# **Review** Article

# Irreparable Global Spread of Pathogens and International Trade – Sanitary Requirements

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### Abstract

Sanitary requirements for international trade in animals and their products are regulated by World Trade Organization (WTO) and World Organisation for Animal Health (OIE). None of them requires exported animal commodities to be of full sanitary quality, i.e. to be free of pathogens causing mass suffering and premature death of immense numbers of animals and humans. Both organizations using different methods try to avoid requirements of importing countries for pathogen-free animal commodity. They support the exporting countries at the expense of health in the importing ones that are not self-sufficient in animal production and thus contribute to worldwide man-made spreading of pathogens through "legal" trade. They ignore the global irreparable consequences of their common "trade over health" policy. They also deprive the importing countries and the fact that every case is different. Admitting pathogen spread is in stark contrast to the only duty of the OIE. It is therefore recommended: Documents and provisions supporting pathogen spread through "legal" international trade to be immediately abolished; to use and apply normal free market fair trade principles for animal commodities, i.e. full quality requirements based on demands of the importing country to avoid pathogen introduction and on bilateral agreement without any external interference. State animal health services must be significantly strengthened to be able to control international trade on-the-spot and organize infection control/eradication programmes. Modern action-oriented epizootiology methods have to be used. All intergovernmental anti-epizootic agenda should be concentrated in United Nations Organization and dealt with as a priority programme to protect global health and life.

**Key words:** potential bioterror; global epizootiology; absence of guarantee; *Homo sapiens* extinction; invisible enemy; OIE Code; OIE policy; risk assessment; unfair trade; WTO/SPS.

## INTRODUCTION

In the 1990s, an era of globalization began, including trade in animals and animal products (hereafter "animal commodities"). At that time a rapidly growing international trade started in which goods began to be transported in a much shorter time to much farther territories and to many more destinations than before. Sanitary requirements for pathogen-free animal commodities proved for main exporting countries to be difficult to meet. They managed to influence World Trade Organization (WTO) and International Office of Epizootics (OIE): sanitary requirements were significantly reduced instead of making them much more demanding when considering that long distance pathogen export has much more serious consequences than during a short distance trade. There were documents issued not avoiding pathogen export: WTO "Agreement on the application of sanitary and phytosanitary measures"- SPS (1995) and OIE "Terrestrial Animal Health Code" (1996-2015) (hereafter "Code"). This article is reviewing the above mentioned documents, OIE "Handbook on Import Risk Analysis for Animals and Animal Products" and OIE policy. It is based on selected literature, mainly published by the OIE and this author's experience as former Chief Epizootiologist responsible also for his country protection against pathogen import.

General Agreement on Tariffs and Trade (GATT) was superseded as an international organization by the WTO. An updated General Agreement became the WTO agreement governing trade in goods from 1.1.1995.

# ANALYSIS OF THE PRESENT ROLES OF WTO AND OIE

# WTO "Agreement on the application of sanitary and phytosanitary measures "- SPS

The SPS has significantly contributed to pathogen scotfree spreading through "legal" international trade. In no other commodity the quality requirements have been so degraded as in this case. The SPS, prepared in full agreement with the OIE, started, in fact, a conscious man-made globalization of animal infections, including those transmissible to humans. Background information for SPS approval at ministerial meeting in Marrakesh in 1994 concealed risks of global pathogen spread that may lead to catastrophic

consequences. Confused governments approved it, in good faith in GATT fairness, within a package of other documents as a condition *sine qua non* (= threat) for WTO membership. A further misinformation consisted in attractive preamble text "Desiring to improve the human health, animal health ..." although in the SPS there is no one provision leading to health improvement. The SPS only purpose is to facilitate profitable export of animal commodities at the expense of health in the importing country. Instead of applying normal principles of fair trade, the SPS is full of non-transparent terms and texts. It is admitting "negative trade effect", i.e. including pathogen import. It "allows" importing countries "appropriate level of protection", but only "provided that such measures are not inconsistent with the provisions of SPS", i.e. if it corresponds with its policy admitting pathogen export. It is accepting even export of zoonotic pathogens: "exceptional character of human health risks to which people voluntarily expose themselves." Which country would consciously and voluntarily agree with importing pathogens? Who would like to be voluntarily exposed to pathogens?

