

Annex XXX

Organisation
Mondiale
de la Santé
Animale

World
Organisation
for Animal
Health

Organización
Mundial
de Sanidad
Animal

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**REPORT OF THE MEETING
OF THE OIE AD HOC GROUP ON VETERINARY LEGISLATION**

Paris, 17–19 January 2012

1. Welcome, adoption of the agenda and introductory remarks

Dr David Sherman, Chair of the *ad hoc* Group on Veterinary Legislation (*ad hoc* Group), opened the meeting and welcomed the participants, noting the absence of three members of the *ad hoc* Group, who apologized for not attending. The agenda was discussed and approved. A list of participants and the adopted agenda are given at Annexes I and II. The updated version of Chapter 3.4. is in Annex III. The State of play of the Veterinary Legislation Support Programme is in Annex IV.

2. Meeting with the Director General

Dr Sherman met with the Director General, Dr Bernard Vallat, on the 1st day of the meeting, 17 January 2012. This meeting was also attended by Dr Jill Mortier, a member of the *ad hoc* Group, and Dr Masatsugu Okita from the OIE International Trade department. Dr Vallat welcomed the members and thanked them for their dedicated work on behalf of the OIE. A short discussion was held on the following important issues.

2.1. Draft OIE *Terrestrial Animal Health Code* Chapter 3.4.

Dr Sherman explained that various comments had been made on the draft chapter and the *ad hoc* Group would technically address all the comments during the meeting, with the goal that the new chapter be adopted at the General Assembly in May 2012. Dr Vallat highlighted among others two important points, i.e. addressing food safety in veterinary legislation and addressing the obligation of World Trade Organization (WTO) Members to notify Sanitary and Phytosanitary (SPS) measures to the WTO under the WTO SPS Agreement.

Dr Vallat noted that although the responsibility of veterinary services traditionally covered the stages of production from the farm to the slaughterhouse the more modern view is that veterinary services are involved through all phases 'farm to fork'. Thus, the *Terrestrial Animal Health Code (Terrestrial Code)* chapter dedicated to the role of veterinary services in food safety (Chapter 6.1.) had been developed. Dr Vallat underlined the importance of taking due consideration of this chapter when finalising the draft chapter on veterinary legislation and Dr Sherman agreed on it.

Regarding the obligation of WTO Members to notify sanitary measures, under Article 7 of the SPS Agreement, Dr Sherman noted that the *ad hoc* Group would address this issue by amending the text in the draft Chapter 3.4. Dr Okita pointed out there might also be a need to revise Chapter 5.3. because the obligation under the WTO SPS Agreement is relevant not only to legislation but to SPS measures in general. Dr Vallat stressed that the obligation is for WTO Members and that not all OIE Members are WTO Members.

Annex XXX (contd)**2.2. Community-Based Animal Health Workers (CAHWs)**

Dr Vallat noted that in reality CAHWs play a significant role in veterinary health care in the field and that proper management and control of CAHWs had to be in place to ensure quality veterinary healthcare. Dr Vallat noted that CAHWs need to be under supervision of veterinarians. Indeed, the acceptance in the *Terrestrial Code* of a role for veterinary para-professionals by Members was contingent on the fact that veterinary supervision was essential. However, there could be some flexibility in the extent of supervision required for different categories of veterinary para-professionals, including CAHWs. The extent of supervision may vary in the context of each Member's situation and this concept was reflected in the *Terrestrial Code* definition of veterinary para-professional. Dr Sherman agreed in principle with the need to balance the level of supervision with the need for CAHWs to be available in the field. He stressed that, in his experience, there may be insufficient veterinarians to provide direct supervision in the field, particularly in developing countries. He reiterated the need for legislation that is workable in the field and informed Dr Vallat that this issue would be reviewed carefully and Dr Vallat's comments reflected in the final draft.

2.3. Next steps with the OIE Veterinary Legislation Guidelines

Dr Sherman asked Dr Vallat's view on the status of the OIE Veterinary Legislation Guidelines once the draft new Chapter 3.4 has been adopted by OIE Members. Dr Vallat replied that once the chapter was adopted, the Guidelines would be withdrawn from the website. Dr Sherman communicated that the *ad hoc* Group considered it valuable to retain some type of guidance document on the website for information of Members and to assist them to prepare for OIE missions or undertake reviews of their current legislation in relation to OIE standards. He suggested that the OIE questionnaire used by Veterinary Legislation experts on missions could be adapted as needed to serve as a tool. Dr Vallat agreed and suggested that the *ad hoc* Group could develop a tool along the lines of the PVS Tool that specifically address veterinary legislation.

2.4. OIE activities on veterinary education

Dr Vallat provided an overview of recent developments in the OIE's work relating to veterinary education, including the fact that the veterinary education *ad hoc* Group had completed its work on 'Day 1 competencies' and is now addressing the development of a core veterinary curriculum. Dr Sherman commended these developments.

3. Review of OIE Member comments on draft Chapter 3.4. Veterinary Legislation

Comments were received from the European Union (EU), Japan, New Zealand, Norway, Switzerland, the Organizacion Internacional Regional de Sanidad Animal (OIRSA; International Regional Organisation for Animal Health in Central America), the Secretariat of the Codex Alimentarius Commission (CAC), and the OIE Working Group on Animal Production Food Safety (APFSWG).

General comments

In response to the comment from Members' expressing its concerns that the draft chapter could result in unjustified trade barriers, the *ad hoc* Group noted that, on the contrary, this chapter would provide a firm basis for national legislation to comply with the OIE standards which can help to eliminate unjustified trade barriers.

Two Member countries opposed the inclusion of this chapter in the *Terrestrial Code*. One Member stated that countries should make efforts to modernise their veterinary legislation as appropriate to their circumstances. One Member argued that veterinary legislation is a sovereign matter. While recognizing the diverse situations of Members, the *ad hoc* Group took the view that the proposed chapter was necessary as there are fundamental elements of veterinary legislation that all Members should address. Moreover, the *ad hoc* Group noted that the draft chapter respects the individual needs of Members as it is not prescriptive and it allows for different approaches and administrative models.

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In response to the comment of a Member concerned about the variable level of detail in the draft text, the *ad hoc* Group considered that the draft chapter contained the necessary level of detail in each article to complement the level of detail present in other relevant chapters of the *Terrestrial Code*.

A Regional Organisation suggested making reference in the chapter to the need for coordination between the veterinary authority and other competent authorities (e.g. those responsible for public and environmental health) in light of the ‘One Health’ concept. The *ad hoc* Group amended Article 3.4.5 to address this point.

The *ad hoc* Group appreciated the considered advice provided by the CAC Secretariat and noted that the OIE and the CAC should continue to collaborate and update their standards to reflect developments in both organisations as appropriate.

Article 3.4.1. Introduction and objectives

The comment of a Regional Organisation to add a reference to the CAC in paragraph 4 was not accepted. Paragraph 2 already refers to both OIE and Codex standards but paragraph 4 deals only with standards for veterinary legislation, which will be covered in the *Terrestrial Code* but not in Codex standards.

The *ad hoc* Group reviewed the CAC comment proposing to add in Article 3.4.1 a clear reference to the need for food of animal origin to comply with general legal provisions for food at national level. In response, the introductory paragraph of Article 3.4.12. was revised.

Article 3.4.2. Definitions

A Member questioned whether the mandate of the OIE includes defining general legal terms, such as “hierarchy of legislation” and “legal certainty”. In response, the *ad hoc* Group reiterated the need to define certain terms to make the text understandable and user-friendly. To this end, the *ad hoc* Group added ‘for the purposes of this chapter the following definitions apply’ in Article 3.4.2.

Members’ comments on the definition of ‘legal certainty’ were accepted and the text amended accordingly.

The comments of the APFSWG on definitions were accepted and the text amended accordingly.

Article 3.4.3. General principles

Point 5 was amended in response to Members’ comments.

Article 3.4.4. Drafting of veterinary legislation

In response to a comment of the APFSWG, point (f) was amended. Members’ comments on point (g) were not accepted because the *ad hoc* Group considered that there should be provision in legislation for financing activities relevant to the veterinary domain, even if this provision was not specifically addressed in the primary animal health act.

Article 3.4.5. Competent authorities

The title of the article was simplified and the order of the paragraphs modified in response to Members’ comments.

The recommendation of the CAC to add a clear reference to the need to cooperate, communicate and coordinate with overarching food safety authorities or coordination bodies was considered to be already addressed in the text but the *ad hoc* Group highlighted this point by citing food safety as an example where coordination was required.

The APFSWG recommendation on point 1 was accepted.

Annex XXX (contd)Article 3.4.6. Veterinarians and veterinary para-professionals

Members' comments that the term 'veterinary medicine' was unclear were discussed and this term was replaced by 'veterinary medicine/science' to align with the definition of 'veterinarian' in the *Terrestrial Code* Glossary. The *ad hoc* Group also referred to the TAHSC the fact that there is no definition of 'veterinary medicine' or 'veterinary science' in the *Terrestrial Code*, even though the term 'veterinary medicine/science' appears in the definition of 'veterinarian' in the Glossary.

In response to Members' comments, point 1 was restructured and the sub-points of point 2 were reordered for more logical flow.

Article 3.4.8. Health provisions relating to animal production

The text of Article 3.4.8. sub-point 5 was modified in response to Members' comments.

Article 3.4.10 Animal welfare

A Member's recommendation to delete 'subject to penal action' was accepted. Other Members' recommendations to reword the paragraph were not accepted as the modification already made was considered to have addressed these points.

Article 3.4.11.

The *ad hoc* Group referred to the TAHSC the comment of Members that the terms 'veterinary medicines' and 'biologicals' should be precisely explained, as this point was relevant to the entire Code.

Article 3.4.12. Human food production chain

The *ad hoc* Group reviewed several detailed comments from the APFSWG.

The APFSWG pointed out the lack of provisions on the use of third party inspection and auditing systems. The *ad hoc* Group noted that Article 3.4.5 point 2 covers third party inspection. The words 'and audit' were added to Article 3.4.12. point 2 (a).

The APFSWG recommended reordering the sub-points in Article 3.4.12 point 1, which was done. The APFSWG also recommended adding a reference to the obligations of producers to provide for a traceability system, which was addressed in Article 3.4.12 point 1 (c).

The APFSWG recommendation to change 'HACCP' to 'risk-based management' was accepted.

To address a comment of the APFSWG to add appropriate cross references to Chapter 6.1. in Chapter 3.4., the *ad hoc* Group modified the first paragraph of Article 3.4.12. and checked all other paragraphs to ensure that there was consistency.

With reference to Article 3.4.12. sub-point 2 (a), the CAC noted that the text seemed to limit the conduct of inspection to veterinarians while CAC texts provide for the verification of compliance with regulatory requirements by 'official inspectors' (as defined), including veterinary inspectors. The *ad hoc* Group did not modify the text of Article 3.4.12 as it considered that 'conduct of inspection on the basis of veterinary expertise' provides flexibility for inspection to be done by technical staff under veterinary supervision. In addition, Article 3.4.5 states that the competent authority should appoint technically qualified officials to take any actions needed for implementation or verification of compliance. Again, this provides for flexibility in the arrangements for conducting food safety inspection.

4. Addition of text on the need to notify sanitary measures/legislation to the WTO

The *ad hoc* Group noted that the Secretariat of the WTO SPS Committee had asked the OIE to include text on the obligation of WTO Members to notify to the WTO changes in their sanitary measures.

The *ad hoc* Group noted that Article 7 in the SPS Agreement covers sanitary measures generally, not limited to veterinary legislation. Therefore, on the basis of discussion with the OIE International Trade Department, it was proposed to add a new text in Article 5.3.1. and to add an appropriate reference in Article 3.4.1., as shown below.

Article 5.3.1.

The SPS Agreement, in Article 7, obliges WTO Members to notify changes in sanitary measures and provide relevant information.

Article 3.4.1.

Veterinary legislation should, at a minimum, provide a basis for *Competent Authorities* to meet their obligations as defined in the *Terrestrial Code* and the relevant recommendations of the Codex Alimentarius Commission. In addition, there is an obligation for World Trade Organization (WTO) Members under the Agreement on the Application of Sanitary and Phytosanitary Measures of WTO (SPS Agreement) to notify the WTO of changes in sanitary measures, including changes in legislation that affect sanitary measures, and provide relevant information.

5. Consider any modifications that may be needed on the topic of Community Animal Health Workers in draft Chapter 3.4.

The Chair noted that this subject arose from a question of an NGO regarding draft legislation of an OIE Member. The NGO asked for the official OIE position on the role of Community Animal Health Workers (CAHWs) in the context of veterinary legislation and the provision of veterinary services.

The *ad hoc* Group noted that for many OIE Members there may be a need for CAHWs because there are insufficient veterinarians to provide needed services as dictated by geographic, economic and social conditions. As discussed with Dr Vallat, the OIE policy is to support appropriate use of CAHWs, providing that the legal framework for their activities and veterinary supervision is clear.

The *ad hoc* Group was adamant that it is the prerogative of the Veterinary Authority to regulate veterinarians and all categories of veterinary para-professionals, including CAHWs, where they exist. The *ad hoc* Group considered that the veterinary legislation should, as a minimum, establish a mechanism to define all the categories of veterinarians and veterinary para-professionals (including, as appropriate, CAHWs) that are needed to provide veterinary services according to the Member's situation and bearing in mind the public interest. For each category identified, the legislation should also define the minimum initial and continuous education, the conditions for performing tasks, and level of supervision required, bearing in mind the public interest.

To this end, a new point (b) was added to Article 3.4.6.2.

6. Next steps with the OIE Veterinary Legislation Guidelines

As discussed with Dr Vallat, the Guidelines will be withdrawn from the OIE website once the draft chapter on veterinary legislation has been adopted.

Annex XXX (contd)**7. Revision of the tools used by experts to conduct Veterinary Legislation missions.**

Veterinary Legislation experts use a questionnaire based on the OIE Veterinary Legislation Guidelines. The *ad hoc* Group started a review of the questionnaire to ensure consistency with the draft Chapter 3.4., once adopted.

8. Update on the state of play with the OIE Veterinary Legislation Support Program (VSLP) and informal feedback to Regional Activities Department, and planning for Feedback Workshop (Dr François Caya)

Dr. François Caya, Head of the OIE Regional Activities Department presented the state of play of the implementation of the VLSP. Dr Mara Elma Gonzalez, Deputy Head of the OIE Regional Activities Department also attended the discussion. Details are presented in the annexed tables and map (Annex IV). Dr Caya explained to the *ad hoc* Group the approach being currently developed for the implementation of the VLSP Agreements with OIE Members, at their request.

Veterinary Legislation Agreements have been proposed by the OIE for the past 2 years in order to provide longer term (1-2 years) technical support to Members so they can bring their Veterinary Legislation into closer compliance with OIE standards. Dr Caya commented that the overall VLSP starts with the request from a Member and after this request the first step is to conduct a Veterinary Legislation Identification mission by a Team of OIE Certified Experts. Then, this Identification Mission may recommend the establishment of an Agreement between the OIE and the Member. Dr Caya advised that presently, if such Agreement is officially requested by the country to the OIE, the request is analysed at OIE Headquarters in the light of the Identification Mission, other PVS Pathway reports and other considerations, and if appropriate, the OIE proposes to the country a certified Expert (usually a Member of the Veterinary Legislation Identification mission team) to prepare the Agreement through a three-month preparatory phase. After this phase and on advice of the Expert, the Agreement is signed and implemented. He finally explained that the procedures related to the preparatory and implementation phases of the Agreement were under development and that the main objective of this new approach was to ensure the success of the Agreements once signed by both parties.

Dr Caya then invited members to provide feedback from their experience in the implementation of the programme, in particular regarding the organisation and logistics of the missions, the involvement of the countries and the reporting process.

Dr Sherman raised his concern regarding the difficulties in the preparation of the missions to get the Questionnaire properly completed in advance, not only due to the lack of information held by the veterinary services, but also to the complexity of the document. He indicated that this was affecting the conduct of the mission itself as, in some cases, it takes up to 40% of the mission time to complete the Questionnaire in the country. Dr Kahn agreed that the Questionnaire and its explanatory notes should be reviewed to make them simpler, clearer and more user friendly for experts and for Members. Dr Caya added that the standard programme for a Veterinary Legislation Identification mission could eventually be modified to include specific time dedicated to the completion of the Questionnaire if considered appropriate. Dr Kahn advised that the adoption of the new *Terrestrial Code* Chapter 3.4, the feedback from VLSP experts, the revision of the Questionnaire and the development of the Agreement procedure, may generate a need to revise the VLSP Manual for Experts. Dr Caya thanked the *ad hoc* Group for the valuable feedback.

9. Date of next meeting

It was agreed that the next meeting could take place in the second semester 2012.

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MEETING OF THE OIE *AD HOC* GROUP ON VETERINARY LEGISLATION
Paris, 17–19 January 2012

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Annex II

MEETING OF THE OIE *AD HOC* GROUP ON VETERINARY LEGISLATION
Paris, 17–19 January 2012

Agenda

Day 1 (Tue 17 January 2012) 9:30-17:00

- Welcome, adoption of the agenda, and introductory remarks
- Discussion with the OIE Director General (date/time to be confirmed)
- Review of OIE Member comments received on draft Chapter 3.4. Veterinary legislation
- WTO's request for text to address the need to notify sanitary measures/legislation to the WTO
- Consider any modifications that may be needed on the topic of Community Animal Health Workers (CAHW) in draft Chapter 3.4.

OIE Dinner

Day 2 (Wed 18 January 2012) 9:00-17:00

- Next steps with the OIE Veterinary legislation guidelines (note: will stay on website until adoption of Chapter 3.4.)
- Revision of the tools used by experts to conduct Veterinary Legislation missions.
- Update on the state of play with the OIE Veterinary Legislation Support Program and informal feedback to Regional Activities Dept. and planning for Feedback workshop (Dr Francois Caya)

Day 3 (Thu 19 January 2012) 9:00-17:00

- Review of the draft report;

Date of next meeting.

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CHAPTER 3.4.

VETERINARY LEGISLATION

Article 3.4.1.

Introduction and objective

Good governance is a recognized global public good and is of critical importance to OIE Members. Legislation is a key element in achieving good governance.

Veterinary legislation should, at a minimum, provide a basis for *Competent Authorities* to meet their obligations as defined in the *Terrestrial Code* and the relevant recommendations of the Codex Alimentarius Commission. In addition, there is an obligation for World Trade Organization (WTO) Members under the Agreement on the Application of Sanitary and Phytosanitary Measures of WTO (SPS Agreement) to notify the WTO of changes in sanitary measures, including changes in legislation that affect sanitary measures, and provide relevant information.

For the purposes of the *Terrestrial Code*, veterinary legislation comprises all legal instruments necessary for the governance of the veterinary domain.

The objective of this chapter is to provide advice and assistance to OIE Members when formulating or modernising veterinary legislation so as to comply with OIE standards, thus ensuring good governance of the entire veterinary domain.

Article 3.4.2

Definitions

For the purposes of this chapter the following definitions apply:

Hierarchy of legislation: means the ranking of the legal instruments as prescribed under the fundamental law (e.g. the constitution) of a country. Respect for the hierarchy means that each legal instrument must comply with higher order legal instruments.

Legal certainty: means the situation in which the legislation is clear, coherent, stable and transparent, and protects citizens ~~are protected~~ against ~~any~~ adverse side effects of legal instruments. ~~The situation of legal uncertainty could arise when legislative instruments are not coherent, are overly complex or change frequently.~~

Legal instrument: means the legally binding rule that is issued by a body with the required legal authority to issue the instrument.

~~Legislative quality:~~ **Quality of legislation:** means the technical relevance, acceptability to society, sustainability in technical, financial and administrative terms and provision of a basis for effective implementation of laws.

Primary legislation: means legal instruments issued by the ~~legislature~~ legislative branch of government.

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Secondary legislation: means the legal instruments issued by the executive branch of government under the authority of primary legislation and relating to the regulated domain. ~~The equivalent term, subsidiary legislation, is used in some countries.~~

Stakeholder: means a person, group, or organization that can affect or be affected by the impacts of veterinary legislation.

Veterinary domain: means all the activities that are directly or indirectly related to *animals*, their products and by-products, which help to protect, maintain and improve the health and welfare of humans, including by means of the protection of animal health and welfare, and food safety.

Veterinary legislation: means the collection of specific legal instruments (primary and secondary legislation) required for the governance of the veterinary domain.

Article 3.4.3

General principles1. Respect for the hierarchy of legislation

Veterinary legislation should scrupulously respect the hierarchy between primary legislation and secondary legislation.

2. Legal basis

Competent Authorities should have available the primary legislation and secondary legislation necessary to carry out their activities at all administrative and geographic levels.

Veterinary legislation should be consistent with national and international law, as appropriate, including civil, penal and administrative laws.

3. Transparency

Veterinary legislation should be inventoried and be readily accessible and intelligible for use, updating and modification, as appropriate.

Competent Authorities should ensure communication of veterinary legislation and related documentation to stakeholders.

4. Consultation

The drafting of new and revised legislation relevant to the veterinary domain should be a consultative process involving *Competent Authorities* and legal experts to ensure that the resulting legislation is scientifically, technically and legally sound.

To facilitate implementation of the veterinary legislation, *Competent Authorities* should establish relationships with stakeholders, including taking steps to ensure that they participate in the development of significant legislation and required follow up.

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Annex III (contd)

5. Legislative quality Quality of legislation and legal certainty

~~Veterinary legislation should achieve a high level of legislative quality so as to ensure legal certainty.~~
A high quality of legislation is essential for achieving legal certainty.

Article 3.4.4.

The drafting of veterinary legislation

Veterinary legislation should:

- a) be drafted in a manner that establishes clear rights, responsibilities and obligations (i.e. 'normative');
- b) be unambiguous, with clear and consistent syntax and vocabulary;
- c) be precise and accurate even if this results in repetition and a cumbersome style;
- d) contain no definitions that create any conflict or ambiguity;
- e) include a clear statement of scope and objectives;
- f) provide for the application of penalties and sanctions, either criminal or administrative, as appropriate to the situation; and
- g) make provision for the financing needed for the execution of all activities of *Competent Authorities*.

Article 3.4.5.

Matters relating to the Competent Authorities

Competent Authorities should be organised to ensure that all necessary actions are taken quickly and coherently to effectively address animal health and public health emergencies.

Veterinary legislation should provide for a chain of command that is as effective as possible (i.e. short, with all responsibilities clearly defined). For this purpose, the responsibilities and powers of *Competent Authorities*, from the central level to those responsible for the implementation of legislation in the field, should be clearly defined. Where more than one *Competent Authority* is involved (for example, in relation to environmental, food safety or other public health matters) a reliable system of coordination and cooperation should be in place.

~~*Competent Authorities* should be organised to ensure that all necessary actions are taken quickly and coherently to effectively address animal health and public health emergencies.~~

Competent Authorities should appoint technically qualified officials to take any actions needed for implementation or verification of compliance with the veterinary legislation, respecting the principles of independence and impartiality prescribed in Article 3.1.2.

1. Necessary powers of the Competent Authority

The veterinary legislation should also ensure that:

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- a) officials have the legal authority to intervene in accordance with the legislation and the penal procedures in force;
- b) while conducting their duties, officials are protected against legal action and physical harm;
- c) the powers and functions of officials are explicitly and thoroughly listed to protect the rights of stakeholders and the general public against any abuse of authority. This includes respecting confidentiality, as appropriate; and
- d) at least the following powers are available through the primary legislation:
 - i) access to premises and vehicles for carrying out inspections;
 - ii) access to documents;
 - iii) taking samples;
 - iv) retention (setting aside) of *animals* and goods, pending a decision on final disposition;
 - v) seizure of *animals*, products and food of animal origin;
 - vi) suspension of one or more activities of an inspected establishment;
 - vii) temporary, partial or complete closure of inspected establishments; and
 - viii) suspension or withdrawal of authorisations or approvals.

These essential powers must be identified as they can result in actions that may conflict with individual rights ascribed in fundamental laws.

2. Delegation of powers by the Competent Authority

The veterinary legislation should provide the possibility for *Competent Authorities* to delegate specific tasks related to official activities. The specific tasks delegated, the body(ies) to which the tasks are delegated and the conditions of supervision by the *Competent Authority* should be defined.

For this purpose, the veterinary legislation should:

- a) define the field of activities and the specific tasks covered by the delegation;
- b) provide for the control, supervision and, when appropriate, financing of the delegation;
- c) define the procedures for making delegation;
- d) define the competencies to be held by persons receiving delegation; and
- e) define the conditions of withdrawals of delegations.

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Article 3.4.6.

Veterinariansy professionals and veterinary para-professionals1. Veterinary medicine/science

In order to ensure quality in the conduct of veterinary medicine/science, the veterinary legislation should:

- a) provide a an official definition of veterinary medicine/science sufficient to address the following;
- ab) define the prerogatives of the veterinarians professionals involved in the conduct of veterinary medicine and of the various categories of veterinary para-professionals that are recognised by each Member;
- be) define the minimum initial and continuous educational requirements and competencies for veterinarians and veterinary para-professionals;
- ce) prescribe the conditions for recognition of the professional qualifications for veterinarians and veterinary para-professionals;
- de) define the conditions to perform the activities of veterinary medicine/science; and
- ef) identify the exceptional situations, such as epizootics, under which persons other than qualified veterinarians can undertake activities that are normally carried out by veterinarians.

2. The control of veterinariansy professionals and veterinary para-professionals

Veterinary legislation should provide a basis for regulation of veterinariansy professionals and veterinary para-professionals in the public interest. To that end, the legislation should:

- a) describe the general system of control in terms of the political, administrative and geographic configuration of the country;
- b) describe the various categories of veterinary para-professionals recognised by each Member according to its needs, notably in animal health and food safety, and for each category, prescribe its training, qualifications, tasks and extent of supervision;
- db) provide for the possibility of the delegation of powers to a professional organisation such as a veterinary statutory body;
- ee) where powers have been so delegated, describe the prerogatives, the functioning and responsibilities of the mandated professional organisation; and
- ce) prescribe the powers to deal with conduct and competence issues, including licensing requirements, that apply to veterinariansy professionals and veterinary para-professionals.

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Article 3.4.7.

Laboratories in the veterinary domain1. Facilities

Veterinary legislation should define the role, responsibilities, obligations and quality requirements for:

- a) reference *laboratories*, which are responsible for controlling the veterinary diagnostic and analytical network, including the maintenance of reference methods;
- b) *laboratories* designated by the *Competent Authority* for carrying out the analysis of official samples; and
- c) *laboratories* recognised by the *Competent Authority* to conduct analyses required under the legislation e.g. for the purposes of quality control.

The veterinary legislation should define the conditions for the classification, approval, operations and supervision of *laboratories* at each level.

2. Laboratory reagents

Veterinary legislation should provide a basis for actions to address the elements listed below:

- a) procedures for authorising ~~the~~ reagents that are used to perform official analyses;
- b) quality assurance by manufacturers of ~~the~~ reagents used in official analyses; and
- c) surveillance of marketing of reagents, where these can affect the quality of analyses required by the veterinary legislation.

Article 3.4.8.

Health provisions relating to animal production1. Identification and traceability

Veterinary legislation should provide a basis for actions to address all the elements in Article 4.2.3. point 6.

2. Animal markets and other gatherings

Veterinary legislation should address, for animal markets and other commercially or epidemiologically significant animal gatherings, the following elements:

- a) registration of animal markets and other animal gatherings;
- b) health measures to prevent *disease* transmission, including procedures for cleaning and *disinfection*, and animal welfare measures; and
- c) provision for veterinary checks.

Annex XXX (contd)Annex III (contd)3. Animal reproduction

Veterinary legislation should provide a basis for actions to address the health regulation of animal reproduction as appropriate. Health regulations may be implemented at the level of *animals*, genetic material, establishments or operators.

4. Animal feed

Veterinary legislation should provide a basis for actions to address the elements listed below:

- a) standards for the production, composition and quality control of animal feed;
- b) registration and, if necessary, approval of establishments and the provision of health requirements for relevant operations; and
- c) recall from the market of any product likely to present a *hazard* to human health or animal health.

5. Animal by-products

Veterinary legislation should provide a basis for actions to address the elements listed below:

- a) definition of the animal by-products subject to the legislation;
- b) rules for collection, processing, ~~methods and authorised uses~~ and disposal of animal by-products;
- c) registration and, if necessary, approval of establishments and the provision of health requirements for relevant operations; and
- d) rules to be followed by animal owners; ~~as appropriate, concerning owners' use and disposition of animal by-products.~~

6. Disinfection

Veterinary legislation should provide a basis for actions to address the regulation and use of products and methods of *disinfection* relating to the prevention and control of animal *diseases*.

Article 3.4.9.

Animal diseases

Veterinary legislation should provide a basis for the *Competent Authority* to manage *diseases* of importance to the country and to list those *diseases*, guided by the recommendations in Chapters 1.1. and 1.2.

1. Surveillance

Veterinary legislation should provide a basis for the collection, transmission and utilisation of epidemiological data relevant to diseases listed by the *Competent Authority*.

Annex XXX (contd)Annex III (contd)2. Disease prevention and control

- a) Veterinary legislation should include general animal health measures applicable to all *diseases* and, if necessary, additional or specific measures such as *surveillance*, establishment of a regulatory programme or emergency response for particular *diseases* listed in the country.
- b) The legislation should also provide a basis for contingency plans to include the following for use in disease responses:
 - i) administrative and logistic organisation;
 - ii) exceptional powers of the *Competent Authority*; and
 - iii) special and temporary measures to address all identified *risks* to human or animal health.
- c) Veterinary legislation should provide for the financing of animal disease control measures, such as operational expenses and, as appropriate, owners' compensation in the event of killing or slaughtering of *animals* and seizure or destruction of carcasses, meat, animal feed or other things.

3. Emerging diseases

Veterinary legislation should provide for measures to investigate and respond to *emerging diseases*.

Article 3.4.10.

Animal welfare1. General provisions

Veterinary legislation should provide a basis for actions to address the *animal welfare* related requirements in the *Terrestrial Code*.

To this end, the legislation should contain as a minimum, a legal definition of cruelty as an offence ~~subject to penal action~~, and provisions for direct intervention of the *Competent Authority* in the case of neglect by animal keepers.

2. Stray dogs and other free-roaming animals

Veterinary legislation should provide a basis for actions to address the requirements in Chapter 7.7. and, as appropriate, prohibition of the abandonment of *animals*, and management of abandoned *animals*, including transfer of ownership, veterinary interventions and *euthanasia*.

Article 3.4.11.

Veterinary medicines and biologicals

Veterinary legislation should provide a basis for assuring the quality of veterinary medicines and biologicals and minimizing the *risk* to human, animal and environmental health associated with their use.

Annex XXX (contd)

Annex III (contd)

1. General measures

Veterinary legislation should provide a basis for actions to address the elements listed below:

- a) definition of veterinary medicines and biologicals, including any specific exclusions; and
- b) regulation of the importation, manufacture, distribution and usage of, and commerce in, veterinary medicines and biologicals.

2. Raw materials for use in veterinary medicines and biologicals

Veterinary legislation should provide a basis for actions to address the elements listed below:

- a) quality standards for raw materials used in the manufacture or composition of veterinary medicines and biologicals and arrangements for checking quality;
- b) establishment of the withdrawal periods and maximum residue limits for veterinary medicines and biologicals, as appropriate; and
- c) requirements for substances in veterinary medicines and biological that may, through their effects, interfere with the conduct of veterinary checks.

3. Authorisation of veterinary medicines and biologicals

- a) Veterinary legislation should ensure that only authorised veterinary medicines and biologicals may be placed on the market.
- b) Special provisions should be made for:
 - i) medicated feed;
 - ii) products prepared by authorised *veterinarians* or authorised pharmacists; and
 - iii) emergencies and temporary situations.
- c) Veterinary legislation should address the technical, administrative and financial conditions associated with the granting, renewal, refusal and withdrawal of authorisations.
- d) In defining the procedures for seeking and granting authorisations, the legislation should:
 - i) describe the role of the relevant *Competent Authority*; and
 - ii) establish rules providing for the transparency in decision making.
- e) Veterinary legislation may provide for the possibility of recognition of the equivalence of authorisations made by other countries.

4. Quality of veterinary medicines and biologicals

Veterinary legislation should address the following elements:

Annex XXX (contd)Annex III (contd)

- a) the conduct of clinical and non clinical trials to verify all claims made by the manufacturer;
- b) conditions for the conduct of trials;
- c) qualifications of experts involved in trials; and
- d) surveillance for adverse effects arising from the use of veterinary medicines and biologicals.

5. Establishments producing, storing and wholesaling veterinary medicines and biologicals

Veterinary legislation should provide a basis for actions to address the following elements:

- a) registration or authorisation of all operators manufacturing importing, storing, processing, wholesaling or otherwise distributing veterinary medicines and biologicals or raw materials for use in making veterinary medicines and biologicals;
- b) definition of the responsibilities of operators;
- c) good manufacturing practices as appropriate;
- d) reporting on adverse effects to the *Competent Authority*; and
- e) mechanisms for traceability and recall.

