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OUTBREAKS OF DISEASE: CURRENT OFFICIAL REPORTING

by Mark Wheelis*

Introduction

1. Biological warfare is the deliberate use of disease as a weapon of war to attack humans, animals or plants. Consequently, if a biological weapon is successfully used, its manifestation will be an outbreak of disease. It follows that outbreaks of disease can raise concerns about whether an event has happened which is in violation of the Biological and Toxin Weapons Convention (BTWC), such as the use of biological agents as weapons, or an accidental release of a biological agent during conduct of activity prohibited under the Convention.
2. The Special Conference¹ in September 1994 in agreeing on the mandate for the Ad Hoc Group (AHG) to consider appropriate measures, including possible verification measures, to strengthen the effectiveness and improve the implementation of the BTWC stated that the regime would include *'measures for the investigation of alleged use.'* Consequently the AHG has given consideration in its negotiations to such measures.
3. The January 1999 version² of the draft Protocol provides in *Article III Compliance Measures* for investigations of disease outbreaks (brackets indicate alternative wording or wording that does not yet enjoy consensus support):

"(1) [Field] investigations [of the alleged use of biological weapons] [to be conducted in geographic areas where the release of, or exposure of humans, animals or plants to microbial or other biological agents and/or toxins has given rise to a concern about non-compliance with Article I of the Convention by a State Party]"
(Article III, Section G, part A)

As there are concerns³ that such investigations should not be triggered solely by an outbreak of disease, but rather by ones that raise specific compliance concerns, the text continues:

"5. All natural outbreaks of disease do not pose a compliance concern to the Convention [and therefore shall not be cause for an investigation of a non-compliance concern]..."

[5 bis All natural outbreaks of disease do not pose a compliance concern to the Convention and therefore shall not be a cause for an investigation of a non-compliance concern. The diseases that are endemic in the region and present the expected epidemiological features shall not be considered as an unusual outbreak of disease. An unusual outbreak of disease which appears to be unusual, shall be investigated by the affected State Party, as per guidelines set out in Annex D, Section V, and concluded as soon as possible.]"

Annex D, Section V contains a list of 12 reasons for an unusual outbreak of disease.

4. The draft Protocol also has a transparency provision, not yet enjoying consensus support, that States Parties should report information on outbreaks of disease:

"[Notifications]

[(L) Outbreaks of Disease]

[31. Each State party shall provide to the Organization within... days information, in accordance with Appendix ..., on outbreaks of disease [relevant to the Convention][and not endemic in the region] occurring on its territory.

32. If all of the required information has been submitted by a State Party to a competent international body, such as the WHO, and this international body has supplied the information to the Organization, such provision of information shall satisfy a State Party's obligation under paragraph 31 of this section.]" (Article III, Section D. Declarations)

5. It is evident that an appreciation of current reporting requirements for outbreaks of disease would facilitate the consideration by the Ad Hoc Group of those aspects of the Protocol relating to outbreaks of disease relevant to the Convention. This Briefing Paper provides such information. It considers first the reporting of disease under the Confidence-Building Measures agreed at the Second Review Conference and augmented at the Third Review Conference before going on to address the reporting of diseases to WHO, PAHO, FAO and OIE.

Disease Reporting as a CBM

6. One of the confidence-building measures (CBMs) agreed at the Second Review Conference⁴ of the BTWC was that States Parties should report unusual outbreaks of disease. CBM B requires the

Exchange of information on all outbreaks of infectious diseases and similar occurrences caused by toxins that seem to deviate from the normal pattern as regards type, development, place, or time of occurrence. If possible, the information provided would include, as soon as it is available, data on the type of disease, approximate area affected, and number of cases.

7. Subsequently, an Ad Hoc Group of Scientific and Technical Experts developed⁵ a form for use in reporting outbreaks, and emphasized that reporting

is considered especially important in the following cases:

- when the cause of the outbreak cannot be readily determined or the causative agent^{**} is difficult to diagnose,*
- when the disease may be caused by organisms which meet the criteria for risk group III or IV, according to the classification in 1983 WHO Laboratory Biosafety Manual, 6*
- when the disease follows an unusual pattern of development,*
- when the disease occurs in the vicinity of research centres and laboratories subject to exchange of data under item A,⁷*
- when suspicions arise of the possible occurrence of a new disease.*

The Ad Hoc Group of Scientific and Technical Experts further agreed that each State Party should

...provide background information on diseases caused by organisms which meet the criteria for risk groups III and IV...the occurrence of which...does not necessarily constitute a deviation from normal patterns.