SPS structure: "Basic Rights and Obligations, Harmonization, Equivalence, Assessment of Risk and Determination of the Appropriate Level of Sanitary Protection, Adaptation to Regional Conditions, Disease Free Areas and Area of Low Disease Prevalence, Transparency, Control, Inspection and Approval, Technical Assistance, Special and Differential Treatment, Consultation and Dispute Settlement, Administration, Implementation, Final Provisions, Annexes (Definitions, Transparency of Regulations). Misinterpretation of the SPS required additional "Guidelines to further the practical implementation" issued by the WTO Committee on Sanitary and Phytosanitary Measures (e.g. G/SPS/15, 18 July 2000) = more meetings and papers.

SPS text examples: "Members shall ensure that any sanitary measures is applied only to the extent necessary to protect human, animal life or health, is based on scientific principles and is not maintained without sufficient scientific evidence. Members shall ensure that their sanitary measures do not arbitrarily or unjustifiably discriminate between Members where identical or similar conditions prevail. Sanitary measures shall not be applied in a manner which would constitute a disguised restriction on international trade. Members should when determining the appropriate level of sanitary protection, take into account the objective of minimizing negative trade effect."

The SPS does not respect that every case is different and that ever-changing multi-etiological epizootiological situation (usually not sufficiently known) is almost incomparable between exporting and importing countries. The SPS is avoiding the requirements of importing country for pathogen-free commodities. It has deprived importing countries of freedom to reject animal commodities being without guaranteed sanitary harmlessness. It is not requiring quality guarantee certificates and thus successful complaints are almost impossible. It addresses maximal duties with minimal rights to importing countries while maximal rights with minimal duties are provided to exporting countries. It gives traders "arguments" against state health services when demanding pathogen-free trade. Bad example of the SPS has been imposed upon individual countries and thus negative impacts of this kind of policy have been multiplied.

The SPS asks for scientific justifications of import conditions, however it itself ignores the science not respecting the immense complexity, diversity and dynamics of invisible pathogens as live biological phenomena, their ability to reproduce, propagate horizontally and to next generations etc. It does further not respect: the enormous number of animal infections mostly not notifiable, not reported and not controlled; some pathogens as biological weapons; new emerging pathogens; subclinical pathogen carriers; limited sensitivity of diagnostic tests, i.e. false negative results; missing drugs and vaccines against the majority of infections; weak state services unable to control trade and to inspect attest issuing veterinarians; grade of observing laws, etc. For postimport pathogen spread, it can be sufficient to import only one infected animal or one unit of infected animal product depending on communicability of the etiological agents and on exposure of susceptible population.

B. Vallat (France), DG, OIE answered this author's protest: "*I am not in a position to criticize, for diplomatic reasons... an Agreement supported by the governments of 135 countries.*" Therefore, the author wrote to M. Moore (New Zealand), DG, WTO asking to abolish the SPS, who in answering stressed the OIE key role in preparing the SPS. A. Thiermann (USA), long-term President, OIE Terrestrial Code Commission wrote in 2000: "*we must recognize the significant gains in trade thanks to the SPS agreement. Consumers are in general better off, since they have... increased safety in what they can buy.*" However the "gains" were at the detriment of health in importing countries where "consumers were worse off due to decreased safety in what they could buy". This OIE officer chairing a meeting at the 10<sup>th</sup> International Symposium for Veterinary Epidemiology and Economics, 2003, Chile categorically refused this author's request to discuss the SPS and the Code, i.e. he did not admit any doubts about them.

The SPS is obviously not mandatory for all countries (except for the dominating ones?).

In 2001 New Zealand prohibited import of beef and beef products from all countries of Europe not respecting that bovine spongiform encephalopathy (BSE) free countries had the same BSE free status as New Zealand. This was: "inconsistent with the provisions of the SPS"; without "sufficient scientific evidence" and "documented transparent risk assessment techniques"; "unjustifiably discriminated countries where identical conditions prevail" and "constituted a disguised restriction on international trade". The WTO and the OIE surprisingly did not react!

Note: Report of the Research Group of the European Commission for FMD, Vienna, 1994: "...principal objectives should be to avoid international spread of animal diseases and to protect specific diseases free territories. This principle should be defended in spite of strong international and national business pressure and attacks." "It also proved difficult to deal with international traders who seem to believe that they only have to respect their own laws."