6. Retailing, use and traceability of veterinary medicines and biologicals

Veterinary legislation should provide a basis for actions to address the following elements:

- a) control over the distribution of veterinary medicines and biologicals and arrangements for traceability, recall and conditions of use;
- b) establishment of rules for the prescription and provision of veterinary medicines and biologicals to end users;
- c) restriction to authorised professionals and, as appropriate, authorized veterinary paraprofessionals of commerce in veterinary medicines and biologicals that are subject to prescription;
- d) the supervision by an authorised professional of organisations approved for holding and use of veterinary medicines and biologicals;
- e) the regulation of advertising claims and other marketing and promotional activities; and
- f) reporting on adverse effects to the *Competent Authority*.

Annex XXX (contd)Annex III (contd)

Article 3.4.12.

Human food production chain

Veterinary legislation should provide a basis for actions to safeguard the human food production chain through controls at all critical steps, consistent with national food safety standards. The role of the Veterinary Services in food safety is described in Chapter 6.1.

1. General

Veterinary legislation should provide a basis for actions to address the following elements:

- a) controls over ~~the implementation of the legislation at~~ all stages of the production, processing and distribution of food of animal origin;
- b) recording all significant animal health events that occur during primary production;
- c) giving operators of food production premises the primary responsibility for compliance with food safety requirements, including for traceability established by the *Competent Authority*; and
- d) inspection for food safety and food composition, where this is relevant to health or safety;
- e) inspection of premises;
- f) prohibition of the marketing of products not fit for human consumption;
- g) provisions for recall from the marketplace of all products likely to be hazardous for human or animal health.

2. Products of animal origin intended for human consumption

Veterinary legislation should provide a basis for actions to address the following elements:

- a) arrangements for inspection and audit;
- b) the conduct of inspection on the basis of veterinary expertise;
- c) health standards; and
- d) the application of health identification marks that are visible to the intermediary or final user.

The *Competent Authority* should have the necessary powers and means to rapidly withdraw any products deemed to be hazardous from the food chain or to prescribe uses or treatments that ensure the safety of such products for human or animal health.

3. Operators responsible for premises and establishments pertaining to the food chain

Veterinary legislation should provide a basis for actions to address the following elements as appropriate:

- a) registration of premises and establishments by the *Competent Authority*;
- b) the use of risk-based management procedures ~~based on HACCP principles~~; and
- c) prior authorisation of operations that are likely to constitute a significant *risk* to human or animal health.

Annex XXX (contd)

Annex III (contd)

Article 3.4.13.

Import/export procedures and veterinary certification

Veterinary legislation should provide a basis for actions to address the elements relating to import/export procedures and veterinary certification referred to in Section 5 of the *Terrestrial Code*.

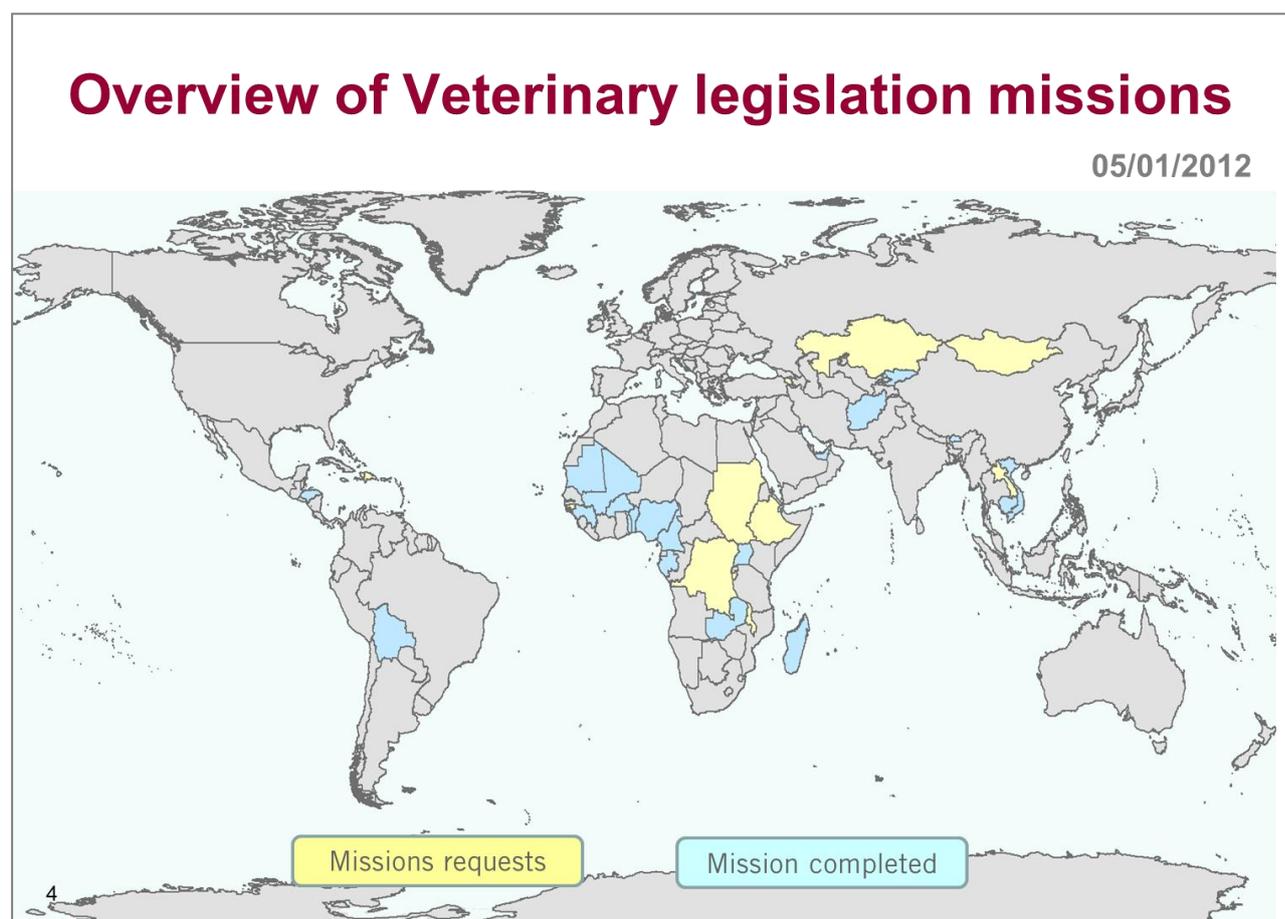
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Annex XXX (contd)

Annex IV

OIE Veterinary Legislation Support Programme – Global State of play up to 5 January 2012

	OIE Members	VLSP Legislation missions requests	VLSP Identification missions implemented	VLSP Identification missions reports received	VLSP Agreements Requests
Africa	52	20	14	14	2
Americas	29	4	2	2	1
Asia, the Far East and Oceania	32	5	3	3	2
Europe	53	3	2	1	0
Middle East	12	4	4	4	2
TOTAL	178	36	25	24	7



Annex XXX (contd)Annex IV (contd)**OIE Veterinary Legislation Support Programme – Country requests received up to 5 January 2012**

	Africa	Americas	Asia, the Far East and Oceania	Europe	Middle East
1	Benin	Bolivia	Bhutan	Armenia	Afghanistan
2	Burkina Faso	Dominican Republic	Cambodia	Kazakhstan	Kuwait
3	Burundi	Haiti	Laos	Kyrgyzstan	Lebanon
4	Cameroon	Honduras	Mongolia		United Arab Emirates
5	Congo (D.R. of)		Vietnam		
6	Djibouti				
7	Ethiopia				
8	Gabon				
9	Guinea				
10	Guinea-Bissau				
11	Madagascar				
12	Malawi				
13	Mali				
14	Mauritania				
15	Mauritius				
16	Nigeria				
17	Sudan				
18	Togo				
19	Uganda				
20	Zambia				
	20	4	5	3	4
TOTAL NUMBER OF COUNTRY REQUESTS RECEIVED: 36					

CHAPTER 6.10.

RISK ANALYSIS ASSESSMENT FOR ANTIMICROBIAL RESISTANCE ARISING FROM THE USE OF ANTIMICROBIAL AGENTS IN ANIMALS

Article 6.10.1.

Recommendations for analysing the risks to animal and human public health from antimicrobial resistant micro-organisms of animal origin

1. Introduction

Problems related to antimicrobial resistance are inherently linked to antimicrobial use in any environment, including human and non-human usages. However, the emergence of antimicrobial resistance can occur through factors other than use of antimicrobial agents.

The use of antimicrobial agents for therapy therapeutic and non therapeutic purposes, prophylaxis and growth promotion in animals can reduce their efficacy in animal and human medicine, through the development of antimicrobial resistant strains of pathogenic micro-organisms. This risk may be represented by the loss of therapeutic efficacy of one or several antimicrobial agents drugs and includes the selection and dissemination of antimicrobial resistant micro-organisms emergence of multi-resistant micro-organisms.

2. Objective

The principal aim of *risk analysis*, for the purpose of this chapter, for antimicrobial resistance in micro-organisms from animals is to provide OIE Member Countries with a transparent, objective and scientifically defensible method of assessing and managing the human and animal health risks associated with the development of resistance arising from the use of antimicrobial agents in animals.

3. The risk analysis process

The principles of *risk analysis* are described in Chapter 2.1, Section of this *Terrestrial Code*. The components of risk analysis described in this chapter are hazard identification, risk assessment, risk management and risk communication.

A qualitative risk assessment should always be undertaken. Its outcome will determine whether progression to a quantitative risk assessment is feasible and/or necessary.

4. Hazard identification

Hazard identification is defined under the OIE *Terrestrial Code* Chapter 2.1.

For the purpose of this chapter, the *hazard* is the resistant micro-organism or resistance determinant that emerges as a result of the use of a specific antimicrobial agent in animals. This definition reflects the development of resistance in a species of pathogenic micro-organisms, as well as the development of a resistance determinant that may be passed from one species of micro-organisms to another. The conditions under which the *hazard* might produce adverse consequences include any scenarios through which humans or animals could become exposed to a pathogen which contains that resistance determinant, fall ill and then be treated with an antimicrobial agent that is no longer effective because of the resistance.

Annex XXXI (contd)5. Risk assessment

The *assessment of the risk* to human and animal health from antimicrobial-resistant micro-organisms resulting from the use of antimicrobials in *animals* should examine:

- a) the likelihood of emergence of resistant micro-organisms arising from the use of antimicrobial(s), or more particularly, dissemination production of the resistance determinants if transmission is possible between micro-organisms;
- b) consideration of all pathways and their importance, by which humans could be exposed to these resistant micro-organisms or resistance determinants, together with the possible degree likelihood of exposure;
- c) the consequences of exposure in terms of *risks* to human and/or animal health.

The general principle of risk assessment as defined in Chapter 2.1. of the Terrestrial Code applies equally to both qualitative and quantitative risk assessment. At a minimum, a qualitative risk assessment should always be undertaken.

Article 6.10.2.

Analysis of risks to human health1. Definition of the risk

The *infection* of humans with micro-organisms that have acquired resistance to a specific antimicrobial agent due to the used in *animals*, and resulting in the loss of benefit of antimicrobial therapy used to manage the human *infection*.

2. Hazard identification

- Micro-organisms that have acquired resistance, (including multiple resistance) arising from the use of an antimicrobial agent(s) in *animals*.
- Micro-organisms having obtained a resistance determinant(s) from other micro-organisms which have acquired resistance arising from the use of an antimicrobial agent(s) in *animals*.

The identification of the *hazard* must include consideration of the class or subclass of the antimicrobial agent(s). This definition should be read in conjunction with point 4) of Article 6.10.1.

3. Release assessment

A release assessment describes the biological pathways necessary for the use of a specific antimicrobial agent in *animals* to lead to the release of resistant micro-organisms or resistance determinants into a particular environment, and estimating either qualitatively or quantitatively the probability of that complete process occurring. The release assessment describes the probability of the release of each of the potential *hazards* under each specified set of conditions with respect to amounts and timing, and how these might change as a result of various actions, events or measures.

The following factors should be considered in the release assessment:

- species of animal treated with the antimicrobial agent(s) in question;
- number of *animals* treated, sex, age and their geographical distribution ~~of those *animals*~~;
- prevalence of infection or disease for which the antimicrobial agent is indicated in the target animal population;
- data on trends in antimicrobial agent use and changes in farm production systems;
- potential extra-label or off-label use;
- variation in methods and routes of administration of the antimicrobial agent(s);
- dosage regimen including duration of use;
- the pharmacokinetics or pharmacodynamics ~~/pharmacokinetics~~ of the antimicrobial agent(s);
- micro-organisms developing resistance as a result of the antimicrobial(s) use pathogens that are likely to acquire resistance in animal host;
- commensal bacteria which are able to transfer resistance to human pathogens;
- mechanisms and pathways of direct or indirect transfer of resistance;
- potential linkage of virulence attributes and resistance;
- cross-resistance and/ or co-resistance with other antimicrobial agents;
- data on occurrence of resistant micro-organisms through surveillance of *animals*, products of animal origin and animal waste products ~~for the existence of resistant micro-organisms~~.

4. Exposure assessment

An exposure assessment describes the biological pathways necessary for exposure of humans to the resistant micro-organisms or resistance determinants released from a given antimicrobial use in *animals*, and estimating the probability of the exposures occurring. The probability of exposure to the identified *hazards* is estimated for specified exposure conditions with respect to amounts, timing, frequency, duration of exposure, routes of exposure and the number, species and other characteristics of the human populations exposed.

The following factors should be considered in the exposure assessment:

- human demographics and food consumption patterns, including traditions and cultural practices in respect to the preparation and storage of food;
- prevalence of resistant micro-organisms in food at the point of consumption;
- microbial load in contaminated food at the point of consumption for quantitative risk assessment;
- environmental contamination with resistant micro-organisms;

Annex XXXI (contd)

- prevalence of animal feed contaminated with resistant micro-organisms;
- transfer cycling of resistant micro-organisms between humans, *animals* and the environment;
- steps measures taken for ~~of~~ microbial decontamination of food;
- ~~– microbial load in contaminated food at the point of consumption;~~
- survival capacity and spread redistribution of resistant micro-organisms during the food production process (including slaughtering, processing, storage, transportation and retailing);
- disposal practices for waste products and the opportunity for human exposure to resistant micro-organisms or resistance determinants in those waste products;
- ~~– point of consumption of food (professional catering, home cooking);~~
- variation in consumption and food-handling methods of exposed populations and subgroups of the population;
- capacity of resistant micro-organisms to become established in humans;
- human-to-human transmission of the micro-organisms under consideration;
- capacity of resistant micro-organisms to transfer resistance to human commensal micro-organisms and zoonotic agents;
- amount and type of antimicrobials used in response to human illness;
- pharmacokinetics (such as metabolism, bioavailability and access to intestinal flora).

5. Consequence assessment

A consequence assessment describes the relationship between specified exposures to resistant micro-organisms or resistance determinants and the consequences of those exposures. A causal process must exist by which exposures produce adverse health or environmental consequences, which may in turn lead to socio-economic consequences. The consequence assessment describes the potential consequences of a given exposure and estimates the probability of them occurring.

The following factors should be considered in the consequence assessment:

- microbial dose – host response relationships;
- variation in susceptibility of exposed populations or subgroups of the population;
- variation and frequency of human health effects resulting from loss of efficacy of antimicrobial agents and associated costs;
- ~~– potential linkage of virulence attributes and resistance;~~

- ~~changes in human medicinal practices resulting from reduced confidence in antimicrobials;~~
- changes in food consumption patterns due to loss of confidence in the safety of food products and any associated secondary *risks*;
- ~~associated costs;~~
- interference with first line/choice antimicrobial therapy in humans;
- ~~importance of the antimicrobial agent in human medicine perceived future usefulness of the antimicrobial (time reference);~~
- prevalence of resistance in human bacterial pathogens under consideration.

6. Risk estimation

A *risk* estimation integrates the results from the release assessment, exposure assessment and consequence assessment to produce overall estimates of *risks* associated with the *hazards*. Thus, *risk* estimation takes into account the whole of the *risk* pathway from *hazard identification* to the unwanted consequences.

The following factors should be considered in the *risk* estimation:

- number of people falling ill and the proportion of that number affected with antimicrobial resistant strains of micro-organisms;
- adverse effects on vulnerable human sub-population (children, immuno-compromised persons, elderly, etc.);
- increased severity or duration of infectious *disease*;
- number of person ~~/ or~~ days of illness per year;
- deaths (total per year; probability per year or lifetime for a random member of the population or a member of a specific more exposed sub-population);
- importance severity of the pathology infection caused by the target micro-organisms;
- existence or absence of alternative antimicrobial therapy;
- potential impact of switching to an alternative antimicrobial agent (e.g. alternatives with potential increased toxicity);
- occurrence incidence of antimicrobial resistance in target pathogens observed in humans;
- consequences of the overall ~~to allow weighted summation of different~~ *risk* impacts (e.g. illness and hospitalisation).

7. Risk management components options and risk communication

The OIE defines risk management as consisting of the steps described below. Risk management options and risk communication have to be continuously monitored and reviewed in order to ensure that the objectives are being achieved.

Annex XXXI (contd)

a) Risk evaluation - the process of comparing the risk estimated in the risk assessment with the Member Country's appropriate level of protection.

b) Option evaluation.

A range of risk management options is available to minimise the emergence and spread of antimicrobial resistance and these include both regulatory and non-regulatory risk management options, such as the development of codes of practice concerning the use of antimicrobials in animal husbandry. Risk management decisions need to consider fully the implications of these different options for human health and animal health and welfare and also take into account economic considerations and any associated environmental issues. Effective control of certain bacterial diseases of animals will have the dual benefit of reducing the risks linked to antimicrobial resistance, in cases where the bacterial disease under consideration has also developed antimicrobial resistance.

c) Implementation

Risk managers should develop an implementation plan that describes how the decision will be implemented, by whom and when. National or regional authorities should ensure an appropriate regulatory framework and infrastructure.

d) Monitoring and review

Risk management options have to be continuously monitored and reviewed in order to ensure that the objectives are being achieved.

8. Risk communication

Communication with all interested parties be promoted at the earliest opportunity and integrated into all phasis of a risk analysis. This will provide all interested parties, including risk managers, with the better understanding of risk management approaches. Risk communication should be also well documented.

Article 6.10.3.

Analysis of risks to animal health

1. Definition of the risk

The *infection of animals* with micro-organisms that have acquired resistance ~~to from the use of~~ a specific antimicrobial agent(s) due to the use in *animals*, and resulting in the loss of benefit of antimicrobial therapy used to manage the animal *infection*.

2. Hazard identification

- mMicro-organisms that have acquired resistance, (including multiple resistance) arising from the use of an antimicrobial agent(s) in *animals*.
- mMicro-organisms having obtained a resistance determinant(s) from another micro-organisms which have acquired resistance arising from the use of an antimicrobial agent(s) in *animals*.

The *identification of the hazard* must include considerations of the class or subclass of the antimicrobial agent(s). This definition should be read in conjunction with point 4) of Article 6.10.1.

3. Release assessment

The following factors should be considered in the release assessment:

- animal species treated with the antimicrobial agent in question;
- number of *animals* treated, sex, age and their geographical distribution;
- dosage regimen including amounts used and duration of treatment use;
- variation in methods and routes of administration of the antimicrobial agent(s);
- the pharmacokinetics or pharmacodynamics / pharmacokinetics of the antimicrobial agent(s);
- site and type of *infection*;
- development of resistant micro-organisms;
- mechanisms and pathways of resistance transfer;
- cross-resistance and/or co-resistance with other antimicrobial agents;
- data on occurrence of resistant micro-organisms through surveillance of animals, products of animal origin and animal waste products for the existence of resistant micro-organisms.

4. Exposure assessment

The following factors should be considered in the exposure assessment:

- prevalence and trends of resistant micro-organisms in clinically ill and clinically unaffected *animals*;
- prevalence of resistant micro-organisms in feed / the animal environment;
- animal-to-animal transmission of the resistant micro-organisms (animal husbandry methods, movement of animals);
- number / or percentage of *animals* treated;
- dissemination of resistant micro-organisms from animals (animal husbandry methods, movement of animals);
- quantity and trends of antimicrobial agent(s) used in *animals*;
- treatment regimens (dose, route of administration, duration);
- survival capacity of resistant micro-organisms and spread of resistant micro-organisms;
- exposure of *wild-life* to resistant micro-organisms;
- disposal practices for waste products and the opportunity for animal exposure to resistant micro-organisms or resistance determinants in those products;

Annex XXXI (contd)

- capacity of resistant micro-organisms to become established in *animals*; intestinal flora;
- exposure to resistance determinants from other sources such as water, effluent, waste pollution, etc.;
- dose, route of administration and duration of treatment;
- pharmacokinetics, such as (metabolism, bioavailability, access to intestinal flora);
- transfer cycling of resistant micro-organisms between humans, animals and the environment.

5. Consequence assessment

The following factors should be considered in the consequence assessment:

- microbial dose-host response relationships;
- variation in disease susceptibility of exposed populations and subgroups of the populations;
- variation and frequency of animal health effects resulting from loss of efficacy of antimicrobial agents and associated costs;
- potential linkage of virulence attributes and resistance;
- changes in practices resulting from reduced confidence in antimicrobials;
- associated cost;
- perceived future importance/usefulness of the drug antimicrobial agent in animal health (see OIE list of antimicrobials of veterinary importance) (time reference).

6. Risk estimation

The following factors should be considered in the *risk* estimation:

- additional burden of disease due to antimicrobial resistant micro-organisms;
- number of therapeutic failures due to antimicrobial resistant micro-organisms;
- increased severity and duration of infectious disease;
- *animal welfare*;
- economic cost;
- deaths (total per year; probability per year or lifetime for a random member of the population or a member of a specific more exposed sub-population);
- existence or absence of alternative antimicrobial therapy;
- potential impact of switching to an alternative antimicrobial agent e.g. alternatives with potential increased toxicity;
- estimation of the economic impact and cost on animal health and production;
- incidence of resistance observed in *animals*;

7. Risk management options, components and risk communication

The relevant provisions contained in Article 6.9.7. do apply.

Risk management options and risk communication have to be continuously monitored and reviewed in order to ensure that the objectives are being achieved.

The relevant recommendations (Articles 2.1.5., 2.1.6. and 2.1.7.) in the *Terrestrial Code* apply.

A range of *risk management* options is available to minimize the emergence and spread of antimicrobial resistance and these include both regulatory and non-regulatory *risk management* options, such as the development of codes of practice concerning the use of antimicrobials in animal husbandry. *Risk management* decisions need to consider fully the implications of these different options for human health and animal health and *welfare* and also take into account economic considerations and any associated environmental issues. Effective control of certain bacterial *diseases of animals* will have the dual benefit of reducing the *risks* linked to antimicrobial resistance, in cases where the bacterial *disease* under consideration has also developed antimicrobial resistance. Appropriate communication with all stakeholders is essential throughout the *risk assessment* process.

8. Risk communication

The relevant provisions contained in Article 6.9.8. do apply.

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Animal Welfare Working Group: 2012 Work Programme

	Activity	Priorities of Working Group	Implementation
1.	Further work on adopted standards	<p>Land transport</p> <p>Sea transport</p> <p>Air transport</p> <p>Slaughter for human consumption</p> <p>Killing for disease control purposes</p> <p>Stray dog population control</p> <p>Use of animals in research and education</p> <p>Farmed fish transport</p> <p>Stunning and killing of farmed fish for human consumption</p> <p>Killing of farmed fish for disease control purposes</p> <p>Outcome focus emphasis</p> <p>Comment on additional member country comments</p>	<p>Review outcomes of General Session, including Member country submissions</p> <p>Article 7.8.10 Transportation and Model Veterinary Certificate</p> <p>Review draft text prepared by AAHCC. Include in relevant written material, conference presentations, etc. to reinforce OIE policy commitment.</p> <p>To be sent to AWWG members in October and April when TAHSC report placed on OIE internet site</p>

Annex XXXII (contd)

	Activity	Priorities of Working Group	Implementation
2.	Development of new standards	<ul style="list-style-type: none"> • Article 7.1.4 on General Principles • AW welfare in broiler production systems • AW in beef cattle production systems • AHG on Dairy cattle • Working animals • Disaster Management 	<p>To be submitted at the GS</p> <p>On hold pending decision on General Principles</p> <p>To be submitted at the GS</p> <p>Waiting for Beef cattle adoption decision Not a priority for standards development. Not a priority for standards development</p>
3.	Wildlife	Animal welfare problem associated with trade in wild species.	Not a priority for standards development
4.	Improved animal welfare awareness within veterinary profession	Coordinate with WVA/CVA activities	In liaison with the OIE <i>ad hoc</i> group on veterinary education
5.	Communications plan	<p>Working Group members to take up opportunities for publishing information articles in appropriate journals, web pages and newsletters</p> <p>November 2011 ILAR Journal paper on Harmonisation of Veterinary Training and Qualifications in Laboratory Animal Medicine : A Global Review</p> <p>Animal Welfare and Islamic Law</p> <p>Summary overview of OIE Animal Welfare achievements and current and future priorities (To be included in fact sheet)</p> <p>Working Group members to contribute to OIE Regional conferences</p> <p>To liaise with governments and international organisations re animal welfare topics at upcoming conferences and seminars including:</p>	<p>Continuing (All)</p> <p>Agreed with Communications Department to publish in OIE Bulletin</p> <p>Continuing (All)</p> <p>Discussion paper published on OIE website. Update, as required, and encourage use for local dialogue purposes</p> <p>Headquarters</p> <p>Continuing (All)</p> <p>Continuing (All)</p>

	Activity	Priorities of Working Group	Implementation
		<ul style="list-style-type: none"> • Third OIE Global Conference on AW, Kuala Lumpur, 6- 8 November 2012. • EC/FVE CALLISTO Project • AW FP Seminar, Kiev, March. • FAO First Global Multi Stakeholder Forum, Rome, March • Denmark/EC International Conference on Research infrastructure, Denmark, March • World Meat Congress, Paris, June 2012 • LFDA Conference, Paris, October, 2012 • Second International Trans Disciplinary Conference on Fauna Protection, Brazil, November. <p>Communication between CCs</p>	<p>Concept Note and Scientific Programme</p> <p>Not priority for TAHSC</p> <p>Done</p> <p>Done</p> <p>OIE representation</p> <p>Not priority</p> <p>OIE representation</p> <p>OIE representation</p> <p>Agreed to OIE website</p>
6.	Publications	<p>OIE Technical Series Issue on Scientific Assessment of Animal Pain and Pain Management</p> <p>INRA Pain Publication</p>	<p>Continue to promote internationally (All/ Headquarters)</p> <p>To be Reviewed at AWWG11</p>
7.	Coordination with other international organisations	IDF	Attend AWWG 11 as observer
		IMS	Attend AWWG 11 as observer
		IEC	Attend AWWG 11 as full member

Annex XXXII (contd)

	Activity	Priorities of Working Group	Implementation
		FAO	Dog Population Management experts meeting- report and recommendations (waiting report) Working Animals experts meeting- report and recommendations (waiting report) Role clarity discussions on animal welfare to be initiated to complement existing agreements on animal health Liaise regarding Gateway and Podcasts
		FAWC	Liaise re AW and Economics publication (need further information to make decision)
		AATA/IATA/WAZA	Live Animals and Perishables Board / Time and Temperature Task Force Meetings – April 2012 Montreal
		WB / IFC	Director General to continue to discuss animal welfare common interests
		ISAE	Meeting in August 2012, Vienna. The DG has been invited to attend the meeting.
		WSPA	Future collaboration between the OIE, WSPA and other international organisations in the field of disaster relief and management.
		VICH (incl.Outreach)	Liaise with Susanne Munstermann (Scientific and Technical Department), OIE Focal Point for VICH
		ICLAS	Close liaison as per MoU
		IACLAM	Consult on issues requiring specialist veterinary laboratory animal medicine input and perspective (e.g. air transport of laboratory animals)
		EFSA	EFSA Scientific Opinion on the use of animal-based measures to assess the welfare of dairy cows http://www.efsa.europa.eu/en/consultations/call/111004.htm
		ILAR Minding Animals EC : AW and Trade Policy	Collaborating Centre Application 2012 Conference to be held at Utrecht University Proposed follow up to 2009 AW and International Agricultural Trade Conference (Montevideo in 2013)

Annex XXXII (contd)

	Activity	Priorities of Working Group	Implementation
8.	Working group performance	Continued focus on priority activities, as determined by TAHSC, AAHSC and DG Continued focus on AW aspects of horizontal/cross cutting issues receiving priority OIE attention (PVS tool, Vet Legislation, Wildlife, Food Safety, One World/One Health, etc.)	Continue to use informal meetings and teleconferences to progress work plan between WG meetings, with circulation of teleconference action minutes to members Review performance and process issues at 2012 AWWG meeting. Prepare AWWG Teleconference September 2012 Address in AWWG 11 agenda
9.	Collaborating centres	Encourage recognition of appropriate international centres, in addition to Teramo, Chile/Uruguay and New Zealand Australia Joint meeting/teleconference	Mexico application to join the CHI-URU CC Sweden Application: letter from the OIE ILAR application Paper on "Criteria for the recognition of OIE Reference Centres in Animal Welfare" (before Council) Agreed that CCs will organise on an opportunistic basis
10.	Twinning	NZ-AUS CC and University of Putra (Malaysia)	Include on AWWG 11 Agenda (Headquarters)
11.	Regional Strategies		RAWS AFEO Regional Coordination Group 3 meeting 3-4 April 2012, Bangkok Americas: Concept note has been circulated, will probably be submitted to Regional Commission at GS Included item in the Focal Point Seminar (Kiev March 2012)
12.	2012 Third OIE Global Conference on Animal Welfare	Programme of the conference	Discussed at AWWG Teleconference in January 2012

Annex XXXII (contd)

	Activity	Priorities of Working Group	Implementation
13.	Animal Welfare OIE Focal Point Training Programme		Headquarters to inform the dates and venues of the training sessions Feedback from the trainings are expected (WG to update TAHSC)
14.	Animal Health and Welfare Fund	Encourage financial contributions to support AW initiatives following EC example	Additional donations from Australia and NZ

CHAPTER 8.4.

INFECTION WITH *ECHINOCOCCUS GRANULOSUS*

Article 8.4.1.

General provisions

Echinococcus granulosus is a cestode (tapeworm) found worldwide. The adult worms occur in the intestines of canids, and larval stages (hydatid cysts) in tissues of various organs of other mammalian hosts, including humans. Infection with the larval stage of the parasite in the intermediate host, referred to as 'cystic echinococcosis' or 'hydatidosis', is associated with significant economic losses in livestock production and causes a major disease burden in humans.

For the purpose of the *Terrestrial Code*, infection with *E. granulosus* is defined as a zoonotic parasitic infection of canids, ungulates, and macropod marsupials with *E. granulosus* (ovine, bovine, cervid, camelid and porcine strains).

Transmission of *E. granulosus* to canids (definitive hosts) occurs through ingestion of hydatid-infected offal from a range of domestic and wild species of herbivores and omnivores (intermediate hosts).

Infection in intermediate hosts, as well as in humans, occurs by ingestion of parasite eggs from contaminated environments. In humans, infection may also occur following contact with infected canids or by consumption of food or water contaminated with *E. granulosus* eggs from canid faeces.

Preventing transmission can be achieved by targeting both the definitive and intermediate hosts. Infection in humans can be prevented by good food and personal hygiene, community health education and preventing infection of canids. Good communication and collaboration between the *Competent Authority* and the public health authority is an essential component in achieving success in the prevention and control of *E. granulosus* transmission.

This chapter provides recommendations for prevention of, control of, and surveillance for infection with *E. granulosus* in dogs and livestock.

Standards for diagnostic tests are described in the *Terrestrial Manual*.

[NOTE: The following terms 'owned dog', 'responsible dog ownership' and 'stray dog' used throughout this chapter are defined in Chapter 7.7. Once this chapter is adopted, this note will be deleted and these definitions will be moved to the glossary of the *Terrestrial Code*.]

Article 8.4.2.

Safe commodities

When authorising import or transit of the following *commodities*, *Veterinary Authorities* should not require any *E. granulosus* related conditions regardless of the status of the animal population of the *exporting country* or *zone*:

Annex XXXIII (contd)

- skeletal muscle meat and skeletal muscle meat products;
- casings;
- *milk* and *milk products*;
- hides and skins of livestock;
- embryos, oocytes and semen.

Article 8.4.3.

Prevention and control of infection with *Echinococcus granulosus*

In order to achieve success in the prevention and control of infection with *E. granulosus*, the *Competent Authority* should carry out community awareness programmes to inform people of the risk factors associated with transmission of *E. granulosus* and the importance of hydatidosis in animals and humans, the role of dogs (including stray dogs), the need to implement preventive and control measures, and the importance of responsible dog ownership.

