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OIE - The World Organisation for Animal Health

Veterinary Bulletin - Agriculture, Fisheries and Conservation Department Newsletter

By Authors: Dr. Barry BOUSFIELD and Dr. Richard BROWN

What is the Office International des Epizooties (OIE)?

The Office International des Epizooties (OIE) (世界動物衛生組織) is the intergovernmental organisation responsible for improving animal health worldwide. In 2010, it consisted of a total of 178 Members.

OIE logo (Source from OIE)

The OIE is the World Organisation for Animal Health!

In May 2003 the OIE became the World Organisation for Animal Health but it kept its historical acronym OIE. The main mission of the organisation is to improve the health and the welfare of animals all over the world regardless of the cultural practices, or the economic situations in member countries.

Nearly one hundred years ago in 1920 an epizootic of rinderpest (牛瘟) swept through Belgium killing thousands of cattle. The disease had originated in India and concern over the spread led to an international conference in Paris in March 1921. An international agreement was reached on 25 January 1924 by 28 countries. The OIE was born.

So, long before the United Nations Organization (聯合國) (United Nations) and the Food and Agricultural Organization (FAO) (聯合國糧食及農業組織) were created, the OIE had commenced its work to ensure transparency in the global animal disease situation, to disseminate veterinary scientific information and to encourage solidarity in the control of animal diseases. Unseen by many it has quietly gone about its business for decades. It has achieved its first aim, which was to be a major player in the eradication of one of the greatest scourges of cloven-hoofed animals' rinderpest. Rinderpest had the ability, by killing cattle and other species, of creating starvation on a nationwide scale.

The OIE continues to have successes in reducing the total amount of animal and aquatic disease in the world. It is also a very significant counter balance to the new increased risk of animal disease spreading

Rinderpest: A plague that could kill thousands of cattle.
(Source from College of Veterinary Medicine, Texas A&M University)

caused by the increase in global trade and transport. It is an organisation which uses peer reviewed science to guide it: this may well be why it is seldom found in the news. Its aim is simply to benefit all living creatures. It relies on the cooperation goodwill and scientific excellence found in all its members for its continuous progress.

The OIE is witness that mankind, when he is creative and cooperative can make significant improvements to the world. In the last two years the OIE has scored its greatest victory: the successful eradication of Rinderpest, the disease that started the whole process off. Rinderpest is the first major animal epidemic virus to be eradicated from the world. But the OIE will not rest there. By working within its area of animal disease, it works tirelessly to make the world a safer place for everyone.

What is the point of the OIE?

The 28 founding countries wished to implement an international agreement that would enable them to work together to try to put an end to the terrible disease outbreaks (epizootics), which were devastating their livestock at the time, namely rinderpest (see photograph above). In particular, they sought an undertaking from infected countries to inform the others of important disease outbreaks. This enabled countries with less disease to take protective action. This then resulted in less spread of diseases worldwide. They also wished to create and share information on the most effective methods of controlling the most dangerous animal diseases.

The OIE aims to control animal diseases which are important to man; that is diseases which can infect man (zoonoses) (see the Veterinary Bulletin of May 2010) or diseases that can affect man's food supply and or trade. It is vital that these zoonoses do not become common and make many people sick. Many animals, birds and fish are part of our diet: we eat them. If the numbers of these living creatures was suddenly greatly reduced due to animal disease, many people all over the world could starve.

What standing does the OIE have?

The OIE is respected all over the world. In 1994, trade agreements led to the creation of the World Trade Organisation (WTO). These Sanitary and Phytosanitary Measures (SPS) Agreements included specific measures on the prevention of health problems relating to the risks posed by trade in animals and animal products (e.g. leather, meat, milk, honey and gelatine).

The WTO had to find a body or organisation to help promote safe trade in animals and animal products throughout the world. The WTO chose the OIE because the OIE's decisions are science-

based. The standards, guidelines and recommendations issued by the OIE were then designated by the WTO as the international reference in the field of animal diseases and zoonoses (examples of zoonoses would be rabies, bovine spongiform encephalopathy (BSE) (瘋牛病), and highly pathogenic H5N1 avian influenza).

The Objectives of the OIE

The OIE has six key objectives: (1) Ensure transparency in the global animal disease situation. (2) Collect, analyse and disseminate veterinary scientific information. (3) Encourage international solidarity in the control of animal diseases. (4) Safeguard world trade by publishing health standards for international trade in animals and animal products. (5) Improve the legal framework and resources of national Veterinary Services. (6) Provide a better guarantee of food of animal origin and to promote animal welfare through a science based approach.

OIE Objective (1): Ensure transparency in the global animal disease situation.

"Make sure everyone knows where serious animal disease is occurring."