The SPS is reflecting the policy of maximal gains in business not respecting the consequences ("why bother *about the future?*"). The very wordy and complicated SPS using bureaucratic instead of scientific/realistic approach becomes transparent when applying it through the OIE Code.



Fig. 1.

# **OIE Terrestrial Animal Health Code**

The SPS converted the Code into a subordinated position to the WTO: "The Code thus forms an integral part of the regulatory reference system established by the WTO." The former Code flexible recommendations for minimal protection of importing country health were de facto converted into maximal limits. Code 1992 Foreword: "The principal aim of the IAH Code of the OIE is to facilitate international trade in animals and animal products through the detailed definition of the minimum health guarantees to be required of trading partners, so as to avoid the risk of spreading animal diseases inherent in such exchanges." New post-SPS concept was expressed e.g. in Code Special Issue 1997: "Import risk analysis is preferable to a zero risk approach." The principle to avoid the risk of pathogen spreading was replaced by supporting trade to the detriment of animal and human health in importing countries. The SPS converted Code recommendations into an obligatory limit for protective measures in the **importing country** (another misinformation?) **not permitting without "scientific justification" a better protection as before. Actual Code does not ask for pathogen-free guarantee** and even tries to avoid this requirement. The Code has been based upon consensus only. Code 1992 Foreword: "the Code... is the fruit of a consensus of the highest veterinary health authorities of the Members..." It is neither a result of scientific testing nor approved by member country governments. The Code objective was indicated e.g. in "OIE Overview 1999": "In the world economy, the **unimpeded flow** of international trade in animals and animal products requires: the harmonization of requirement for such trade, in order to avoid unjustified trade barriers." What are "unjustified trade barriers"?

Code 2001, Article 1.2.1.2: "The requirements applying to pathogens or diseases subject to official control programme in a country or zone should not provide a higher level of protection on imports than that provided for the same pathogens or diseases by the measures applied within that country or zone". Article 1.2.2.2: "They should not require a veterinarian to certify matters that are outside his-her knowledge or which he-she cannot ascertain and verify."

The level of protection depends first on the knowledge of epizootiological situation in the exporting country which is lesser than the knowledge of home situation, i.e. they cannot be the same. The importing governments, farmers/consumers are not interested whether the certifying veterinarian was informed or not, they ask for full sanitary quality. The importers do not want to pay for goods bringing new difficult-to-solve problems.

Code 2014, Article 5.1.2: "Importing countries should restrict their requirements to those necessary to achieve the national appropriate level of protection. If these are stricter than the standards of the OIE, they should be based on an import risk analysis." What is "appropriate level of protection" and what are "OIE standards"?

What about diseases outside of the Code such as OIE listed paratuberculosis or eliminated from previous Codes: leptospirosis, atrophic rhinitis of swine, enterovirus encephalomyelitis of swine, swine vesicular disease, vesicular stomatitis, *Salmonella enteritidis* and *Salmonella typhimurium* in poultry, *Salmonella abortus equi*, horse pox, horse mange, horse epizootic lymphangitis, fowl cholera and avian tuberculosis? What about other diseases of previous List C and the majority of zoonoses (about 1/10 of one thousand known animal infections)? According to SPS/ Code provisions the requirements for the above mentioned diseases' free status must be supported by convincing risk assessment or their import to be accepted!

List C examples: Multiple species diseases: listeriosis, toxoplasmosis, coccidiosis, distomatosis (liver fluke) and filariasis. Cattle diseases: mucosal disease/bovine virus diarrhoea, vibrionic dysentery and warble

infestation. Sheep and goat diseases: contagious pustular dermatitis, foot-rot, contagious ophthalmia, enterotoxaemia, caseous lymphadenitis and sheep mange. Horse diseases: equine coital exanthema, ulcerative lymphangitis and strangles. Pig diseases: swine erysipelas. Poultry diseases: avian encephalomyelitis, avian spirochaetosis and avian leukosis.

Examples from Code gaps openly admitting pathogen export, without any scientific justification, even from diseased herds/flocks, recommending only unverifiable "measures":

Code 2014: Recommendations for importation from countries considered infested with New World screwworm: "attesting that: the animals to be exported have been inspected, on the premises of origin,... After inspection for wounds with egg masses or larvae of New World screwworm, any infested animal has been rejected for export;" i.e. entirely ignoring Cochliomyia hominivorax action radius: "Flight range of adult screwworm flies... to as much as 300 km." (Fernández, White 2010). Chapters on Echinococcus granulosus and Echinococcus multilocularis require only specific treatments, i.e. again guaranteeing nothing.