1. Prevention of infection in dogs (owned and stray)

The following measures should be undertaken:

- a) Dogs should not be fed offal from any animal species unless it has been treated in accordance with Article 8.4.6.
- b) Dogs should not have access to dead animals of any animal species, including *wildlife* species; all dead animals should be disposed of in accordance with provisions in Chapter 4.12.6.
- c) The *Veterinary Authority* or other *Competent Authority* should ensure that *slaughterhouses/abattoirs* have implemented measures that prevent access of dogs to the premise, and to animal carcasses and waste containing offal.
- d) When livestock cannot be slaughtered in a *slaughterhouse/abattoir*, and are home-slaughtered, dogs should be prevented from having access to offal, and not be fed offal unless it has been treated in accordance with Article 8.4.6.

2. Control of infection in dogs (owned and stray)

- a) For control of stray dog populations, the *Competent Authority* should ensure compliance with relevant aspects of Chapter 7.7.
- b) Dogs known to be infected or suspected of having access to raw offal, or in contact with livestock should be dewormed at least every 4-6 weeks with praziquantel (5 mg/kg) or another cestocidal product with comparable efficacy; where possible, faeces excreted up to 72 hours post treatment should be disposed of by incineration or burial.
- c) In areas of persistent transmission, the *Veterinary Authority* should identify the possible origins of the infection, and review and amend, as appropriate, the control programme.

3. Control of infection in livestock

- a) The *Veterinary Authority* should ensure that all slaughtered livestock are subjected to post-mortem meat inspection in accordance with Chapter 6.2., including inspection of offal for hydatid cysts.
- b) When hydatid cysts are detected during post-mortem meat inspection:
 - i) offal containing hydatid cysts should be destroyed by incineration or burial, or rendered, or treated in accordance with Article 8.4.6.;
 - ii) an investigation should be carried out by the *Veterinary Services* to identify the possible origin of the infection, and review and amend, as appropriate, the control programme.

Article 8.4.4.

Surveillance and monitoring for infection with *Echinococcus granulosus*

An *animal identification* and *traceability* system should be implemented in accordance with the provisions of Chapters 4.1. and 4.2.

1. Monitoring in dogs

- a) Monitoring for infection with *E. granulosus* in dogs should be undertaken as it is an essential component for assessing the current situation regarding transmission within different dog populations and for evaluating the success of control programmes.
- b) Appropriate monitoring strategies should be designed according to local conditions, in particular, where large populations of stray dogs and wild canids exist. Under these circumstances surveillance of environmental samples (faeces, soil) may provide a useful indicator of infection pressure.
- c) Where control programmes are conducted, regular monitoring for infection status should be undertaken. This can be achieved through testing of faeces from dogs, and canid faecal samples from the environment.

2. Surveillance in slaughterhouses/abattoirs

- a) The *Veterinary Services* should carry out systematic surveillance for hydatid cysts in livestock in *slaughterhouses/abattoirs*.
- b) Data collected should be used for the design or adaptation of control programmes.

Veterinary Authorities should use any information on cases of human hydatidosis, provided by the public health authorities, in initial design and any subsequent modification of surveillance and monitoring programmes.

Article 8.4.5.

Recommendations for the importation of dogs and wild canids from an infected country

Veterinary Authorities of *importing countries* should require the presentation of an *international veterinary certificate* attesting that the *animal* has been treated between 48 and 72 hours prior to shipment with praziquantel (5 mg/kg), or another cestocidal product with comparable efficacy against intestinal forms of *E. granulosus*.

Annex XXXIII (contd)

Article 8.4.6.

Procedures for the inactivation of *Echinococcus granulosus* cysts in offal

For the inactivation of *E. granulosus* cysts present in offal, one of the following procedures should be used:

1. heat treatment to a core temperature of at least 80°C for 10 minutes or an equivalent time/temperature;
 2. freezing to minus 20°C for at least 2 days.
-

CHAPTER X.X.

**INFECTION WITH *ECHINOCOCCUS*
*MULTILOCCULARIS***

Article X.X.1.

General provisions

Echinococcus multilocularis is a cestode (tapeworm) which is widespread in some parts of the Northern Hemisphere, and it is maintained mainly in wild animal populations. The adult worms occur in the intestines of canids, particularly foxes, and larval stages (metacestode) in tissues of various organs of other mammalian hosts (commonly rodents), including humans. Infection with the larval stage of the parasite in the intermediate host, causes severe disease in humans (referred to as ‘alveolar echinococcosis’), but does not cause discernible health impacts in livestock.

For the purpose of the *Terrestrial Code*, infection with *E. multilocularis* is defined as a zoonotic parasitic infection of domestic and wild canids, felids, rodents and pigs.

Transmission of *E. multilocularis* to canids (definitive hosts) occurs through ingestion of metacestode-infected viscera from a range of wild small mammalian species (intermediate hosts). Foxes and some other wild canids are the most important definitive hosts in maintaining the cycle at the wildlife-human interface through contaminating both rural and urban environments. Dogs may also act as important and efficient definitive host in both rural and urban environments, providing an important potential source for human infections. Even though the potential role of felids in transmission of infection to humans cannot be excluded, their epidemiological role is considered negligible. Pigs may become infected but the parasite remains infertile; therefore, they have no role in transmission of the parasite.

Infection in intermediate hosts, as well as in humans, occurs by ingestion of parasite eggs from contaminated environments. In humans, infection may also occur following contact with infected definitive hosts or by consumption of food or water contaminated with *E. multilocularis* eggs from faeces.

Prevention of infection in humans is difficult, particularly in areas with a high infection pressure maintained by rural and urban foxes. The risk of infections can be reduced by good food and personal hygiene, community health education and preventing infection of dogs and cats. Good communication and collaboration between the *Competent Authority* and public health authorities is an important component in monitoring the extent of infection with *E. multilocularis* in human and animal populations.

This chapter provides recommendations for prevention, control and monitoring of infection with *E. multilocularis* in dogs and cats, and monitoring in wild canids.

Standards for diagnostic tests are described in the *Terrestrial Manual*.

[NOTE: The following terms ‘owned dog’, ‘responsible dog ownership’ and ‘stray dog’ used throughout this chapter are defined in Chapter 7.7. Once this chapter is adopted, this note will be deleted and these definitions will be moved to the glossary of the *Terrestrial Code*.]

Annex XXXIII (contd)

Article X.X.2.

Prevention and control of infection with *Echinococcus multilocularis* in dogs (owned and stray) and cats

In order to achieve success in the prevention and control of infection with *E. multilocularis*, the *Competent Authority* should carry out community awareness programmes to inform people of the risk factors associated with transmission of *E. multilocularis* and the importance of alveolar echinococcosis in animals and humans, the role of foxes and other wild canids, dogs (including stray dogs), and cats, the need to implement preventive and control measures, and the importance of responsible dog ownership and cat ownership.

Whenever the epidemiological situation makes a control programme necessary, the following measures should be undertaken:

1. Owned dogs and cats should not be allowed to roam freely unless treated according to point 3.
2. For control of stray dog populations, the *Competent Authority* should ensure compliance with relevant aspects of Chapter 7.7.
3. Dogs and cats known to be infected should immediately be treated with praziquantel (5 mg/kg) or another cestocidal product with a comparable efficacy; dogs suspected of having access to rodents or other small mammals should be treated at least every 21–26 days.

Article X.X.3.

Monitoring for infection with *Echinococcus multilocularis*

1. Monitoring in foxes and other wild canids
 - a) Monitoring for infection with *E. multilocularis* in foxes and other wild canids should be undertaken as it is an essential component for assessing the current situation regarding prevalence of infection.
 - b) Appropriate monitoring strategies should be designed according to local conditions, in particular, where large populations of definitive hosts exist. Under these circumstances environmental sampling (faeces) may provide a useful indicator of infection pressure.
2. Surveillance in slaughterhouses/abattoirs
 - a) The *Veterinary Services* should consider carrying out targeted surveillance for larval lesions of *E. multilocularis* in livers of pigs raised in outdoor condition.
 - b) Data collected will provide useful additional information regarding prevalence of infection.

Veterinary Authorities should use any information on cases of human infection, provided by public health authorities for estimation of parasite transmission.

Article X.X.4.

Recommendations for the importation of dogs, wild canids and cats from an infected country

Veterinary Authorities of importing countries should require the presentation of an *international veterinary certificate* attesting that the *animal* has been treated between 48 and 72 hours prior to shipment with praziquantel (5 mg/kg), or another cestocidal product with a comparable efficacy against intestinal forms of *E. multilocularis*.

Annex XXXIV

Organisation
Mondiale
de la Santé
Animale

World
Organisation
for Animal
Health

Organización
Mundial
de Sanidad
Animal

Original: English

December 2011

REPORT OF THE MEETING OF THE OIE AD HOC GROUP ON ZOOONOTIC PARASITES

Paris (France), 7–9 December 2011

The OIE *ad hoc* Group on Zoonotic Parasites (the *ad hoc* Group) met at OIE Headquarters in Paris on 7–9 December 2011.

The members of the *ad hoc* Group and other participants are listed at [Annex I](#). The agenda adopted is at [Annex II](#).

Dr Alejandro Thiermann, on behalf of Dr Bernard Vallat, Director General of the OIE, welcomed members of the *ad hoc* Group and thanked them for their support for the OIE in this important area of work.

1. Addressing Member comments on Chapter 8.4. Echinococcosis/hydatidosis

The *ad hoc* Group considered the comments made by Canada, the European Union, Japan, New Zealand, Switzerland and the United States of America, and amended the text as appropriate.

The *ad hoc* Group agreed with several Members' suggestion that the two species, *E. granulosus* and *E. multilocularis*, should be addressed in two separate OIE *Terrestrial Animal Health Code (Terrestrial Code)* chapters given that these species have different lifecycles and epidemiology and that the risks presented require different approaches to prevention and control. The *ad hoc* Group therefore drafted two new texts: a revised Chapter 8.4. on 'Infection with *Echinococcus granulosus*' and a draft new chapter on 'Infection with *Echinococcus multilocularis*'.

1.1. Revised Chapter 8.4. Infection with *Echinococcus granulosus*

General considerations

In view of the OIE policy to entitle all disease chapters in the *Terrestrial Code* Volume 2 as 'Infection with... (pathogen or parasite)...', the *ad hoc* Group modified the title of Chapter 8.4. to 'Infection with *Echinococcus granulosus*'.

Regarding New Zealand's recommendation to use the term 'infestation' throughout the chapter, the *ad hoc* Group noted that, by scientific convention, external parasites are considered to be 'infestations', whereas internal parasites, such as *Echinococcus*, are considered to be 'infections'. The *ad hoc* Group was unanimous in its view that 'infection' was the correct term to use.

In response to comments of several Members, the *ad hoc* Group noted that the definitions in this chapter would be moved to the *Terrestrial Code* Glossary once the chapter had been adopted, consistent with OIE policy to list in the Glossary all defined terms that are used in more than one chapter.

Annex XXXIV (contd)

All members of the *ad hoc* Group agreed that communication between Veterinary Services (VS) and Public Health Agencies (PHA) is needed as part of the system of prevention and control (including surveillance) for *E. granulosus*, as cases of infection in humans are an important indicator of the presence of the infection in animals. A new point was added to Article 8.4.1. to reflect the importance of this communication.

The *ad hoc* Group recommended that the OIE *Manual of Diagnostic Tests and Vaccines for Terrestrial Animals (Terrestrial Manual)* Chapter 2.1.4. be updated with regard to new diagnostic testing methods and information on the genus and species. They also recommended that this chapter be restructured to reflect the separation proposed for *E. granulosus* and *E. multilocularis* in the *Terrestrial Code*.

Revision of articles

The *ad hoc* Group merged the text in the original Article 8.4.1. (Introduction) and Article 8.4.2. (Purpose and scope) and named the revised Article 8.4.1. 'General provisions', in line with the agreed approach to writing new *Code* chapters. Following Member comments and reflecting the proposal to develop a separate chapter on *E. granulosus*, the *ad hoc* Group revised and deleted unnecessary text.

The *ad hoc* Group accepted a recommendation from New Zealand to include a new Article 8.4.2. on commodities considered to be safe for trade, consistent with the approach used in other disease chapters in the *Terrestrial Code*.

Following Member comments, the text in Article 8.4.3. was expanded to include methods for prevention and control of infection in both 'owned' and stray dogs. The *ad hoc* Group deleted the original Point 3 in this article on wild canid populations because the prevention and control methods were not considered to be practical for application in these populations. The *ad hoc* Group merged text in Point 1 'Owned dogs' and Point 2 'Stray dogs' into a new Point 1 'Prevention of infection in dogs' which covers both owned and stray dogs, with the goal of avoiding unnecessary repetition. New Points 2 'Control of infection in dogs (owned and stray)' and 3 'Control of infection in livestock' were developed to cover this aspect, which was missing from the original draft chapter.

In response to a Member's comment, the *ad hoc* Group amended text in Article 8.4.4. (including the title) to specifically cover surveillance and monitoring. The text of Point 1 of Article 8.4.4., 'Monitoring of infection in dogs' was revised and expanded to provide more detail on monitoring. The original text regarding recommendations for prevention and control were moved to Article 8.4.3.

In response to Member comments on the scheduling of treatment prior to shipment, in Article 8.4.6., the *ad hoc* Group replaced the recommendation for 'treatment between 24 and 48 hours prior to export' with 'treatment between 48 and 72 hours prior to shipment'. The rationale for this amendment was to minimise the risk of dogs shedding eggs during and after shipment.

New Zealand requested the inclusion of a new article on 'recommendations for the importation of sheep, goats and New World camelids'. The *ad hoc* Group disagreed with this proposal on the basis that sound recommendations could not be made in the absence of a standardised serological testing method. The methodologies suggested were considered to be insufficiently reliable to provide sufficient assurance that all animals intended for importation are free of infection. The *ad hoc* Group could not reach consensus on the proposed import conditions for them to be proposed as a recommendation for all the OIE Members.

The *ad hoc* Group noted that there is a general lack of consistent and reliable human and animal data on infection with *E. granulosus*, which could be considered as a neglected zoonotic disease. With the goal of improving surveillance and control on a global basis, the *ad hoc* Group encouraged all Members to report to the OIE relevant information on infection with *E. granulosus*.

Annex XXXIV (contd)

The *ad hoc* Group developed a new Article 8.4.6. on ‘Procedures for the inactivation of *Echinococcus granulosus* cysts in offal’. The recommendation for ‘freezing to minus 20°C for at least 2 days’ was based on recommendations in the *WHO/OIE Manual on Echinococcosis in Humans and Animals: a Public Health Problem of Global Concern* (2001) (eds J. Eckert, M. A. Gemmel, F.-X. Meslin, Z. S. Pawlowski).

The recommendation for ‘heat treatment to a core temperature of at least 80°C for 10 minutes, or an equivalent time/temperature’ was based on a paper by Ferron L. Andersen and Raymond M. Loveless, ‘Survival of Protoscolices of *Echinococcus granulosus* at Constant Temperatures’. The *Journal of Parasitology*, Vol. 64, No. 1 (Feb., 1978), pp. 78–82.

The revised Chapter 8.4. is presented in Annex III. Due to the extensive modification and restructuring of the previous draft text, the International Trade Department decided to present this text as a clean document (i.e. without track changes).

1.2. Draft Chapter X.X. Infection with *Echinococcus multilocularis*

The *ad hoc* Group, bearing in mind the discussions around the *E. granulosus* chapter, drafted a new chapter on Infection with *Echinococcus multilocularis*.

The new Chapter X.X. is presented in Annex IV.

.../Annexes

MEETING OF THE OIE AD HOC GROUP ON ZONOTIC PARASITES**Paris (France), 7–9 December 2011****List of participants****MEMBERS OF THE AD HOC GROUP****Dr David Jenkins (Chair)**

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Annex XXXIV (contd)

Annex I (contd)

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Annex XXXIV (contd)

Annex II

MEETING OF THE OIE AD HOC GROUP ON ZOO NOTIC PARASITES

Paris (France), 7–9 December 2011

Adopted agenda

Welcome

1. Consider Member comments on draft Chapter 8.4. Echinococcus/hydatidosis and amend text as appropriate.
 2. Any other business
-

Annex XXXIV (contd)Annex III

CHAPTER 8.4.

INFECTION WITH *ECHINOCOCCUS GRANULOSUS*

Article 8.4.1.

General provisions

Echinococcus granulosus is a cestode (tapeworm) found worldwide. The adult worms occur in the intestines of canids, and larval stages (hydatid cysts) in tissues of various organs of other mammalian hosts, including humans. Infection with the larval stage of the parasite in the intermediate host, referred to as 'cystic echinococcosis' or 'hydatidosis', is associated with significant economic losses in livestock production and causes a major disease burden in humans.

For the purpose of the *Terrestrial Code*, infection with *E. granulosus* is defined as a zoonotic parasitic infection of canids, ungulates, and macropod marsupials with *E. granulosus* (ovine, bovine, cervid, camelid and porcine strains).

Transmission of *E. granulosus* to canids (definitive hosts) occurs through ingestion of hydatid-infected offal from a range of domestic and wild species of herbivores and omnivores (intermediate hosts).

Infection in intermediate hosts, as well as in humans, occurs by ingestion of parasite eggs from contaminated environments. In humans, infection may also occur following contact with infected canids and/or by consumption of food or water contaminated with *E. granulosus* eggs from canid faeces.

Preventing transmission can be achieved by targeting both the definitive and intermediate hosts. Infection in humans can be prevented by good food and personal hygiene, community health education and preventing infection of canids. Good communication and collaboration between the *Competent Authority* and the Public Health Authority is an essential component in achieving success in the prevention and control of *E. granulosus* transmission.

This chapter provides recommendations for prevention, control and surveillance of infection with *E. granulosus* in dogs and livestock.

Standards for diagnostic tests are described in the *Terrestrial Manual*.

[NOTE: The following terms 'owned dog', 'responsible dog ownership' and 'stray dog' used throughout this chapter are defined in Chapter 7.7. Once this chapter is adopted, this note will be deleted and these definitions will be moved to the glossary of the *Terrestrial Code*.]

Article 8.4.2.

Safe trade

When authorising import or transit of the following *commodities*, *Veterinary Authorities* should not require any *E. granulosus* related conditions regardless of the status of the animal population of the *exporting country* or *zone*:

Annex XXXIV (contd)Annex III (contd)

- skeletal muscle meat and skeletal muscle meat products;
- casings;
- *milk* and *milk products*;
- hides and skins of livestock;
- embryos, oocytes and semen.

Article 8.4.3.

Prevention and control of infection with *Echinococcus granulosus*

In order to achieve success in the prevention and control of infection with *E. granulosus*, the *Competent Authority* should carry out community awareness programmes to inform people of the risk factors associated with transmission of *E. granulosus* and the importance of hydatidosis in animals and humans, the role of dogs (including stray dogs), the need to implement preventive and control measures, and the importance of responsible dog ownership.

1. Prevention of infection in dogs (owned and stray)

The following measures should be undertaken:

- a) Dogs should not be fed offal from any animal species unless it has been treated in accordance with Article 8.4.6.
- b) Dogs should not have access to dead animals of any animal species, including *wildlife* species; all dead animals should be disposed of in accordance with provisions in Article 4.12.6.
- c) The *Veterinary Authority* or other *Competent Authority* should ensure that *slaughterhouses/abattoirs* have implemented measures that prevent access of dogs to the premise, and to animal carcasses and waste containing offal.
- d) When livestock cannot be slaughtered in a *slaughterhouse/abattoir*, and are home-slaughtered, dogs should be prevented from having access to offal, and not be fed offal unless it has been treated in accordance with Article 8.4.6.

2. Control of infection in dogs (owned and stray)

- a) For control of stray dog populations, the *Competent Authority* should ensure compliance with relevant aspects of Chapter 7.7.
- b) Dogs known to be infected or suspected of having access to raw offal, or in contact with livestock should be dewormed at least every 4-6 weeks with praziquantel (5 mg/kg) or another cestocidal product with comparable efficacy; where possible, faeces excreted up to 72 hours post treatment should be disposed of by incineration or burial.
- c) In areas of persistent transmission, the *Veterinary Authority* should identify the possible origins of the infection, and review and amend, as appropriate, the control programme.

Annex XXXIV (contd)Annex III (contd)3. Control of infection in livestock

- a) The *Veterinary Authority* should ensure that all slaughtered livestock are subjected to post-mortem meat inspection in accordance with Chapter 6.2., including inspection of offal for hydatid cysts.
- b) When hydatid cysts are detected during post-mortem meat inspection:
 - i) offal containing hydatid cysts should be destroyed by incineration or burial, or rendered, or treated in accordance with Article 8.4.6.;
 - ii) an investigation should be carried out by the *Veterinary Services* to identify the possible origin of the infection, and review and amend, as appropriate, the control programme.

Article 8.4.4.

Surveillance and monitoring for infection with *Echinococcus granulosus*

An *animal identification* and *traceability* system should be implemented in accordance with the provisions of Chapters 4.1. and 4.2.

1. Monitoring in dogs

- a) Monitoring for infection with *E. granulosus* in dogs should be undertaken as it is an essential component for assessing the current situation regarding transmission within different dog populations and for evaluating the success of control programmes.
- b) Appropriate monitoring strategies should be designed according to local conditions, in particular, where large populations of stray dogs and wild canids exist. Under these circumstances surveillance of environmental samples (faeces, soil) may provide a useful indicator of infection pressure.
- c) The *Veterinary Services* should use appropriate diagnostic methods in accordance with Chapter 2.1.4. of the *Terrestrial Manual*.
- d) Where control programmes are conducted, regular monitoring for infection status should be undertaken. This can be achieved through testing of faeces from dogs, and canid faecal samples from the environment.

2. Surveillance in slaughterhouses/abattoirs

- a) The *Veterinary Services* should carry out systematic surveillance for hydatid cysts in livestock in *slaughterhouses/abattoirs*.
- b) Data collected should be used for the design or adaptation of control programmes.

Veterinary Authorities should use any information on cases of human hydatidosis, provided by the Public Health Authorities, in initial design and any subsequent modification of surveillance and monitoring programmes.

Annex XXXIV (contd)Annex III (contd)

Article 8.4.5.

Recommendations for the importation of dogs and wild canids from an infected country

Veterinary Authorities of importing countries should require the presentation of an *international veterinary certificate* attesting that the *animal* has been treated between 48 and 72 hours prior to shipment with praziquantel (5 mg/kg), or another cestocidal product with comparable efficacy against intestinal forms of *E. granulosus*.

Article 8.4.6.

Procedures for the inactivation of *Echinococcus granulosus* cysts in offal

For the inactivation of *E. granulosus* cysts present in offal, one of the following procedures should be used:

1. heat treatment to a core temperature of at least 80°C for 10 minutes or an equivalent time/temperature;
 2. freezing to minus 20°C for at least 2 days.
-

Annex XXXIV (contd)Annex IV

CHAPTER X.X.

**INFECTION WITH *ECHINOCOCCUS*
*MULTILOCULARIS***

Article X.X.1.

General provisions

Echinococcus multilocularis is a cestode (tapeworm) which is widespread in some parts of the Northern Hemisphere, and it is mainly maintained in wild animal populations. The adult worms occur in the intestines of canids, particularly foxes, and larval stages (metacestode) in tissues of various organs of other mammalian hosts (commonly rodents), including humans. Infection with the larval stage of the parasite in the intermediate host, causes severe disease in humans (referred to as ‘alveolar echinococcosis’), but does not cause discernable health impacts in livestock.

For the purpose of the *Terrestrial Code*, infection with *E. multilocularis* is defined as a zoonotic parasitic infection of domestic and wild canids, felids, rodents and pigs.

Transmission of *E. multilocularis* to canids (definitive hosts) occurs through ingestion of metacestode-infected viscera from a range of wild small mammalian species (intermediate hosts). Foxes and some other wild canids are the most important definitive hosts in maintaining the cycle at the wildlife/human interface through contaminating both rural and urban environments. Dogs may also act as important and efficient definitive host in both rural and urban environments, providing an important potential source for human infections. Even though the potential role of felids in transmission of infection to humans cannot be excluded, their epidemiological role is considered negligible. Pigs may become infected but the parasite remains infertile; therefore, they have no role in transmission of the parasite.

Infection in intermediate hosts, as well as in humans, occurs by ingestion of parasite eggs from contaminated environments. In humans, infection may also occur following contact with infected definitive hosts and/or by consumption of food or water contaminated with *E. multilocularis* eggs from faeces.

Prevention of infection in humans is difficult, particularly in areas with a high infection pressure maintained by rural and urban foxes. The risk of infections can be reduced by good food and personal hygiene, community health education and preventing infection of dogs and cats. Good communication and collaboration between the *Competent Authority* and the Public Health Authority is an important component in monitoring the extent of infection with *E. multilocularis* in human and animal populations.

This chapter provides recommendations for prevention, control and monitoring of infection with *E. multilocularis* in dogs and cats, and monitoring in wild canids.

Standards for diagnostic tests are described in the *Terrestrial Manual*.

[NOTE: The following terms ‘owned dog’, ‘responsible dog ownership’ and ‘stray dog’ used throughout this chapter are defined in Chapter 7.7. Once this chapter is adopted, this note will be deleted and these definitions will be moved to the glossary of the *Terrestrial Code*.]

Annex XXXIV (contd)Annex IV (contd)

Article X.X.2.

Prevention and control of infection with *Echinococcus multilocularis* in dogs (owned and stray) and cats

In order to achieve success in the prevention and control of infection with *E. multilocularis*, the *Competent Authority* should carry out community awareness programmes to inform people of the risk factors associated with transmission of *E. multilocularis* and the importance of alveolar echinococcosis in animals and humans, the role of foxes and other wild canids, dogs (including stray dogs), and cats, the need to implement preventive and control measures, and the importance of responsible dog ownership and cat ownership.

Whenever the epidemiological situation makes a control programme necessary, the following measures should be undertaken:

1. Owned dogs and cats should not be allowed to roam freely unless treated according to point 3.
2. For control of stray dog populations, the *Competent Authority* should ensure compliance with relevant aspects of Chapter 7.7.
3. Dogs and cats known to be infected should immediately be treated with praziquantel (5 mg/kg) or another cestocidal product with a comparable efficacy; dogs suspected of having access to rodents or other small mammals should be treated at least every 21–26 days.

Article X.X.3.

Monitoring for infection with *Echinococcus multilocularis*

1. Monitoring in foxes and other wild canids
 - a) Monitoring for infection with *E. multilocularis* in foxes and other wild canids should be undertaken as it is an essential component for assessing the current situation regarding prevalence of infection.
 - b) Appropriate monitoring strategies should be designed according to local conditions, in particular, where large populations of definitive hosts exist. Under these circumstances environmental sampling (faeces) may provide a useful indicator of infection pressure.
 - c) The *Veterinary Services* should use appropriate diagnostic methods in accordance with Chapter 2.1.4. of the *Terrestrial Manual*.
2. Surveillance in slaughterhouses/abattoirs
 - a) The *Veterinary Services* should consider carrying out targeted surveillance for larval lesions of *E. multilocularis* in livers of pigs raised in outdoor condition.
 - b) Data collected will provide useful additional information regarding prevalence of infection.

Veterinary Authorities should use any information on cases of human infection, provided by the Public Health Authorities for estimation of parasite transmission.

Annex XXXIV (contd)

Annex IV (contd)

Article X.X.4.

Recommendations for the importation of dogs, wild canids and cats from an infected country

Veterinary Authorities of importing countries should require the presentation of an *international veterinary certificate* attesting that the *animal* has been treated between 48 and 72 hours prior to shipment with praziquantel (5 mg/kg), or another cestocidal product with a comparable efficacy against intestinal forms of *E. multilocularis*.

Annex XXXV

Organisation
Mondiale
de la Santé
Animale

World
Organisation
for Animal
Health

Organización
Mundial
de Sanidad
Animal

Original: English

January 2012

REPORT OF THE MEETING OF THE OIE AD HOC GROUP ON VETERINARY EDUCATION

Paris, 11–13 January 2012

The meeting of the OIE *ad hoc* Group on Veterinary Education (the *ad hoc* Group) was held at the OIE Headquarters in Paris (France) from 11 to 13 of January 2012. A list of participants to the meeting may be found at [Annex I](#) and the adopted agenda at [Annex II](#).

Meeting with Dr Vallat, Director General of the OIE

Dr Bernard Vallat joined the Group for a discussion of achievements and priorities for future work.

He welcomed all members and observers and thanked the Group for its ongoing work on behalf of the OIE. Dr Vallat noted that the ‘public good’ component of veterinary services is essential to obtain sustainable financial support for veterinary education. He explained that Members have requested guidance from the OIE on the minimum core curriculum for training veterinarians. The goal is to ensure that the veterinary profession continues to play a critically important role with benefit to society. It is not the objective of the OIE to accredit veterinary education establishments (VEEs). Rather, the OIE aims to identify the topics that should be addressed within the core veterinary curriculum. In addition to the global list, a part of the curriculum, perhaps 50%, will be tailored to specific national priorities.

Dr Vallat outlined his vision on promotion of the basic core curriculum. The first step is to develop recommendations that are supported by all OIE Members. The aim is not necessarily to produce a new *Terrestrial Animal Health Code (Terrestrial Code)* text. Rather, the recommendations could be published on the website in the form of OIE guidance to Members.

Dr Vallat explained that these recommendations will be used by the OIE and Veterinary Services of Member countries in work with governments and donors to promote the funding of twinning projects between VEEs in developed and developing countries, based on the OIE’s very successful global Laboratory Twinning Initiative. The concept is to develop a framework for candidate and parent establishments to operate according to the principles of universality and flexibility.

Dr Saeb Nazmi El-Sukhon commented that it would not be sufficient in the longer term to provide a simple list of topics. The important distinction is in the manner of teaching the topics, the time allocated and so forth. He recommended that the OIE consider entering into direct contact with those responsible for curriculum development. Dr Vallat indicated that this level of detail would need to be addressed in twinning agreements, which would be the subject of agreement between parent and candidate VEEs, the OIE and relevant donors.

Annex XXXV (contd)

Dr Vallat also commented on some materials provided by the World Bank (WB) as background information to this meeting. He also noted that the OIE welcomes the support of the WB for strengthening veterinary education globally and supports the proposal for projects with developing countries of Eastern Europe and Asia. Dr Vallat considered that the World Veterinary Association role in assuring the quality of veterinary education should be more clearly recognised and supported. He restated that the OIE objective is to provide support for improving veterinary education globally, not to enter into competition with organisations and associations with a specific role in the accreditation of VEEs.

Dr Ron DeHaven thanked Dr Vallat for sharing this insight with the group. Dr DeHaven suggested that the 'Day 1 competencies' document would provide the basis for development of the core curriculum.

Dr Vallat noted that the OIE definition of veterinary services covers both the government and the private sector veterinarians. The concept of the basic core curriculum applies equally to those working in the private and the public sector. Of course, senior level veterinarians in the public sector will need additional training and recommendations on this point will be made in the document 'Post Professional and Continuing Education for Graduate Veterinarians'. Dr Vallat highlighted the importance of regional specificities in determining needs for veterinary education.

Dr Timothy Ogilvie noted the strong autonomy of universities and cautioned the OIE against developing standards, at least in the short term. He noted that VEEs are increasingly being asked to base their curricula on desired outcomes, i.e. attainment of competencies. Dr Vallat agreed with Dr Ogilvie that an outcome based approach was preferable to the traditional focus on hours studied in listed subjects. Dr Vallat noted that the debate on 'outcomes' versus 'inputs' arises also in connection with animal welfare standards and confirmed that the OIE policy is based on outcomes, not on input criteria.

1. Adoption of the agenda

Dr DeHaven presented the draft agenda for the meeting. He indicated that the priorities for this meeting were to finalise the 'Day 1 competencies' document and to continue to progress the 'continuing education' document. In addition, the new OIE global initiative for Twinning of Veterinary Education Establishments (VEE) would be discussed. Last but not least, Dr DeHaven indicated that the Group would be asked to consider the development of a Core Curriculum.

2. Addressing Members comments - Revise document 'Minimum competencies expected of Day 1 Veterinary Graduates to assure the delivery of high quality national veterinary services'

The *ad hoc* Group worked through the Minimum competencies document (Annex III), modifying it as appropriate to address the written comments received from the OIE Animal Production Food Safety Working Group (APFSWG) and the Aquatic Animal Health Standards Commission (AAHSC).

Dr Sarah Kahn briefly outlined the work of the OIE AAHSC, which is developing a modified approach to the OIE PVS Tool for specific application to Aquatic Animal Health Services (AAHS). Dr Kahn indicated that the AAHSC has proposed for consideration of OIE Members a definition of 'aquatic animal health professional'. While veterinarians may not necessarily have a central role in AAHS in all countries, they should be involved in certain aspects, such as the prescription of veterinary drugs. With this in mind, the Group agreed to consider competence in aquatic animal health as an area of post-graduate specialisation, which could be addressed with the relevant document.

The *ad hoc* Group reviewed the comments provided by the APFSWG.