Each OIE Member Country undertakes to report the animal diseases that it detects on its territory (see page 15 for the list of diseases). The OIE then disseminates this information to other member countries, which can then take the necessary preventive action. This information also includes diseases transmissible to humans and the intentional introduction of pathogens. Information is sent out immediately or periodically depending on the seriousness of the disease. The method of dissemination is via email, RSS or through the Internet. At http://www.oie.int/ you will find the home page of the OIE.

Since 2002, the distribution list on animal disease information has been opened to any institution or person interested in receiving information about this list in near real time. You too, can yourself go to the website and find many interesting things about all these diseases. It is an easy website to explore.

OIE Objective (2): Collect, analyse and disseminate veterinary scientific information.

"Make sure everyone knows about the latest scientific facts."

The OIE collects and analyses the latest scientific information on animal disease control. Guidelines are prepared by the worldwide network of about 200 OIE Collaborating Centres and Reference Laboratories for all the many different diseases. This information is then made available to Member Countries to help them to improve the methods used to control and eradicate these diseases. Scientific information is also disseminated through various articles and periodicals published by the OIE, notably the Scientific and Technical Review. This is

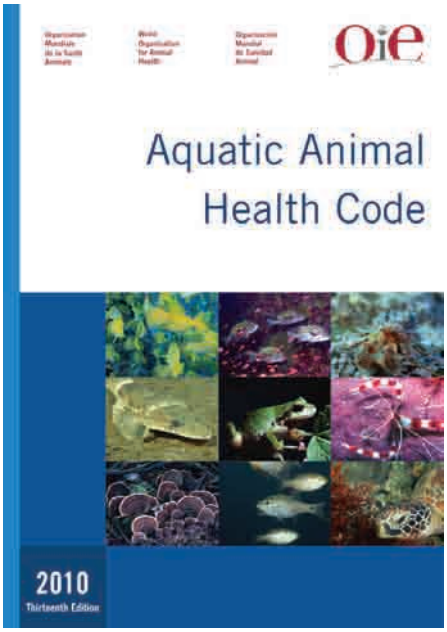
75th OIE General Session, Paris (France), 20-25 May 2007 (Source from OIE)

issued three times a year. With so many parties involved and so much double-checking the information is very reliable and trustworthy. The OIE does not disseminate scientific theories: it aims to broadcast scientifically agreed facts. In this regard, it is very different from discovering information on the Internet.

OIE Objective (3): Encourage international solidarity in the control of animal diseases.

"Make sure all countries work together in getting rid of animal disease."

The OIE provides technical support to Member Countries requesting assistance with animal disease control and eradication operations, including diseases transmissible to humans. The OIE notably offers expertise to the poorest countries to help them control animal diseases that cause serious livestock losses, present a risk to public health and threaten other Member Countries. 'Bird Flu' highly pathogenic H5N1 avian influenza and foot and mouth disease being examples.



OIE Publication - Aquatic Animal Health Code
(Source from OIE (http://www.oie.int/boutique))

OIE Objective (4): Safeguard world trade by publishing health standards for international trade in animals and animal products.

"Set rules about animal health which all obey for fair trading."

The OIE develops documents relating to rules that Member Countries can use to protect themselves from the introduction of diseases and pathogens, without setting up unjustified barriers. An unjustified barrier could for example be an excessively difficult and complex health certificate requirement. A country has to give a reason why it is deviating from the standard OIE requirements. This can be done: one usual method is by a risk analysis study showing the country has an increased risk compared to 'normal' countries. So it is therefore justified in this particular and unique situation to ask for a more complex health certification.

The four main reference books produced by the OIE are: the Terrestrial Animal Health Code, the Manual of Diagnostic Tests and Vaccines for Terrestrial Animals, the Aquatic Animal Health Code and the Manual of Diagnostic Tests for Aquatic Animals.

OIE Objective (5): Improve the legal framework and resources of national Veterinary Services.

"Improve veterinary services all round the world."

The OIE strongly supports Veterinary Services and laboratories worldwide but particularly those in

developing and transition countries which are in urgent need of support, by providing them with the necessary infrastructure, resources and capacities to protect animal and public health and to enable such countries to benefit more fully from the WTO SPS Agreements.

The OIE considers Veterinary Services as a 'global public good' and recommends that the bringing into line of international standards (structure, organisation, resources, capacities, role of paraprofessionals etc.) be a country's public investment priority.