The importing countries are interested in official guarantee of full sanitary quality and not in pre-export "measures". The Code facilitates scot-free pathogen export through minimizing sanitary requirements (e.g. reducing or eliminating etiological investigations and commodity origin disease-free zone size) and thus also avoiding need for microbiological investigations, control and eradication in exporting countries increasing their profit. It discriminates importing countries (mainly the developing ones) imposing on them to accept commodity also with the pathogens and to pay as for full sanitary quality. These countries cannot refuse commodities being without pathogen-free guarantee or require better protection than OIE "standard" (changing every year!) without convincing "risk assessments" to be presented to exporting countries. The Code requires only non-binding information. The veterinarian is asked to "certify" what he knows and not for sanitary quality (no microbiological/epizootiological investigations = "no pathogens"), i.e. alibi without responsibility for eventual pathogen export. According to the Code he guarantees nothing!

Multi-etiological recommendations for raw meat trade are missing. The certificate model asks: "*meat comes* from animals or birds slaughtered in abattoirs" and "is considered as fit for human consumption", however without any definition (everybody can understand it differently) and without any requirement for pathogen-free guarantee dependent on sanitary status of animals/herds/flocks of its origin. It does not require either the origin from healthy animals/herds/flocks or microbiological testing. The same is valid also for other animal products.

The exporting country is almost without risk of pathogen export complaints. The impacts of pathogen export are without any "penalty" due to difficulty to detect invisible pathogens and due to missing sanitary guarantee documents. Pathogen import consequences, such as direct/indirect losses and cost of measures, must be paid by importing country itself. The provisions influencing animal/human health and life in the whole world are based only on the opinion of a small group of "experts" not respecting either the requirements of importing governments/farmers/consumers or scientific criteria (e.g. testing, *audiatur et altera pars*, critical evaluations of the impacts, etc.).

Paratuberculosis: MacDiarmid (1992) informed that "Johne's disease is very spread in New Zealand. It occurs at high prevalence in sheep and cattle and has also been reported in goats and deer... No control programs are in place... causing significant problems when exporting live animals." The chance to eliminate specific import conditions from the Code came in 2004 when he became Secretary General, OIE Terrestrial Code Commission. Thanks to "new OIE standard" this pathogen has irreparably spread: e.g. viable Mycobacterium avium subsp. paratuberculosis in powdered infant milk was reported by Hruska et al. (2005) and later also by Grant et al. (2014) in 44% of 66 samples from 18 countries.

A similar story happened with leptospirosis. In the Codes up to 2004 there were four paragraphs of specific requirements to avoid import of this zoonosis. From that time the page "Leptospirosis" contained only words "Under study" being repeated during several years. Instead of new import conditions this zoonosis surprisingly disappeared not only from the Code but also from OIE listed diseases in spite of OIE reference laboratories

**Box 1.** Original sanitary conditions recommended by the OIE Code for avoiding import of **paratuberculosis**. International animal health Code 1992, chapter 3.1.6: page 183

"Veterinary Administration of importing countries should require: for <sup>4</sup>omestic ruminants for breading or rearing the presentation of an international zoo-sanitary certificate attesting that the animals.

1) showed no clinical sign of Johne's disease on the day of shipment;

2) were kept in a herd in which no clinical sign of Johne's disease was officially reported during the five years prior to shipment;

3) showed negative response to diagnostic test for Johne's disease during the thirty days prior to shipment;

Notes: In previous Code 1986, chapter 3.1.6.1, page 161 there was another condition: 4) showed negative response to the complement fixation test for Johne's disease during the thirty days prior to shipment." After 2004 all above mentioned import conditions disappeared leaving under "Paratuberculosis" only an empty page.

for leptospirosis (in USA, UK, Australia, Netherlands and Argentina) and key influence of A. Thiermann, that time President, OIE Terrestrial Code Commission who started his carrier as a leptospirologis.

Further Code requirement reductions consist in not respecting territorial circulation and all possible body locations of pathogens, contaminations during processing and human errors.