The Group did not agree to add basic information on global trends in food production, food trade and food security, as it considered that this would add text without adding relevant information.

The suggested replacement of 'clinical veterinary sciences' by 'clinical veterinary medicine' was not accepted. Dr DeHaven noted that this issue had been discussed at a previous meeting and that 'sciences' had been considered as the most appropriate term.

Annex XXXV (contd)

The Group considered that knowledge on zoning and compartmentalisation was more relevant as an advanced competency; appropriate text was added to point 2.3.4.

The Group discussed the APFSWG proposal to develop a new point 1.2.6.2. The risk-based approach to food control is clearly important. However, the Group considered that understanding these principles was more relevant as an advanced competency. The Group did not see a need to modify point 2.5. (Application of Risk Analysis).

The Group agreed to add 'risk based' in point 2.4.1.

The Group did not see a need to include reference to 'specialised monitoring programmes' in point 2.4.2., as the goal is to keep the document clear and simple.

The proposal to modify the text in point 2.5. was not accepted as the Group preferred to maintain the text taken from the *Terrestrial Code*. In the absence of a rationale for deleting the two sentences in the chapeau of point 2.5., the Group did not recognise a need to make modifications.

Following the APFSWG recommendation, the Group clarified point 2.5.1.

In relation to the recommendation to modify point 2.5.2. the Group was concerned that the proposed modification was too limiting – for example, it did not cover radiological or physical hazards. In relation to the recommendation to modify point 2.5.4., the Group did not agree that the proposed modification improved the text. The definitions of hazard identification, risk assessment, risk management and risk communication are those in the *Terrestrial Code* and the Group considered that it was useful for these definitions to appear in the Day 1 competencies document.

The group proposed that the final version of the document be put on the OIE website for guidance of Members. In future, the Code Commission may wish to consider including a reference to this document in Chapter 3.2. once adopted.

3. Review of draft document: Graduate and Continuing Education for Graduate Veterinarians

Definitions were added to clarify the distinction between basic and advanced competencies. Day 1 veterinary graduates should have a mastery of all basic competencies and should have received an introduction to the advanced competencies. Basic competencies comprise general and specific competencies, the latter being directly related to the OIE mandate. For the advanced competencies, veterinary graduates need further education, via on the job training or specific post graduate training courses. The *ad hoc* Group modified the entire document to make this clear.

The *ad hoc* Group also included definitions for key terms used in the document, including 'Day 1 veterinary graduate' and 'competencies', the latter term including 'basic competencies' and 'advanced competencies'. It was agreed that inclusion of a definition of 'veterinary products' in the *Terrestrial Code* Glossary may be valuable.

A sentence was added to the introduction to highlight that, given the expanding scientific knowledge base and demands on the veterinary profession, it is essential that veterinarians be capable of accessing appropriate information sources.

Under 'Scope', the *ad hoc* Group added text to highlight the need for close collaboration between veterinary education establishments, national veterinary services and veterinary statutory bodies to ensure that veterinary education meets the needs of the country and, as appropriate, the region.

Critical skills needed by senior level veterinarians in the Veterinary Authority

The *ad hoc* Group worked through the document, making modifications based on the consensus views of members.

Annex XXXV (contd)

The examples that had been presented in the draft document were removed. Many such examples could be given but the Group considered that there was little to be gained by trying to list them all.

Discussion on the proposal to develop a core ('minimum') veterinary curriculum

Drs Tjeerd Jorna and Etienne Bonbon outlined the EU approach to professional qualifications, which prescribes the subjects to be taught to health professionals, including veterinarians. While implementation by the VEE of the EU Member States may vary, there is nonetheless a minimum harmonised level of education which facilitates the movement of professionals within the EU.

Dr Aaron S. Mweene commented that there is a clear need for guidelines to African countries on the core veterinary curriculum. Dr Louis Joseph Pangui agreed that this would be a tool to help secure the support of governments and donors for improving the standard of veterinary education.

Dr El-Sukhon commented that it would not be sufficient in the longer term to provide a simple list of topics. The important distinction is in the manner of teaching the topics, the time allocated and so forth. He recommended that the OIE consider entering into direct contact with those responsible for curriculum development.

Dr Ogilvie reminded members of the discussion with the Director General, where it was clear that the competence of the graduate veterinarian is the key consideration rather than the specific subjects to be taught.

4. Twinning project

Dr Alain Dehove, OIE's World Animal Health and Welfare Fund Coordinator, joined the *ad hoc* Group on Day 2 to discuss matters related to Twinning Projects. He comprehensively explained to the Group Members that, in order to facilitate capacity building and networking, and to bring communities together, the OIE started to apply this concept in 2007 to laboratories to build expertise for the most important topics or animal diseases and zoonoses in priority regions, in direct support of the OIE's strategy to improve global capacity for disease prevention, detection, and control through better veterinary governance. Dr Dehove mentioned that each Twinning project links a parental establishment with a beneficiary establishment and that knowledge and skills are exchanged through this link over a determined project period.

Dr Dehove clarified that to support the OIE Laboratory Twinning programme relatively few documents are necessary: (i) a concept note, (ii) a guide on the preparation of twinning projects, (iii) a template agreement and (iv) a template budget for twinning projects. A very similar approach could be followed (and similar documents could be prepared) for a VEE Twinning Programme.

Dr Dehove mentioned the importance and the role of veterinary officers within the Veterinary Services (VS) for improving animal and public health and enhancing compliance with SPS and OIE standards, at the national, regional and international level. Twinning projects between Veterinary Educational Establishments (VEE) would indeed support these goals within the framework of the OIE PVS Pathway which looks for a sustainable improvement of national VS' compliance with OIE standards on the quality of Veterinary Services.

Dr Stephane Forman stated that the OIE PVS Pathway is recognised by the World Bank (WB) as the reference tool when investing on a project to strengthen VS within a country. He mentioned the document "Assessment tool for basic elements of a veterinary school" that is being developed by the WB and designed to provide the school and the evaluation team with an overview of the capacity and capabilities of veterinary education in the school.

Annex XXXV (contd)

The difference between assessment and evaluation was discussed. In response, Dr Dehove clarified that OIE does not have the intention to use VEE Twinning projects as a tool for evaluation, assessment or accreditation of VEE. An assessment tool is not required for the preparation of twinning projects. Indeed, this would create confusion between two distinct concepts, ie twinning as a means to build capacity; and the evaluation/assessment/accreditation of VEEs.

In accordance with the recommendations adopted by the OIE World Assembly of Delegates at the 79th General Session in May 2011, and based on the principles established under the successful Laboratories Twinning Programme, a draft document ‘OIE Guidelines on Twinning Projects for VEE’ had been prepared. These would be used in negotiation with donors to receive financial support for Twinning projects between VEE. Members of the *ad hoc* group were asked to provide comments on the draft Guidelines.

Dr DeHaven closed the meeting by acknowledging the special attendance of Dr Mweene and Dr Forman and by thanking the work of the Group in support of OIE’s Mandate to improve Veterinary Services, through education.

5. Future work

The Group agreed to provide comments on the draft document ‘OIE Guidelines on Twinning Projects for VEE’ to Dr. Dehove by 1 March 2012. A revised draft will then be prepared and distributed to the Group by 1 April 2012. Utilizing this revised version of the Guidelines, the members will obtain feedback from relevant parties and submit further comments to Dr. Dehove by 1 June 2012. These comments will be considered by the Group at its meeting on 25-26 July 2012.

The Group also agreed to prepare a document to be used as a basis for Core Curriculum within VEE and including a reference to the “Day 1 Competencies” document and introductory comments for each subject identified in the Core Curriculum.

Additionally, each member of the group will submit a proposed list of topics/subjects to be included in a Core Curriculum, using the FVE document as a guide. This list should be submitted to Dr. Kahn by 1 May 2012 to enable consolidation of the lists and the preparation of draft introductory comments for each topic/subject proposed for inclusion in the Core Curriculum.

The *ad hoc* Group will continue to submit its reports to the Terrestrial Animal Health Standards Commission, with a view to obtaining the views of the Commission and the input of OIE Members on this important area of work.

6. Dates for next meeting

It was agreed that the next meeting would take place at OIE Headquarters in Paris on 25-26 July 2012. Members agreed to inform the OIE International Trade Department of their availability.

.../ Annexes

Annex XXXV (contd)Annex I**MEETING OF THE OIE AD HOC GROUP ON VETERINARY EDUCATION****Paris, 11-13 January 2012****List of participants****MEMBERS OF THE AD HOC GROUP****Dr Ron DeHaven (Chair)**

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Annex XXXV (contd)

Annex I (contd)

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Annex XXXV (contd)Annex II**MEETING OF THE OIE AD HOC GROUP ON VETERINARY EDUCATION****Paris, 11-13 January 2012**

Adopted agendaDay 1 (11 January 2012) Morning

- Welcome, adoption of the agenda, and introductory remarks
- Review Terms of Reference for *ad hoc* Group (to ensure final meeting addresses all charges)
- Discussion with the OIE Director General
- Review *Minimum Competencies* document developed in August 2011
 - Comments from the September 2011 meeting of the Code Commission
 - Comments from the October 2011 meeting of the Aquatic Animals Commission
 - Comments from the November 2011 meeting of the OIE Animal Production Food Safety Working Group
 - Comments from OIE Members submitted in the second semester of 2011
- Finalize *Minimum Competencies* document based on comments received

Day 1 (11 January 2012) Afternoon

- Begin review of draft document (working title: *Postgraduate Skills and Education Needed for Delivery of National Veterinary Services*) developed after August 2011 meeting that combines earlier documents developed by the *ad hoc* Group:
 - Critical skills needed by senior level veterinarians in the veterinary authority
 - Continuing education topics for private veterinarians who are conducting work for the Veterinary Authority
- Delivery methods and sources of continuing education

Day 2 (12 January 2012) Morning 9h30

- Refine and finalize draft document: *Postgraduate Skills and Education Needed for Delivery of National Veterinary Services*
- Review and finalize draft text that will be provided to Code Commission to capture key points of *Minimum Competencies* (and potentially *Postgraduate Skills*) document for insertion into the *Terrestrial Code* as deemed appropriate by the Code Commission (as per the report of the August 2011 meeting of the *ad hoc* Group; see section titled Future Work).

Annex XXXV (contd)Annex II (contd)Day 2 (12 January 2012) Afternoon

- Discussion items
 - Veterinary Education Twinning Project between the US Veterinary Education consortium (faculty from University of Nebraska/Lincoln, North Carolina State University, Pennsylvania State University, and University of Connecticut) and the Veterinary College of the Agrarian State University of Armenia (ASUA)
 - Development of a Day 1 curriculum and its application in developing countries
 - Funding to promote veterinary education in developing countries as a means to address gaps in Public Health

Day 3 (13 January 2012) Morning and Afternoon

- Conclude discussion items from 12 January 2012 and develop any recommendations to move forward through the Code Commission
 - Discussion of next/final steps
 - Summary of actions of *ad hoc* Group over its four meetings
 - Closing remarks and conclusion of the OIE *ad hoc* Group on Veterinary Education
-

Annex XXXV (contd)

Annex III

**MINIMUM COMPETENCIES EXPECTED OF
DAY 1 VETERINARY GRADUATES TO ASSURE DELIVERY OF HIGH-QUALITY NATIONAL
VETERINARY SERVICES**

Final Version

Background

Veterinarians in every nation are responsible for the delivery of national veterinary services- that is, services provided under the legislative framework and the auspices of the governmental authority of a given country to implement animal health to assure the health and wellbeing of animals, people and ecosystems. The term “Veterinary Services” refers to the OIE *Terrestrial Animal Health Code (Terrestrial Code)* definition, which includes both public and private components of the veterinary profession involved in the promotion of animal and public health as well as animal welfare.

National Veterinary Services should be able to meet standards adopted by each country, but should also be able to comply with appropriate international standards and recommendations, particularly those in the OIE’s *Terrestrial Code*. In delivering National Veterinary Services, veterinarians serve as an integral partner in the **One Health** effort—a collaboration of multiple disciplines working locally, nationally, and globally, to address critical challenges and attain optimal health for people, animals and the environment (www.onehealthcommission.org).

Although only some veterinarians will focus their careers on the delivery of national veterinary services, all veterinarians, regardless of their professional area of practice after graduation, are responsible for promoting animal health, animal welfare, veterinary public health, and food hygiene and food safety, act frequently as sub-contractors for National Veterinary Services and in many instances opt for career changes into National Veterinary Services. As such, veterinary education is a cornerstone to assure that the Day 1 veterinary graduate not only has received a level of education and training that ensures sound overall competencies, but also has the required knowledge, skills, attitudes and aptitudes to understand and be able to perform entry-level national veterinary service tasks that relate to the security and promotion of animal and public health. In addition, basic education that includes instruction in the minimum competencies will establish a basis on which those veterinarians seeking national veterinary service careers can build expertise through on-the-job training and quality postgraduate continuing education.

Scope

Taking into account the vast societal, economic, and political differences among OIE Member Countries, including the different existing veterinary education establishments accreditation schemes, this document sets ~~forth~~ out the competencies necessary for the Day 1 veterinary graduate to be adequately prepared to participate in National Veterinary Services at the entry-level.

While the minimum competencies outlined in this document are those relevant to the delivery of national veterinary services, no attempt is made to dictate in which specific course or during which educational year each competency should be taught. Indeed, it may be that many of the following competencies cross course boundaries and can be integrated across the curriculum in multiple courses. The document does not suggest how many credit hours of educational contact are required to teach each competency, as this might vary depending on the needs and resources of each country. Close collaboration between veterinary education establishments, national veterinary services and veterinary statutory bodies is encouraged in order to ensure the provision of veterinary education appropriate to the needs of each country. Education in the following minimum competencies during the course of each veterinary school’s curriculum will prepare the Day 1 veterinary graduate to promote global veterinary public health and provide an excellent base for advanced training and education for those veterinarians wishing to pursue a career in both public and private components of National Veterinary Services. Given the expanding scientific knowledge base and increasing demands on the veterinary profession, it is essential that graduates be competent in locating, accessing and using appropriate information sources. It is important to note that veterinary education includes not only undergraduate education but also postgraduate continuing education and on-the-job training. The authorities should bear in mind the importance of life-long learning to ensure the various competencies of veterinary graduates such as protecting animal and public health.

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Animal production, in particular the growing sector of aquaculture, is key to satisfy the growing global demand for food. Aquatic animal health programmes need to be strengthened and, to this end, the involvement of veterinarians with competence in aquatic animal health should be ~~promoted and~~ assured. Competencies in this document cover both terrestrial and aquatic animals. However, the aquaculture sector is not of equal importance to all countries. Therefore, veterinary education establishments should address competence in aquatic animal health as appropriate to the importance of the aquaculture sector in the country or region.

Definitions

- Competencies means:
 - knowledge: cognitive abilities, meaning mental skills
 - skills: ability to perform specific tasks
 - attitude: affective abilities, meaning feelings and emotions, and
 - aptitude: a student's natural ability, talent, or capacity for learning.
- Basic competencies means: the minimum knowledge, skills, attitudes and aptitudes required for a veterinarian to be licenced by a Veterinary Statutory Body. This comprises general competencies, as well as specific competencies that directly relate to the OIE mandate.
- Advanced competencies means: the minimum knowledge, skills, attitudes and aptitudes required for a veterinarian to work within the Veterinary Authority.
- Day 1 veterinary graduate means: a veterinarian who has just graduated from a veterinary education establishment.

Competencies

The Day 1 veterinary graduate should have basic competencies and should have received an introduction to advanced competencies.

1. Basic competencies

1.1. General competencies

- 1.1.1. Basic veterinary sciences, which are normally taught early in the curriculum and are prerequisite to clinical studies.
- 1.1.2. Clinical veterinary sciences, which provide the competencies necessary to diagnose, treat and prevent animal diseases.
- 1.1.3. Animal production, which includes health management and economics of animal production.

1.2. Specific competencies

1.2.1. Epidemiology

Epidemiology is the study of factors affecting the health and illness of populations, and serves as the foundation and logic of interventions made in the interest of veterinary public health and preventive medicine.

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Specific learning objectives for this competency include the Day 1 veterinary graduate being able to:

- 1.2.1.1. know and understand the general principles of descriptive epidemiology, its application to disease control and the ability to access and use appropriate information sources;
- 1.2.1.2. understand and participate appropriately in an epidemiological inquiry in case of occurrence of a reportable disease, including collection, handling, and transport of appropriate specimens or samples.

1.2.2. Transboundary animal diseases

Transboundary animal diseases (TADs) are epizootic diseases that are highly contagious or transmissible and have the potential to spread very rapidly irrespective of national borders. TADs agents may or may not be zoonotic, but regardless of zoonotic potential, the highly contagious nature of these diseases invariably impacts global economy, global trade and global public health. Examples of TADs include highly pathogenic avian influenza, rinderpest, classical swine fever and foot and mouth disease.

Specific learning objectives for this competency include the Day 1 veterinary graduate being able to:

- 1.2.2.1 identify the clinical signs, clinical course, transmission potential (including vectors), and pathogen associated with TADs;
- 1.2.2.2 describe the current global distribution of TADs or know where to find up-to-date distribution information;
- 1.2.2.3 use or explain the collection and handling of samples and the rationale for the use of appropriate diagnostic and therapeutic tools to prevent and combat TADs and pathogens;
- 1.2.2.4 understand regulatory implications of TADs and ~~their~~ pathogens (eg, the Official Veterinarian who should be contacted if an ~~TAD~~ epizootic pathogen is identified or suspected) and know where to find relevant up-to-date information.

1.2.3. Zoonoses (including food borne diseases)

Zoonoses are diseases or infections that are naturally transmissible from animals or their products to humans. Many food borne pathogens are zoonotic and most emerging human pathogens have an animal (livestock or wildlife) origin. As such, zoonoses have major implications for human health and trade in animals and animal products.

Specific learning objectives for this competency include the Day 1 veterinary graduate being able to:

- 1.2.3.1 identify the clinical signs, clinical course, transmission potential, and pathogen associated with common zoonotic and food borne diseases;
- 1.2.3.2 use or explain the use of current diagnostic and therapeutic tools for common zoonotic and food borne diseases;
- 1.2.3.3 understand the implications of common zoonotic and food borne diseases for human health (e.g., how does the disease spread from animals to humans) and know where to find up-to-date information;

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- 1.2.3.4 understand regulatory implications (e.g., the Official Veterinarian who should be contacted if a zoonotic pathogen is identified or suspected) of common zoonotic and food borne diseases and pathogens and know where to find up-to-date and reliable information.

1.2.4. Emerging and re-emerging diseases

An emerging disease is a new infection resulting from the evolution or change of an existing pathogenic agent, a known infection spreading to a new geographic area or population, or a previously unrecognised pathogenic agent or disease diagnosed for the first time. A 're-emerging disease' is a resurgence in a defined time period and location, of a disease considered to have been eradicated or controlled in the past. Both emerging and re-emerging diseases have significant impacts on animal (naïve populations) and/or public health.

Specific learning objectives for this competency include the Day 1 veterinary graduate being able to:

- 1.2.4.1. define "emerging disease" and "re-emerging disease" and provide contemporary examples;
- 1.2.4.2. detect suspicious signs and report them to the relevant veterinary authority;
- 1.2.4.3. understand the reasons/hypotheses to explain the emergence and /re-emergence of diseases;
- 1.2.4.4. know where to find up-to-date and reliable information regarding emerging and re-emerging diseases.

1.2.5. Disease prevention and control programmes

Disease prevention and control programmes, whether or not approved, managed or supervised by the veterinary authority, include movement controls, vaccination and treatment. Disease prevention and control programmes will be specific to each country or region and should comply with applicable OIE standards, as appropriate.

Specific learning objectives for this competency include the Day 1 veterinary graduate being able to:

- 1.2.5.1 describe established programs for the prevention and/or control of common zoonotic or contagious diseases or emerging/re-emerging diseases, to include animal identification and traceability and oversight by the relevant veterinary authority;
- 1.2.5.2 understand and participate in the implementation of contingency plans to control transboundary diseases, including humanely killing animals;
- 1.2.5.3 understand and participate in regular or emergency vaccination campaigns, as well as in regular test-and-cull/treat programmes;
- 1.2.5.4 explain the concept of "early detection system," which is defined as a system, under the control of the veterinary services, for the timely detection and identification of an incursion or emergence of diseases/infections in a country, zone or compartment;
- 1.2.5.5 know which diseases of animals (including companion animals) require compulsory notification by the veterinarian to the ~~veterinary~~ veterinary prescribed national authority in order to mitigate disease transmission;
- 1.2.5.6 know where to find up-to-date and reliable information regarding specific disease; prevention and control measures, including rapid response mechanisms.

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1.2.6. Food hygiene

Food hygiene means all conditions and measures necessary to ensure the safety and suitability of food of animal origin.

Specific learning objectives for this competency include the Day 1 veterinary graduate being able to:

- 1.2.6.1 understand and explain on-farm food safety practices;
- 1.2.6.2 participate in slaughter inspection: this includes ante-mortem, post-mortem and humane slaughter;
- 1.2.6.3 understand and explain the integration between animal health controls and veterinary public health: the role of veterinarians in conjunction with physicians, public health practitioners, and risk analysts to ensure safety safe food.

1.2.7. Veterinary products

Veterinary products means drugs, insecticides/acaricides, vaccines, and biological products used or presented as suitable for use to prevent, treat, control, or eradicate animal pests or diseases; or to be given to animals to establish a veterinary diagnosis; or to restore, correct or modify organic functions in an animal or group of animals.

Specific learning objectives for this competency include the Day 1 veterinary graduate being able to:

- 1.2.7.1 use common veterinary products in the appropriate manner, including appropriate record keeping;
- 1.2.7.2 explain and utilize the concept of drug withdrawal time as a means to prevent drug residues in products of animal origin meant for human consumption, and know how to find up-to-date and reliable information regarding specific withdrawal times;
- 1.2.7.3 understand common mechanisms leading to development of antimicrobial resistance in common pathogens;
- 1.2.7.4 know where to find and how to interpret up-to-date and reliable information regarding the link between use of antimicrobials in food animals and development of antimicrobial resistance in pathogens of human importance;
- 1.2.7.5 know the appropriate use of drugs and biologicals to ensure the safety of the food chain and the environment (e.g., proper disposal of biological waste).

1.2.8. Animal welfare

Animal welfare means how an animal is coping with the conditions in which it lives. An animal is in a good state of welfare if (as indicated by scientific evidence) it is healthy, comfortable, well nourished, safe, able to express innate behaviour, and if it is not suffering from unpleasant states such as pain, fear, and distress. Good animal welfare requires disease prevention and veterinary treatment, appropriate shelter (when relevant), management, nutrition, humane handling, and humane slaughter/killing. Animal welfare refers to the state of the animal; the treatment that an animal receives is covered by other terms such as animal care, animal husbandry, and humane treatment. Veterinarians should be the leading advocates for the welfare of all animals, recognizing the key contribution that animals make to human society through food production, companionship, biomedical research and education.

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Specific learning objectives for this competency include the Day 1 veterinary graduate being able to:

- 1.2.8.1 explain animal welfare and the related responsibilities of owners, handlers, veterinarians and others responsible for the care of animals;
 - 1.2.8.2 identify animal welfare problems and participate in corrective actions;
 - 1.2.8.3 know where to find up-to-date and reliable information regarding local, national and international animal welfare regulations/standards in order to describe humane methods for:
 - animal production;
 - transport;
 - slaughter for human consumption and killing for disease control purposes.
- 1.2.9. Veterinary legislation and ethics

Veterinary legislation is an essential element of the national infrastructure that enables veterinary authorities to carry out their key functions, including surveillance, early detection and control of animal diseases and zoonoses, animal production food safety and certification of animals and animal products for export. Furthermore, Veterinary Education Establishments' should teach ethics and value issues to promote high standards of conduct and maintain the integrity of the profession.

Specific learning objectives for this competency include the Day 1 veterinary graduate being able to:

- 1.2.9.1 have a general knowledge of the fundamentals of national veterinary legislation-and of specific rules and regulations governing the veterinary profession at the local, provincial, national, and regional level (in some countries this information may be delivered to the graduates by the Veterinary Statutory Body after graduation);
 - 1.2.9.2 know where to find up-to-date and reliable information regarding veterinary legislation and the rules and regulations governing the veterinary profession in his/her own state, province, region and/or country;
 - 1.2.9.3 understand and apply high standards of veterinary medical ethics in carrying out day-to-day duties;
 - 1.2.9.4 provide leadership to society on ethical considerations involved in the use and care of animals by humans.
- 1.2.10. General certification procedures

Certification means an official document, completed by an authorised veterinarian, for purposes of verifying the health or sanitary status of animals and animal products, respectively, most often prior to transport.

Veterinarians are responsible to certify the health status of an animal or herd in private practice or as an element of official certification.

Specific learning objectives for this competency include the Day 1 veterinary graduate being able to:

- 1.2.10.1. examine and monitor an animal or a group of animals with a view to certifying freedom from specified diseases or conditions according to established procedures;
- 1.2.10.2. fill out, sign and provide health certificates according to the national rules.

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1.2.11. Communication skills

Effective communication skills are as important to success in veterinary medicine as are technical skills. In general, communication entails the exchange of information between various individual, institutional and public audiences for purposes of informing, guiding and motivating action. The application of the science and technique of communication involves modulating messages according to situations, objectives and target audiences.

Specific learning objectives for this competency include the Day 1 veterinary graduate being able to:

1.2.11.1 communicate technical information in a way that the general public can understand;

1.2.11.2 communicate effectively with fellow health professionals to exchange scientific and technical information and practical experience.

2. Introduction to advanced competencies

Mastery of these advanced competencies is not expected of Day 1 veterinary graduates. However, they should have a general awareness and appreciation of the following topics.

2.1. Organisation of Veterinary Services

Veterinary Services means the governmental and non-governmental organisations that implement animal health and welfare measures and other standards and recommendations in the OIE *Terrestrial Code* and the *Aquatic Animal Health Code* in the territory. The Veterinary Services are under the overall control and direction of the Veterinary Authority. An objective in the delivery of national veterinary services is to bring a country, territory, or region in line with international standards in terms of legislation, structure, organisation, resources, capacities, and the role of the private sector and veterinary paraprofessionals.

Learning objectives include the Day 1 veterinary graduate having a general awareness of and appreciation for:

2.1.1. the delivery of National Veterinary Services as a global public good;

2.1.2. how Veterinary Services are organized within his/her own country/region (e.g., central and local levels, epidemiological networks);

2.1.3. the function and authority of the National Veterinary Service within his/her own country/region;

2.1.4. how his/her country's National Veterinary Service agencies interact with veterinary services in other countries and international partners;

2.1.5. the relationship between private and public sector veterinarians in delivery of national veterinary services within his/her own country;

2.1.6. the essential need to evaluate the quality of Veterinary Services as provided for in the OIE PVS Pathway;

2.1.7. where to find up-to-date and reliable information should deeper knowledge be needed or desired.

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Other learning objectives include understanding the following definitions:

2.1.8. **Veterinary Authority:** The governmental authority of a country, territory, or region that comprises veterinarians, other professionals, and paraprofessionals and with the responsibility and competence for ensuring or supervising the implementation of animal health and welfare measures, international veterinary certification, international standards and recommendations such as those in the OIE *Terrestrial Code*, and other relevant legislation related to animal and public health and animal welfare. The Veterinary Authority typically accredits or approves private-sector organisations, veterinarians, and veterinary paraprofessionals to deliver veterinary service functions.

2.1.9. **Veterinary Statutory Body** means an autonomous authority (typically at the national level) that regulates veterinarians and veterinary para-professionals.

2.2. Inspection and certification procedures

Inspection means examination and evaluation of animals and animal products by an authorized veterinarian prior to completing a certificate to document the health or sanitary status, respectively. Certification means an official document, completed by an authorised veterinarian, for purposes of verifying the health status of animals and safety of animal products.

Learning objectives include the Day 1 veterinary graduate having a general awareness of and appreciation for:

- 2.2.1. the processes used to assess the health status of animals and safety of animal products for the purpose of transport / export;
- 2.2.2. the process of ante and post-mortem risk-based inspection of animals, and of the inspection of animal products;
- 2.2.3. the drafting of health certificates.

2.3. Management of contagious disease

Prevention and control of contagious diseases, whether or not approved, managed or supervised by the veterinary authority, include movement controls, vaccination and treatment. Disease prevention and control programmes will be specific to each country or region and should comply with applicable OIE standards, as appropriate.

Learning objectives include the Day 1 veterinary graduate having a general awareness of and appreciation for:

- 2.3.1. the management of samples and the use of appropriate diagnostic and therapeutic tools;
- 2.3.2. tracing the source and spread of a disease;
- 2.3.3. monitoring and conducting initial surveillance of diseases, to include communication of epidemiological information to other public health practitioners;
- 2.3.4. the methods to:
 - identify and trace animals;
 - control movement of animals, animal products, equipment, and people;
 - quarantine infected and at-risk premises/areas;
 - humanely kill infected or exposed animals;

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- dispose of infected carcasses in an appropriate manner;
- disinfect or destroy contaminated materials
- zoning and compartmentalisation

2.4. Food hygiene

Food hygiene means all conditions and measures necessary to ensure the safety and suitability of food of animal origin.

Learning objectives include the Day 1 veterinary graduate having a general awareness of and appreciation for:

- 2.4.1. the risk-based performance of slaughter inspection including ante-mortem, post-mortem, humane slaughter and hygienic dressing;
- 2.4.2. residue testing programmes;
- 2.4.3. the traceability of animal products;
- 2.4.4. sanitation at food processing plants, proper storage of processed animal products, in-home food storage and preparation safety, and health and cleanliness of all humans involved in the food chain from farm to fork.

2.5. Application of risk analysis

Risk means the likelihood of the occurrence and likely magnitude of the biological and economic consequences of an adverse event or effect to animal or human health. The process of risk analysis involves hazard identification, risk assessment, risk management, and risk communication. The importation of animals and animal products involves a degree of risk to the importing country. Risk analysis as applied to importation provides the importing country with an objective and defensible method of assessing the disease risks associated with the importation of animals, animal products, animal genetic material, feedstuffs, biological products and pathological material using, particularly as a basis, relevant existing OIE standards.

Learning objectives include the Day 1 veterinary graduate having a general awareness of and appreciation for:

- 2.5.1. how risk analysis can be applied to assessment of risk of animal disease ~~related risks~~ and residues of veterinary drugs, including importation of animals and animal products and other related veterinary services activities;
- 2.5.2. how risk analysis can be used to ensure veterinary services adequately protect animal and human health;
- 2.5.3. where to find up-to-date and reliable information should deeper knowledge be needed or desired (e.g. the OIE *Handbook on Import Risk Analysis*);
- 2.5.4. the following risk analysis concepts:
 - hazard identification: the process of identifying pathogenic agents which could potentially be introduced in the commodity (e.g., food of animal origin);
 - risk assessment: evaluation of the likelihood and the biological and economic consequences of entry, establishment, and spread of a hazard within a territory;
 - risk management: the process of identifying, selecting, and implementing measures that can be applied to reduce the level of risk;

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- risk communication: the interactive transmission and exchange of information and opinions throughout the risk analysis process concerning risk; risk-related factors; and risk perceptions among risk assessors, risk managers, risk communicators, the general public, and other interested parties (e.g., stakeholders).

2.6. Research

Research means testing a hypothesis by appropriately designing and implementing a protocol, analysing the data, drawing conclusions and publishing the results.

Learning objectives include the Day 1 veterinary graduate having a general awareness of and appreciation for how translational and interdisciplinary research is essential to advance veterinary knowledge in the areas relevant to delivery of National Veterinary Services (e.g., zoonoses, transboundary diseases, (re-)emerging diseases, epidemiology, animal welfare, veterinary drugs and biologicals) so that future generations are better equipped to assure the health of animals, the public, and the ecosystem.

2.7. International trade framework

The framework on which regulations governing safe international trade in animals and animal products relies on the interaction and cooperation among several organisations as well as on the latest scientific advances so as to improve animal health world-wide and to promote and preserve the safety of the international trade in animals and animal products.

Learning objectives include the Day 1 veterinary graduate having a general awareness of and appreciation for:

- 2.7.1. the World Trade Organisation (WTO) Agreement on the Application of Sanitary and Phytosanitary Measures (i.e. SPS Agreement);
- 2.7.2. the role and responsibilities of the WTO standard setting organisations such as the OIE and the Codex Alimentarius Commission (CAC) in developing science-based current regulations governing international trade in animals and animal products;
- 2.7.3. current international regulations, that govern the safe trade of animals and animal products;.
- 2.7.4. the potential implications of transboundary diseases, including zoonoses, on international trade, e.g., does presence of a disease in one country potentially impede international trade of the affected animal species and its products, and knowing where to find up-to-date and reliable information regarding these implications. the process leading to certification of commodity quality and wholesomeness as it relates to sanitary matters for export;
- 2.7.5. the import control mechanisms and certification processes related to protection of the health of animals, the public, and the ecosystem in the importing country.