8. An initial report on unusual outbreaks is expected immediately following its recognition, and the initial report is to be followed up in the annual report expected of all States Parties. The reports are to be filed with the UN Department of Disarmament Affairs, for prompt forwarding to all States Parties. Finally, States Parties are asked to invite experts from other States Parties to assist in handling unusual outbreaks, and to respond favorably when so invited.

9. At the Third Review Conference⁸, the language for Confidence-Building Measure B was strengthened:

Exchange of information on all outbreaks of infectious diseases and similar occurrences caused by toxins that seem to deviate from the normal pattern as regards type, development, place, or time of occurrence. The information provided on events that deviate from the norm will include, as soon as it is available, data on the type of disease, approximate area affected, and number of cases.

The provision of background information was further encouraged and extended to include organisms in risk group II. It was noted that:

Since no universal standards exist for what might constitute a deviation from the normal pattern, States Parties agreed to utilize fully existing national reporting systems on human diseases as well as animal and plant diseases, where possible, and systems within the WHO to provide annual updates of background information on diseases caused by organisms which meet the criteria for risk groups II, III and IV according to the classification in the 1983 WHO Laboratory Biosafety Manual, the occurrence of which, in their respective areas, does not necessarily constitute a deviation from normal patterns.

10. Unfortunately, compliance with this 'politically binding'⁹ CBM has been variable and generally poor.¹⁰ Although some states provide at least some of the required information, many states provide no or incomplete information. This is in part due to weak epidemiological infrastructure in many States Parties, and to ineffective liaison between foreign ministries (responsible for reporting obligations), and health and agricultural ministries (responsible for outbreak investigation and management). While the latter may be within the power of many States Parties to correct with minimal cost, the former is a major obstacle not readily overcome without substantial additional resources.

Reporting of Human Disease Outbreaks to the WHO

11. the 191 Member States of the World Health Organization (WHO) are politically bound by the 1969 International Health Regulations (IHR) approved at their 22nd World Health Assembly¹¹. The IHR came into force on 1 January 1971. The IHR have been revised twice since; the current edition is the third, approved in 1981 at the 34th World Health Assembly¹², and issued in 1983.¹³

12. The notification provisions of the IHR are effected by national health administrations, acting on behalf of their governments:

For the application of these Regulations, each State recognizes the right of the Organization [WHO] to communicate directly with the health administration of its territory or territories. Any notification or information sent by the Organization to the health administration shall be considered as having been sent to the State, and any notification or information sent by the health administration to the Organization shall be considered as having been sent by the State. (Article 2)

13. The IHR apply to only three diseases:

For the purposes of these Regulations..."diseases subject to the Regulations"(quarantinable diseases) means cholera...plague, and yellow fever (Article 1)14

Under the IHR, notification of all cases of these diseases is to be made immediately, and, in the case of ongoing epidemics, updated at least weekly:

Each health administration shall notify the Organization by telegram or telex within twenty-four hours of its being informed that the first case of a disease subject to the Regulations...has occurred in its territory (Article 3)

...

Any notification required under...Article 3 shall be promptly supplemented by information as to the source and type of the disease, the number of cases and deaths, the conditions affecting the spread of the disease, and the prophylactic measures taken (Article 5)

...

During an epidemic the notifications and information required under Article 3 and Article 5 shall be followed by subsequent communications sent at regular intervals to the Organization...These communications shall be as frequent and as detailed as possible. The number of cases and deaths shall be communicated at least once a week. The precautions taken to prevent the spread of the disease...shall be stated. (Article 6)

14. Notification of the absence of cases from areas previously infected is also required:

The health administration for a territory in which an infected area has been defined and notified shall notify the Organization when that area is free from infection. (Article 7)

15. In the case of the zoonotic diseases¹⁵ plague and yellow fever, notification is required if their etiologic agents are detected in their animal reservoirs or vectors¹⁶:

Each health administration shall notify the Organization immediately of evidence of the presence of the virus of yellow fever, including the virus found in mosquitos or in vertebrates other than man, or the plague bacillus, in any part of its territory, and shall report the extent of the area involved...Health administrations, when making a notification of rodent plague, shall distinguish wild rodent plague from domestic

rodent plague, and, in the case of the former, describe the epidemiological circumstances and the area involved. (Article 4)

16. Disease information provided by Member States to the WHO is available immediately by telex to Member States and is also published weekly in the Weekly Epidemiological Record (WER) sent to Member States and available on the web.¹⁷

Reporting of Human Diseases to PAHO

17. The 35 Member States¹⁸ of the Pan American Health Organization (PAHO) are legally bound to report all outbreaks of certain human diseases to the PAHO. This commitment is a function of the 1924 Pan American Sanitary Code.¹⁹ The PAHO has been, since 1949, the Regional Office of the WHO; it is thus part of the UN system, as well as of the inter-American system.

