it is essential that the use of biodiversity indicators and the protection of ecosystems be integrated into international efforts to prevent emerging infectious diseases.

*Needed:*

- Meeting these challenges requires greater proactivity from:
  - Governments, which should support and engage more directly with initiatives established to identify and address the links between biodiversity, health and development;

- The scientific community, which should continue to work to identify and overcome the conceptual barriers that currently exist between the biodiversity, health and development sectors;
  - Governments and scientists — including ecologists, veterinarians, virologists, etc. — to further develop capacity for cross-sectoral cooperation and harmonization within and between countries in developed and developing regions on issues of disease and ecosystem health. The importance of incorporating biodiversity conservation programmes into national action plans on the United Nations Millennium Development Goals — particularly those dealing with health and disease — must also be highlighted; and
  - Veterinarians, ecologists, virologists and local people familiar with the region, who should collaborate to compile relevant details on the location of the outbreak and potential vectors for the disease.
- Organizations, including international agreements such as the CMS, Ramsar and AEWA, need additional support so that they can co-ordinate and integrate their efforts with those of the FAO and OIE.
  - Greater support and capacity assistance is needed by conservation organizations, national Governments and organizations such as the OIE and FAO to obtain, synthesize and disseminate detailed site information of historic outbreaks in order to improve understanding of transmission routes.
  - The resolutions from the three multilateral environmental agreements (the Ramsar Convention, the Convention on Migratory Species and the African-Eurasian Waterbird Agreement) in October and November 2005 have established that there is a need for:
    - Correct scientific information on the spread of the virus and its paths. Ill-informed responses may have unfortunate and possibly disastrous long-term consequences for conservation.
    - Identification of the nature of migration routes and timing for key migratory waterbirds to expand and/or refine existing ecological monitoring of these populations.
    - Support and capacity-building for research and long-term monitoring of bird movements and populations, and rapid development of surveillance programmes.
    - Analysis of extensive and long-term data sets relating to bird movements, waterbird counts, trade and movements of people in order to improve policy responses to outbreaks.
    - Identification of areas of higher risk and development.
    - Enhanced security measures, through, inter alia, the development and implementation by competent authorities of agriculture and farming standards and strategies that limit the risk of disease transmission between wild and domestic animals.
    - Support of the Task Force led by CMS on avian influenza.

*The eighth meeting of the Conference of the Parties should:*

1. Provide strong political backing of the ongoing activities under AEWA/UNEP, Ramsar and the CMS;
2. Join the existing activities successfully undertaken under CMS and in particular should join the Task Force. Duplication of efforts should be avoided;

3. Request its scientific body to further assess the interlinkages between ecosystem health, in particular human-induced ecosystem disturbances, such as climate change and variability, and the risks and spread of pathogenic diseases, such as avian flu caused by the lethal H5N1 virus, in humans and animals, taking into account socio-economic and cultural considerations, in the context of the global development goals, and in cooperation with ongoing initiatives (under the Scientific Task Force, WHO/FAO/OIE, Ecohealth, COHAB etc.). The study should include proposals on short- and long-term measures to prevent and/or control the spread of diseases.

*Annex II*

**AGENDA OF THE MEETING**

**MORNING SESSION**

1. Opening of the meeting: Welcome and introductory remarks
  - 1.1 Ahmed Djoghlaf, Executive Secretary of the Convention on Biological Diversity
  - 1.2 Christian Prip, Chair of SBSTTA
2. Summary of the e-forum (Secretariat of the Convention on Biological Diversity)
3. Presentations and discussions on ongoing initiatives

**AFTERNOON SESSION**

4. National experiences with avian flu in Asia, Europe and Africa
5. Recommendations to the eighth meeting of the Conference of the Parties to the Convention on Biological Diversity
6. Closure of the meeting