2.8. Administration and management

Administration can be defined as the universal process of organising people and resources efficiently so as to direct activities toward common goals and objectives, with management comprising planning, organising, staffing, leading or directing, and controlling an organisation or effort for the purpose of accomplishing a goal. In the broadest sense, administration consists of the performance or management of business or organisational operations and, thus, the making or implementing of major decisions, whereas management is the act of getting people together to accomplish desired goals and objectives.

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Learning objectives for this competency include the Day 1 veterinary graduate having a general awareness of and appreciation for:

- 2.8.1. best practices in administration and management;
 - 2.8.2. the importance of excellent interpersonal communication skills, to include self-knowledge and knowledge of others;
 - 2.8.3. the importance of effective communication (public awareness and advocacy);
 - 2.8.4. where to find up-to-date and reliable information should detailed knowledge be needed or desired;
 - 2.8.5. the need to have proficiency in at least one of the official languages of the OIE.
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Annex XXXV (contd)Annexe IV**POST-GRADUATE AND CONTINUING EDUCATION FOR GRADUATE VETERINARIANS TO ASSURE ONGOING DELIVERY OF HIGH-QUALITY NATIONAL VETERINARY SERVICES****DRAFT at January 2012*****Background***

Only some veterinarians will focus their careers on the delivery of National Veterinary Services that is, services provided under the legislative framework and the auspices of the governmental authority of a given country to implement animal health programmes to assure the health and wellbeing of animals, people and ecosystems. For those veterinarians that do choose National Veterinary Services as a career direction, considerably greater expertise will be needed than that described in the *Minimum Competencies Expected of Day 1 Veterinary Graduates to Assure Delivery of High-Quality National Veterinary Services* document developed by the OIE ad hoc Group on Veterinary Education. In addition, private practice veterinarians who may act as sub-contractors for National Veterinary Services will need ongoing continuing education to ensure their knowledge and skills are up-to-date.

This guidance document provides a broad overview of methods of delivering higher-level educational modules or continuing education and training programmes focused on delivery of national veterinary services for both veterinarians in the veterinary authority as well as private practice veterinarians working under the auspices of the veterinary authority. In addition, essential knowledge and skills for veterinarians in the veterinary authority are outlined, as are topics for continuing education relevant to ensuring currency of knowledge and skills of private practice veterinarians delivering national veterinary services.

After Day 1 competencies have been assured through a rigorous educational program leading to the awarding of the first veterinary professional degree, those veterinarians who wish to focus their careers on the delivery of National Veterinary Services through a path leading to a senior veterinarian position in the Veterinary Authority will need to gain additional expertise in topics specific to the National Veterinary Services. This may be best done either through additional degree programmes or/and continuing education including on-the-job training. Assuring currency of knowledge of both private veterinarians and those working for the veterinary authority is best done through continuing education, which may be required for ongoing employment, promotion, or, in the case of private veterinarians, certification to allow ongoing subcontracting with the veterinary authority.

Definitions

- The term “Veterinary Services” refers to the OIE *Terrestrial Animal Health Code (Terrestrial Code)* definition, which includes both public and private components of the veterinary profession involved in the promotion of animal and public health as well as animal welfare.
- Also from the *Terrestrial Code*, Veterinary Authority means the Governmental Authority of an OIE Member, comprising veterinarians, other professionals and para-professionals, having the responsibility and competence for ensuring or supervising the implementation of animal health and welfare measures, international veterinary certification and other standards and recommendations in the *Terrestrial Code* in the whole territory.
- For the purpose of this document “Senior-Level Veterinarian in the Veterinary Authority” means a veterinarian who has responsibility for staff and resources and has regulatory authority to implement regulatory programmes.

Post-Graduate Education Programmes

- Research oriented
 - Masters of Sciences (MSc) or equivalent programmes
 - Combination of the first professional veterinary degree with either a MSc or a PhD

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- Specialisation oriented
 - Masters in Preventive Veterinary Medicine
 - Masters in Veterinary Public Health
 - Other specialised degree programmes or certification programmes, in addition to the first professional veterinary degree and supporting the National Veterinary Services in:
 - technical areas such as aquatic animals, wildlife, human and animal epidemiology and ecological systems
 - non-technical areas such as communication and economics.

Continuing Education

Education that is relevant to the National Veterinary Services activities comes from an approved source and includes certification for attendance or completion.

- Employer directed training

Employer directed training is of particular relevance to those veterinarians who focus their careers on National Veterinary Service; in other words, those veterinarians on track to become a “senior-level veterinarian” in the veterinary authority. The veterinary authority should have in place plans for training employees so that they are fully competent in the regulations and programmes overseen by that authority.
- Conferences

Examples include the conventions offered by international, national, or regional veterinary professional organisation, which often provide various continuing education tracks; specialty organisations, such as the American College of Veterinary Preventive Medicine or the International Aquatic Veterinary Medical Association which provide continuing education sessions focused on the organisations specific area of expertise; meetings sponsored by one or more organisations focusing on a specific topic; such as the June 2011 OIE Global Conference on Aquatic Animal Health Programmes.
- Distance learning

Distance learning encompasses any type of learning done via electronic means, to include webinars; online, self-directed courses; virtual meetings (either via teleconference or video conference); collaborative spaces
- Other sources

Notwithstanding the above, there are other valuable sources of continuing education including peer reviewed scientific journals, peer to peer professional interactions, both in person and virtual, and On-the-Job experience.

Continuing Education Topics for Private Veterinarians Delivering National Veterinary Services for terrestrial and aquatic animals:

- Emerging and re-emerging animal diseases
- Regulatory programmes for animal diseases, such as brucellosis, tuberculosis, bluetongue, infectious salmon anaemia and other diseases important to the region, to include detection, control, and eradication programmes.
- Food safety programmes at the primary production (farm) level

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- Slaughter inspection procedures
- Certification requirements and procedures
- Surveillance methods and programmes for transboundary diseases, including contingency plans
- Notifiable diseases: reporting procedures
- Animal welfare
- One Health issues including the collaboration between veterinarians and physicians, wildlife disease surveillance and control programmes and zoonotic disease prevention.
- Legislative regulatory and ethical framework of the functions delegated to private veterinarians
- Familiarisation with new diagnostic tools and laboratory methodologies, including sample collection, handling and submission
- Prudent use of veterinary products, both medicines (e.g. antibiotics) and biologics (e.g. vaccines).
- On-premise (e.g. farms) biosecurity programmes
- Preparedness and response to emergencies (both natural [e.g. earthquakes] and man-made [e.g. nuclear plant accidents] events)
- Where to find up-to-date and reliable information
- Other topics relevant to the country or region

Continuing education topics for Veterinarians working within the Veterinary Authority

Additional details for these topics can be found in the “Day 1 competencies” document, Section 2, Introduction to advanced competencies (insert link to Day 1 Document).

- Organisation of veterinary services
- Inspection and certification procedures
- Management of contagious diseases including quarantine and movement restriction, compensation, vaccination and surveillance plans, etc.
- International trade framework
- Public law and regulation including administrative law, regulatory enforcement of health policy and justice
- Effective written and verbal communication in the primary language of Member Country to a variety of audiences (i.e. public, legislative, professional audiences)
- Promoting the welfare and protection of animals requires a working knowledge of the relevant national legislation and means to implement these. This implies knowledge of the activities of relevant national organisations including NGOs.
- Animal food production systems and economics
- Knowledge of when risk assessment is indicated

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- Audit, checks and certification
- Food safety and hygiene including HACCP, antimicrobial resistance, residues and food processing techniques

Additional continuing education topics for Senior Level Veterinarians working within the Veterinary Authority

- Language training appropriate to the needs of the National Veterinary Services and taking into account the three official languages of the OIE (English, French, Spanish)
- Best practices in administration and management.
- Human resources management including being able to effectively and efficiently utilise employees and others to accomplish the mission and goals of the organisation.
- Obtaining and management of financial resources, including effectively securing financial resources and efficiently utilising these resources.
- Effective written and verbal communication in the primary language of Member Country to the media.
- Project management including project design, evaluation of feasibility, obtaining of funding, implementation including measuring progress against established milestones, evaluation and reporting of results.
- Welfare and protection of animals including working knowledge of the relevant international standards, the means to implement these, and the activities of relevant regional and international organisations including NGOs.
- Advocating for science-based policies in a given political and sociological context.
- Application of risk analysis: drafting of appropriate questions for risk assessment and proposing risk management measures.
- Risk communication to the public and other relevant audiences.
- International trade regulations and procedures.
- Role and activities of International organisations, and their relevant standards and applications i.e. WTO, OIE, FAO, Codex Alimentarius Commission (CAC) and WHO.
- Audit the efficiency and effectiveness of veterinary services, their organisation, programmes and activities.
- Knowledge and management of databases and other sources of information relevant to the veterinary services.
- Broad knowledge of ongoing research in the areas relevant to delivery of National Veterinary Services.

Annex XXXVI

Organisation
Mondiale
de la Santé
Animale

World
Organisation
for Animal
Health

Organización
Mundial
de Sanidad
Animal

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REPORT OF THE MEETING OF THE OIE ANIMAL PRODUCTION FOOD SAFETY WORKING GROUP

Paris, 15–17 November 2011

The OIE Working Group on Animal Production Food Safety (the Working Group) held its eleventh meeting at the OIE Headquarters from 15 to 17 November 2011.

The members of the Working Group and other participants are listed at Annex I. The adopted agenda is provided at Annex II.

Dr Bernard Vallat, OIE Director General, met with the Working Group for a discussion on the meeting. He welcomed members and expressed his gratitude for their support in this important area of work. He stated that the OIE appreciates the work of the Group in providing a bridge between the objectives of the OIE and those of other relevant organisations, particularly the Food and Agriculture Organization of the United Nations (FAO) and World Health Organization (WHO), in the field of food safety. The collaboration between the OIE and the Codex Alimentarius Commission (CAC) is of key importance as it helps to provide seamless coverage of the continuum for the production of food of animal origin and to avoid potential contradictions and gaps in standards.

A common approach to standards – OIE/CAC

Dr Vallat recalled the OIE's vision and commitment to work ever more closely with CAC, including the potential development of standards using a common approach. Dr Vallat noted that the Codex Committee on General Principles will discuss a paper written by the CAC Secretariat, with input from the OIE, at its next meeting in April 2012. Dr Vallat considered that this approach could provide benefits in consolidating standards on topics such as antimicrobial resistance, identification/traceability, and animal feeding. He noted the ongoing valuable collaboration between the OIE and CAC in the field of zoonotic parasites and acknowledged that, although both organisations had made progress, there is still room to further strengthen collaboration.

Veterinary education

Dr Vallat noted that the document 'Minimum Competencies expected of Day 1 Veterinary Graduates to assure Delivery of High-Quality National Veterinary Services' included food safety as a key part of the basic core curriculum. He invited the Working Group to provide detailed comments on the relevant text for consideration by the *ad hoc* Group on Veterinary Education at its next meeting, in January 2012. He also confirmed that the OIE would write directly to the CAC Secretariat inviting comment.

Private standards – sanitary measures and animal welfare

Dr Vallat recalled the on-going work of the OIE on this topic, with the objective of encouraging global private standard setting organisations to recognise and respect the standards of the OIE and CAC, which set the officially recognised sanitary standards under the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) of the World Trade Organization (WTO). The OIE has made an official agreement, endorsed by Member Countries, with the Global Food Safety Initiative (GFSI). Dr Vallat considered that having an official agreement was useful to provide a basis for on-going collaboration. Discussions on possible frameworks for collaboration with GlobalGAP are under way.

Annex XXXVI (contd)**1. Update on OIE / CAC / FAO / WHO activities****1.1. OIE**Private standards

Dr Sarah Kahn, Head, OIE International Trade Department, provided an update on the OIE work on the topic of private standards. She informed the Working Group that the OIE has provided useful input to the work of the WTO SPS Committee on this topic. While the OIE's interest in the issue includes private standards for health (including zoonotic diseases) and animal welfare, the SPS Committee's examination of the issue relates specifically to health and safety standards. The particular concerns of developing countries, as opposed to the support of some developed countries for private standards, has been evident in the SPS Committee's deliberations on the issue and in the responses provided by OIE Members to a questionnaire on this topic. Dr Robert Thwala emphasised that African countries continue to have serious concerns on this issue. Private standards lack transparency and may not have a scientific basis. There are multiple certification schemes and little harmonisation is possible due to the competing nature of these schemes, leading to increased certification costs and confusion as to what standards to follow in order to gain market access. Dr Carlos A. Correa Messuti shared this view, and believed that private standards also create confusion for consumers. He considered that discussions could create a bridge for better understanding by private standard setting organisations and their recognition of the science-based standards developed by the international standard setting organisations recognised by the WTO SPS Agreement, OIE, Codex Alimentarius Commission (CAC) and the International Plant Protection Convention (IPPC). The Working Group was concerned that private standards have the strong potential to impose multiple compliance requirements and increased certification costs for all countries.

Dr Sarah Kahn informed the Working Group that, following the recommendations of Members, the OIE had taken steps to establish closer relationships with relevant global private standard setting organisations (PSSO). The overall goal of the OIE is to convince PSSOs to avoid setting standards that conflict with or devalue official standards for both health and animal welfare.

After meetings with the secretariat of the Global Food Safety Initiative (GFSI), Dr Vallat had been invited to the Council advising the GFSI Board. Dr Sarah Kahn noted that in addition to Dr Vallat, the WTO SPS Secretariat was also represented on the Advisory Council. A further important step was taken in May 2011 when the OIE signed an official agreement with GFSI. Mr Alan Randell pointed out that the GFSI is more a benchmarking organisation than a standard-setting organisation. He noted that the GFSI references CAC standards in its benchmarking work.

Dr Sarah Kahn indicated that the situation with private standards for animal welfare is less clear. Although GFSI focuses on food safety, it had held a workshop on livestock handling during 2011 (and the OIE was represented at this meeting). The OIE has proposed an exchange of letters with GlobalGAP, which sets standards relevant to animal welfare, *inter alia*. The OIE had decided not (at this time) to sign an official agreement with GlobalGAP because there are fundamentally different approaches to animal welfare standards of the OIE and GlobalGAP (the latter's standards being largely based on European Union legislation, which is overly prescriptive compared with the approach accepted by OIE Members). However, under an exchange of letters, the OIE and GlobalGAP could continue to share information and look for areas of potential collaboration.

Given that private standards are a reality, the Working Group recommended that the OIE continue to work with CAC at the regional and international level to raise awareness of governments and the private sector of the primacy at the intergovernmental level of OIE and CAC standards for food safety. The Working Group noted that at its last session the CAC concluded that CAC would continue to work closely with WTO, IPPC and OIE on this matter and invited PSSO's to participate as observers in CAC meetings.

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The OIE should continue to maintain a dialogue with the relevant global PSSOs to ensure they understand and to encourage them to respect the role of the international standard setting organisations.

Continuing support should also be provided to the work of the SPS Committee on this topic.

Animal Production Food Safety Focal Point seminars

Dr Gillian Mylrea informed the Working Group that seminars for OIE National Focal Points for Animal Production Food Safety had been conducted in 2011 for the Africa/Middle East regions (Tunisia, April 2011) and the Europe region (Italy, November 2011). She thanked Dr Stuart Slorach for his participation in these seminars.

Dr Gillian Mylrea also noted a seminar will be held in Tokyo in the Asia Pacific, Far East region in November 2012 back to back with the Codex Regional Coordinating Committee for Asia meeting to allow for a half-day session for Codex and OIE participants with the aim of building cooperation and understanding at the national and regional levels on animal production food safety issues.

The Working Group welcomed the proposed OIE/Codex session planned in Tokyo in 2012 and requested that, depending on experience of this event, such an approach could be considered in other regions for focal point seminars, where it is feasible. This would require advanced planning.

1.2. CAC

Dr Annamaria Bruno provided an update on the work of CAC. Detailed information is provided in Annex III.

1.3. FAO

Dr Patrick Otto provided an update on the work of FAO which is provided in Annex IV.

1.4. WHO

Dr Simone Magnino provided an update on the work of WHO. Detailed information is provided in Annex V.

The Working Group encouraged the Director General of the OIE to continue to support communication and collaboration between the Secretariats of OIE and Codex, and the relevant units at the FAO and WHO, to ensure close co-ordination of the relevant work of these organisations.

The Working Group recommended that in addition to the OIE's continued participation in the work of the Codex Task Force on Animal Feeding, the OIE should review its role in developing guidance and/or standards related to the transmission of specific chemical hazards through the feed chain.

2. Paper on OIE standard setting procedures

Dr Alejandro Thiermann, President of the OIE Terrestrial Animal Health Standards Commission (Code Commission), informed the Working Group that the OIE Trade Department had drafted a document setting out the OIE procedures for standard setting, with a focus on the OIE *Terrestrial* and *Aquatic Animal Health Codes*. Dr Thiermann indicated that this document could be viewed on the OIE website in English, French and Spanish at: <http://www.oie.int/en/international-standard-setting/overview/productionimplementation/>. At a later date, if considered appropriate, OIE Members may be asked to formally adopt these procedures within the official framework governing the OIE's activities.

The Working Group welcomed this work by the OIE to describe their procedures for setting standards. The Working Group was informed that some global organisations participate as an observer in OIE *ad hoc* and Working Groups, e.g. Animal Welfare Working Group. The Working Group recommended that the arrangements for participation of global and national industry organisations and NGOs, including not only those which have a cooperative agreement with the OIE, be clarified in this document.

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The Working Group recognised that OIE, IPPC and CAC processes may have differences in approach to the development of standards, but that all standards are adopted by an open and transparent process. The Working Group recognised that each organisation has evolved its own processes (according to stakeholders' interests). The Working Group agreed that the science inputs and processes of standard development were robust for OIE and Codex.

3. Cooperation between OIE and Codex Alimentarius Commission

3.1. Joint development of standards by the OIE and CAC

Dr Sarah Kahn presented the background to this item and a brief overview of the paper CL2010/22-GP produced by the CAC Secretariat, with input from the OIE ('Request for comments concerning the development of joint Codex/OIE standards'). The Codex Committee on General Principles would consider this issue at its next meeting, in April 2012. Dr Sarah Kahn also noted that WTO SPS Committee Members continued to express interest in the harmonisation of approaches by the 'three sisters'. Because hazards can arise at any point in the continuum for the production of food of animal origin, the potential gains to be made by harmonisation of approaches are particularly relevant for the OIE and Codex.

The Working Group noted that the Agreement between WHO and the OIE had been modified with the objective of resolving any legal impediment from WHO to the development of common OIE/Codex standards. The Working Group noted the statement of the WHO Legal Counsel at the CAC Session in July 2010 (ALINORM10/33/REP):

The Representative of WHO Legal Counsel offered some clarifications as to WHO's interpretation of the recently approved amendment to the agreement between WHO and OIE. It was indicated that WHO did not read the agreement as a legal basis for establishing joint standards. Rather, the amendment focused on joint activities aimed at developing standards, than on joint standards per se. It was further indicated that in WHO's opinion the approved amendment reflected recognition of the benefits of closer collaboration between the two Organizations, particularly regarding those aspects of animal production which impact on food safety.

On the possibility of establishing joint CODEX/OIE standards, the Representative of WHO Legal Counsel indicated that doing so would require a formal determination of the Codex Alimentarius Commission, both on the substance and the procedures, taking into consideration established and available decision making mechanisms'.

The Working Group considered that it was not entirely clear if WHO still has concerns about legal impediments. The Working Group decided to focus its discussion on the practical and policy implications of the proposal rather than the legal issues that may pertain.

The Working Group noted that the terminology used in the document CL2010/22-GP was not totally consistent. While the stated subject is 'the development of *joint* Codex/OIE standards', Section 5 (contributed by the OIE), is entitled 'Rationale for the development of *common* standards'. In some documents, the terminology '*joint development of standards*' is used. Dr Sarah Kahn recalled that the use of the term 'common standards' rather than 'joint standards' was a recommendation of the Working Group at its 2010 meeting and that the OIE had subsequently adopted this approach. The Working Group considered that the development of 'common' standards for the food production continuum was an important aspirational goal. Members of the Working Group recognised that the discussion on common standards had already been valuable in encouraging the Members of the OIE and CAC to strengthen collaboration between the two organisations.

It was agreed that there was little to be gained by continuing discussion of the differences in meaning between 'common' and 'joint' standards. The complex nature of the issue was clearly recognised.

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Importantly, the Working Group agreed with the 'potential benefits of common standards' listed in the paper CL2010/22-GP (Section 5.2.) and considered that this could even be strengthened; the impact of common/joint standards at the national level would be wider acceptance and simplified / enhanced implementation. There was no doubting the practical gains that could be realised in international trade as a consequence of the adoption of 'common' OIE/Codex standards. Significant improvements in coordination between animal health and food safety agencies could also be obtained at the national level.

The Working Group discussed the significantly improved procedures that had been employed to ensure collaboration by the OIE and Codex in developing standards for zoonotic parasitic diseases and thought that this could be considered as a model for future approaches.

There was support for 'common approaches' to include taking steps to provide for closer collaboration on the planning and prioritisation of the standard-setting work programme. Dr Annamaria Bruno indicated that the CAC has a procedure for receiving proposals from OIE or any other organisations on items of future work.

The Working Group recommended that the OIE with input from CAC Secretariat, if possible, review the 'lessons learned' from the successful collaboration undertaken to date, to see if and how the process might be further improved in future.

3.2. Updating of paper 'Cooperation between the Codex Alimentarius Commission and the OIE on Food Safety throughout the Food Chain'

The Working Group reviewed the document 'Cooperation between the Codex Alimentarius Commission and the OIE on Food Safety throughout the Food Chain' which had been developed by the Group in 2004 and had been available on the OIE website. They agreed that much of this information was now redundant as the Group has been very successful in strengthening cooperation between Codex and OIE over this time and this is evident from several recently completed work programmes by the two organisations (e.g. work on Salmonellosis in poultry and work of the antimicrobial task force). The Working Group agreed to revise the document and make the information available on the OIE website.

4. Update on the report of the *ad hoc* Group on Zoonotic Parasites

Dr Gillian Mylrea informed the Working Group of the work of the *ad hoc* Group on Zoonotic Parasites which met in August 2011. The *ad hoc* Group had reviewed Member comments on the draft chapter on Infection with *Trichinella* spp. and amended the text as relevant. The revised chapter was circulated for Member comments in the September 2011 Report of the Code Commission. Dr Gillian Mylrea informed the Working Group that the *ad hoc* Group would meet again in December 2011 to review Members' comments on the draft chapter on *Echinococcus*.

Dr Steve Hathaway, Co-chair of the Codex physical Working Group on the Proposed Draft Guidelines for Control of Specific Zoonotic Parasites in Meat: *Trichinella spiralis* and *Cysticercus bovis*, informed the Working Group of this work and acknowledged the importance of Codex and OIE collaborating to ensure the farm to fork approach.

The Working Group supported the proposed new chapters and the work direction and encouraged the continued collaboration with Codex in the development of standards on trichinellosis currently under development by the two organisations.

Annex XXXVI (contd)**5. Update on the report of the *ad hoc* Group on Brucellosis**

Dr Gillian Mylrea informed the Working Group of the work undertaken by the *ad hoc* Group on Brucellosis which met in July 2011 to produce a new chapter on brucellosis, entitled Infection with *Brucella abortus*, *B. melitensis* and *B. suis*. She noted that this revision has focused on the pathogen, rather than the host.

The Working Group welcomed the comprehensive revision of this chapter and the inclusion of recommendations to mitigate the risk to human health from *B. abortus*, *B. melitensis* and *B. suis* in animals, providing a one health approach.

6. Update on review of *Terrestrial Code* Chapters 6.6.–6.10. (antimicrobial resistance)

Mr François Diaz (OIE Scientific Department) joined the Working Group for this item. He provided an update on the work done by the *ad hoc* Group on Antimicrobial Resistance in 2011. He reported that the *ad hoc* Group met for a second time at the OIE Headquarters from 20 to 22 June 2011 after its first meeting in November 2010. The *ad hoc* Group updated the *Terrestrial Code* Chapter 6.9. on Responsible and prudent use of antimicrobial agents in veterinary medicine, and also addressed OIE Members' comments on the previously updated versions of Chapters 6.7. on Harmonisation of national antimicrobial resistance surveillance and monitoring programmes and 6.8. on Monitoring of the quantities of antimicrobials used in animal husbandry. Mr Diaz also reported that a third meeting of the *ad hoc* Group was planned for December 2011 with the main objective to review and update the *Terrestrial Code* Chapter 6.10. on Risk assessment for antimicrobial resistance arising from the use of antimicrobials in animals, taking into account the guidelines for risk analysis of foodborne antimicrobial resistance developed by the *ad hoc* Intergovernmental Task Force on Antimicrobial Resistance of the Codex Alimentarius.

The Working Group endorsed the OIE work on antimicrobial resistance in terrestrial animals and encouraged the OIE to continue to engage closely with CAC, FAO and WHO on the important topic. The Working Group noted the successful collaboration between these organisations on this matter. The Working Group requested that the OIE invites the CAC Secretariat to participate in all future meetings of this *ad hoc* Group to ensure coordination in the development of relevant standards by the two organisations.

7. Update on the report of the *ad hoc* Group on Responsible use of Antimicrobials in Aquatic Animals

Dr Gillian Mylrea updated the Working Group on activities related to antimicrobial resistance in aquatic animals. She informed the Group that the *Aquatic Code* Chapter 6.3. Principles for responsible and prudent use of antimicrobial agents in aquatic animals has been adopted in May 2011. The *ad hoc* Group on Responsible Use of Antimicrobials in Aquatic Animals met in September 2011 and developed two new chapters, 6.4. Monitoring of the quantities and usage patterns of antimicrobial agents used in aquatic animals and 6.5. Development and harmonisation of national antimicrobial resistance surveillance and monitoring programmes for aquatic animals. These chapters were circulated for Member comments in the October 2011 report of the Aquatic Animal Health Standards Commission.

The Working Group endorsed the OIE work on antimicrobial resistance in aquatic animals.

8. Procedures for setting the future animal production food safety work programme**8.1. Review draft report on 'Scientific evidence on the relationship between animal welfare and animal production food safety'**

At their 2010 meeting, the Working Group proposed to work in collaboration with the OIE Animal Welfare Working Group (AWWG) to draft terms of reference for a literature review on the scientific evidence for relationships that may exist between the welfare of food producing animals and food safety. The Working Group had asked for this information that would be useful to inform the standard setting work of the OIE in both animal welfare and food safety. Dr A. Small had been commissioned by the NZ-AUS Collaborating Centre on Animal Welfare to undertake this review.

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The Working Group gratefully acknowledged the work of Dr Small. They reviewed the comments made by the AWWG on this paper and discussed how to proceed on this topic.

The Working Group noted the findings of the author, '*that there is strong, although indirect, evidence in literature that practices which improve animal welfare can also result in improved food safety. However, there is little direct evidence of cause and effect, either in terms of impact of welfare on food safety, or the impact of food safety issues on welfare*'.

The Working Group noted that in line with the terms of reference the paper did not address animal health or food quality issues, and dealt only with food safety and animal welfare issues.

While the paper included a lot of information the Working Group considered that it did not fully address the terms of reference in giving clear guidance on animal welfare measures that might improve food safety and areas where there may be potential for conflict between animal welfare measures and food safety.

The Working Group considered that the focus of the paper was on the impact of animal health on the transmission of foodborne pathogens and zoonotic diseases rather than on the relationship between animal welfare and food safety. But when trying to manage the risks, they should be driven by interventions in food safety not animal welfare.

The Working Group agreed that this paper could be used to inform any future work on food safety that has a link with animal welfare but did not propose any further work on this topic at this time.

The Working Group will maintain communication with the AWWG on this issue and agreed that further research into the relationship between welfare and food safety would be valuable, particularly in the light of the desire of consumers for safe, 'animal-friendly' product.

8.2. Status report on the literature review on the control of verotoxigenic *Escherichia coli* in food-producing animals

At the 2010 meeting, the Working Group discussed the need for and feasibility of developing OIE advice on the control of verotoxigenic *Escherichia coli* (VTEC) in food-producing animals with the purpose of reducing foodborne illness. In this regard the Working Group requested that a review of the scientific literature be undertaken on this pathogen. Dr John Morris Fairbrother, OIE Reference Laboratory for *Escherichia coli* (Canada), was invited to undertake this review.

Dr Annamaria Bruno informed the Working Group that there is no specific on-going Codex work with respect to *Escherichia coli* but that the Joint FAO/WHO Expert Meetings on Microbiological Risk Assessment (JEMRA) had undertaken work in raw beef and beef products: (http://www.fao.org/ag/agn/agns/jemra_riskassessment_ecoli_en.asp).

Dr Simone Magnino informed the Working Group that WHO regularly supports coordination of information sharing on VTEC, as well as for other foodborne pathogens, through the International Food Safety Authority Network (INFOSAN). During the recent *Escherichia coli* outbreak occurred in Germany and other countries earlier in 2011, WHO has supported such coordination through the International Health Regulations, INFOSAN and other reporting mechanisms. In particular, WHO has monitored the outbreaks, provided the latest information and worked closely with national health authorities and international partners to detect the unusual bacterial strain and track down its source. Detailed information is available in the webpage of the WHO Regional Office for Europe (WHO/EURO) at <http://www.euro.who.int/en/what-we-do/health-topics/emergencies/international-health-regulations/outbreaks-of-e.-coli-o104h4-infection>. In addition, WHO has provided relevant information on Enterohaemorrhagic *Escherichia coli* in a factsheet which is available in the WHO website at <http://www.who.int/mediacentre/factsheets/fs125/en/> and is currently being updated.

The Working Group acknowledged the work undertaken by the authors in providing an abridged version of the review in time for the Working Group to consider at this meeting. The Working Group agreed this was a very useful document containing a lot of information and facts and indications of measures that can be taken at different points throughout the food chain to reduce the risks to human health.

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The Working Group examined the review and requested the OIE to contact the authors and request that they consider some additional information not referenced in the abridged version (e.g. ‘Enterohaemorrhagic *Escherichia coli* in raw beef and beef products: approaches for the provision of scientific advice’, Microbiological Risk Assessment Series 18 - FAO/WHO, 2011, http://www.fao.org/ag/agn/agns/jemra_riskassessment_ecoli_en.asp and ‘Draft risk profile for pathogenic non-O157 Shiga toxin-producing *Escherichia coli*’, August 2011, USDA, http://www.fsis.usda.gov/PDF/Non_O157_STEC_Risk_Profile.pdf).

The Working Group requested that the authors provide more emphasis on the availability and efficacy of applying measures at the production level (farm-level) to reduce the incidence of verotoxigenic *Escherichia coli* (VTEC), and an assessment of their outcomes. The effect of such measures should be evaluated in proportion to other measures available during slaughter and dressing and subsequent handling of the product.

8.3. Status report on the literature review on the control of *Salmonella* spp. in food-producing animals other than poultry

At the 2010 meeting of the Working Group they discussed the need for and feasibility of developing OIE advice on the control of *Salmonella* spp. in food producing animals other than poultry (i.e. pigs, cattle, small ruminants) with the purpose of reducing foodborne illness. In this regard the Working Group requested that the OIE undertake a review of the scientific literature on these pathogens with an emphasis on the feasibility of applying measures at the production level (farm-level) to reduce the incidence. The OIE Reference Laboratory for Salmonellosis in the United Kingdom, Dr Rob Davies, and Dr Antonia Ricci in Italy were invited to undertake this review.

The Working Group thanked the authors of this paper, Simone Belluco, Veronica Cibin, Rob Davies, Antonia Ricci and Andy Wales, for their work.

The Working Group requested that the authors further address the terms of reference in particular their opinion on the feasibility of applying measures at the production level (farm-level) to reduce the incidence of *Salmonella* spp. in intensive pigs, and an assessment of likely public health outcomes. The Working Group also requested that the review provide more information on the contribution of foodborne salmonellosis in humans from sources other than poultry. (Scientific Opinion of the Panel on Biological Hazards on a request from the European Commission on a quantitative microbiological risk assessment on *Salmonella* in meat: Source attribution for human salmonellosis from meat. *The EFSA Journal* [2008] 625, 1–32).

9. Update on the report of the *ad hoc* Group on Veterinary Legislation

Dr Gillian Mylrea informed the Working Group on the work of the *ad hoc* Group on Veterinary Legislation, which met in August 2011. The *ad hoc* Group’s terms of reference were to take the Guidelines on Veterinary Legislation (available on the OIE website) and develop text for a new chapter in the *Terrestrial Code*. This chapter is to be developed as developing countries have challenges in the area of veterinary legislation and it was considered that such a chapter would be useful on this topic. This chapter would also support the Veterinary legislation component of the PVS Pathway. The draft chapter covers the technical points to be included in a country’s veterinary legislation in order for the veterinary services to be able to function properly. The *ad hoc* Group agreed that appropriate references should be made to standards of the CAC, given that the ‘veterinary domain’ addressed by veterinary legislation within the OIE framework includes aspects such as food safety, veterinary medicines and biological products, and animal production, which are the subject of CAC standards. The Working Group noted that Dr Vallat would invite the Codex Secretariat to submit comments to the OIE. The draft chapter had been circulated to Members for comment in the September report of the Code Commission.