18. Each Member State is obliged to report frequently to both the PAHO and to other Member States on the current state of public health, including information on 11 diseases that are "*obligatorily reportable*." Three of these diseases are also reportable to the WHO (plague, cholera, and yellow fever).

Each of the signatory Governments agrees to transmit to each of the other signatory Governments and to the Pan American Sanitary Bureau,²⁰ at intervals of not more than two weeks, a statement containing information as to the state of its public health, particularly that of its ports.

The following diseases are obligatorily reportable:

*Plague,
cholera,
yellow fever
smallpox,
typhus,
epidemic cerebrospinal meningitis,
acute epidemic poliomyelitis,
epidemic lethargic encephalitis,
influenza or epidemic la grippe,
typhoid and paratyphoid fevers,
and such other diseases as the Pan American Sanitary Bureau may, by resolution, add to the above list. (Article 3)*

19. Outbreaks of five of these diseases (again including the three reportable to the WHO) require immediate notification of the PAHO and of neighboring states:

Each signatory Government agrees to notify adjacent countries and the Pan American Sanitary Bureau immediately by the most rapid available means of communication, of the appearance in its territory of an authentic or officially suspected case or cases of plague, cholera, yellow fever, smallpox, typhus, or any other dangerous contagion liable to spread through the intermediary agency of international commerce. (Article 4)

This notification is to be accompanied, or very promptly followed, by the following additional information:

1. *The area where the disease has appeared.*
2. *The date of its appearance, its origin, and its form.*
3. *The probable source or country from which introduced and manner of introduction.*
4. *The number of confirmed cases, and number of deaths.*
5. *The number of suspected cases and deaths.*
6. *In addition, for plague, the existence among rodents of plague, or of an unusual mortality among rodents; for yellow fever, the Aedes aegypti index of the locality.*
7. *the measures which have been applied for the prevention of the spread of the disease, and its eradication. (Article 5)*

20. All reports of outbreaks are to be followed by frequent (at least weekly) communications to keep the PAHO and its Member States fully informed about the evolving state of the outbreak and of measures taken for its control:

The notification and the information prescribed in Articles 2, 4, 5...are to be followed by further communications in order to keep other Governments informed as to the progress of the disease or diseases. These communications will be made at least once weekly, and will be as complete as possible, indicating in detail the measures employed to prevent the extension of the disease...(Article 7)

Reporting of Animal Outbreaks to the OIE

21. The 151 Member States of the Office International des Epizooties (OIE) are politically bound to notify the organization of all outbreaks of certain diseases in animals. This commitment is formalized in the International Animal Health Code²¹ and in the International Aquatic Animal Health Code.²² As with notification of human diseases to the WHO, Member States delegate to their appropriate ministry authority to communicate with the OIE:

For the purposes of the Code...every Member Country of the OIE shall recognise the right of the Central Bureau to communicate directly with the Veterinary Administration of its territory or territories.

All notifications and all information sent by the OIE to the Veterinary Administration shall be regarded as having been sent to the country concerned and all notifications and all information sent to the OIE by the Veterinary Administration shall be regarded as having been sent by the country concerned. (Section 1.2.0.1 of both Codes)

22. Both the Animal Code and the Aquatic Animal Code contain a general purpose clause obligating Member States to share whatever information is necessary to control important animal diseases:

1. *Countries shall make available to other countries, through the OIE, whatever information is necessary to minimise the spread of important animal diseases and to assist in achieving better world-wide control of these diseases.*

....

4. *Recognising that scientific knowledge concerning the relationship between disease agents and diseases is constantly evolving and that the presence of an infectious agent does not necessarily imply the presence of a disease, countries shall ensure through their reports that they comply with the spirit and intention of paragraph 1 above.*

5. *In addition to reporting new findings in accordance with Article 1.2.0.3., countries shall also provide information on the measures taken to prevent the spread of diseases...In the case of diseases transmitted by vectors, the measures taken against such vectors shall also be specified. (Animal Code, Article 1.2.0.2).*

Nearly identical wording appears in the Aquatic Animal Code, except that paragraph 1 is broadened to include aetologic agents as well as the diseases they cause, and paragraph 5 omits mention of vectors.