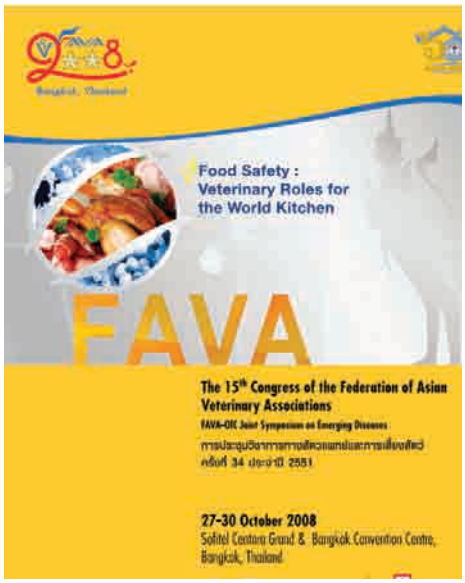
OIE Objective (6): To provide a better guarantee of food of animal origin and to promote animal welfare through a science based approach.

"Make animal welfare better and food from animals safe to eat."

The OIE Member Countries provide a better guarantee of the safety of food of animal origin. The OIE does this by linking some of its activities with those of the Codex Alimentarius Commission (CAC) (a joint World Health Organization (WHO) and FAO body). The OIE's standard-setting activities in this field focus on eliminating potential hazards existing prior to the slaughter of animals or the primary processing of their products (meat, milk, eggs, etc.) that could be a source of risk for consumers.

The OIE has always played a key role in its capacity as the sole international reference organisation for animal health. It enjoys international recognition and benefits from direct collaboration with the Veterinary Services of all its Member Countries. The OIE recognises that there is a close relationship between animal health and animal welfare. Thus at the request of its Member Countries the OIE has now become a leading international organisation responsible for promoting

OIE Conference on animal health (Source from OIE)



FAVA & OIE Congress Advertisement (Source from OIE)

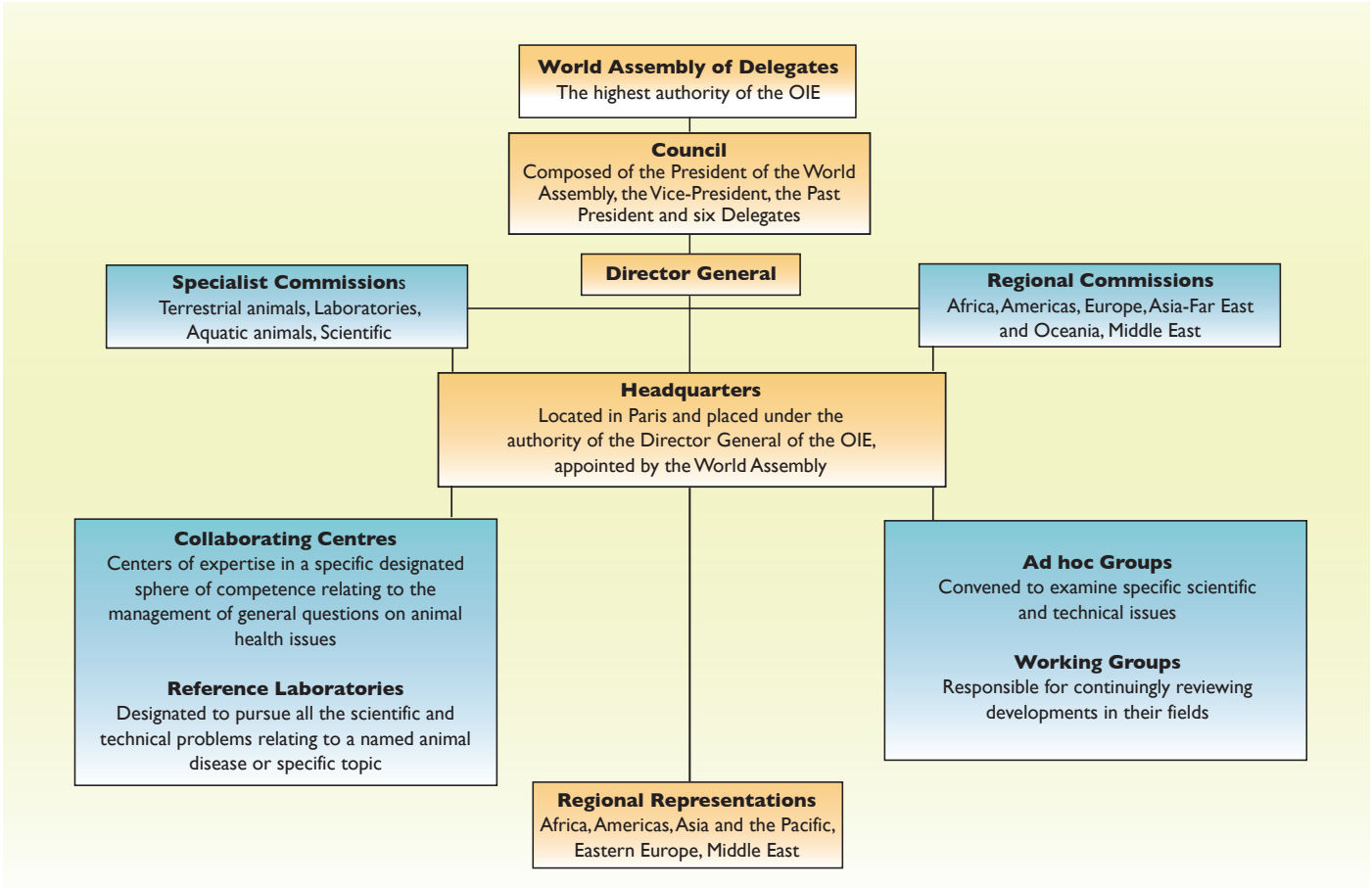
animal welfare. Given the many diverse cultures of all the member countries this is a striking compliment to its capabilities.