Code 2014, Article 8.2.3 Aujeszky's disease (AD): "Safe commodities: When authorizing import ... of the following commodities ... Veterinary Authorities **should not require** any AD related conditions, regardless of the AD status of the exporting country or zone: fresh meat of domestic and wild pigs not containing offal (head, and thoracic and abdominal viscera),". "Safe commodities" only under not existing ideal conditions!

Invisible pathogens without laboratory investigations are unidentifiable. Therefore animal commodities should originate from specific disease-free herd/flock or zone (the larger the better) and thus avoiding the risk of pathogencarrier export. The Code does not respect differences among pathogen species types, subtypes and strains. Imported pathogens often cause manifest forms of infections only after several passages and increase their virulence in susceptible population. The Code does not respect that every case is different and that every country has different epizootiological situation and pathogen spread/control conditions.

SPS/Code provisions not requiring pathogen-free guarantee = no need for infection eradications in exporting countries = no need for strong state animal health services = loss of government control of international trade = substitution by private veterinarians issuing only information "certificates" = facilitated export of pathogens = importing countries lacking capacity for pathogen discovery/eradication = worsening epizootiological situation.

The OIE was not inviting Animal Health Service, FAO to participate in the Code preparation, i.e. it was deciding itself.

### Office International of Epizootics "new policy"

The OIE as an intergovernmental organization (outside of United Nations Organization) played since its establishment in 1924 a very positive role in control and eradication of animal infections in the world. The turning point occurred in the mid-nineties, when it became dominated by a small group of "experts" from leading exporting countries (*Lupus ovium custos*) promoting "trade before health" policy through reducing import sanitary requirements. OIE policy was changed from consistent protection of animal population health against infectious diseases into admitting and even supporting trade at the expense of animal and human health in importing countries, i.e. spread of pathogens through "legal" international trade. The OIE ceased to perform its only duty.

This author was confronted with the "new policy" when preparing a paper for OIE Scientific and Technical Review. The editor was changing the scientifically correct title of the "OIE". The reaction to author's protest was sent by R. Dugas, Head of the Publication Department, OIE on 25/10/2003: "Dear Author – As per a decision by the Director General, Office International des Epizooties has now been dropped." B. Vallat, DG, OIE informed this author that the 71th General Session (May 2003) "authorized to use, in all circumstances, alongside the statutory name of the OIE, the common name World Organization for Animal Health"...."the scope of the OIE's missions has evolved beyond the prevention and control of epizootic diseases to include all animal health issues..." Copy sent to I. Belev (Bulgaria), President, OIE Regional Commission for Europe (admitting pathogen spread through trade and drastic reduction of successful state veterinary services).

The basic principle of "good governance" is to focus the available resources on the main objective. The OIE, instead of improving its activities against pathogen mass spreading through international trade, has expanded them towards infinite problems being in full competence of individual countries. The "new" issues are covered by veterinary research institutions, faculties, literature etc. This change is in contrast to OIE responsibility for neverending complex international anti-epizootic problems to be solved. Responsible organization will never run away from unfinished work ("when we are dead and gone, who cares!"). The OIE is responsible for international control of epizootics, i.e. for international anti-epizootic information, coordination, methods, standards, etc. Government ratification of changing name and scope cannot be replaced by low level decision. The OIE, in spite of being paid by member country governments, behaves as an irresponsible private society or club being free for name and scope changes.

In OIE documents there are many contradictions, without factual arguments, about improvement of animal health in the world while the situation is getting worse. Recent minimizing government budgets under the pressure of World Bank and International Monetary Fund, dominated by the same countries as the OIE, has almost paralyzed state veterinary services losing capacity for trade control and thus facilitating pathogen exports.

Vallat (2014): "The Global Health Security Agenda cites the OIE PVS Pathway for improving the performance of Veterinary Services as one of the main tools for achieving a world that is healthy and secure for all, free from the threat of infectious diseases of humans and animals. By protecting animals we preserve our future." This is a theory and false declaration when the global situation continues to be worse thanks also to OIE "new policy".

The OIE represents an incredible exception from international legal practice also as far as staff nationality rotation is concerned (e.g. the post of Director General has been filled from the beginning in 1924 only by French). Preference in OIE bodies and publications is given to the most influential exporting countries in spite of its establishment as a neutral professional agency. International anti-epizootic prevention depends on the protection of threatened territories, i.e. importing countries. Therefore they must have corresponding position and influence. The OIE has been omitting pathogen spread risk assessment to be presented to delegates before relevant professional decisions. It is difficult to accept that the delegates of importing countries would agree voluntarily (without pressure, threat or trick) with pathogen import. OIE "French veto" policy is obviously influenced by theoreticians without practical anti-epizootic field experience instead of actionoriented successful epizootiologists.