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The Working Group made the following comments on draft Chapter 3.4.:

The use of terms ‘legislature’ and ‘executive’ in the definitions section – which themselves require definition – in the terms that are the subject of definition should be reconsidered.

The definitions of ‘primary’ and ‘secondary’ legislation are based on ‘who issues them’. This approach was considered to be unclear and possibly misleading. As an example, the definition of ‘secondary legislation’ could be more clearly expressed as ‘legal instruments issued under the authority of primary legislation’.

It was recommended to add appropriate cross references to Chapter 6.1. ‘Role of Veterinary Services in Food Safety’ to the draft Chapter 3.4.

Recommended in Article 3.4.4. point f), a reference be made to ‘penalties and sanctions’ rather than to ‘sanctions’ alone.

Article 3.4.5. Point 1b) – recommend to add: ‘while in the conduct of their duties, officials are protected against legal action and physical harm’.

Recommended to review the logical order of points a) to g) in Article 3.4.12. point 1. ‘General’.

Amend 3.4.12. point 1c) ‘Inspection for compliance with food standards ~~and food composition~~, where this is relevant to health or safety;’

Amend Article 3.4.12. point 3b) ‘The use of risk-based management procedures ~~based on HACCP principles~~; and’

– because the use of HACCP is not exclusively recommended by CAC, nor is it universally feasible.

Some members of the Working Group considered that there was a lack of provisions on the use of third party inspection and auditing systems.

In Article 3.4.12., need reference to the obligations of producers to provide for a traceability system. Note: could be preferable to make point 3 cover ‘role of CA’ and point 4 ‘role of operators’.

Add some explanation of the role of the various players in the veterinary domain.

10. Update on the report of the *ad hoc* Group on Veterinary Education

Dr Sarah Kahn updated the Working Group on the work of the *ad hoc* Group on Veterinary Education. The *ad hoc* Group met in August 2011 and reviewed Member comments on the document ‘Minimum Competencies expected of Day 1 Veterinary Graduates to assure Delivery of High-Quality National Veterinary Services’ and addressed comments provided by Members. Dr Sarah Kahn noted that this document was not intended for inclusion in the *Terrestrial Code*. Rather, it would be placed on the OIE website under the rubric ‘Support to OIE Members’. The *ad hoc* Group requested comments of the Working Group on texts relevant to food safety described in this document which will be considered by the *ad hoc* Group when they meet in January 2012.

The Working Group agreed this was an excellent document and covered the essential minimum competencies for a Day 1 veterinarian, including aspects of food safety and food hygiene.

Annex XXXVI (contd)The Working Group made the following comments:

Include some basic information about global trends in food production, food trade and food security with particular reference to foods of animal origin, so as to present the curriculum in a wider context.

Consider amending 1.1.2. and replace ‘clinical veterinary sciences’ with ‘clinical veterinary medicine’.

Consider including a reference to zoning and compartmentalisation in point 1.2.5.1.

Develop an additional new point 1.2.6.4. understand the principles of a risk-based approach to food control throughout the food chain.

Make reference to record keeping in point 1.2.7. Veterinary products.

Amend point 2.4.1. the risk-based performance of slaughter inspection, including ante-mortem, post-mortem, humane slaughter and hygienic dressing.

Amend point 2.4.2. to read: ‘residue testing programmes and specialised monitoring programmes’.

Point 2.5.:

Amend first sentence in point 2.5. ‘Risk means the likelihood of the impacts of the occurrence and likely magnitude of the ~~biological and economic~~ consequences of an adverse event or effect to animal or human health.’

Consider deleting the last two sentences in the chapeau of point 2.5.: ~~‘The importation of animals and animal products involves a degree of risk to the importing country. Risk analysis as applied to importation provides the importing country with an objective and defensible method of assessing the disease risks associated with the importation of animals, animal products, animal genetic material, feedstuffs, biological products and pathological material using, particularly as a basis, relevant existing OIE standards’.~~

The meaning of point 2.5.1. is not clear and requires clarification. The Working Group suggested amending point 2.5.1. ‘how risk analysis can be applied to assessment of animal disease related risks ~~and residues of veterinary drugs~~, including importation of animals and animal products and other related veterinary services activities’.

Amend point 2.5.2. ‘how risk analysis can be used to ensure veterinary services adequately protect animal and human health against biological and chemical hazards’.

Amend point 2.5.4. ‘the following risk analysis concepts as they apply to animal health and food safety’.

- ~~hazard identification: the process of identifying pathogenic agents which could potentially be introduced in the commodity (e.g., food of animal origin);~~
- ~~risk assessment: evaluation of the likelihood and the biological and economic consequences of entry, establishment, and spread of a hazard within a territory;~~
- ~~risk management: the process of identifying, selecting, and implementing measures that can be applied to reduce the level of risk;~~

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- ~~risk communication: the interactive transmission and exchange of information and opinions throughout the risk analysis process concerning risk; risk related factors; and risk perceptions among risk assessors, risk managers, risk communicators, the general public, and other interested parties (e.g. stakeholders).~~

11. Work programme for 2012

The Working Group proposed work programme for 2012 is presented at Annex VI.

12. Next meeting

To be confirmed.

.../Annexes

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MEETING OF THE OIE ANIMAL PRODUCTION FOOD SAFETY WORKING GROUP
Paris, 15–17 November 2011

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Annex XXXVI (contd)Annex II**MEETING OF THE OIE ANIMAL PRODUCTION FOOD SAFETY WORKING GROUP****Paris, 15–17 November 2011**

Adopted agenda

Welcome from the OIE Director General

Adoption of the agenda

Report of the previous Working Group meeting

1. Update on OIE / CAC / FAO / WHO activities
 - 1.1. OIE
 - 1.2. Codex
 - 1.3. FAO
 - 1.4. WHO
2. Paper on OIE standard setting procedures
3. Cooperation between OIE and CAC
 - 3.1. Joint development of standards by the OIE and CAC
 - 3.2. Updating of paper ‘Cooperation between the Codex Alimentarius Commission and the OIE on Food Safety throughout the Food Chain’
4. Update on the report of the *ad hoc* Group on Zoonotic Parasites
5. Update on the report of the *ad hoc* Group on Brucellosis
6. Review of Chapters 6.6.–6.10. of the *Terrestrial Code* (antimicrobial resistance)
7. Update on the report of the *ad hoc* Group on Responsible use of Antimicrobials in Aquatic Animals
8. Procedures for setting future animal production food safety work programme
 - 8.1. Review draft report on ‘Scientific evidence on the relationship between animal welfare and animal production food safety’.
 - 8.2. Status report on the literature review on the control of verotoxigenic *Escherichia coli* (VTEC) in food-producing animals.
 - 8.3. Status report on the literature review on the control of *Salmonella* spp. in food-producing animals other than poultry.
9. Update on the report of the *ad hoc* Group on Veterinary Legislation (July 2011)

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10. Update on the report of the *ad hoc* Group on Veterinary Education (August 2011)
 11. Work programme for 2012
 12. Next meeting
 13. Any other business
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Annex III

ACTIVITIES OF THE CODEX ALIMENTARIUS COMMISSION

CODEX SESSIONS SINCE THE LAST MEETING OF THE OIE APFSWG (4–7 NOVEMBER 2010)

In the period 1 November 2010–31 October 2011, 17 sessions of the Codex Alimentarius Commission and its subsidiary bodies have been held. Among these sessions, those relevant to the work of the APFSWG are: the 34th Session of the Codex Alimentarius Commission (CAC), Geneva (Switzerland), 4–9 July 2011; the 5th Session of the Codex Committee on Contaminants in Foods (CCCF), The Hague (The Netherlands), 21–25 March 2011; the 31st Session of the Codex Committee on Fish and Fishery Products (CCFFP), Tromsø (Norway), 11–16 April 2011; and the 19th Session of the Codex Committee on Food Import and Export Inspection and Certification Systems (CCFICS), Cairns (Australia), 17–21 October 2011.

In particular, the APFSWG may wish to note the following:

The 34th CAC, among others, adopted 31 new or revised Codex standards or related texts and many new or revised provisions for additives and maximum residue limits (MRLs) for pesticides (*see Appendix I*), and approved a number of new work proposals (*see Appendix II*). Among the new and revised standards adopted by the CAC, the following are particularly relevant to the APFSWG: MRLs for narasin (pig tissues) and tilimicosin (chicken and turkey tissues); *Guidelines for Risk Analysis of Foodborne Antimicrobial Resistance* (CAC/GL 77-2011); *Guidelines for the Control of Campylobacter and Salmonella spp. in Chicken Meat* (CAC/GL 78-2011); and the amendment to the Preamble of Section 6, Aquaculture Products of the *Code of Practice for Fish and Fishery Products* (CAC/RCP 52-2003).

The 34th CAC also adopted a number of MRLs for pesticides in products of animal origin and in animal feed. All these texts are available on the Codex website: www.codexalimentarius.org, including a database for MRLs for pesticides: <http://www.codexalimentarius.org/standards/pesticide-mrls/en/>.

Among the new work approved by the 34th CAC, the following are particularly relevant to the APFSWG: Performance criteria for multi-residue analytical methods for veterinary drug residue analyses (Appendix to CAC/GL 71-2009 “*Guidelines for the Design and Implementation of National Regulatory Food Safety Assurance Programmes associated with the Use of Veterinary Drugs in Food Producing Animals*”) to be developed by the Codex Committee on Residues of Veterinary Drugs in Foods (CCRVDF); Guidelines for Control of Specific Zoonotic Parasites in Meat: *Trichinella spiralis* and *Cysticercus bovis*, to be developed by the CCFH; and Criteria/Parameters for screening methods for biotoxins in the Standard for Live and Raw Bivalve Molluscs, to be developed by the CCFFP.

The 34th CAC agreed to consider further the MRLs for ractopamine at its next session; in addition it agreed to consider the MRLs for bovine somatotropins (bSTs), which have been held at the Commission since 1995. The CAC also considered the implementation of the Strategic Plan 2008–2013 of the Codex Alimentarius Commission and was informed of the preparation of the Strategic Plan 2014–2018 in the Executive Committee.

The 34th CAC elected as **Chairperson** Mr Sanjay Dave (India), as **Vice-Chairpersons** Mr Samuel Godefroy (Canada), Mrs Awilo Ochieng Pernet (Switzerland) and Professor Samuel Sefa Dedeh (Ghana); as **Members of the Executive Committee elected on a geographical basis**: Australia, China, France, Jamaica, Kenya, Tunisia, and United States of America; and appointed as regional **Coordinators**: Cameroon (Africa), Japan (Asia), Poland (Europe), Costa Rica (Latin America and the Caribbean), Lebanon (Near East) and Papua New Guinea (North America and South-West Pacific).

The report of the meeting is available at: <http://www.codexalimentarius.org> or at ftp://ftp.fao.org/codex/Reports_2011/REP11_CACe.pdf.

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The 5th CCCF generally agreed with the recommendations of a discussion paper on pyrrolizidine alkaloids (PA), which encouraged Codex members and observers to develop more analytical reference standards for PA to enable the development and validation of analytical methods; to generate more occurrence data on PA contamination in food and feed; to request JECFA to identify which PA in food and feed (as carry over from feed to animal products) were of key interest to human health and to perform a full risk assessment based on the available data for the identified PA; and to start work on a code of practice for the prevention/reduction of contamination of food with PA including a compilation of existing effective management/mitigation practices to prevent/reduce PAs contamination of food. A revised discussion paper, which will include a compilation of existing management practices and evaluate the possibility to develop a code of practice will be considered by the next session of CCCF. The CCCF also encouraged Codex members and observer to develop more analytical reference standards for PA and to gather more information on the occurrence of PA in food and feed.

The report of the 5th CCCF is available at: <http://www.codexalimentarius.org> or at ftp://ftp.fao.org/codex/Reports_2011/REP11_CFe.pdf.

The 31st CCFFP was informed by OIE that the reference to the OIE *Aquatic Code* in section 6 of the *Code of Practice for Fish and Fishery Products* (CAC/RCP 52-2003) needed to be updated and agreed to replace the first three sentences with that as proposed by OIE as relevant. The CCFFP did not agree with the rest of the proposal, related to “Aquatic Animal Health Services in fish farming” as these were outside the scope of the Code. The revised text was sent to the 34th CAC for adoption.

The report of the meeting is available at: <http://www.codexalimentarius.org> or at ftp://ftp.fao.org/codex/Reports_2011/REP11_FFPe.pdf

The 19th CCFICS progressed its work on the development of the Principles and guidelines for national food control system; the Committee forwarded the Introduction and Sections 1 to 3 to the 35th Session of the Codex Alimentarius Commission for adoption as a draft and agreed to redraft Section 4 “Framework for the Design and Implementation of National Food Control System”. It is expected that the document could be finalised by its 20th Session, tentatively scheduled on 18-22 February 2013. The CCFICS agreed that new work on attestation was not needed at present and to prepare discussion papers on: (i) burden of multiple questionnaires directed at exporting countries; (ii) monitoring regulatory performance of national food control system; and (iii) further Codex guidance on food safety emergencies, for consideration at its 20th Session.

The report of the meeting is available at: <http://www.codexalimentarius.org> or at ftp://ftp.fao.org/codex/Reports_2012/REP12_FICSe.pdf

FORTHCOMING CODEX MEETINGS (relevant to the OIE APFSWG)

The 43rd Session of the Codex Committee on Food Hygiene (CCFH) (Miami [United States of America], 5–9 December 2011) will consider, among other, the development of documents on: Guidelines on the Application of General Principles of Food Hygiene to the Control of Viruses; the revision of the Principles for the Establishment and Application of Microbiological Criteria; Guidelines for Control of Specific Zoonotic Parasites in Meat. The elaboration of the document on parasites requires collaboration and close coordination with OIE ongoing work on Chapter 8.13. “Infection with *Trichinella* spp.” of the OIE *Terrestrial Animal Health Code*. The provisional agenda of the 43rd CCFH is available at: http://www.codexalimentarius.net/download/report/770/fh43_01e.pdf

The 6th Session of the *ad hoc* Codex Task Force on Animal Feeding (TFAF) (Berne [Switzerland], 20–24 February 2012) will consider two documents, prepared by Switzerland in consultation with interested Members and organizations, on: (i) Guidelines on Application of Risk Assessment for Feed, which will consider how to apply the existing Codex risk assessment methodologies to the various types of hazards related to contaminants/residues in feed ingredients; and (ii) a Prioritised List of Hazards in Feed, which will also consider criteria for prioritisation. The provisional agenda of the 6th TFAF is available at: http://www.codexalimentarius.net/download/report/773/af06_01e.pdf

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The **6th Session of the Codex Committee on Contaminants in Foods (CCCF)** (Maastricht [The Netherlands], 26–30 March 2012), among others, will consider proposals for the revision of the *Risk Analysis Principles Applied by the Codex Committee on Food Additives and the Codex Committee on Contaminants in Foods* (in Procedural Manual of the Codex Alimentarius Commission) and *Code of Practice for Source Directed Measures to Reduce Contamination of Food with Chemicals* (CAC/RCP 49-2001) as to their applicability to feed; the Committee will continue consideration of the discussion paper on pyrrolizidine alkaloids's contamination. The provisional agenda of the 6th CCCF will be posted on the Codex website: www.codexalimentarius.org/meetings-report.

The **27th Session of the Codex Committee on General Principles (CCGP)** (Paris [France], 2–6 April 2012), among others, will continue the discussion on the development of joint Codex/OIE standards in the light of the comments submitted to the discussion paper CX/GP 10/26/8 prepared for the 26th CCGP, by the Codex Secretariat, with input from the OIE Secretariat. The provisional agenda of the 27th CCGP will be posted on the Codex website: www.codexalimentarius.org/meetings-report.

The **20th Session of the Codex Committee on Residues of Veterinary Drugs in Foods (CCRVDF)** (San Juan [Puerto Rico], 7–11 May 2012) will proceed with its work on Maximum Residues Limits (MRLs) for veterinary drugs on the basis of the recommendations of the 75th Joint FAO/WHO Expert Consultation on Food Additives (JECFA) (Rome [Italy], 7–17 November 2011). The CCRVDF will continue the elaboration of sampling plans for residues control for aquatic animal products and start new work on guidelines on performance characteristic for multi-residues methods. The 20th CCRVDF will consider proposals for the revision and updating of its *Risk Analysis Principles and the Risk Assessment Policy for the setting of MRLs of veterinary drugs in foods* with a special focus on: Section 3.2 “Evaluation of risk management options”; the development of risk management and risk communication recommendations for veterinary drugs with no ADI and/or MRLs; and amendments to address animal feed. It will further consider proposals for risk management recommendation for veterinary drugs for which ADI and /or MRLs could not be set/recommended by JECFA due to health concern.

The 20th CCRVDF will also consider discussion papers on the policy for the establishment of MRLs or other limits in honey and on extrapolation of MRLs to additional species and tissue and amendments and/or addition to the priority list of veterinary drugs requiring JECFA evaluation or re-evaluation. As in previous sessions, the CCRVDF will be presented with a report on OIE Activities, including the Harmonization of Technical Requirements for Registration of Veterinary Medicinal Products, relevant to its work.

The provisional agenda of the 20th CCRVDF is available at: http://www.codexalimentarius.net/download/report/778/rv20_01e.pdf.

The **35th Session of the Codex Alimentarius Commission** will be held in Rome (Italy) from 2 to 7 July 2012. The provisional agenda of the 35th CAC will be posted on the Codex website: www.codexalimentarius.org/meetings-report.

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Appendix I

**LISTS OF STANDARDS AND RELATED TEXTS ADOPTED
BY THE 34th SESSION OF THE CODEX ALIMENTARIUS COMMISSION**

Part 1 – Standards and Related Texts Adopted at Step 8

Standards and Related Texts	Reference
MRLs for narasin (pig tissues) and tilmicosin (chicken and turkey tissues)	REP11/RVDF, Appendix III
Guidelines for Risk Analysis of Foodborne Antimicrobial Resistance	REP11/AMR, Appendix II
Annex to the Guidelines on Nutrition Labelling: General Principles for Establishing Nutrient Reference Values of Vitamins and Minerals for General Population	REP11/NFSDU, Appendix II
Regional Standard for Edible Sago Flour	REP11/ASIA, Appendix II
Amendment to the Standard for Named Vegetable Oils: Inclusion of Palm Kernel Olein and Palm Kernel Stearin	REP11/FO, Appendix II
Code of Practice for the Storage and Transport of Edible Fats and Oils in Bulk: Criteria to Assess the Acceptability of Substances for Inclusion in a List of Acceptable Previous Cargoes	REP11/FO, Appendix III
Code of Practice for the Storage and Transport of Edible Fats and Oils in Bulk: List of Acceptable Previous Cargoes	REP11/FO, Appendix IV
Revised Guidelines on Measurement Uncertainty	REP11/MAS, Appendix II
Food Additive Provisions of the <i>General Standard for Food Additives</i> (GSFA)	REP11/FA, Appendix III
Maximum Residue Limits for Pesticides	REP11/PR, Appendix II
Standard for Fish Sauce	REP11/FFP, Appendix III
Standard for Tree Tomatoes	REP11/FFV, Appendix III
Revision of the Guidelines on Nutrition Labelling: List of Nutrients that are always declared on a Voluntary or Mandatory Basis	REP11/FL, Appendix II

Part 2 – Standards and Related Texts Adopted at Step 5/8 (with omission of Step 6 and 7)

Standards and Related Texts	Reference
Standard for Desiccated Coconut (revision of CODEX STAN 177-1991)	REP11/PFV, Appendix III
Annex on Certain Mushrooms (revision of CODEX STAN 55-1981)(<i>For inclusion in the Codex Standard for Certain Canned Vegetables</i>)	REP11/PFV, Appendix IV

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Standard for Canned Bamboo Shoots (revision of CODEX STAN 241-2003)	REP11/PFV, Appendix V
Regional Standard for Culantro Coyote	REP11/LAC, Appendix II
Regional Standard for Lucuma	REP11/LAC, Appendix III
Regional Standard for Chilli Sauce	REP11/ASIA, Appendix III
Guideline for the Control of <i>Campylobacter</i> and <i>Salmonella</i> spp in Chicken Meat	REP11/FH, Appendix III
Revision of the Recommended International Code of Hygienic Practice for Collecting, Processing and Marketing of Natural Mineral Waters (CAC/RCP 33-1985)	REP11/FH, Appendix V
Code of Practice for the Storage and Transport of Edible Fats and Oils in Bulk: List of Acceptable Previous Cargoes	REP11/FO, Appendix V
Food Additive Provisions of the <i>General Standard for Food Additives</i> (GSFA)	REP11/FA, Appendix III
Revision of the Food Category System of the GSFA (food categories 05.1, 05.2 and 05.4)	REP11/FA, Appendix VIII
Amendments to the <i>International Numbering System for Food Additives</i>	REP11/FA, Appendix XII
Specifications for the Identity and Purity of Food Additives	REP11/FA, Appendix XIII
Code of Practice for the Prevention and Reduction of Ethyl Carbamate Contamination in Stone Fruit Distillates	REP11/CF, Appendix II
Maximum Residue Limits for Pesticides	REP11/PR, Appendix III
Revision of the Guidelines on the Estimation of Uncertainty of Results for the Determination of Pesticide Residues (Annex to CAC/GL 59-2006)	REP11/PR, Appendix X
Code of Practice for Fish and Fishery Products (section on smoked fish and relevant definitions)	REP11/FFP, Appendix V
Amendment to Section 3.4.5.1 Water of the Code of Practice for Fish and Fishery Products	REP11/FFP, Appendix VI
Amendment to the Standard for Quick Frozen Fish Sticks	REP11/FFP, Appendix XI
Standard for Chilli Peppers	REP11/FFV, Appendix IV
Compilation of Codex Texts Relevant to Labelling of Foods Derived from Modern Biotechnology	REP11/FL, Appendix III
Regional Standard for Harissa	REP11/NEA, Appendix III
Regional Standard for Halwa tehenia	REP11/NEA, Appendix IV

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Part 3 – Other Standards and Related Texts Submitted for Adoption

Standards and Related Texts	Reference
Amendments to Food Additive Provisions for Antioxidants and Preservatives of Food Category 04.1.2.2 “dried fruits” of the GSFA	REP11/FA, para. 26
Revision of Section 4 “Carry-over of Food Additives” into food of the Preamble to the GSFA	REP11/FA, Appendix IX
Amendment to “Explanatory notes on the lay-out of the INS” Section 1 of the <i>Class Names and International Numbering System for Food Additives</i> (CAC/GL 36-1989)	REP11/FA, para. 148
Methods of Analysis in Codex Standards at different steps	REP11/MAS, Appendix III
Amendment to the Preamble of Section 6, Aquaculture Products of the Code of Practice for Fish and Fishery Products	REP11/FFP, Appendix II

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**LIST OF DRAFT STANDARDS AND RELATED TEXTS APPROVED AS NEW WORK BY THE 34TH
SESSION OF THE CODEX ALIMENTARIUS COMMISSION**

Responsible Body	Standard and Related Texts	Reference	Job Code
CCRVDF	Performance criteria for multi-residue analytical methods for veterinary drug residue analyses (Appendix to the <i>Guidelines for the design and implementation of national regulatory food safety assurance programmes associated with the use of veterinary drugs in food producing animals</i> (CAC/GL 71-2009))	REP11/RVDF Appendix V	N01-2011
CCRVDF	Priority list of veterinary drugs for evaluation or re-evaluation by JECFA	REP11/RVDF Appendix VI	ongoing
CCEURO	Regional Standard for Fresh Fungus “Chanterelle”	REP11/EURO Appendix II	N02-2011
CCEURO	Regional Standard for Ayran	REP11/EURO Appendix III	N03-2011
CCNFSDU	Inclusion of a New Part B for Underweight Children in the <i>Standard for Processed Cereal-Based Foods for Infants and Young Children</i> (CODEX STAN 74-1981)	REP11/NFSDU Appendix V	N04-2011
CCASIA	Regional Standard for Tempe	REP11/ASIA Appendix IV	N05-2011
CCFFV CCASIA	(Regional) Standard for Durian	REP11/ASIA Appendix V	N06-2011
CCFH	Guidelines for Control of Specific Zoonotic Parasites in Meat: <i>Trichinella spiralis</i> and <i>Cysticercus bovis</i>	REP11/FH Appendix VI	N07-2011
CCFH	Annex on Melons to the <i>Code of Hygienic Practice for Fresh Fruits and Vegetables</i> (CAC/RCP 53-2003)	REP11/FH Appendix VII	N08-2011
CCFO	Standard for Fish Oils	REP11/FO Appendix VI	N09-2011
CCFO	Amendment to parameters for rice bran oil in the <i>Standard for Named Vegetable Oils</i>	REP11/FO Appendix VII	N10-2011
CCMAS	Principles for the Use of Sampling and Testing in International Food Trade	REP11/MAS Appendix IV	N11-2011
CCCF	Maximum Levels for Arsenic in Rice	REP11/CF Appendix IV	N12-2011

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CCS	Standard for “Panela”	REP11/LAC para. 135	N13-2011
CCASIA	Regional Standard for Laver Products	REP11/ASIA para. 144 REP 11/FFP para. 176	N14-2011
CCFFP	Criteria/Parameters for screening methods for biotoxins in the Standard for Live and Raw Bivalve Molluscs	REP11/FFP paras 119-121	N15-2011
CCFFP	Code of Practice for Fish and Fishery Products (section on sturgeon cavier)	REP11/FFP para. 178	N16-2011
CCFFV	Standard for Golden Passion Fruit (problem in Spanish text)	REP11/FFV para. 143	N17-2011
CCFL	Inclusion of new substances into the Guidelines for the Production, Processing, Labelling and Marketing of Organically Produced Foods	REP11/FL Appendix VI	N18-2011
CCPFV	Standard for Certain Quick Frozen Vegetables	REP11/PFV paras 116-117	N19-2011
CCPFV	Standard for Certain Canned Fruits	REP11/PFV paras 116-117	N20-2011
CCPR	Priority List for the Establishment of MRLs for Pesticides	REP11/PR Appendix XI	Ongoing
CCNEA	Regional Standard for Doogh	REP11/NEA paras 80-82	N21-2011
CCMAS	Definitions and Criteria for Proprietary Methods in Codex Standards for Inclusion in the Procedural Manual	REP11/MAS para. 78	Procedure

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ACTIVITIES OF THE FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

1. Initiative on Assessment of food borne pathogen (*Salmonella*, *Campylobacter* and *Escherichia coli*) contamination along meat value chains

FAO has implemented a series of activities aimed at assessing food borne pathogen (*Salmonella*, *Campylobacter* and *Escherichia coli*) contamination along the beef, poultry and pork value chains. These activities have been implemented in Uganda and Kenya and aim at establishing the prevalence of food borne pathogens, the risk factors for food borne pathogen contamination and the critical stages at which prevention and control measures can be most effective. The initiatives also contribute towards the development of capacities for food borne disease detection and surveillance. It is also intended that other countries in Africa will be supported to develop similar capacities.

In support of this objective FAO organized a regional meeting on: “*Improving food safety in the meat (poultry, beef and pork) value chains in Kenya*”, in August 2011 in Nairobi (Kenya). The meeting was organized in collaboration with the WHO and the local implementing partner, the Kenya Medical Research Institute (KEMRI), and brought together representatives of government institutions, the private sector, research and academic institutions from Kenya, Uganda, Tanzania, Burundi and Burkina Faso, and the East African Community (EAC). The main objectives of the regional meeting were to undertake a scientific and technical review of the preliminary results of the study of food borne pathogen contamination, to define priority national and regional actions to address emerging issues, establish policy options at national/regional levels to promote a regional harmonized approach toward the assessment and management of safety risks along the meat value chain; and to define appropriate interventions to prevent/control food safety risks at all stages from primary production to consumption. The regional meeting achieved its objectives and it is planned to carry out similar activities in other countries. Other key outputs that will be developed and disseminated in the region include policy guidance and guidance on good animal husbandry and hygiene practices to prevent and minimize *Salmonella*, *Campylobacter* and *Escherichia coli* contamination risks in the meat value chain.

2. FAO Collaboration with WHO-AGISAR on Antimicrobial Resistance (AMR)

FAO is implementing a series of interlinked activities in the East Africa region, aimed at strengthening national/regional policies, capacities and systems for regulation and management of AMR risks. One of these is a pilot project with WHO-AGISAR (Advisory Group on Integrated Surveillance of Antimicrobial Resistance), which is being implemented in Kenya. Central to the project is an approach that undertakes a whole food chain study to assess AMR risks to identify the critical stages, from animal production to consumption, at which prevention and control measures can be most effectively applied. The initiative will generate data on AMR occurrence and information on animal production and meat processing/handling practices at different stages of the meat value chain. In many developing countries where the capacity to generate AMR surveillance is often lacking or inadequate, initiatives such as this will help to generate data to support the development of appropriate national policies to address the problems of AMR. In addition to policy guidance, other key outputs will be the development and dissemination of appropriate guidelines on prudent use of antimicrobial agents, good animal husbandry practices and good hygiene practices in animal slaughter establishments.

Following on from the pilot project in Kenya, FAO is also partnering with WHO-AGISAR in a pilot study to generate AMR data in Cambodia. An inception workshop for the project will be held in Cambodia in January 2012, and the project will be implemented over the following 12 months.

Annex XXXVI (contd)Annex IV (contd)**3. FAO support for strengthening of official veterinary controls in abattoirs**

FAO's Veterinary Public Health (VPH) Unit has undertaken a number of initiatives to strengthen official veterinary controls in abattoirs and animal slaughter premises. The activities include the following:

An *Experts' Consultation Meeting on the Review of FAO Meat Inspection and Hygiene guidance* was organized in collaboration with the University of Nairobi in August 2011 in Nairobi (Kenya). The objectives of the meeting were to: evaluate existing guidance and advise on priorities for the review and updating of FAO guidance/ manuals on meat inspection and hygiene; Review and advise on development of appropriate guidance on key concepts and best practice in relation to risk-based veterinary and hygiene controls in animal slaughter establishments; and to identify the challenges faced by meat value chain actors in achieving compliance with relevant public health, food safety and regulatory requirements. The meeting brought together experts from five African countries, Kenya, Uganda, Zambia, Cameroon, and Somalia and a cross-section of meat value chain actors including, researchers, veterinary officers, training institutions, the private sector and slaughterhouse managers/owners. Participants from Mozambique and Senegal were not able to participate due to delays in securing entry visas. The meeting made a number of recommendations including: the need to improve the content and utility of existing guidance to address contemporary meat hygiene and food safety concerns, development of appropriate guidance on risk analysis and risk based approaches to inspection and hygiene, development of guidance and tools for animal and zoonotic disease surveillance and reporting in animal slaughter establishments; and development of laboratory capacities for detection and diagnosis of priority food borne pathogens and zoonotic diseases. FAO VPH unit has developed appropriate activities to address issues in the next biennium.

In a related initiative FAO is collaborating with the *Universita degli Studi di Torino, Facolta di Medicina Veterinaria* to develop an interactive DVD to support meat inspection training and a second DVD on good hygiene practices that is aimed at abattoir operators in developing countries.

4. Veterinary Public Health and Food Safety collaboration with the Southern Africa Development Cooperation (SADC)

In recent years FAO-ECTAD, Southern Africa has been active in supporting SADC's livestock programme. This includes support to facilitate the development of a work programme for the Veterinary Public Health and Food safety (VPH&FS) Sub-Committee. The VPH sub-Committee is one of 4 sub-committees that were established by SADC under the Livestock Technical Committee (LTC), and its members are the heads of VPH services in the 15 SADC member states. In October 2010 FAO funded a VPH&FS meeting in Maseru (Lesotho). The objectives of the meeting were to share information on the organizational and institutional arrangements for VPH, to identify VPH priorities for the region, to review the Terms of Reference (ToR) of the SC, and to develop a work plan for SC based on regional priorities. The meeting was successful in achieving its objectives.

In support of the implementation of the work plan developed at the Maseru meeting FAO supported a consultancy study to assess the organizational and institutional set-up, and arrangements and the policy and legal framework for official veterinary controls for meat in the SADC region. The consultancy report was submitted to SADC at a FAO supported follow-up meeting in November in Gaborone (Botswana) to which the OIE Regional Office in Southern Africa was invited. The meeting discussed the report findings and a work plan was agreed and Working Groups were set up to address priority issues identified in the report recommendations. These include, the development of abattoir level surveillance protocols for priority zoonotic and food borne diseases, development and implementation of a veterinary public health and food safety continuing professional development programme and the implementation of the abattoir module of the Livestock Information Management System (LIMS) to facilitate collection and reporting of ante mortem and post-mortem inspection findings. FAO will continue to collaborate with SADC and other partners to address other issues relating to institutional capacity development, review of legislation and harmonization of policies.