THE STRUCTURE AND WORKINGS OF THE OIE

How does the OIE function?

The OIE is placed under the authority of a World Assembly of Delegates consisting of Delegates designated by the Governments of all Member Countries. (See Box below of the OIE Structure.) They meet at the Annual General Session of the World Assembly of Delegates of the OIE.

The OIE Structure



The day-to-day operation of the OIE is managed and led at the OIE Headquarters in Paris, by a Director General who is elected by the World Assembly of Delegates.

The OIE Headquarters implement the resolutions voted by the World Assembly of Delegates and developed with the support of Specialist Commissions elected by the Delegates.

The OIE financial resources are derived principally from compulsory annual contributions backed up by voluntary contributions from Member Countries.

The Paris Headquarters (Source from OIE)

What does the OIE World Assembly of Delegates do in Paris each May?

The World Assembly of Delegates, the highest authority of the OIE, comprises all the Delegates.

The General Session of the World Assembly of Delegates lasts five days and is held every year in May in Paris. Voting by Delegates within the Assembly respects democratic principles.

During the General Session, much necessary work is done. Delegates adopt and approve international standards in the field of animal health, especially for international trade. They also adopt resolutions on the control of the major animal diseases. In addition, they appoint the Director General of the OIE and Members who are elected for all the governing bodies of the OIE. They examine and approve the annual report of activities and the financial report of the Director General and they agree and approve the annual budget of the OIE. Delegates also meet their respective Regional Commissions to discuss problems of common interest.

In addition to the above, one or two technical items of great general interest are dealt with by speakers chosen for their specialist knowledge. To assist reporters and the media a summary of the animal health situation worldwide is presented. If it is thought the media might require additional information, each Member Country provides it.

What do the 4 OIE Specialists Commissions do?

The World Assembly of Delegates of the OIE elects members of each of the four Specialist Commissions for a three-year term.

The OIE's Specialist Commissions use current scientific information to study problems of animal disease. In particular they study how disease spreads, how to prevent disease and how to control disease when it does occur. This is the epidemiology, the prevention and control of animal diseases. They then develop and revise OIE's international standards. They also try to solve scientific and technical problems raised by Members. All reports from OIE Specialist Commissions are published

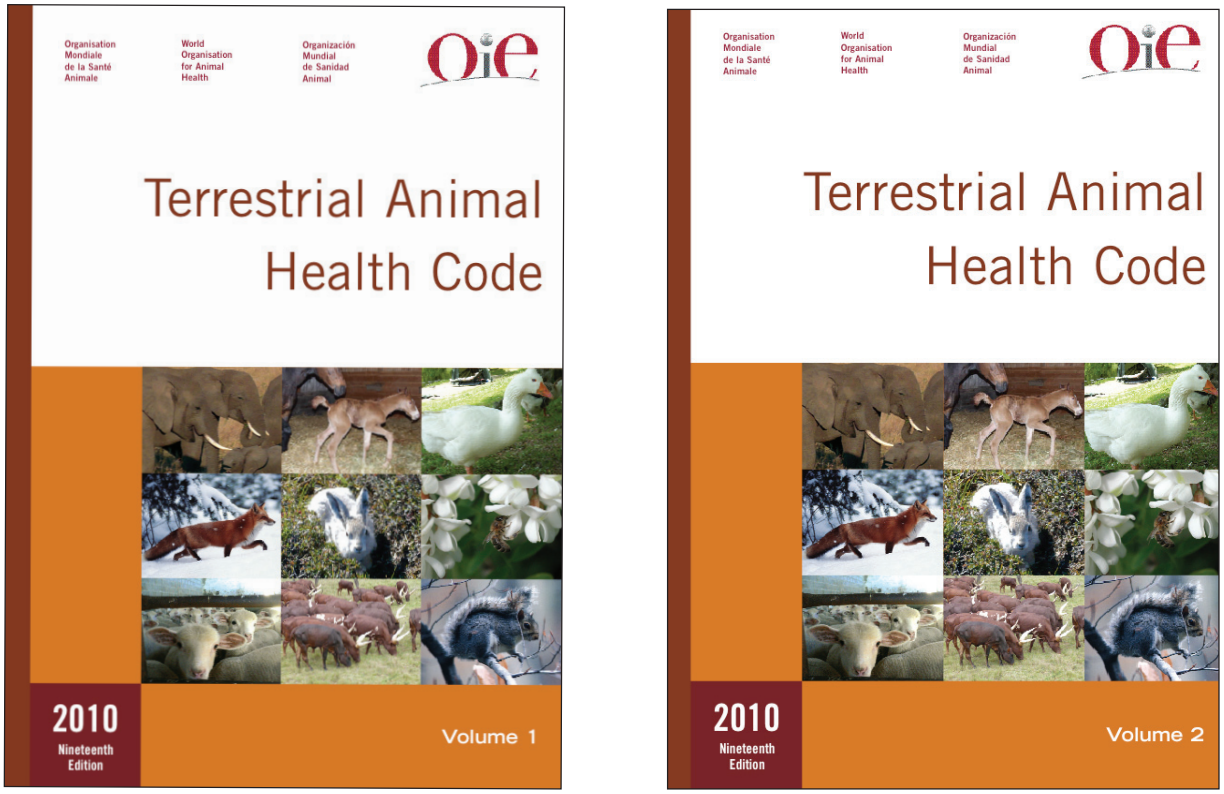
on the OIE public website and incorporate, as appendices, the accepted reports from relevant OIE Working Groups and Ad hoc Groups.