The position of OIE DG has been filled only by French specialists as a "tradition" and not due to anti-epizootic activities of France (e.g. in 2001 exported foot and mouth disease virus in the Netherlands causing a loss of more than two hundred thousand animals; from 1978 admitting African swine fever threat from neighbouring Italy). In OIE publications, any critical comments on pathogen spreading due to SPS or Code are not admitted. E.g. in OIE Scientific and Technical Reviews no articles requiring pathogen-free trade are published.

The OIE is not respecting the conflict of interest between state (protecting animal and human health) and private services (dependent mainly on availability of diseased animals) giving both the same level of importance. Thus the OIE has degraded state veterinary services not respecting the fact that private veterinarians have opposite interests. This approach is reflected in minimizing state services making them unable to control on-the-spot international trade and to eradicate animal infections. Effective state control of this kind of trade has been lost. The OIE did not even try to save the strength of state veterinary services. It has never officially required from governments strong state veterinary services as an irreplaceable condition for effective trade control and anti-epizootic programmes. Private sector trade is mainly controlled by private service. Papers and meetings without actions following them cannot block the global spread of pathogens through international "legal" trade for which the OIE bears the main professional responsibility.

The OIE has changed its anti-epizootic policy into allowing pathogen export. This is in stark contrast with animal/human health protection, food safety, livestock production, sustainable development, environment protection, poverty reduction and animal/human welfare programmes. Instead of alarming the world, the OIE ignores consequences of pathogen spread through international "legal" trade. It ignores impact of its policy on farmers and consumers in importing countries. The OIE, not respecting the logical conflict of interests when subordinating to "business over health" policy, has sacrificed its good reputation achieved in the past thanks to many very useful activities. Any organization that fails to fulfil its mission and even harms its members loses its "raison d'être".



Fig. 2.

## Abused pathogen import risk assessment

The risk assessment is a normal epizootiological method used for anti-epizootic actions. Pathogen import risk analysis is a complex process considering biological phenomena influenced by many factors. The Chief Veterinary Officer when preparing the import, has to analyse the multietiological risk of pathogen introduction first considering the epizootiological situation in the exporting country and then he either permits or refuses the respective import or suggests other competing country. The idea to abuse "risk assessment" as the main "tool" facilitating export of pathogens has its origin in New Zealand as confirmed e.g. by Kellar (Canada) in OIE 1993 compendium "Risk analysis, animal health and trade" edited by Acree (USA). MacDiarmid from New Zealand was awarded in 2002 the "OIE Medal of Merit" for "work in developing risk analysis as a basis for insuring safe trade in animals and animal products ... " His "merit" is de facto the opposite: "insuring unsafe trade". In 1996 he wrote to this author: "If, for a particular trade, we have available risk reducing tools (tests, treatment, whatever) which will reduce the risk by 10,000 or 100,000 times ... what does it matter what starting risk was?". Occurrence of infections in exporting countries is not of importance for the importing ones to know about it? The methodology is described in "OIE Terrestrial Animal Health Code" and in OIE "Handbook on Import Risk Analysis for Animals and Animal Products" (Murray et al. 2004).

The OIE Handbook: "The risk analysis **must** be well documented and supported by references to the scientific literature and other sources, including expert opinion, where used. It **must** also provide reasoned and logical discussion that supports the conclusions and recommendations. There **must** be comprehensive documentation of all data, information, assumptions, methods, results, and uncertainties. The results' presentation **must**: "explain the risk analysis model's structure clearly with the aid of appropriate diagrams, such as scenario tree; document all the evidence, data and assumptions, including their references; use clearly labelled, uncluttered graphs, etc." Special attention is dedicated to "titles, names and addresses, how to write the summary, how to write the text (using Oxford dictionary), references, tables and figures, etc." Situation in exporting countries is forgotten.