*Annex III***LIST OF PARTICIPANTS**

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|---|---|
|   | University of California, Davis   |
| 1. Nick Davidson<br>Deputy Secretary General<br>Ramsar Convention on Wetlands   | 13. Mario Silva<br>Direção de Serviços de Conservação da<br>Natureza<br>Instituto da Conservação da Natureza<br>Lisboa<br>Portugal              |
| 2. Dr. Moustafa Fouda<br>Director<br>Nature Conservation Section<br>Cairo - Egypt   |   |
| 3. Mr. Bert Lenten<br><br>The African-Eurasian Migratory Waterbird Agreement<br>(UNEP/AEWA)<br>Bonn, Germany  | 14. María Elena Zaccagnini<br>Biodiversidad y Gestión Ambiental<br>Instituto de Recursos Biológicos (IRB)<br>Argentina                          |
| 4. Mr. Joel E. Miles<br>Office of Environmental Response and Co-Ordination<br>Republic of Palau   | 15. Daisuke Khadowaki<br>Biodiversity Policy Division<br>Nature Conservation Bureau<br>Ministry of Environment<br>Japan                         |
| 5. William B. Karesh, D.V.M.<br><br>Director, Field Veterinary Program<br>Co-Chair, IUCN SSC Veterinary Specialist Group<br>Wildlife Conservation Society | 16. Eleni Tryfon<br><br>Nature Management Section<br>Ministry for the Environment, Physical<br>Planning<br>and Public Works<br>Athens<br>Greece |
| 6. Shirin Karryeva<br><br>Member of SBSTTA Bureau<br>Turkmenistan   | 17. Hardo Lilleväli<br><br>Ministry of Environment, Department of<br>Nature Conservation<br>Denmark   |
| 7. Dr Juan Lubroth<br>Infectious Disease Group - Animal Health Service,<br>Animal Production & Health Division<br>FAO                                     | 18. Karla Baêta<br>National Health Surveillance Agency<br>Brazil  |
| 8. Mr. Karel Jan Stolc<br>Ministry of Agriculture<br>The Czech Republic   | 19. Mr Rodolfo Navarro Nunes<br>National Health Surveillance Agency<br>Brazil   |
| 9. Dr Ian Bainbridge<br><br>Environment Group - SEERAD<br>Scotland  | 20. Luis Fernando Leanes<br>Panamerican Health Organization -<br>PANAFTOSA  |
| 10. Dr. Chaweevan Hutacherern<br>Department of National Parks, Wildlife and Plant Conservation<br>Thailand  | 21. Leonardo Vianna Mohr<br>IBAMA<br>Brazil   |
| 11. Dr. John L Hough<br>Principal Technical Advisor - Biodiversity<br>UNDP  | 22. Terseran Foun Cornelis<br>Minister Councillor/ Charge d' Affaires ad<br>Interim<br>Embassy of Indonesia                                     |
| 12. Dr.S.Reuben Shanthikumar, DVM, DTVM, MS<br><br>Office for International Programs  |   |

Brazil

23. Alfred A. Oteng-Yeboah  
CSIR-Ghana  
Accra  
Ghana

24. Oyundan Navaan-Yunden  
Ministry of Nature and Environment  
Mongolia

25. Oum Pisey  
Ministry of Environment  
Cambodia

26. Michael Deshield  
Belize Agricultural Health Authority  
Belize

27. Christopher O'Grady  
Delegation of Ireland

28. David Kelly  
Delegation of Ireland COP8

29. Marcus Barros  
IBAMA (Brazilian Federal Environment  
Institute)  
Brazil

30. M<sup>a</sup> Delores S. Purificação  
Agência Nacional de Vigilância Sanitária -  
ANVISA  
Brazil

31. Cíntia F. Parenti  
ANVISA  
Brasil

32. Maria Flávia Conti Nunes  
CEMAVE-IBAMA  
Brazil

33. Dr. Laurent Ntahuga  
IUCN/EARO  
Nairobi  
Kenya

34. Aloem Bourscheit  
MOPS/COP8 Press  
Brazil

35. Reinaldo José Lopes  
Science writer  
Folha de Sao Paulo Newspaper  
Brasil

36. Gisele Teixeira  
Ministry of Environment  
Brazil

37. Jean-Patrick Le Duc  
International Affairs  
Museum National d'Histoire Naturelle  
Paris  
France

38. Chizuo Mario Oshua  
IPS News Agency  
Rio de Janeiro

39. Dayuan Xue  
Nanjing Institute of Environmental Science,  
SEPA  
Nanjing  
China

40. Carlos Berrozpe Garcia  
European Commission  
International Environmental Agreements

41. Ward Hagemeyer  
Wetlands International  
Wageningen  
The Netherlands

42. Elizabeth Maruma Mrema  
United Nations Environment Programme  
Nairobi  
Kenya

43. Margaret Oduk  
United Nations Environment Programme  
Nairobi  
Kenya

44. Krista Blackborrow  
Environment Canada  
Gatineau, QC  
Canada

45. Maria Berlekom  
Swedish International Biodiversity Programme  
(SwedBio)  
Uppsala  
Sweden

46. Dr. Varida Khumnirdpeteb  
Department of Livestock Development  
Bangkok  
Thailand

47. Dr. Vithet Srinetr  
Ministry of Natural Resources and Environment  
Bangkok  
Thailand