The word 'expert' or 'specialist' is used too frequently throughout the 21st Century world. But the experts and specialist used by the OIE are truly leaders in their fields. Many are based in the top laboratories or universities of the world. The full list can be found at

http://www.oie.int/en/our-scientific-expertise/reference-laboratories/list-of-laboratories/

(1) The OIE Terrestrial Animal Health Standards Commission ("Terrestrial Code Commission")

Founded in 1960, the Terrestrial Code Commission is responsible for ensuring that the recommendations of the Terrestrial Animal Health Code (the Terrestrial Code) reflect current scientific information on the protection of international trade and surveillance methods for animal diseases and zoonoses. It works with international specialists to prepare draft texts for new articles for the Terrestrial Code. It revises existing articles in light of advances in veterinary science. As well, the Terrestrial Code Commission collaborates closely with the Aquatic Animal Health Standards Commission on issues



OIE Publications - Terrestrial Animal Health Code Volume 1 & 2
(Source from OIE (*http://www.oie.int/boutique*))

needing a harmonised approach, and with the Biological Standards Commission and the Scientific Commission for Animal Diseases to ensure the Terrestrial Code Commission is utilising the latest scientific information in its work. The views of the Delegates of Member Countries are routinely sought through the circulation of draft and revised texts and, at each General Session, the Delegates discuss and formally adopt the draft texts as OIE standards. These texts are then incorporated into the next edition of the Terrestrial Code.

(2) The OIE Scientific Commission for Animal Diseases ("Scientific Commission")

Founded in 1946, this Commission assists in identifying the most appropriate strategies and measures for disease prevention and control. It also examines Member Country submissions regarding their animal health status for those countries that wish to be included on the OIE list of countries 'free' of certain diseases.

(3) The OIE Biological Standards Commission ("Laboratories Commission")

Founded in 1949, this Commission is responsible for establishing or approving methods for diagnosing diseases of mammals, birds and bees and for recommending the most effective biological products such as vaccines. It oversees the production of the Manual of Diagnostic Tests and Vaccines for Terrestrial Animals (the "Terrestrial Manual"), recognised as an international standard text by SPS Agreement of the WTO. The Commission also selects OIE Reference Laboratories for disease of terrestrial animals, and promotes the preparation and distribution of standard reagents for diagnostic testing.

(4) The OIE Aquatic Animal Health Standards Commission ("Aquatic Animals Commission")

Founded in 1960, this Commission compiles information on diseases of amphibians, crustaceans, fish and molluscs and on methods used to control these diseases. The Commission produces the Aquatic Animal Health Code (the Aquatic Code) and the Manual of Diagnostic Tests for Aquatic Animals (the Aquatic Manual). The Commission also organises scientific meetings on diverse topics of importance to aquaculture. Many in the veterinary profession think that aquatic creatures will become an increasingly significant part of man's future diet and therefore will deserve increased attention.

What do the 5 OIE Regional Commissions do?