Annex XXXVI (contd)

Annex V

ACTIVITIES OF THE WORLD HEALTH ORGANIZATION

Global Foodborne Infections Network (GFN)

The Global Foodborne Infections Network (GFN, www.who.int/gfn) began as WHO Global Salm-Surv (WHO GSS) in 2000 as a capacity-building programme to build integrated laboratory-based surveillance for *Salmonella* and other foodborne pathogens around the world. GFN has different components including training, onsite problem solving in lab and foodborne disease investigation, and project-based work that seeks to initiate foodborne disease surveillance or baseline data/research studies. GFN also runs an External Quality Assurance System (EQAS) with close to 200 participating laboratories. The GFN Country Databank is a global passive surveillance system that collects annual *Salmonella* summary data from national or regional *Salmonella* reference laboratories which then is ranked to identify the top 15 *Salmonella* serotypes identified.

There is more room for increasing collaborative work with FAO and OIE in GFN, e.g. in improving choice of participants from the different sectors, targeting and aligning curricula, co-hosting trainings, jointly supporting spin-off projects involving food, animal, and human integrated surveillance systems or baseline research. There is already strong collaboration with regard to AMR training and projects and this could be further expanded. Below are some opportunities to explore for the upcoming months.

Planned GFN trainings for 2011–2012 are as follows:

Region	RC/TS/other	Date
AFRO	Cameroon	2012 (date not identified)
	Madagascar	Mar-12
AMRO/PAHO	Argentina	May-12
	CAREC	Mar-12
EMRO	Tunisia	2012 (date not identified)
	Dubai, UAE	Apr-12
	Jordan (with Pulsenet)	May-12
EURO	St Petersburg	Nov-11
SEARO	New Delhi	Jan-12
	Bangladesh	2012 (first half of year)
WPRO	Thailand	2012 (date not identified)

Bernadette Abela-Ridder, Department of Food Safety and Zoonoses, has recently taken over the coordination of GFN (abelab@who.int), Tel.: +41 22 791 2072.

* * *

Antimicrobial Resistance: Critically Important Antimicrobials for Human Health and WHO Advisory Group on Integrated Surveillance of Antimicrobial Resistance (AGISAR)

WHO initiated its work in the area of Critically Important Antimicrobials for Human Health through the organization of an expert consultation in Canberra (Australia) in 2005 with the overall scope to develop a list of critically important antimicrobial agents for human medicine (WHO, 2005). The resulting list has subsequently been re-examined and updated during WHO expert meetings, two of which have been held in Copenhagen (Denmark) in 2007 (1st revision) and in 2009 (2nd revision), and the last one in 2011 (3rd revision) in Oslo Norway).

Annex XXXVI (contd)Annex V (contd)

The WHO list is available at: www.who.int/foodborne_disease/resistance/cia/en

The WHO Advisory Group on Integrated Surveillance of Antimicrobial Resistance (WHO-AGISAR, http://www.who.int/foodborne_disease/resistance/agisar/en/index.html) was established in December 2008 to support WHO's effort to minimize the public health impact of antimicrobial resistance associated with the use of antimicrobials in food animals. In particular, the Advisory Group will assist WHO on matters related to the integrated surveillance of antimicrobial resistance and the containment of food-related antimicrobial resistance. One of the main objectives of WHO-AGISAR is to promote harmonization of methods as well as data and experience sharing in the area of foodborne antimicrobial resistance at global level.

The four WHO-AGISAR subcommittees (antimicrobial usage monitoring, antimicrobial resistance monitoring, capacity building and data management) are in the process of developing practical tools/guidelines/protocols on usage monitoring, antimicrobial resistance monitoring and integrated data management to support WHO Member States in their efforts to implement a national programme for integrated surveillance of antimicrobial resistance. AGISAR meetings are attended by OIE representatives.

WHO-AGISAR contribute to enhancing the capacity of Member States, particularly developing countries, through training courses (using the GFN training platform), focused research projects (currently in Costa Rica, Uruguay, Argentina and Cameroon) and sentinel studies (currently, pilot projects on integrated surveillance of antimicrobial resistance are conducted in Senegal, Columbia, Cambodia and Kenya).

The 2011 World Health Day was devoted to Antimicrobial Resistance. The high panel organized at WHO Headquarters in Geneva was attended by the Director General of the OIE who called for responsible use of antimicrobials in the animal sector.

* * *

Joint FAO/WHO Expert Meetings on Microbiological Risk Assessment (JEMRA)

The 42nd Session of the Codex Committee on Food Hygiene (CCFH) held in December 2010 requested FAO and WHO to review the current status of knowledge of parasites in food to better assess the global problem associated with these, the commodities involved and the related public health and socio-economic/trade issues to identify parasite/commodity groups of greatest concern. A Call for Data and Experts has been issued (April 2011) i) to request data and information on foodborne parasitic diseases, monitoring and inspection systems, risk ranking, control and management measures adopted in Member States, and ii) to seek applications from potential qualified experts to be invited to participate in future work of FAO and WHO in the area of foodborne parasitic diseases. The call is available at: www.who.int/foodsafety/micro/jemra/data/en/index.html. The prioritization of parasite-commodity combinations will be based on this data and other information available in public domain, which will also facilitate identification of data gaps and limitations. FAO and WHO continue to encourage the countries to respond to the call, as this will improve the database for the initial screening exercise. To ensure the most comprehensive response possible, this work will also link with that underway in the WHO Global Burden of Foodborne Diseases Initiative to estimate the burden of disease associated with foodborne parasites.

More details on the recent JEMRA activities can be found at: ftp://ftp.fao.org/codex/ccfh43/th43_03e.pdf.

* * *

The Foodborne Disease Burden Epidemiology Reference Group (FERG)

From 8–12 November 2010, the WHO hosted the fourth formal meeting of the Foodborne Disease Burden Epidemiology Reference Group (FERG) in connection with the fourth international Foodborne Diseases Stakeholder Event in Geneva

(http://www.who.int/foodsafety/foodborne_disease/ferg4_stakeholder/en/index.html).

Annex XXXVI (contd)

Annex V (contd)

For the second time, the FERG reviewed preliminary burden of disease results in the areas of enteric, parasitic and chemical causes of foodborne diseases. Works commenced by FERG in the areas of aflatoxicosis and foodborne trematodiasis were presented to the WHO Member States and other key stakeholders and will soon be published in the peer-reviewed literature (just as FERG's work related to the burden of neurocysticercosis, diarrhea in persons older than 5 years and alveolar echinococcosis was published in the peer-reviewed literature; articles available on our website).

After a rigorous selection process, Albania, Japan, Uganda and Thailand were chosen in November 2010 for the first round of foodborne disease burden pilot studies. Studies were officially launched at a kick-off meeting on 8 and 9 November 2011 in Durres (Albania).

The FERG Country Studies Task Force has developed a foodborne disease burden country studies protocol which will enable the countries to conduct foodborne disease burden studies themselves and increase ownership of the data.

For more information please contact foodsafety@who.int.

* * *

Promoting health by decreasing microbial contamination

WHO is extending the Five Keys to Safer Food concept to cover additional groups across the farm to table continuum to promote safe food handling practices. The manual *Five keys to growing safer fruits and vegetables: promoting health by decreasing microbial contamination* is designed to support food safety education of rural workers who grow fresh fruits and vegetables for themselves, their families and for sale in local markets. The manual describes key practices and raises awareness of the links between the health of humans, animals and ecosystems and how failures in good hygienic practices in one sector can affect the others.

More information on the project and the trial edition of the manual for field testing are available at http://www.who.int/foodsafety/consumer/5keys_growing_safer/en/index.html

* * *

The International Food Safety Authorities Network (INFOSAN)

INFOSAN is a joint FAO/WHO initiative which includes the participation of 177 Member States. The aim of the network is to promote the rapid exchange of information during food safety related events, share information on important food safety related issues of global interest, promote partnership and collaboration between countries, and help countries strengthen their capacity to manage food safety emergencies. To accomplish this, INFOSAN works with a number of partners at the international and regional level. INFOSAN receives information from its members and monitors for food safety related events of potential international concern to alert to its network members. In addition, INFOSAN publishes INFOSAN Information Notes periodically on topics of interest and concern to its members.

The first global meeting of INFOSAN was held in Abu Dhabi (United Arab Emirates) on 14–16 December 2010 thanks to the generous support of the Abu Dhabi Food Control Authority. Over 150 participants from 65 different countries were in attendance. The meeting identified opportunities to strengthen core capacity at country and regional levels to promote participation in INFOSAN, presented practical recommendations to enhance communication and collaboration among members and contributed to build an improved sense of community among them. The report of the meeting is available at http://whqlibdoc.who.int/publications/2011/9789241502108_eng.pdf

INFOSAN has been active in 2011 in managing two major events. Firstly, the food safety aspects of the triple emergency caused by the Great East Japan Earthquake and later on the *Escherichia coli* outbreak in Europe. INFOSAN has also developed a new community website for its membership. It is expected to enter in service by the end of the year and it will provide user-friendly communication tools and spaces for the exchange of emergency information as well as technical information. Several tools to provide guidance in dealing with food safety emergencies have been or are being developed. These will help Member States in the strengthening of their national systems.

For more information, please contact: http://www.who.int/foodsafety/fs_management/infosan/en/index.html

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Annex XXXVI (contd)Annex V (contd)**The WHO Western Pacific Region (WPRO) Regional Food Safety Strategy**

In October 2011, Member States of the WHO Western Pacific Region (WPRO) have adopted a far-reaching Regional Food Safety Strategy (2011–2015) which defines key actions required to improve food control systems covering the entire food chain from farm to table, and aims to strengthen collaboration among countries and regional partners towards increased health security through improved food safety systems.

The Strategy provides countries with a structure to:

- improve food control and coordination throughout the food chain;
- devise a risk-based regulatory framework;
- improve availability of food safety data to better guide policy and risk analysis;
- develop inspection services;
- introduce food safety training and education; and
- establish the capacity to detect, assess and manage food safety incidents and emergencies.

WHO stressed the need to move towards a longer-term, integrated and sustainable approach with regards to food safety rather than planning from year to year, which is the practice in some Member States.

* * *

Interagency meeting on planning the prevention and control of neglected zoonotic diseases

A FAO-OIE-WHO meeting was held in Geneva on 5–6 July 2011 to review and prioritize neglected zoonotic diseases (NZDs) and activities for their prevention and control in the short (2012), medium (2015) and long term (2020); to define the outcomes and their deadlines; and to define targets and indicators to monitor implementation.

Since some NZDs are foodborne, joint activities addressing them may be of interest to the OIE Animal Production Food Safety Working Group.

In the meeting, FAO and the OIE confirmed their strong interest in writing a common proposal with WHO for investment in a ‘priority NZDs portfolio’, defined as comprising: three NZDs of global importance (human and dog rabies, echinococcosis/hydatidosis and *T. solium* taeniasis/cysticercosis) plus two NZDs of regional importance (fascioliasis and other foodborne trematodiasis, and zoonotic trypanosomiasis) plus activities with regard to major bacterial NZDs (anthrax, brucellosis and leptospirosis).

This evaluation indicates that the minimum investment in the above mentioned ‘priority NZDs portfolio’ would easily reach USD 20 million a year for the next 5 years (2012–2016). A tentative breakdown is attached hereafter.

Tentative breakdown of financial requirements for the ‘minimum neglected zoonotic diseases investment portfolio’

Subject	Area	Million US\$ required per year (2012–2016)
Human and dog rabies	Latin America	4
Human and dog rabies	South-East Asia Region	5
Human and dog rabies	African Region	1
Cystic echinococcosis/hydatidosis	Selected pilot zones	2
<i>T. solium</i> taeniasis/cysticercosis	Selected pilot zones	2
Foodborne trematodiasis	Selected pilot zones	2
Zoonotic trypanosomiasis		1
Bacterial zoonoses	Selected pilot zones	3

A multiagency proposal for the prevention and control of major NZDs will be prepared, to be used to seek funds at a larger tripartite meeting with international and national development agencies and foundations.

Annex XXXVI (contd)Annex VI**WORK PROGRAMME FOR 2012**

The Working Group agreed that its work programme for 2012 would include:

1. Horizontal issues

- a) Antimicrobial resistance
- b) The *ad hoc* Group on Vaccines in Relation to New and Emerging Technologies – animals and animal products derived from biotechnological interventions – review texts for potential food safety implications of biotechnology vaccines when this work is undertaken. Follow any developments in nanotechnology relevant to the work of the Working Group.
- c) Animal production food safety in veterinary education.
- d) Animal production food safety in veterinary legislation.
- e) Food safety issues arising from the on-going work on the emerging zoonoses at the human animal ecosystem interface ('One Health').
- f) Evaluating performance of competent authorities including Veterinary Services.
- g) Transmission of chemical contaminants through feed.

2. Disease-specific issues

- a) *Terrestrial Code* chapter on brucellosis.
- b) *Terrestrial Code* chapter on *Trichinella* infection and linkages to on-going Codex work.
- c) *Terrestrial Code* chapter on porcine cysticercosis.
- d) *Terrestrial Code* chapter on echinococcosis/hydatidosis.
- e) Follow up of literature review on non-poultry *Salmonella* with emphasis on *Salmonella* in intensive pig production.
- f) Follow up of literature review on verotoxigenic *Escherichia coli* (VTEC).

3. Relationship between OIE and Codex

- a) Encourage enhanced OIE input into Codex texts and vice versa.
 - b) Encourage continued close collaboration between the Codex Secretariat and the OIE Headquarters.
 - c) Identification of areas where closer collaboration between OIE and Codex on the development of standards could be desirable.
-

**FUTURE WORK PROGRAMME FOR THE
TERRESTRIAL ANIMAL HEALTH STANDARDS COMMISSION**

Topic		
Action	How to be managed	Status (Feb 2012)
Restructuring of the <i>Terrestrial Code</i> Harmonisation of <i>Terrestrial and Aquatic Codes</i>		
1. Work with AAHSC towards harmonisation, as appropriate, of the Codes 2. CH rename by disease agents	TAHSC & ITD	1. Ongoing 2. Ongoing
Listed disease		
Criteria for listing	TAHSC & SCAD & AHG	Revised CH for adoption
CWD		
Decision on listing (new CH)	TAHSC & SCAD	On hold
PRRS		
New CH	SCAD	Pending new info on diagnostics
Evaluation of VS and OIE PVS pathway		
Inclusion of legislation aspect	TAHSC & ITD	Modified new CH for adoption
CSF		
Official recognition CSF	SCAD/AHG	Pending production of draft + Q
AHS		
Official recognition	SCAD&TAHSC	Revised CH & Q for adoption
FMD		
Revise chapter including wildlife	SCAD&TAHSC	Pending production of draft CH Q (official control programme) for adoption
RP		
Global freedom era	SCAD&TAHSC&AHG	Pending development of the Joint FAO/OIE Advisory Committee on Rinderpest
Other <i>Terrestrial Code</i> texts in need of revision		
Pet food certificate CH	TAHSC	On hold
Update CH on Brucellosis	AHG/SCAD&TAHSC	MC to AHG
Update CH on Rabies	SCAD&TAHSC	Revised CH for adoption
Update CH on Bee diseases	AHG/SCAD&TAHSC	Revised CH 4.14. for adoption Others to be reviewed by AHG
Update CH on PPR	SCAD and TAHSC	MC to AHG
CH on EHD	SCAD and TAHSC	On hold
Update CH on SVD	SCAD&TAHSC	Pending SCAD revision
Update CH on ASF(SURV)	SCAD	Pending SCAD revision
CH on Paratuberculosis	BSC (diagnostic test) & STD (guidance document)	On hold pending further development in diagnostics

Annex XXXVII (contd)

Animal production food safety		
1. Salmonellosis Update biosecurity procedures CH	APFSWG & AHG	1. Modified draft CH proposed for adoption
2. Zoonotic parasitic diseases a. <i>Trichinella</i> spp. b. Echinococcosis c. <i>Taenia solium</i>	AHG & TAHSC	1. MC to AHG 2. revised text for MC 3. On hold
Animal welfare		
New texts: 1. Laboratory animals 2. Livestock production systems a. Broiler b. General principles c. Beef cattle	AWWG & AHGs TAHSC supervision	1. Modified CH proposed for adoption (new article on transport and new model certificate) 2. a. On hold b. Draft article 7.1.4. for adoption c. Draft CH for adoption
Horse diseases		
Brainstorming meeting in March 2012	SCAD&TAHSC	
Collection and processing of equine semen		
Convene an <i>ad hoc</i> Group		
OIE policy on wildlife		
Draft policy	TAHSC with WG on Wildlife & SCAD	MC to be reviewed
Invasive alien species		
Guidance on RA	TAHSC&SCAD	Guidelines to be on the OIE website
Compartmentalisation		
Generic Checklist	TAHSC&SCAD	to be reviewed
Veterinary products (AMR)		
1. Updating CH 6.7 & 6.8. 2. Updating CH6.9 3. Updating CH 6.10	TAHSC&SCAD&AHG	1. Draft texts to adoption 2. MC to AHG 3. Proposed for MC

Note: MC; Member comments, CH: chapter, Q: questionnaire, SURV: surveillance, ITD: International Trade Department, S&T Dept: Scientific & Technical Department

ITEM, ANNEX, CHAPTER NUMBERS AND CURRENT STATUS

Item	Annex	Chapter	Title	Provided for comments	GS80
1			General comments		D
3	3		Glossary		A
4	4	1.1.	Notification of diseases and epidemiological information		A
	5	1.2.	Criteria for listing diseases	Feb 11	A
5	6	1.4.	Animal health surveillance		A
17, 26	24	1.6.	Procedures for self declaration and for official recognition by the OIE		A
6	7	2.1.	Import risk analysis	Sep 11	A
7	8	3.2.	Evaluation of veterinary services	Sep 11	A
	9	3.3.	Communication	Sep 11	A
	10	3.4.	Veterinary legislation	Sep 10	A
	30		Report of <i>ad hoc</i> Group on veterinary legislation		I
35	11	4.4.	Application of compartmentalisation		A
			Generic checklist		
8	12	4.6.	Collection and processing of bovine, small ruminant and porcine semen	Sep 11	A
		4.7.	Collection and processing of <i>in vivo</i> derived embryos from livestock and horses		
9	13	5.3.	OIE procedures relevant to the SPS Agreement of the WTO		A
10	14	6.4.	Biosecurity procedures in poultry production	Sep 11	A
	15	13.2.	Rabbit haemorrhagic disease	Sep 11	A
11	16	6.7.	Harmonisation of national antimicrobial resistance surveillance and monitoring programmes	Feb 11	A
	17	6.8.	Monitoring of the quantities of antimicrobials used in animal husbandry		
		6.9.	Responsible and prudent use of antimicrobial	Sep 11	E
	31	6.10.	Risk assessment for antimicrobial resistance		C
12	18	6.11.	Zoonoses transmissible from non-human primates		A
13	19	7.1.	Introduction to the recommendation for AW (General principle for production system)	Sep 11	A
	20	7.X.	Beef cattle production system	Sep09	A
	21	5.13	Model health certificate for Laboratory animals	Sep 11	A
	22	7.8.	Use of animals in research and education	Sep 11	A
	32		AWWG work programme		I
14	23	8.2.	Aujeszky's disease	Sep 11	A
15		8.3.	Bluetongue	Sep 11	E
16	33	8.4.	Echinococcosis(<i>E. granulosus</i>)	Feb 11	C
		NEW	Echinococcosis (<i>E. multilocularis</i>)		C
		8.13.	<i>Trichinella</i> infection	Feb 11	E
	34		Report of <i>ad hoc</i> Group on Zoonotic Parasites		I

Annex XXXVII (contd)

Item	Annex	Chapter	Title	Provided for comments	GS80	
17		8.5.	Foot and mouth disease		E	
	24	1.6.	Questionnaire on foot and mouth disease (Article 1.6.7.)		A	
18	25	8.10. 5.11.	Rabies Rabies model international veterinary certificate for domestic dogs (<i>Canis familiaris</i>), cats (<i>Felis catus</i>) and ferrets (<i>Mustela putorius furo</i>)	Sep10	A	
19		8.12.	Rinderpest	Sep 11	E	
20		8.15.	Vesicular stomatitis	Sep 11	E	
21	26	4.14.	Hygiene and disease security procedures in apiaries	Sep10	A	
		9.1. 9.2. 9.3. 9.4. 9.5. 9.6.	Acarapisosis of honey bees American foulbrood of honey bees European foulbrood of honey bees Small hive beetle infestation (<i>Aethina tumida</i>) <i>Tropilaelaps</i> infestation of honey bees Varroosis of honey bees	Sep09	E	
	22	27	10.4	Avian influenza		A
	23		10.9.	Newcastle disease		
	24		11.3.	Brucellosis	Sep 11	E
	25		11.12.	Lumpy skin disease	Sep 11	E
26	28	12.1	African horse sickness	Sep10	A	
	24	1.6.	Questionnaire on African horse sickness (Article 1.6.6.bis)			
	29	12.6. 12.9.	Equine influenza Equine viral arteritis	Sep 11	A	
27		14.8.	Peste des petits ruminants	Sep 11	E	
28		15.2.	Classical swine fever	Sep10	E	
29		New	Epizootic haemorrhagic disease		D	
30	35		Minimum competencies of day1 graduates	Sep10	I	
			Report of <i>ad hoc</i> Group on VE		I	
31	36		Report of APFSWG		I	
32	37		Work Programme		C	
33	38		Guidelines for assessing the risk of non-native animal species becoming invasive		I	

A: proposed for adoption at 80th General Session, C: For Member comments, E: under expert consultation (*ad hoc* Groups, Specialist Commissions etc.), D: deferred to Sep 2012 meeting, I: For Member information.

List of abbreviations	
AAHSC	Aquatic Animal Health Standards Commission
AHS	African horse sickness
APFSWG	Animal Production Food Safety Working Group
AWWG	Animal Welfare Working Group
EHD	Epizootic haemorrhagic disease
FMD	Foot and mouth disease
PPR	Peste des petits ruminants
PRRS	Porcine reproductive and respiratory syndrome
SCAD	Scientific Commission for Animal Diseases
TAHSC	Terrestrial Animal Health Standards Commission
VE	Veterinary Education



Organisation
Mondiale
de la Santé
Animale

World
Organisation
for Animal
Health

Organización
Mundial
de Sanidad
Animal

Original: English

November 2011

**Draft REPORT OF THE OIE EXPERT MEETING:
Brainstorming on guidance for Member Countries to assess the risk of non-native ('alien')
animals becoming invasive**

Paris, 30 November–1 December 2011

An OIE expert meeting was convened to conduct brainstorming to provide guidance for Member Countries needing to assess the risk of non-native ('alien') animals becoming invasive. The meeting took place on 30 November and 1 December 2011 and was chaired by Dr William Karesh. The list of participants and the Terms of Reference (ToR) are attached as Annexes I and II.

1. Opening

Dr Kazuaki Miyagishima, Deputy Director General of the OIE and Head of the Scientific and Technical Department, opened the meeting and welcomed the participants. He outlined the purpose of the meeting, highlighting the interest of the OIE in providing Member Countries with guidance on assessing the risk of non-native ('alien') animals becoming invasive when introduced into a new country, area of a country or ecosystem.

Dr Junko Shimura, representative of the secretariat of the Convention on Biological Diversity (CBD), expressed her gratitude for the OIE convening this expert meeting, noting that addressing invasive alien species (IAS) is one of the Aichi Biodiversity Targets (Target 9) of the Strategic Plan for Biodiversity 2011-2020 of the CBD.

After short self-introduction by each participant, the agenda of the meeting was adopted (see Annex III).

OIE's activities relevant to the CBD were presented by Dr Masatsugu Okita (see Annex IV).

Subsequently, relevant CBD activities were presented by Dr Shimura (see Annex V).

2. Discussion

2.1. General discussion and scope of the Group's work

In accordance with the ToR, the Group discussed the feasibility of developing guidance for use by OIE Member Countries, including the recommended scope of this work.

The Group discussed the CBD definitions of 'IAS' and 'alien species'. It noted that the CBD definition of IAS would include OIE listed diseases in instances where the diseases are both non-native and harmful to biodiversity. The Group agreed that the focus of its work should be animal species, not diseases, as the latter topic, which is a core part of ongoing OIE activities, is already the subject of standards in the OIE *Terrestrial Animal Health* and *Aquatic Animal Health Codes* and introduction risks posed by all diseases may be assessed using standards already adopted by the OIE.

Annex XXXVIII (contd)

The term ‘alien species’ is defined by the CBD as ‘a species, subspecies or lower taxon, introduced includes any part, gametes, seeds, eggs or propagules of such species that might survive and subsequently reproduce outside its natural past or present distribution’.

The Group agreed that this definition provided an appropriate basis for the drafting of OIE guidelines and that there was no need to develop specific definitions of the terms ‘alien species’ and ‘non-native animal species’. The Group agreed that the purpose of the risk assessment was to determine whether or not a non-native species was likely to be an IAS in a specific context and the non-native species was considered to be a ‘hazard’ in the risk assessment context.

The Group recognised that the OIE did not (yet) have a formal mandate for setting official standards on assessing the risk of a non-native animal species becoming invasive. However, it noted that there was congruence between this work and the OIE’s general mandate to improve animal health, veterinary public health and animal welfare and to contribute to healthy ecosystems. Based on its experience in import risk assessment, the OIE could make a valuable contribution to the management of risks associated with the movement of animals in international trade related to a non-native animal species becoming invasive. The Group encouraged OIE Member Countries to consider animal health in the broadest sense, taking into account that a non-native animal species can threaten terrestrial and aquatic animal health, not only via the entry of OIE listed pathogens (already addressed through the international standards published in the OIE *Codes* and *Manuals*) but also through mechanisms, such as competition for food, destruction of habitat, and predation. The Group noted precedence for this approach in the case of the Small Hive Beetle and Honey Bees.

The Group also highlighted that addressing non-native animal species becoming invasive related to animal health and the relationship with wildlife and human health and biodiversity is in line with the 5th Strategic Plan of the OIE and the recommendations adopted at the OIE Global Conference on Wildlife held in February 2011 in Paris. The topic of IAS related to the concept of the animal-human-ecosystems interface was therefore relevant to the strategy of the OIE in contributing to veterinary services as a global public good and implementing the ‘One Health’ concept¹.

The Group discussed the potential value for the OIE to define the concept of “animal health”. Considering that the OIE’s mandate is not limited to disease control but encompassed new challenges, including ‘One Health’ and climate change, the Group encouraged the OIE to define the factors that should be considered when referring to ‘animal health’.

The Group noted that there are several tools available to countries wishing to assess IAS-related risks, including several risk assessment methodologies, information sources, lists of potential IAS and national guidelines on risk assessment for IAS. The Group considered that the development of an additional or new list of IAS would be impractical; whether or not a species is invasive is a context specific issue that is best determined through science-based analysis. However, the Group noted the need for international guidelines as a basis for harmonisation of risk analysis approaches, where warranted.

The Group acknowledged that OIE standards as published in the *Codes* and *Manuals* have a specific status under the World Trade Organization (WTO) Agreement on the application of Sanitary and Phytosanitary measures (the WTO SPS Agreement), which recognises the OIE as the reference standard setting organisation for animal health and zoonoses, alongside the Codex Alimentarius Commission (CAC) for food safety and the International Plant Protection Convention (IPPC) for plant health. While the IPPC standards cover IAS for the plant world, the OIE has not yet addressed IAS in its standards.

The Group noted that the general approach to risk analysis was the same but that details on the factors to be considered within an IAS differed from what one might be considered for a disease RA, necessitating additional guidelines.

¹ <http://www.oie.int/for-the-media/editorials/detail/article/one-world-one-health/>

Annex XXXVIII (contd)

In discussing the most appropriate means of providing guidance to Member Countries, the Group noted that the OIE *Codes* (both *Terrestrial* and *Aquatic*) contain standards on Import Risk Analysis and discussed the need to avoid possible duplication or confusion.

The Group concluded that complementary approaches should be adopted, i.e. the OIE *Codes* cover OIE listed diseases and provide standards for import risk analysis, which is relevant to both listed and non-listed diseases. The proposed new guidelines would deal with assessing the risk of a non-native animal species becoming invasive.

The Group stressed the importance, in the OIE context, of analysing both:

- 1) the risk of animal invasiveness and
- 2) the risk of pathogen movement as separate but complementary processes.

Related to the possible formats for guidelines on assessing the risk of non-native (alien) animals becoming invasive, the Group has two options, i.e.:

- draft a chapter for inclusion in the OIE *Terrestrial Animal Health Code* (and possibly the *Aquatic Animal Health Code*);
- develop guidelines to be published on the OIE website or elsewhere as appropriate.

In the absence of a formal OIE mandate for setting standards with respect to IAS, the Group decided to develop guidelines for consideration by the OIE specialist commissions, which could then recommend either the development of a *Terrestrial Code* chapter or publication on the OIE website.

2.2. Drafting the guidelines

The Group thanked Dr MacDiarmid for developing a draft text on assessing the risk of a non-native animal species becoming invasive and noted that the proposed draft guidelines, which were based closely on Chapter 2.1. of the *Terrestrial Code* (Import risk analysis), were a good starting point.

The Group agreed that the guidelines should deal with the assessment of the probability of non-native animals introduced into a specified area becoming established, spreading and causing harm (consistent with the CBD's concept of "invasive,") or of posing a threat to health of the human, animal or ecosystem.

The definition of 'animal' in the *Terrestrial Code* is 'a mammal, bird or bee'. The Group decided that, to address the broader scope of the draft guidelines, the following definition of 'animal' should be used in the guidelines:

Animal means: all species, subspecies or lower taxon of the kingdom Animalia, with the exception of the species that are causative agents of diseases. Note: the experts did not discuss or conclude if 'species that are causative agents of disease' should or should not be limited to infectious and parasitic diseases.

The Group proposed as title for the document "Guidelines for assessing the risk of non-native ('alien') animals becoming invasive". The choice of the title reflected the scope of the document discussed and agreed by the Group.

The Group agreed that the scope of these guidelines should cover intentional and unintentional introduction of animals. However the unintentional introduction of animals would not be described in detail but rather only mentioned to sensitise the veterinary services of Member Countries that animals can be introduced into a country intentionally or unintentionally and that both could occur through a number of pathways.

Annex XXXVIII (contd)

The Group noted that OIE standards were normally addressed to the veterinary services but, in the case of invasive animals, other governmental agencies are also involved. There is a need for coordination and collaboration on IAS issues across ministries and sectors.

The Group decided that most of the *Terrestrial Code* definitions that were relevant to IAS needed no modification. However, some terms would need to be clarified for the purpose of the draft Guidelines, e.g. ‘hazard’ and ‘hazard identification’. In addition, the Group recommended the development of a definition of the term ‘non-native animal’ (‘alien animal’) used in the guidelines.

The CBD Secretariat proposed to define stakeholder in a broader sense than traditionally identified by the OIE and veterinary services (e.g. including indigenous and local communities).

The Group reviewed and discussed the draft document provided by Dr MacDiarmid in detail, and began the process of modifying it consistent with the views of members. As a general comment, it was noted that the guidelines should provide flexibility to OIE Member Countries, given that invasiveness was context specific to the species and country, area or ecosystem in question.

Owing to time constraints, the Group was not able to finalise the draft document at the meeting and agreed to do this by electronic means by the time of the next meetings of the two Specialist Commissions (February 2012).

The draft guidelines are attached in Annex VI.

2.3. General recommendations

- The Group recognised the importance of formalising a cooperation agreement between the OIE and the CBD.
- The Group highlighted the importance of encouraging research and investigation on the various pathways and processes involved in the entry, establishment and spread of non-native animals.

3. Discussion with the Director General

The Group presented some recommendations arising from the discussion held during the first day, to Dr Bernard Vallat, the Director General of the OIE.

Dr Vallat expressed his gratitude for the contribution of the participants, noting that One Health and associated approaches had been included in the 5th Strategic Plan of the OIE with consensual support of Members. He thanked Dr MacDiarmid for his initiative in providing a draft text. Dr Vallat also noted that the role of the OIE was broader than international trade and animal health; the contribution of environmental health to these was also of critical importance, hence the need for the OIE to be involved in this area.

Dr Vallat noted the importance of the OIE continuing to collaborate with the CBD.

For the purpose of the Group’s work, Dr Vallat noted the need to avoid duplication and confusion that could arise from the inclusion of OIE listed pathogens as IAS. Dr Karesh replied that that issue had been discussed and addressed by the Group on the first day of the meeting.

Dr Shimura highlighted the importance of collaboration between the CBD Secretariat and the OIE. Dr Vallat agreed with her and noted that the OIE had proposed a first draft for an official agreement between the two organisations.

