Abstract: Created in 1924 by an International Agreement signed by 28 countries, the Office International des Epizooties (World Organisation for Animal Health) held its first meeting in March 1927. In 2003 OIE’s missions have changed a little, and its main objectives are to ensure transparency in the animal health situation throughout the world, to collect, analyse and disseminate scientific veterinary information, to strengthen international coordination and cooperation in the control of animal diseases, to promote the safety of world trade of animals and animal products, to improve the legal framework and resources of Veterinary Services and to develop international standards in animal welfare and animal production food safety.

To achieve these goals, the OIE operates through different commissions, working groups and ad hoc groups and cooperates with several International organisations. The results of their activities give rise to publications:

**OIE International Standards**
- Terrestrial Animal Health Code
- Aquatic Animal Health Code
- Manual of Diagnostic Tests and Vaccines for Terrestrial animals
- Manual of Diagnostic Tests and Vaccines for Aquatic Animals

**Information Publications**
- Disease Information (weekly)
- Bulletin (quarterly)
- World Animal Health (annual)

**Scientific Publications**
- Scientific and Technical review (3 issues a year)
- Technical Items presented to the International Committee and to Regional Commission (annual)
- International Scientific Conferences
- Thematic publications

Many of these are also available on the OIE Website and this paper will describe how and why the OIE decided to put them online.

The Office International des Epizooties (OIE) (the World Organisation for Animal Health) is an intergovernmental organisation created by the International Agreement of 25 January 1924, signed by 28 countries. Its creation preceding that of the United Nations’, the OIE is independent of that system. The trigger for the creation of the organisation was the incursion of Rinderpest into Europe after World War I, particularly the epizootic which occurred in Belgium in 1920 following the transit in the port of Antwerp of a group of Zebu cattle from India en route to Brazil.

The International Committee (general annual meeting of Member Countries) held its first meeting in March 1927.

The OIE currently comprises 164 Member Countries from five Regions – 29 from the Americas, 49 from Europe, 12 from the Middle East, 48 from Africa, and 26 from Asia, the Far East and Oceania.

**Objectives**

In 2003, OIE’s missions have changed a little, and its main objectives are to ensure transparency in the animal health situation throughout the world, to collect, analyse and disseminate scientific veterinary information, to strengthen international coordination and cooperation in the control of animal diseases, to promote the safety of world trade of animals and animal products, to improve the legal framework and resources of Veterinary Services and to develop international standards in animal welfare and animal production food safety.
International relations

The OIE has developed formal relationships with the major international organisations, including the World Health Organization (WHO), the Food and Agriculture Organization of the United Nations (FAO), the World Trade Organization (WTO), the Codex Alimentarius Commission (CAC), the International Plant Protection Convention (IPPC), the World Bank, the International Federation for Animal Health (IFAH), the World Veterinary Association (WVA) and with various regional organizations.

With CAC and the IPPC, the OIE collaborates on the development of standards and guidelines on issues such as equivalence, risk analysis methodology, regionalisation and zoning, surveillance and monitoring for diseases, control, inspection and certification procedures, zoonoses (CAC only), and veterinary drugs and antimicrobial resistance (CAC only).

Organisation

The OIE operates under the authority of an International Committee formed by the delegates (usually the Chief Veterinary Officers) designated by the governments of Member Countries. This committee meets in Paris each May in General Session.

The OIE is administered through a Paris headquarters which implements the resolutions of the International Committee with support from an Administrative Commission and five Regional Commissions. The Regional Commissions were formed to promote cooperation, to study specific problems encountered by veterinary services in regions, and to organise disease surveillance and control activities on a regional basis. The OIE maintains Representations in the following regions: Africa, the Americas, Asia-Pacific, Eastern Europe, and the Middle East (Mali, Argentina, Japan, Bulgaria and Lebanon). The goal of these representations is to provide regionally adapted services to Member Countries so that they may strengthen the surveillance and control of animal diseases in the region. The SEAFMD campaign aims at controlling Foot and Mouth Disease in South-East Asia.

There are four OIE Specialist Commissions: the Scientific Commission for Animal Diseases (to replace the Foot and Mouth Disease and Other Epizootics Commission), the Biological Standards Commission (to replace the Standards Commission), the Terrestrial Animal Health Standards Commission (to replace International Animal Health Code Commission) and the Aquatic Animal Health Standards Commission (to replace the Fish Diseases Commission), which manage the technical work of the OIE. As well, working groups and Ad hoc Groups may be permanent or set up as required to address specific issues such as animal welfare, monitoring and surveillance standards, and BSE.

The OIE has established a Working Group on animal welfare. In this work, the OIE will give priority to animal welfare issues regarding animals used in agriculture and aquaculture for production, breeding and/or working purposes, and, within that group, will firstly address transportation, humane slaughter, and killing for disease control, and, later, housing and management.

Food safety was also one of the topics identified under the OIE’s 2001-2005 Strategic Plan as a high priority.