The OIE has set up five Regional Commissions (Africa; Americas; Asia, Far East and Oceania; Europe and the Middle East) to study specific problems encountered by Veterinary Services and to organise cooperation activities at regional level. One reason is that some diseases and the type of problems they create are fortunately at this moment confined to certain regions of the world. For example, African horse sickness and African swine fever are found mainly in Africa. Nipah virus is still only in South East Asia. Chronic wasting disease remains in the Americas. A Regional Commission Conference is organised once every two

Dr Davinio Catbagan, Chief Veterinary Officer of Philippines, Dr Carlos Correa Messuti, OIE President, Mr. Gao Hongbin, Vice Minister of Ministry of Agriculture, P.R. of China, Dr Bernard Vallat, Director General of OIE, Dr LI Jinxiang, Director General of Veterinary Bureau of Ministry of Agriculture of China and Dr Thomas SIT, Chief Veterinary Officer of Hong Kong at an OIE regional conference in Shanghai in 2009.

years in one of the countries of the region. These conferences are devoted to technical items and to regional cooperation in the control of animal diseases. Regional programmes may be developed to reinforce surveillance and control of major animal diseases, especially for regions where the OIE maintains a Regional or Sub-Regional Representation. Regional Commissions report on their activities and submit recommendations to the International Committee.

What do the 190 OIE Reference Laboratories do?

OIE Reference Laboratories are designated to pursue all the scientific and technical problems relating to a named disease on the OIE list. (See page 15 and *http://www.oie.int/en/our-scientific-expertise/reference-laboratories/list-of-laboratories.*)

One obvious question to ask is what is the reason and purpose of this list of OIE diseases found on page 15. This list is developed by an OIE Ad hoc Group of experts on the basis of criteria defined in the Terrestrial and Aquatic Animal Health Codes.

The role of a Reference Laboratory is to function as a centre of expertise and standardisation of diagnostic techniques for its designated disease. The Expert, responsible to the OIE and its Members with regard to these issues, should be a leading and active researcher helping the Reference Laboratory to provide scientific and technical assistance and expert advice on topics linked to surveillance and control of the disease for which the Reference Laboratory is responsible.

The Reference Laboratories may also provide scientific and technical training for personnel from Member Countries, and coordinate scientific and technical studies in collaboration with other laboratories or organisations.

The OIE has a global network of 190 Reference Laboratories with 161 experts covering 101 diseases/topics in 36 countries, and in addition 37 Collaborating Centres covering 35 topics in 21 countries.

What do the 3 OIE Working Groups do?

OIE permanent Working Groups are responsible for continuingly reviewing developments in their fields, and for keeping OIE Member Countries informed of current issues through scientific meetings, seminars, workshops and training courses. Three Working Groups are currently operating:

(1) Working Group on Wildlife diseases

Founded in 1994, this Working Group informs and advises the OIE on all health problems relating to wild animals, whether in the wild or in captivity. It has prepared recommendations and oversees numerous scientific publications on the surveillance and control of the most important specific wildlife diseases. The Working Group comprises world-leading scientific experts in their subject areas.

(2) Working Group on Animal Welfare

A permanent Working Group on Animal Welfare was established in 2002 to coordinate and manage the animal welfare activities of the OIE. The OIE convened the First Global Conference on

Animal Welfare in February 2004. As well as the Veterinary Services in OIE Member Countries, the Conference targeted livestock producers and actors in the meat sector, veterinary practitioners and international non-governmental organisations (NGOs) working in animal welfare. The main objective of the Conference was to raise awareness of, and to explain the OIE's animal welfare initiative.