23. Both Codes contain lists of specific notifiable diseases. The Animal Code enumerates 'List A' diseases, defined as "*transmissible diseases which have the potential for very serious and rapid spread, irrespective of national borders, which are of serious socio-economic or public health consequence and which are of major importance in international trade of animals and animal products*" (Article 1.1.0.1) as follows:

*African horse sickness
African swine fever
Bluetongue
Contagious bovine pleuropneumonia
Foot and mouth disease
Highly contagious avian influenza,
Hog cholera (classical swine fever)
Lumpy skin disease
Newcastle disease
Peste des petits ruminants
Rift Valley fever
Rinderpest
Sheep pox and goat pox
Swine vesicular disease
Vesicular stomatitis (Section 6.1)*

Section 2.1 of the Aquatic Animal Code lists the following fish diseases as notifiable to the OIE:

*Epizootic haematopoietic necrosis,
Infectious haematopoietic necrosis,
Oncorhynchus masou virus disease (synonym: salmonid herpesvirus type 2 disease),
Spring viraemia of carp, and
Viral haemorrhagic septicaemia (synonym: egtved disease).*

Section 2.2 of the Aquatic Animal Code lists the following mollusk diseases as notifiable to the OIE :

*Bonamiosis,
Haplosporidiosis,*

*Marteiliosis,
Mikrocystosis, and
Perkinsosis.*

24. There are thus a total of 26 different animal diseases notifiable to the OIE:

16 different terrestrial animal and bird diseases under the Animal Code, and
10 aquatic animal diseases under the Aquatic Animal Code.

One of the diseases notifiable to the OIE (Rift Valley fever) is a zoonosis, and can also cause outbreaks in humans. However, notification of human cases is not required.

25. Under the Animal Code, new outbreaks of List A agents (and, under certain conditions, of diseases not on List A) have to be reported within 24 hours, followed by weekly reports on the evolution of the outbreak so long as the situation is volatile. In addition, monthly and annual situation reports are required:

Veterinary Administrations shall send to the OIE:

1. Notification by telex, telegram or fax within 24 hours, of any of the following events:

a) for List A diseases, the first occurrence or re-occurrence of a disease, if the country or region of the country was previously considered to be free from that particular disease;

b) for List A diseases, important new findings which are of epidemiological significance to other countries;

c) for List A diseases, a provisional diagnosis of a disease if this represents important new information of epidemiological significance to other countries [i.e., a country cannot delay until a provisional diagnosis is confirmed];

d) for diseases not in List A, if there are new findings which are of exceptional epidemiological significance to other countries.

...

2. Weekly reports...subsequent to a notification under paragraph 1 above, to provide further information on the evolution of an incident which justified urgent notification. These reports should continue until the disease has been eradicated or the situation has become sufficiently stable that monthly reporting under paragraph 3 will satisfy the obligation of the country to the OIE.

3. Monthly reports on the absence or presence and evolution of diseases in List A, and findings of epidemiological importance to other countries with respect to diseases which are not in List A.

4. Annual reports on all diseases in Lists A and B and any other diseases considered to be of socio-economic importance or of major veterinary interest. (Animal Code, Article 1.2.0.3)

26. List B diseases are defined as transmissible diseases which are considered to be of socio-economic and/or public health importance within countries and which are significant in the international trade of animals and animal products. Annual reports are required for these, but immediate notification is not required unless justified by specific circumstances. List B

includes 8 diseases found naturally in multiple species (including anthrax and leptospirosis), 13 cattle diseases, 7 diseases of sheep and goats, 14 equine diseases (including Venezuelan equine encephalomyelitis and Japanese encephalitis), 5 swine diseases, 12 bird diseases, 3 rabbit diseases (including tularemia), and 5 bee diseases. The diseases named in parentheses above are zoonoses; however, as for the List A zoonosis Rift Valley fever, there is no requirement for reporting human cases.

27. There is nearly identical wording in the Aquatic Animal Code (Article 1.2.0.3), with the exception that routine monthly reports are not required, periodic reporting after an urgent notification is monthly rather than weekly, and there is no equivalent to List B diseases in this Code.