Annex XXXVIII (contd)

4. Next steps

The Group concluded the meeting by proposing the following next steps to the OIE:

- To finalise the revision of the draft guidelines by electronic consultation in time for submission to the Scientific Commission for Animal Diseases and the Terrestrial Animal Health Standards Commission at their next meetings in February 2012.
- Once the guideline was available as a public document, it could be presented by the OIE to the CBD Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA), which would hold its 16th meeting in April/May 2012.
- The guidelines should be reviewed periodically to ensure consistency with other OIE activities and guidelines, and to ensure that they are up to date with current knowledge in the field of IAS.
- If so desired by the specialist Commissions, in the context of Member Countries' responses to the draft guidelines and the present report, to request the Director General to consider convening an *ad hoc* Group on Invasive Alien Species to 1) explore OIE's further actions in addressing IAS issues, 2) integrate input from an STDF workshop on IAS to be held in July 2012, 3) support OIE's work on IAS under the Liaison Group and through the pending official agreement (termed a Memorandum of Cooperation by CBD) with the CBD.

.../ Annexes

THE OIE EXPERT MEETING: Brainstorming on guidance for Member Countries to assess the risk of non-native ('alien') animals becoming invasive

Paris, 30 November–1 December 2011

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Annex XXXVIII (contd)Annex I (contd)

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THE OIE EXPERT MEETING: Brainstorming on guidance for Member Countries to assess the risk of non-native ('alien') animals becoming invasive

Paris, 30 November–1 December 2011

Draft Terms of Reference

Considering:

- that the Conference of the Parties to the Convention on Biological Diversity (CBD), at its sixth meeting (2002), adopted Guiding principles for the prevention, introduction and mitigation of impacts of alien species that threaten ecosystems, habitats or species;
- that the Conference of the Parties to the CBD, at its ninth meeting, requested the Executive Secretary of the CBD to continue to collaborate with the secretariats of the international organisations relevant to invasive alien species (IAS)
- that the OIE actively participated in the interagency liaison group (ILG) on IAS established by the CBD;
- that the objectives set out in the OIE 5th Strategic Plan (2011–2015) include ‘developing tools for the analysis of the impact of environmental and climate change, including the problems linked with invasive species, especially in relation to vector-borne diseases and to aquatic animal health’:

The expert meeting is asked to conduct a brainstorming and make recommendations on:

- use of risk assessment as a tool to evaluate and manage the risks to ecosystems presented by trade in animals and a proposed definition of ‘invasive animals’ for the purposes of this work.
-

THE OIE EXPERT MEETING: Brainstorming on guidance for Member Countries to assess the risk of non-native ('alien') animals becoming invasive

Paris, 30 November – 1 December 2011

Adopted agenda

Day 1 (Wednesday 30 November)

09:30 / 11:00 – Opening

- Introduction of all participants
- Adoption of the agenda
- Presentation of relevant activities of the OIE
- Presentation of relevant activities of the CBD

11:00 / 13:00 – Brainstorming on guidance for Members to assess the risk of non-native animals becoming invasive

- Definition of Invasive Alien Species (IAS)
- Drafting guidelines for assessing the risk of non-native animals becoming invasive

13:00 / 14:00 – Lunch break

14:00 / 18:00 – Continued discussion

Day 2 (Thursday 1 December) – meeting with the Director General of the OIE

9:00 / 13:00 – Continued discussion

- Discussion with the Director General

13:00 / 14:00 – Lunch break

14:00 / 17:00 – Discussion on the next steps and drafting report

17:00 – End of the meeting

OIE's activities relevant to the Convention on Biological Diversity



Invasive Alien Species (IAS)

OIE brainstorming meeting,
Paris 30 Nov – 1 Dec 2011

Masatsugu Okita
Chargé de mission
International Trade Dept.



OIE 5th Strategic Plan (2011-2015)

OIE mandate

➤ The improvement of animal health, veterinary public health and animal welfare world-wide



OIE 5th Strategic Plan (2011-2015)

Extract

- To ensure transparency in the global animal disease situation;
- To ensure safety of world trade in animals and animal products by preparing, adopting and promoting the application of relevant health standards for such trade;
- To provide expertise in the control of animal diseases including at the animal–human–ecosystems interface;
- To provide expertise to Members in understanding and managing the effects of environmental and climate changes on animal health and welfare;



Annex XXXVIII (contd)Annex IV (contd)

OIE 5th Strategic Plan (2011-2015)

Cross-Cutting Areas (extract relevant to IAS)

CLIMATE AND ENVIRONMENTAL CHANGES

The OIE will address the role of climate and environmental changes with respect to emerging and re-emerging animal diseases and animal production over the short, medium and long term. In particular, the OIE, in collaboration with other international organisations, will assist veterinary authorities to develop foresight and other decision-making frameworks that take into account new information about the evolving relationship between ecosystems, invasive species and emerging and re-emerging animal diseases, recognising the need for adaptive policy responses.

Within this overall framework, particular attention will be paid to the effects of climate and environmental changes on aquatic animal health, including problems linked with invasive species.



OIE Activities relevant to IAS

The current mandate addresses diseases eg:

- Transboundary animal diseases (rinderpest, avian influenza)
- Vector-borne diseases: including standards relating to surveillance for disease vectors
- Pests and parasites eg small hive beetle infestation

New challenges

- One Health: animal/human/ecosystem interface
- Role of wildlife as disease reservoirs
- Climate change: vector-borne disease, (re)emerging disease



CBD and OIE relationship

May 2008: CBD Conference of the Parties (COP 9 Decision IX/4)

3. Invites the International Committee of the World Organisation for Animal Health (OIE) to note the lack of international standards covering invasive alien species, in particular animals, that are not pests of plants under the International Plant Protection Convention, and to consider whether and how it could contribute to addressing this gap, including for example by:

- a) Expanding the OIE list of pathogens to include a wider range of diseases of animals, including diseases that solely affect wildlife; and
- b) Considering whether it may play a role in addressing invasive animals that are not considered as causative agents of diseases under OIE and whether, for this purpose, it would need to broaden its mandate;



Annex XXXVIII (contd)

Annex IV (contd)

CBD and OIE relationship

Since 2010, the OIE has participated in an Inter-Agency Liaison Group (IALG) comprising: CBD, IPPC, OIE, FAO, WTO, ICAO, IMO, CITES, IUCN and GISP

Two meetings have been held to date:

- hosted by the OIE 19-20 April 2010
- hosted by the WTO 14-15 February 2011.



CBD and OIE

November 2011: The CBD Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) 15 (Nov 2011) received advice from the Ad hoc Technical Expert Group recommending that the OIE consider:

- Broadening its mandate by considering the impacts of invasive alien species on ecosystems as falling within the scope of animal health....;
- Building further on the precedent of listing the amphibian diseases, ... in the consideration of additional animal diseases impacting aquatic ecosystems and wild aquatic animals under the OIE Aquatic Code;
- Continuing to develop recommendations on diseases that primarily affect wild rather than domestic animals, including by revision of the OIE Terrestrial Code ...; and
- Providing advice and guidance on the assessment of risk of invasive alien species on ecosystems, ...;



CBD and OIE

Regarding the advice of the Ad hoc Technical Expert that;

(ii) The OIE could consider:

- Broadening its mandate by considering the impacts of invasive alien species on ecosystems as falling within the scope of animal health....;
- Building on the precedent of listing the amphibian diseases, ... in the consideration of additional animal diseases impacting aquatic ecosystems and wild aquatic animals under the OIE Aquatic Code;
- Continuing to develop recommendations on diseases that primarily affect wild rather than domestic animals, including by revision of the OIE Terrestrial Code ...; and
- Providing advice and guidance on the assessment of risk of invasive alien species on ecosystems, ...;



Annex XXXVIII (contd)Annex IV (contd)

OIE Activities relevant to IAS

Aquatic Animal Health Code

Ch 1.2.2. Criteria for listing aquatic animal diseases



Relevant parameters

A. Consequences

1. ... (production loss) or
2. The disease has been shown to ... that it is likely to **negatively affect wild aquatic animal populations** ... or
3. ...(Public health concern)

Diseases of amphibians (2008 ~)

Ch 8.1.

Infection with *batrachochytrium dendrobatidis*

Ch 8.2.

Infection with ranavirus



CBD and OIE

Regarding the advice of the Ad hoc Technical Expert Group that;

(ii) The OIE could consider:

- Broadening its mandate by considering the impacts of invasive alien species on ecosystems as falling within the scope of animal health....;
- Building on the precedent of listing the amphibian diseases, ... in the consideration of additional animal diseases impacting aquatic ecosystems and wild aquatic animals under the OIE Aquatic Code;
- Continuing to develop recommendations on diseases that primarily affect wild rather than domestic animals, including by revision of the OIE Terrestrial Code ...; and
- Providing advice and guidance on the assessment of risk of invasive alien species on ecosystems, ...;

OIE Activities relevant to IAS

Terrestrial Animal Health Code

Chapter 1.2. Criteria for listing diseases (Proposed text)

Article 1.2.2

The criteria for the inclusion of a *disease* or *infection* in the OIE List are as follows:

1. ... (international spread)
2. ... (naïve susceptible population)
3. a) ... (zoonotic character)
OR
b) ... (significant impact on domestic animals)
OR



c) The disease has been shown to... that it would cause significant morbidity or mortality in wild animal populations

OIE Activities relevant to IAS

- Terrestrial Animal Health Code
 - In future, wildlife will be addressed in all disease chapters, with notification and surveillance standards applied primarily where infection of wildlife is of epidemiological importance
- On-line notification system for diseases in wildlife (WAHIS-wild)



CBD and OIE

Regarding the advice of the Ad hoc Technical Expert Group that;

- (ii) The OIE could consider:
 - Broadening its mandate by considering the impacts of invasive alien species on ecosystems as falling within the scope of animal health....;
 - Building on the precedent of listing the amphibian diseases, ... in the consideration of additional animal diseases impacting aquatic ecosystems and wild aquatic animals under the OIE Aquatic Code;
 - Continuing to develop recommendations on diseases that primarily affect wild rather than domestic animals, including by revision of the OIE Terrestrial Code ...; and
 - Providing advice and guidance on the assessment of risk of invasive alien species on ecosystems, ...;



Annex XXXVIII (contd)
Annex IV (contd)

OIE Activities relevant to IAS

December 2011: brainstorming meeting to consider the feasibility of developing guidance on risk assessment in relation to invasive animals

- Definition of "IAS" for the purpose of this work
- Guidance for use by Member countries
- Not intended as a text in the Terrestrial or Aquatic Code
- Guidance to be published on the OIE website



OIE Activities relevant to IAS

Definition of IAS by CBD (annex to decision VI/23)

- "alien species" refers to a species, subspecies or lower taxon, introduced outside its natural past or present distribution; includes any part, gametes, seeds, eggs, or propagules of such species that might survive and subsequently reproduce;
- "invasive alien species" means an alien species whose introduction and/or spread threaten biological diversity



Future work

The OIE mandate traditionally addresses diseases rather than animals. It is for Members to decide what, if any, new approaches may be appropriate in future.

Any recommendation to broaden the mandate would need to take account of the resources available to the OIE – both at headquarters and in Member countries.

Note: any decision to modify the OIE mandate can only be taken on the basis of adoption of a decision by the World Assembly, meeting at the General Session (May, Paris).



Activities of the Convention on Biological Diversity



Invasive alien species A cross-cutting issue of the CBD

Junko Shimura
Secretariat of the Convention on
Biological Diversity



Convention on Biological Diversity

- The Convention on Biological Diversity was inspired by the world community's growing commitment to sustainable development.
- It represents a dramatic step forward in :
 - the conservation of biological diversity,
 - the sustainable use of its components, and
 - the fair and equitable sharing of benefits arising from the use of genetic resources
- As of 2011 **193 Parties**, one of the largest framework conventions under the United Nations



Convention bodies and Parties



Annex XXXVIII (contd)Annex V (contd)

Invasive alien species – definition under the CBD

an alien (nonnative) species whose introduction and/or spread threatens biological diversity

"alien species" refers to a species, subspecies or lower taxon, introduced outside its natural past or present distribution; includes any part, gametes, seeds, eggs, or propagules of such species that might survive and subsequently reproduce



Issues of invasive alien species

- ★ **A main direct driver of biodiversity loss across the globe**
 - Outcompete native organisms for food and habitat
 - Spread infectious diseases in wild life
 - Disturb biotypes
- ★ **IAS threaten ecosystem services and agriculture, forestry and fishery production**
- ★ **IAS exacerbate poverty and threaten sustainable development**



Convention text - Article 8 (h)

Article 8 In-situ Conservation

Each Contracting Party shall, as far as possible and as appropriate:

8 (h). Prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species

Parties are also mandated to:

Establish and manage protected areas;
 ensure sustainable use and sustainable development;
 restore ecosystems; promote the recovery of threatened species;
 Subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities;



Guidance to Parties – decision VI/23 (2002)

Relevant International Instruments

- ★ - IPPC, IMO, OIE, FAO, WHO
- elaborate further standards and agreements, or revise existing standards and agreements, incl. risk assessment

★ **National Invasive Species Strategies and Action Plans (NISSAPs)**

- revising and implementing national biodiversity strategies and action plans to address the threats posed by invasive alien species



Gaps and inconsistencies of international regulatory framework (2006)

- | | |
|--|---|
| - Conveyances | - International development assistance |
| - Aquaculture/mariculture | - Scientific research |
| - Ballast water | - Tourism |
| - Marine biofouling, particularly hull-fouling | - Pets, aquarium species, live bait, live food |
| - Civil air transport | - Biocontrol agents |
| - Military activities | - Ex situ animal breeding programmes |
| - Emergency relief, aid and response | - Inter-basin water transfer and navigational canals |

Annex XXXVIII (contd)Annex V (contd)

COP Invites International Organizations 1

OIE to note the lack of international standards covering invasive alien species, in particular animals, that are not pests of plants;

- Expanding the OIE list of pathogens to include a wider range of diseases of animals, including diseases that solely affect wildlife;
- Considering whether it may play a role in addressing invasive animals that are not considered as causative agents of diseases under OIE and whether, for this purpose, it would need to broaden its mandate



COP Invites International Organizations 2

COFI-FAO to note the lack of international standards covering invasive alien species, in particular animals, that are not pests of plants

- Further consider the ways and means
- Development of clear and practical guidance, for example by considering the formalization of relevant technical guidance developed by the secretariat of the Food and Agriculture Organization of the United Nations;



Ad Hoc Technical Expert Group meeting 2011

Establishes an ad hoc technical expert group (AHTEG) to suggest ways and means, including, inter alia, providing scientific and technical information, advice and guidance, on the possible development of standards by appropriate bodies that can be used at an international level to avoid spread of invasive alien species that current international standards do not cover, to address the identified gaps and to prevent the impacts and minimize the risks associated with the introduction of invasive alien species as pets, aquarium and terrarium species, as live bait and live food

Annex XXXVIII (contd)

Annex V (contd)



SBSTTA recommends COP to requests -

prepare proposals for more detailed guidance for Parties on the drafting and implementation of national measures associated with the introduction of alien animal species as pets, aquarium and terrarium species, and as live bait and live food,

intentional and unintentional release and escapes of individuals of captive-bred alien populations and genotypes of pets, aquarium and terrarium species, species used as live bait and live food, impacting on native genetic diversity



Aichi Biodiversity Target 9

By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.

Annex XXXVIII (contd)Annex V (contd)

Challenges

- **National coordination between relevant agencies**
- **Insufficient capacity to conduct risk assessment /analysis**
- **Insufficient capacity to enable early detection and rapid response**
- **Needs in information sharing**
- **Insufficient capacity to control pathways**



Inter-agency liaison group

- **To facilitate cooperation**
- **To support measures to prevent the introduction of, control or eradicate IAS**
- **To address the gaps and inconsistencies of international regulatory framework on IAS**

Secretariats or representatives from IPPC, OIE, WTO-SPS, FAO (inc. COFI), CITES, ICAO, IMO, IUCN and (GISP) have been invited by the Executive Secretary.

Ramsar Convention, IATA, World Customs Organization are suggested to be invited.

GUIDELINES FOR ASSESSING THE RISK OF NON-NATIVE ANIMALS BECOMING INVASIVE

I. Definitions for the purpose of this document

Animal: means any species, subspecies or lower taxon of the kingdom animalia with the exception of pathogens.

Non-native (or alien) animal: means an animal that is not a native to the country or ecosystem to which it could be intentionally or unintentionally introduced.

Invasive non-native (or invasive alien) animal: means an animal that has been introduced and subsequently become established and spread outside its native distribution area and caused harm to the environment, animal or human health, or the economy.

Hazard: means a non-native animal.

Hazard identification: means the process of identifying whether an animal is native or not in the importing country or region.

Hitchhiker organism: means an organism that has an opportunistic association with a commodity or vehicle/vessel or container and which may be transported unintentionally to a new environment.

II. Scope

In the framework of the international movement of animals, it is important to analyse both the risk of a non-native animal becoming invasive and the risk of pathogens being introduced with the animal. These different risks should be assessed as separate, sequential and complementary processes.

The OIE standard for import risk analysis covers the potential movement of pathogens. The guidelines developed in this document are intended to address the complementary process of assessing the risk of non-native animals becoming invasive.

III. Introduction

Organisms that have been introduced outside their native distribution and which subsequently become established and harmful to the environment, animal or human health, or the economy are considered “invasive non-native species.” Invasive non-native species are one of the major drivers of biodiversity loss world-wide and are particularly a threat to geographically and evolutionarily isolated ecosystems (e.g., islands).

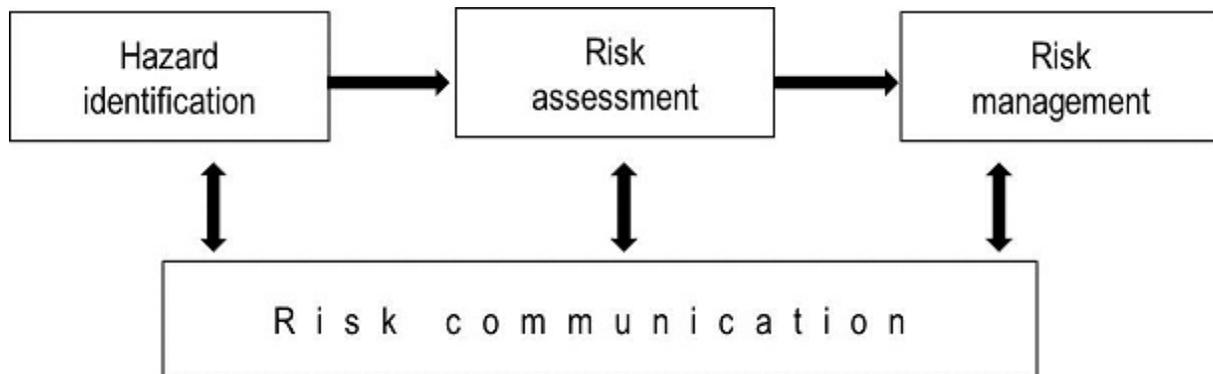
Trade is responsible for the movement of large numbers of live animals, comprising a wide diversity of species, around the world. Although the majority of these animals are not intended for release into the natural environment, some are, and others either escape or are subsequently released when their owners no longer wish to care for them. Trade in live animals thus plays a major role in facilitating invasions by non-native species world-wide. Because of the potential for non-native animals to become invasive, science-based risk analysis should be conducted before decisions are made with respect to the proposed importation of non-native animal species into a country or area. Risk analysis is also an important tool when considering the risks posed by so-called ‘hitchhiker’ organisms which may be associated with imported commodities or the vehicle/vessel or container in which they are imported.

Annex XXXVIII (contd)Annex VI (contd)

The principal aim of assessing the risk of non-native animals becoming invasive is to provide importing countries with an objective and defensible method of determining whether such imported animal species are likely to become harmful to the environment, animal or human health, or the economy. The risk analysis should be transparent and participatory, providing stakeholders with the opportunity to contribute to the process and understand the reasons for decisions made. Transparency is also essential because data are often uncertain or incomplete and, without full documentation, the distinction between facts and the analyst's value judgements may blur.

These guidelines provide recommendations and principles for conducting transparent, objective and defensible analyses of the risks posed by the importation of non-native animal species. The guidelines are also useful in assessing the risks posed by hitchhiker organisms. The components of risk analysis described in these guidelines are hazard identification, risk assessment, risk management and risk communication (Figure 1).

Fig. 1. The four components of risk analysis



A risk analysis is initiated either by a request to import a new species or a species for a new purpose. However, even non-native species that are already within a country's borders may be considered for risk analysis, especially if there is a high likelihood of them being introduced, or escaping, into the natural environment. All pathways showing a potential for the introduction of non-native animals should receive some degree of risk assessment, with those pathways that show a high potential for introducing non-native animals being subject to in-depth risk assessment.

IV. Hazard identification

In the case of trade in non-native animals, the animal under consideration is the hazard. This hazard should usually be identified to the level of species although in some instances identification to the level of genus may suffice while in others, identification to the level of breed, subspecies, hybrid or biotype may be required.

In the case of so-called hitchhiker organisms, the hazard identification involves identifying species which could potentially produce adverse consequences if introduced in association with an imported commodity (animals or animal products) or the vehicle/vessel or container in which it is imported.

It is necessary to identify whether each potential hazard is already present in the importing country or area into which the animals are imported. This is not always easy for animals traded widely for a diversity of commercial and private purposes and which may already be present in private collections.

Annex XXXVIII (contd)

Annex VI (contd)

Identifying whether a species is present in a country or region requires historical information on the abundance and distribution of animals and therefore typically requires consultation with a variety of stakeholders. Ecological boundaries, as opposed to political boundaries, should be considered. Consultation and coordination with appropriate authorities in neighbouring countries may help to determine species distribution and abundance. The presence of a particular species in the importing country or area does not necessarily eliminate the need for risk assessment, since the likelihood of non-native animals becoming invasive is also dependent on a number of additional importation factors such as size and frequency of importations, transport methods, intended use, containment etc.

Hazard identification is a categorisation step, identifying animals dichotomously as hazards or not. For the purpose of these guidelines all non-native animals are considered a hazard.

V. Principles of risk assessment

The risk assessment is the component of the risk analysis which estimates the risks associated with a hazard. Risk assessments may be qualitative or quantitative. Qualitative risk assessment does not require mathematical modelling skills to carry out and so is often the type of assessment used for routine decision making.

Risk assessment should be flexible to deal with the complexity of real life situations. No single method is applicable in all cases and different methods may be appropriate in different circumstances. Risk assessment should be able to accommodate the variety of non-native animal species that may be considered for importation, entry and spread scenarios, and types and amounts of data and information.

The aim of a risk assessment is to assist in decision making in the face of uncertainty.

Both qualitative risk assessment and quantitative risk assessment methods are valid.

The risk assessment should be based on the best available information that is in accord with current scientific thinking. The assessment should be well-documented and supported with references to the scientific literature and other sources, including expert opinion and that of participating stakeholders.

Consistency in risk assessment methods should be encouraged and transparency is essential in order to ensure fairness and rationality, consistency in decision making and ease of understanding by all the interested parties.

Risk assessments should document the uncertainties, the assumptions made, and the effect of these on the final risk estimate.

The risk assessment should be amenable to updating when additional information becomes available.

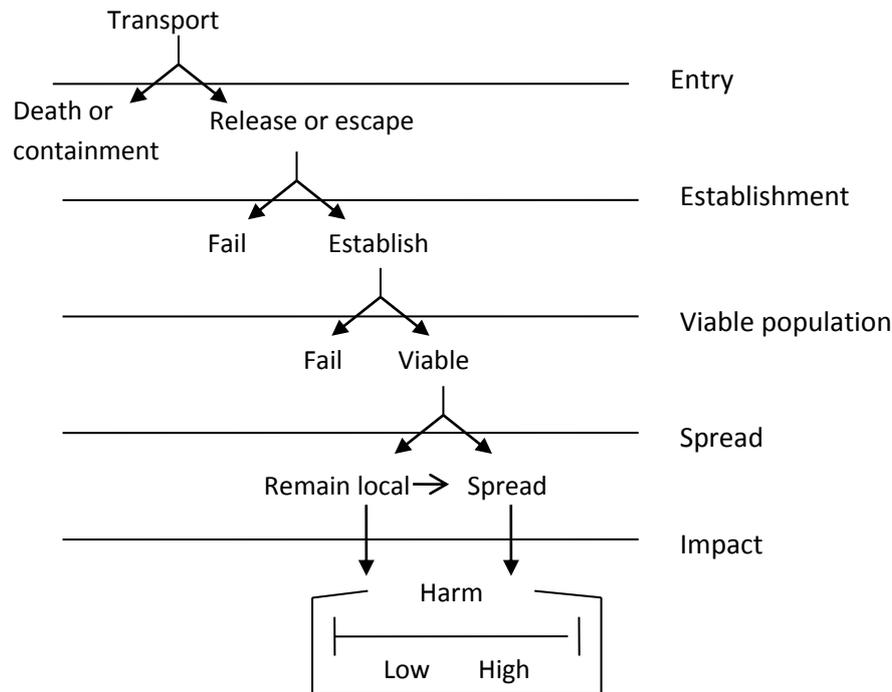
In addition to the general principles of risk assessment, assessment of the risk of non-native animals becoming invasive needs to consider certain unique aspects such as:

- The risk assessment need not be at a country level, but at an ecosystem level that may be sub-national.
- The risks may be borne by multiple subjects such as people, other animals or landscapes, thus requiring a systems-based approach to risk assessment.
- An invasive animal species may cause harm through a variety of mechanisms, both direct and indirect.
- The effects of an invasive animal species are often dependent on environmental conditions and may thus change over time in response to factors such as climate change.

Annex XXXVIII (contd)Annex VI (contd)**VI. Risk assessment steps**

The risk assessment examines the entire process by which a non-native animal species could enter a country, be introduced (escape or release) into the environment, become established, spread and cause harm. The steps in this process of invasion are illustrated in Figure 2.

Fig.2. The stages in the process of invasion by non-native animal species



1. Entry assessment

Entry assessment consists of describing the pathway(s), biological or non-biological, necessary for an importation activity to introduce non-native animal species into a particular environment, and estimating the probability of that complete process occurring, either qualitatively (in words) or quantitatively (as a numerical estimate). The entry assessment describes the probability of the entry of each of the hazards (the non-native animals) under each specified set of conditions with respect to amounts and timing, and how these might change as a result of various actions, events or measures.

a) Circumstances of entry and containment. Do the circumstances of transportation and containment on arrival prevent escape or release? Examples of the kind of inputs that may be required are:

- whether entry is intentional or unintentional;
- whether different commodities, vehicles/vessels or containers are capable of harbouring the animal under consideration;
- security of containment, if any;
- planned movement, use and holding conditions upon and after arrival.

Annex XXXVIII (contd)

Annex VI (contd)

- b) Biological factors. What are the features of the animal that may affect its survival during transport and in its initial holding? Examples of the kind of inputs that may be required are
- species, subspecies or lower taxon, sex, age and breed of animals;
 - the ability of the organism to survive the conditions and duration of transport;
 - the number of individual animals per importation;
 - ease of escape or release from containment;
 - ability to survive in the environment of the importing country.

If the entry assessment demonstrates no significant risk, the risk assessment does not need to continue.

2. Establishment and spread assessment

Establishment and spread assessment consists of describing the biological conditions necessary for the hazards (in this case the non-native animals) to survive escape or release and estimating the probability of establishment and spread occurring, either qualitatively or quantitatively.

The probability of establishment and spread of the non-native animals is estimated for the local environment with respect to the number, size, frequency and season of escapes or releases.

- a) Biological factors: What are the feature of the animals that may affect the probability of establishment and spread of the animals? Examples of the kind of inputs that may be required are:
- history of invasiveness elsewhere;
 - number and size of releases or escapes (propagule pressure);
 - reproductive biology and capacity (fecundity, age of sexual maturity, breeding frequency, gestation length, etc.);
 - diet;
 - whether the animals under consideration are wild or domesticated;
 - whether the animals under consideration are generalist or specialised species;
 - range of tolerance and adaptability to environment and climate;
 - dispersal mode and capacity;
 - longevity;
- density dependence.
- b) Receiving environment: What are the features of the receiving environment that may affect the probability of establishment and spread of the animals? Examples of the kind of inputs that may be required are:
- climate match with the species native environment;
 - presence of suitable food source;
 - presence of suitable breeding sites;
 - geographical and environmental characteristics;
 - presence of predators, competitors, parasites and pathogens.

Annex XXXVIII (contd)Annex VI (contd)

- c) Containment factors: What are the management factors that may affect the probability of establishment and spread? Examples of the kind of inputs that may be required are:
- security capacity for housing, handling and transportation;
 - intended use of the imported animals (e.g. pets, zoological collections, live food or bait, research etc.);
 - the nature and frequency of human-assisted animal movements;
 - live animal disposal practices (euthanasia, release, rehoming, etc.).

If the establishment and spread assessment demonstrates no significant risk, the risk assessment may conclude at this step.

3. Consequence assessment

The consequence assessment describes the potential consequences of a given establishment and spread of the animals and estimates the probability of them occurring. This estimate may be either qualitative or quantitative. The social and biological costs associated with the effects of invasive non-native species are often very difficult to assess and measuring socio-economic impacts of invasive animal species requires data of sufficient magnitude and quality, which are often not available. Examples of consequences include:

- a) Direct consequences:
- Harm to ecosystems;
 - harm to native species;
 - economic damage;
 - impacts on human health and well-being.
- b) Indirect consequences:
- Surveillance, containment, control and eradication costs;
 - compensation costs;
 - potential trade losses;
 - impacts on socio-cultural values.

4. Risk estimation

Risk estimation consists of integrating the results from the entry assessment, establishment and spread assessment, and consequence assessment to produce overall measures of risks associated with the hazards identified at the outset. Thus risk estimation takes into account the whole of the risk pathway from hazard identified to unwanted outcome.

For a qualitative assessment, the final outputs may include:

- estimated costs for surveillance and control in descriptive terms such as ‘high’, ‘medium’ or ‘low’;
- estimated level of impact on animals, ecosystems or habitats, or people in terms such as ‘high’, ‘medium’ or ‘low’;

Annex XXXVIII (contd)

Annex VI (contd)

- lists of potential evidence-based impacts of significance warranting consideration in decision making;
- description of relative risk and range in terms such as ‘high to very high’ etc.

For a quantitative assessment, the final outputs may include:

- estimated costs for surveillance and control;
- estimated numbers of herds, flocks, animals, ecosystems or habitats, or people likely to experience health impacts of various degrees of severity over time;
- probability distributions, confidence intervals, and other means for expressing the uncertainties in these estimates;
- portrayal of the variance of all model inputs;
- a sensitivity analysis to rank the inputs as to their contribution to the variance of the risk estimation output;
- analysis of the dependence and correlation between model inputs.

VII. Principles of risk management

Risk management is the process of deciding upon and implementing measures to achieve the Member's appropriate level of protection in a cost-effective manner, whilst at the same time ensuring that negative effects on trade are minimised. The objective is to manage risk appropriately to ensure that a balance is achieved between a Member's desire to minimise the likelihood of incursions of non-native invasive species and their consequences and its desire to import commodities and fulfil its obligations under international trade agreements.

VIII. Risk management components

1. Risk evaluation -the process of comparing the risk estimated in the risk assessment with the Member's appropriate level of protection.
2. Option evaluation - the process of identifying, evaluating the efficacy and feasibility of, and selecting measures to reduce the risk associated with an importation in order to bring it into line with the Member's appropriate level of protection. The efficacy is the degree to which an option reduces the likelihood or magnitude of adverse consequences for biodiversity, animal and human health, and the economy. Evaluating the efficacy of the options selected is an iterative process that involves their incorporation into the risk assessment and then comparing the resulting level of risk with that considered acceptable. The evaluation for feasibility normally focuses on technical, operational and economic factors affecting the implementation of the risk management options but because the assessment of risk from non-native animals must consider socio-cultural aspects, option evaluation must also consider the cultural, ethical and political acceptability of the various risk management options.
3. Implementation - the process of following through with the risk management decision and ensuring that the risk management measures are in place.
4. Monitoring and review - the ongoing process by which the risk management measures are continuously audited to ensure that they are achieving the results intended.

Annex XXXVIII (contd)Annex VI (contd)**IX. Principles of risk communication**

1. Risk communication is the process by which information and opinions regarding hazards and risks are gathered from potentially affected and interested parties during a risk analysis, and by which the results of the risk assessment and proposed risk management measures are communicated to the decision-makers and stakeholders in the importing and exporting countries. It is a multidimensional and iterative process and should ideally begin at the start of the risk analysis process and continue throughout.
 2. A risk communication strategy should be put in place at the start of each risk analysis.
 3. The communication of the risk should be an open, interactive, iterative and transparent exchange of information that may continue after the decision on importation.
 4. The principal participants in risk communication include the authorities in the exporting country and other stakeholders such as domestic environmental and conservation groups, local communities and indigenous peoples, domestic livestock producers and consumer groups.
 5. The assumptions and uncertainty in the model, model inputs and the risk estimates of the risk assessment should be communicated.
 6. Peer review is a component of risk communication which is carried out in order to obtain scientific critique and to ensure that the data, information, methods and assumptions are the best available.
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