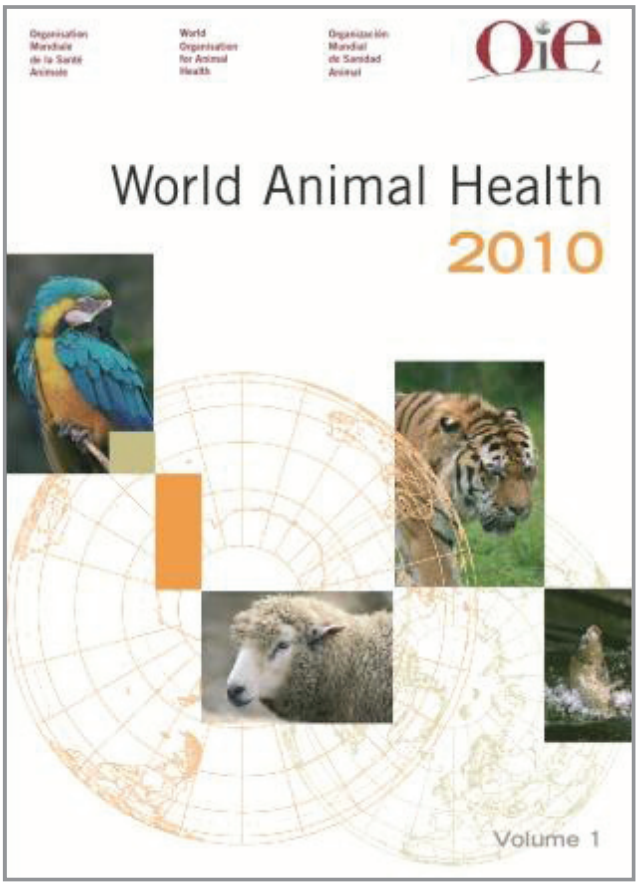
(3) Working Group on Food Safety

In 2002, the Director General of the OIE established a permanent Working Group on Animal Production Food Safety (APFSWG) to coordinate and manage the animal production food safety activities of the OIE. The Working Group's membership includes internationally recognised experts from the FAO, WHO and CAC, and reflects a broad geographical basis. Under the 4th OIE Strategic Plan (2006-2010) the OIE's role and work programme relevant to animal production food safety was firmly established, and the arrangements for cooperation with the CAC in the provision to governments and other interested parties with consistent, coherent and complementary advice on the management of food safety risks from the farm to the fork.

Hong Kong and the OIE: Recent History

In 2003, BSE was discovered for the first time in Canada. Hong Kong immediately suspended imports of beef until it could be assured that the Canadian beef was safe for human consumption. This was a public safety measure for the benefit of the citizens of Hong Kong. The resumption of imports from Canada occurred after the Hong Kong government, using the OIE Terrestrial Animal Codes as a guideline, completed negotiations with the Canadian government. The requirements placed on the Canadians were in line with the OIE standards and included matters to do with abattoir hygiene, special slaughtering procedures, banning of certain feeds to ruminants, and effective national surveillance for BSE.

In February 2003, serious outbreaks of chicken flu occurred in The Netherlands due to the highly pathogenic H7N7 avian flu virus. By April, the virus had spread to nearly 800 poultry farms in the Netherlands and resulted in the culling of almost 11 million chickens. Using the OIE guidelines present at that time the importation of chicken meat from the Netherlands was banned while the outbreak was on-going. Imports were resumed once the Netherlands had gained a disease free status in accordance with OIE standards, with regard to this strain of the virus.



OIE Publication - World Animal Health 2010 Volume 1
(Source from OIE (*http://www.oie.int/boutique*))

In the year 2006 the OIE sent a mission of experts to Hong Kong to verify the competency of the veterinary service, its animal certificate procedures, quarantine stable facilities, and equine welfare standards. In 2007, Hong Kong on behalf of the People's Republic of China delegation, spoke to the OIE general assembly including all the world's CVOs. At that time a request was made to the other OIE members to assist and facilitate the forthcoming Equestrian Events in Hong Kong. All these matters were relevant to the successful hosting by Hong Kong of the 2008 Olympic and Paralymic Equestrian Events. One result of this work was that the participating nations were very confident about the safety of their own horses coming to this event. Furthermore Hong Kong's own horses health and health status was safeguarded. This Equestrian Event is generally recognised to have been one of the most successfully run international equestrian events of recent times, particularly when taking into account the health and safety of horses.

Prior to the Bejing Olympics, OIE experts visited Hong Kong to meet AFCD officers and HKJC officers. In this picture the OIE experts are seen discussing with HKJC officers details of the site plan for the cross country part of the Olympic Equestrian event.

Hong Kong always takes an active part in OIE international and regional meetings as an observer. Hong Kong is a trading city, for instance, there are frequent movements of horses and pets to and from large areas of the world to Hong Kong. It is important that the city is up to date with all the health matters concerning the movement of animals and animal products.

The world has a great interest in the disease 'Bird Flu' highly pathogenic H5N1 avian influenza. Hong Kong's own response to this disease and the reports it has sent, and continues to send, is a good example of correct and timely disease reporting coupled with transparency. This reporting is of great assistance to the OIE and all its members. In 2010, the OIE sent their own avian influenza expert to Hong Kong. The purpose of the visit was for him to familiarise himself with the high standard of avian influenza prevention in Hong Kong including the vaccination programmes utilised here. As a result of this visit, the Hong Kong system may be used as a model for some other nations.

CONCLUSION

On next page, you can see pictures of a variety of living creatures and also products derived from animals. Many of these have at some time been transported either in or out of Hong Kong by air. Whenever they were placed on an aeroplane to be exported out of Hong Kong then surprisingly they would all have at least one thing in common. They would all be accompanied by export health certificates based on the principles, rules, and regulations of the OIE. This may seem strange. But your surprise is merely because you were not aware of what has been going on for years. The OIE

Mooncake

Ice-cream

Bird nest

Badminton shuttlecock

has with the cooperation of its many members been devising and carrying out schemes and methods by which the spread of animal disease can be reduced. These export health certificates carried by all the animals and items seen in the pictures above and on next page are merely another small example of the influence of the OIE. The work of the OIE has become more and more relevant due to the increase in globalisation, and the increase in trade; coupled with the possibility of animal diseases and zoonoses spreading around the world. This article has given you many facts about the OIE. You may have been surprised to discover how far reaching an organisation it is. You may also have been surprised to learn that, all the days of your life, it has been quietly working away keeping major animal diseases at bay. You may also now understand that, since the OIE affects trade, it is of relevance to Hong Kong, one of the great trading cities of the world.