The OIE’s goal regarding animal production food safety is to reduce food-borne risks to human health due to hazards arising from animals. This work will be carried out in collaboration with the relevant international agencies and, to this end, an informal
agreement has already been established with the CAC. Formal agreements with the FAO and WHO are being negotiated.

The OIE has established a permanent Working Group on Food Safety to coordinate and advise on OIE pre-slaughter animal production food safety activities.

OIE organisational structure

The result of the activities and works of these different Groups and Commissions give rise to publications.

International standards of the OIE - Publications

OIE international standards for animal diseases and zoonoses fall into two categories: health standards for trade in animals and animal products, and biological standards covering diagnostic techniques and vaccine production. These are developed and published through the Specialist Commissions, involving formal consultation with all Member Countries.

The following OIE Codes and Manuals are regarded as international standards:

- the **OIE Terrestrial Animal Health Code*** (the Code), prepared by the Terrestrial Animal Health Standards Commission, contains standards, guidelines and recommendations designed to prevent the introduction of pests and diseases into the importing country during trade in animals, animal genetic material and animal products, and to avoid unjustified sanitary barriers; it covers mammals, birds and bees

- the **Manual of Diagnostic Tests and Vaccines for Terrestrial Animals*** (the Manual) prepared by the Biological Standards Commission, with the help of 156 Collaborating Centres and Reference Laboratories lists laboratory diagnostic techniques and requirements for production and control of biological products (mainly vaccines) OIE Reference Laboratories and Collaborating Centres
The Aquatic Animal Health Code* and the Manual of Diagnostic Tests and Vaccines for Aquatic Animals*, prepared by the Aquatic Animal Health Standards Commission, cover fish, molluscs and crustaceans; these are sister publications to the OIE Code and Manual above. These standards are updated regularly.

The task of promoting and coordinating research into the surveillance and control of animal diseases throughout the world is undertaken by OIE Specialist Commissions and working groups, with support from OIE Collaborating Centres and Reference Laboratories. The role of the Reference Laboratories and Collaborating Centres is to provide OIE Member Countries with scientific and technical assistance, and expert advice on topics linked to disease surveillance and control.

There are 144 Reference Laboratories in 30 countries covering 47 terrestrial and 22 aquatic animal diseases. There are ten Collaborating Centres in eight countries (Austria, Canada, France, Italy, Russia, South Africa, UK and USA).

**The OIE animal health information system and Information publications**

The OIE animal health information system has two major objectives:
- To promote transparency in reporting animal disease outbreaks and incidents
- To improve knowledge of the global animal health situation which is vital to safe international trade

One of the major functions of the OIE is to inform the governments of Member Countries of the occurrence and course of animal disease outbreaks which could pose an international threat to animal or human health.

A formal disease notification system enables Member Countries to act rapidly should the need arise. The establishment since May 2002 of an open electronic distribution list called OIE-Info list is meant to give wider access to OIE information. The list is used to disseminate alert messages and follow-ups on disease situations changes in OIE Member countries. This real-time information for reporting changes in animal disease situations in OIE Member Countries provide timely information on animal diseases in the three OIE official languages (English, French and Spanish).

When a country notifies a disease outbreak on its territory, the OIE transmits this information immediately to Member Countries considered at risk (mail or fax to the Veterinary Services concerned). This emergency notification system is supplemented by an alert message on the OIE Web site and by the publication every Friday of the *Weekly Disease Information* comprising these reports and any follow-up reports.

Handistatus, an animal disease information database, can also be consulted on the OIE website. The current prototype for Handistatus II (i.e. Help with World Animal Disease Status - version 2) is a Web application containing information on animal diseases that have been included in the two official OIE lists of diseases due to their implications for international trade or public health. This information is regularly updated based on the emergency, monthly and annual reports sent to the Central Bureau of the OIE by national Veterinary Administrations and other official sources.

Data on other animal diseases, referred to as “List C” diseases, are also included in Handistatus II, as the Food and Agriculture Organization of the United Nations (FAO) considers them to be important for animal production worldwide.

*New Terminology*

From the three lists mentioned above, the WHO has selected the diseases that it considers to be major zoonoses (zoonosis = animal disease transmissible to
humans). Handistatus II provides data by country and by year on the number of human cases of each of these diseases.

Annual information on the animal health situation worldwide is almost entirely derived from the collection and processing of the questionnaires on animal health, common to the FAO, the World Health Organization (WHO) and the OIE, which the OIE has distributed to all countries on behalf of the three organisations since 1996.

This prototype prefigures a more complex version of Handistatus II, which will include an assistance module for making animal health decisions relating to the importation of animals and animal products based on the recommendations of the International Animal Health Code.

Veterinary Administrations are also required to submit monthly reports on the absence or presence and evolution of diseases and findings of epidemiological importance to other countries. Currently, this information is published in the OIE Bulletin every three months and in World Animal Health annually.