Exaggerated demands unimaginable in any other commodity would need a special institution for justifying simple import conditions. The cost in case of multietiological risk assessments may be higher than the value of the commodity. The theoretical Handbook was falsely introduced by Vallat: "will provide practical guidance to Veterinary Services confronted with the need to analyse the risks posed by import". It is even threatening that "A zero risk importation policy ... would require the total exclusion of all imports". The country requiring healthy animals and pathogen-free products should be eliminated from animal commodity import? The Handbook ignores that practical risk assessment needs reliable information on epizootiological situation in the exporting country. Importing countries very often have minimum or zero information on the majority of internationally reportable diseases in exporting countries (*ad hoc* data only = not all outbreaks are known). For demonstration that the risk is minimal or almost zero mathematical methods were used, however, not respecting biology and logic. From 183 pages 126 are dedicated to "quantifications" of non-quantifiable multifactorial risks.

Handbook quotation of FAO/WHO Codex Alimentarius "The framework used in this model... is therefore designed as a regulatory tool for setting allowed, acceptable or tolerable level of ...pathogens in food,..." reflects the policy admitting pathogens in food for human consumption!

The WTO and the OIE in spite of calling for "risk assessment" to be elaborated by importing countries, have **never presented to governments any risk assessment**  of their policy impacts on pathogen spreading through international trade. Code risk assessment provisions have been abused to disarm importing countries by imposing restricted protection against pathogen introduction. The simple requirement for importing "healthy animals" and "pathogen-free products" (in the SPS and in the Code unknown terms) does not need any pathogen import risk assessment to be presented to exporting country.

#### DISCUSSION

All successful treatments of individual diseased animals in the world (curative veterinary medicine has high standards) cannot compensate for global mass morbidity and mortality due to imported pathogens. The result is a steadily worsening global animal population health in spite of having much more scientific information available than in the past. The common WTO/OIE policy causes irreparable consequences in countless diseased and dead animals and humans. Global continuing bioterror has much more serious impact on human lives than local time-bounded "classical" terror. Man-made pathogen globalization represents one of the factors of self-destruction of humankind and disruption of global ecological balance. Both organizations supporting pathogen spreading are methodologically responsible for this inexcusable historical global criminal act. Both organizations have managed to avoid mass media to inform truthfully world public, mainly farmers and consumers in importing countries, about their damaging policy. Both mutually search "alibi" for international spread of pathogens - WTO referring to OIE and vice versa.

Unfounded claims that the SPS and the Code have improved health of animals in the world are not true; on the contrary, they have deteriorated it. The policy admitting pathogen exports without global monitoring and warning has led to the loss of motivation for population health protection and communicable disease eradications. State veterinary services have been reduced *ad absurdum* losing their necessary capacity for trade control and infection eradications. Numerous successful results (including the OIE) achieved by previous generations of experts have been lost. The sanitary (health protection/recovery), economic (food production), ecological (specific disease-free territory protection) and social (living standard) historical importance of veterinary medicine has been considerably degraded.

The OIE deleting in 1996 information on animal infection introductions made it impossible to analyze global pathogen spread through trade and its sanitary/ economic consequences (another misinformation without any scientific and logical justifications). Due to lack of this kind of information, governments, veterinary services, research institutes, faculties and authors are not informed

At WHO/Merieux/OIE Seminar on Management and International Cooperation, Veyrier-du-Lac, Annecy, France, 1993, organized to instruct OIE delegates about disease risk assessment, and there were examples presented such as "*rabies would be introduced each 3,367,000 years*", i.e. risk minimizing *ad absurdum* = nonsense.

about catastrophic global epizootiological situation due to WTO/OIE sanitary conditions not requiring pathogen-free animal commodity trade (i.e. logical consequence: spread of pathogens through international trade).

That time OIE Working Group on Informatics and Epidemiology was chaired by King (USA) and among its members was also MacDiarmid (New Zealand). Zepeda et al. (2001) instead of scientific critical analysis of the SPS and the Code supported spread of pathogen through international trade. The author himself processed 1,319 official data on pathogen introductions as reported by the countries during last decades of the 20<sup>th</sup> century (see *http://vaclavkouba.byl.cz/disintrod.htm*).

In FAO/WHO Codex Alimentarius the requirement for pathogen-free food of animal origin is missing as well. It even fixes norms for the contents of pathogens in food of animal origin.

Codex Alimentarius: "Listeria monocytogenes is acceptable up to the limit of specific microbe numbers in investigated samples – 100 bacteria per gram (colony forming units per gram – cfu/g); value over this limit is regarded as a direct risk for human health." The European Food Safety Authority Journal, 2006, 94, p. 108.