Horse uploading for export

Scanning to check a dog's identity

Fresh water fish

OIE Listed Diseases

Multiple species diseases: Anthrax; Aujeszky's disease; Bluetongue; Brucellosis (*Brucella abortus*); Brucellosis (*Brucella melitensis*); Brucellosis (*Brucella suis*) Crimean Congo haemorrhagic fever; Echinococcosis/hydatidosis; Epizootic haemorrhagic disease; Equine encephalomyelitis (Eastern); Foot and mouth disease; Heartwater; Japanese encephalitis; Leptospirosis; New world screwworm (*Cochliomyia hominivorax*); Old world screwworm (*Chrysomya bezziana*); Paratuberculosis; Q fever; Rabies; Rift Valley fever; Rinderpest; Surra(*Trypanosoma evansi*); Trichinellosis; Tularemia; Vesicular stomatitis; West Nile fever.

Cattle diseases: Bovine anaplasmosis; Bovine babesiosis; Bovine genital campylobacteriosis; Bovine spongiform encephalopathy; Bovine tuberculosis; Bovine viral diarrhoea; Contagious bovine pleuropneumonia; Enzootic bovine leukosis; Haemorrhagic septicaemia; Infectious bovine rhinotracheitis/infectious pustular vulvovaginitis; Lumpky skin disease; Theileriosis; Trichomonosis; Trypanosomosis (tsetse-transmitted).

Sheep and goat diseases: Caprine arthritis/encephalitis; Contagious agalactia; Contagious caprine pleuropneumonia; Enzootic abortion of ewes (ovine chlamydiosis); Maedi-visna; Nairobi sheep disease; Ovine epididymitis (*Brucella ovis*); Peste des petits ruminants; Salmonellosis (*S. abortus ovis*); Scrapie; Sheep pox and goat pox.

Equine diseases: African horse sickness; Contagious equine metritis; Dourine; Equine encephalomyelitis (Western); Equine infectious anaemia; Equine influenza; Equine piroplasmosis; Equine rhinopneumonitis; Equine viral arteritis; Glanders; Venezuelan equine encephalomyelitis.

Swine diseases: African swine fever; Classical swine fever; Nipah virus encephalitis; Porcine cysticercosis; Porcine reproductive and respiratory syndrome; Swine vesicular disease; Transmissible gastroenteritis.

Avian diseases: Avian chlamydiosis; Avian infectious bronchitis; Avian infectious laryngotracheitis; Avian mycoplasmosis (*M. gallisepticum*); Avian mycoplasmosis (*M. synoviae*); Duck virus hepatitis; Fowl cholera; Fowl typhoid; Highly pathogenic avian influenza and low pathogenic avian influenza in poultry; Infectious bursal disease (Gumboro disease); Marek's disease; Newcastle disease; Pullorum disease; Turkey rhinotracheitis.

Lagomorph diseases: Myxomatosis; Rabbit haemorrhagic disease.

Bee diseases: Acarapisosis of honey bees; American foulbrood of honey bees; European foulbrood of honey bees; Small hive beetle infestation (*Aethina tumida*); *Tropilaelaps* infestation of honey bees; Varroosis of honey bees.

Fish diseases: Epizootic haematopoietic necrosis; Infectious haematopoietic necrosis; Spring viraemia of carp; Viral haemorrhagic septicaemia; Infectious salmon anaemia; Epizootic ulcerative syndrome; Gyrodactylosis (*Gyrodactylus salaris*); Red sea bream iridoviral disease; Koi herpesvirus disease.

Crustacean diseases: Taura syndrome; White spot disease; Yellowhead disease; Infectious hypodermal and haematopoietic necrosis; Crayfish plague (*Aphanomyces astaci*); Infectious myonecrosis; White tail disease; Necrotizing heptopancreatitis.

Mollusc diseases: Infection with *Bonamia ostreae*; Infection with *Bonamia exitiosa*; Infection with *Marteilia refringens*; Infection with *Perkinsus marinus*; Infection with *Perkinsus olseni*; Infection with *Xenohaliotis californiensis*; Infection with abalone herpes-like virus.

Amphibian diseases: Infection with *Batrachochytrium dendrobatidis*; Infection with ranavirus.

Other diseases: Camelpox; Leishmaniosis.

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Agriculture, Fisheries and Conservation Department

Room 708, 7/F Cheung Sha Wan Government Office, 303 Cheung Sha Wan Road, Kowloon, Hong Kong

Website: www.afcd.gov.hk Email: tsdiq@afcd.gov.hk