The OIE scientific publications
- The Scientific and Technical Review
- Technical Items presented to the International Committee and to Regional Commissions
- International Scientific Conferences
- Thematic publications

Programme of information on the Web

OIE Web site
The OIE Web site is a useful source for Member Countries of early warning notices, Weekly Disease Information, the text of OIE International Standards, the Scientific and Technical Review (contents and abstracts), and scientific and general information on OIE activities, animal diseases and zoonoses. It also provides links to other relevant sites.

E-Publishing
The OIE Web site was created in 1996. At the time, only abstracts of the articles of the Scientific and Technical Review were on-line in HTML. The first publication to be put entirely on-line was the International Animal Health Code –mammals, birds and bees-* (English-French-Spanish), in 1997, then the Manual of Standards – mammals, birds and bees-* (English only) and the International Aquatic Animal Health Code* in 1998. The Manual of Standards for aquatic animals* was put on-line in 2001, also in English only, with projects of translation soon in French and Spanish.

From August 2001, it was also decided to provide the articles of the Scientific and Technical Revue on-line in PDF files. These files are available four months after the publication date of the hard copy.
- Context
Most of the time, the information is published both on “paper” and electronically in the 3 official OIE languages. So different tools are needed and used, such as Word, Word to HTML converters (W2H), Dreamweaver…
Some publications, such as disease information, lists of reference laboratories, lists of delegates etc., are produced in-house. Other publications are printed outside and the OIE provides the publisher with the data: International Animal Health Code, Manual of Standards, Scientific and Technical Review.
Problem

In a system like Word, content, structure and formatting are mixed. The preservation of the data (and so forth of the collection) was linked to the electronic tools used at the time they were collected, and formatting is not always preserved from one version of Word to the other.

The software need regular updating, sometimes even developments to adapt tools one to the other (ex: Word to HTML tool). This can become quite expensive if you use commercial software.

There is loss of time in formatting, converting files, formatting again for the web, and consequently a strong need to adopt a liable exchange format with the publisher. This was done first in PDF with the articles of the Scientific and Technical Review. But there was a need for a general solution which could be adapted to all publications and all types of documents.

The XML solution

-Extensible Mark-up Language. What for?

XML defines an extremely simple dialect of SGML (Standard Generalized Mark up Language): ISO 8879/ 1985, the international standard for defining descriptions of the structures of different types of electronic documents. It is a mark-up language for documents containing structured information. It is a simple, pivot standard allowing to identify and store any kind of structured information and to exchange data between different computing systems which would otherwise be unable to communicate. The goal is to enable generic SGML to be served, received, and processed on the Web in the way that is now possible with HTML (Hypertext Marked Language).

For this reason, XML has been designed for ease of implementation, and for interoperability with both SGML and HTML. It allows production of documents on different medium such as paper, CD Rom or Web.

As it is based on the format of coding of characters Unicode, it is compatible with any international language existing and does not depend of any format, software or operating system. It separates data content from data presentation.

-What is the benefit?

The information producer –here the OIE- deals with the semantic, the structure being dealt with by XML. The data can always be re-used. From one document XML, documents PDF and HTML are produced.

To produce PDF, the OIE had a specific tool developed, a PDF composer which allows the immediate “translation” of XML into PDF in the suitable format.

HTML documents are produced thanks to XSL (Extensible Style sheet language) which can transform XML into any other mark-up language.

Setting-up of XML at OIE

Progressive setting-up:

-Test projects (still in use):
  -Scientific & Technical Dpt: Experts and Reference Laboratories details
  -Information Dpt: lists of diseases and other associated documents
  -Administration Dpt: Official OIE Delegates details
  -Publication Dpt: Scientific and Technical Review abstracts

For these applications, the XML files are updated with XMLspy (XML editor allowing the creation of style sheets XSL) or WordPad (text editor), and an XSL program was launched for the creation of Web pages in each official language.

Main project:

International Trade Dpt: Terrestrial Animal Health Code
The main purposes, when deciding to use XML for this publication were:
-to simplify the annual procedures of updating and improve productivity, allowing staff to concentrate on the contents rather than the format of the document;
-to link this document to the animal diseases database of the OIE, Handistatus II, in order to offer on the Web a decision support system providing recommendations and standards facilitating import and export. It was then necessary to structure the TAHC;
-to make use of every possibility of cross references in the Web version thanks to a DTD (Document Type Definition) allowing to “mark” the terms of reference such as “diseases, pathogens, countries, status, etc.” but also the chapters, entries…

The tools in use at the moment are:
-Xmetal, a structured editor, meant to be used with any DTD. It therefore requires customization. An aggregation tool is needed to aggregate all the chapters in a unique document, a standardization tool for the automatic re-numbering of chapters, entries and crossed references and a decomposition tool so that the standardization is echoed at the level of the XML files of chapters
-A PDF file generator. It has been developed to produce, from a publication in XML format, a PDF version that meets the editing requirements for the publication and is directly printable.
-A HTML generator.

This system will initially be used to prepare the OIE Terrestrial Animal Health Code, and should thereafter be used to produce the printed version of any other publication available in XML format.