For anti-epizootic programmes and measures modern action-oriented epizootiology principles and practical methods need to be applied. The OIE has been avoiding without any logic to use scientific one-word-term "epizootiology" precisely defining its scope ("Strictly speaking epizootiology is a more inclusive term than epidemiology" Schwabe (USA). Homo sapiens belongs to the animal kingdom. *Epizootiology* = analysis and followup actions (see http://vaclavkouba.byl.cz/epiztextbook) while today's "veterinary epidemiology" = analysis only. Trainees in "armchair" veterinary epidemiology know how to analyze data (no need to see animals) but not how to solve any practical anti-epizootic problems. The majority of actual veterinary epidemiologists are not involved in field anti-epizootic programmes with professional responsibility for their results. Veterinary epidemiologists from major exporting countries dominating the OIE have been influencing its policy as well as global anti-epizootic research, field actions, undergraduate and postgraduate curricula reducing or avoiding animal population health/ disease practical education. Thanks to OIE global "methodological" influence animal health services have reduced their importance for animal production and human health protection. Actual situation calls for the development of "global epizootiology" research and actions based on antiepizootic pyramid - interconnected system of local, national, regional, continental and global programmes. Zoonotic pathogens could contribute to premature extinction of Homo sapiens as a biological species. Planet-wide eradicated pathogens are, after about one hundred years of intensive and costly actions, only two: human small pox virus (1980) and rinderpest virus (2010). This reflects the extraordinary difficulty of global anti-epizootic activities.

The French authors in Toma et al. "Dictionary of Veterinary Epidemiology" (1999) even wrote that anti-epidemic problem solutions belong to so called "health managers" and not to "epidemiologists". This "novelty" means that one specialist in office carries out the analyses only and the other one solves the problem in field. What are these "armchair epidemiologists" for? Who are the "health managers"? A new profession? The Dictionary says: "it is recommended to use the word epidemic instead of epizootic." "it is recommended to discontinue use of the term of epizootiology." Why? The name is not decisive, the most important are practical results of the given science. Acta, non verba.

Free market fair trade principles must be applied, i.e. full sanitary quality based on importing country requirements and on bilateral agreement without any external interference or even WTO/OIE dictate through SPS and Code and without any political or trade lobby pressures. Paying country must have the freedom to decide on import conditions. Importing governments, farmers and consumers must have the right to require the commodities to be pathogen-free and to know truthfully what is guaranteed and what is not. The WTO/OIE concept represents a perverse logic, when exporters of communicable disease pathogens are without any economic sanctions (self-regulation does not work without penalties), while importers refusing dangerous goods containing pathogens are "punished" being considered as trade barrier troublemakers and sometimes exposed to international WTO/OIE arbitration.

#### CONCLUSIONS

International trade must be much better controlled by the governments. State animal health services must be significantly strengthened and enable: to control on-thespot international trade in animal commodities, i.e. preexport and post-import microbiological/epizootiological investigations; to issue export guarantee certificates; to discover and eradicate imported pathogens; to improve epizootiological situation through infection eradications, etc. In order to block or at least to break global spreading of pathogens all WTO and OIE provisions supporting their spread through international "legal" trade must be immediately abolished. The entire intergovernmental anti-epizootic agenda should be concentrated without any delay in United Nations Organization responsible for the future of humanity and life on this planet. Worldwide protection of animal and human health and life, incl. survival of humans, must become an urgent priority subject of the most competent executive body of the UN, i.e. Security Council issuing internationally binding resolutions.

Notes: The OIE deserves appreciation for its contribution to FAO Rinderpest Global Eradication Programme (GREP/AGAH). FAO Animal Health Service (AGAH) represents an executive body providing technical assistance (e.g. in 1990 backstopping 218 field programmes in about one hundred countries). This author sent letters to leaders of the most relevant internationals organizations (starting with United Nations Secretary General and ending with Chiefs, Animal Health Service, FAO) warning about pathogen spreading through trade as the danger for global health and life, incl. humanity survival. It seems that courage to correct actual critical situation is lacking. More in *http://vaclavkouba.byl.cz/warnings.htm.* 

International trade yes, but in healthy animals and pathogen-free animal products.

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- More in *http://vaclavkouba.byl.cz* (block "Invisible enemy threat").

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