28. Not only are outbreaks of listed agents reportable under the Animal Code and the Animal Health Codes; Member States are also obliged to report when previously infected territories are disease free, and to provide maps showing the boundaries of disease-free zones:

1. The Veterinary Administration of a territory in which an infected zone was located shall inform the Central Bureau when this zone is free from the disease.

....

4. The Veterinary Administration of a country which sets up one or several free zones shall inform the OIE giving necessary particulars and indicating clearly the location of the zones on a map of the country. (Article 1.2.0.4)

29. Disease information provided by Member States to the OIE is transmitted immediately to any Member States at risk from the outbreak, and is mailed to all Member States on a weekly basis in the publication *Disease Information*, also available on the web²³. This warning mechanism is supplemented by the bimonthly publication OIE Bulletin, which summarizes all outbreaks of List A diseases, and other animal health information of interest to Member States. There is also an annual summary publication, *World Animal Health*.

Surveillance of Plant Disease Outbreaks under the International Plant Protection Convention

30. There is no mandatory reporting to international agencies for plant diseases comparable to the human disease reporting to WHO or the animal disease reporting to OIE. However, the International Plant Protection Convention (IPPC)²⁴ is a multilateral treaty whose purpose is to secure common and effective action to prevent the spread and introduction of pests of plants and plant products and to promote measures for their control. The IPPC has been deposited with the Director-General of the Food and Agriculture Organization (FAO) of the United Nations since it was first adopted by the FAO Conference in 1951. It came into force in 1952 and was first amended in 1979 and again in 1997²⁵. There are 107 Contracting Parties to the 1979 Convention²⁶ and, thus far, 8 Contracting Parties to the 1997 Convention²⁷.

31. The IPPC establishes certain requirements for cooperation in the exchange of information on plant pests. The term '*pest*' is defined in the 1997 Convention as meaning *any species, strain or biotype of plant, animal or pathogenic agent injurious to plants or plant products*; (Article II.1)²⁸ thus clearly covering diseases.

32. Each State Party to the IPPC is legally obliged to establish, as soon as possible and to the best of its ability, a national plant protection organization which includes among its duties in the 1997 Convention the surveillance of plant diseases within its territories:

2. The responsibilities of an official national plant protection organization shall include the following:

...

b) the surveillance of growing plants, including both areas under cultivation (inter alia fields, plantations, nurseries, gardens, greenhouses and laboratories) and wild flora, and of plants and plant products in storage or in transportation, particularly with the object of reporting the occurrence, outbreak and spread of pests, and of controlling those pests, including the reporting referred to under Article VIII paragraph 1(a) (Article IV)

33. States Parties are obligated to share information bi- or multilaterally on plant diseases that may threaten other States Parties:

International Cooperation

1. The contracting parties shall cooperate with one another to the fullest practicable extent in achieving the aims of this Convention, and shall in particular:

a) cooperate in the exchange of information on plant pests, particularly the reporting of the occurrence, outbreak or spread of pests that may be of immediate or potential danger, in accordance with such procedures as may be established by the Commission [on Phytosanitary Measures established within the FAO under Article XI of the IPPC]

...

2. Each contracting party shall designate a contact point for the exchange of information connected with the implementation of this Convention. (Article VIII)

34. The above Article on International Cooperation in the 1997 Convention represents a retreat from the earlier commitment to reporting of plant diseases made in the 1979 Convention:

International Cooperation

The contracting parties shall cooperate with one another to the fullest practicable extent in achieving the aims of this Convention, in particular as follows:

a. Each contracting party agrees to cooperate with FAO in the establishment of a world reporting service on plant pests, making full use of the facilities and services of existing organizations for this purpose and, when this is established, to furnish FAO periodically, for distribution by FAO to the contracting parties, with the following information:

i. reports on the existence, outbreak and spread of economically important pests and plant products which may be of immediate or potential danger;

ii. information on means found to be effective in controlling the pests of plants and plant products.

... (1979 Convention; Article 7: International Cooperation)

35. The international cooperation mandated by Article VIII is to a large extent accomplished through Regional Plant Protection Organizations established under the IPPC:

1. The contracting parties undertake to cooperate with one another in establishing regional plant protection organizations in appropriate areas.

2. The regional plant protection organizations shall function as the coordinating bodies in the areas covered, shall participate in various activities to achieve the objectives of this Convention and, where appropriate, shall gather and disseminate information

...(Article IX)

There are currently nine Regional Plant Protection Organizations, covering the following approximate regions: Asia and the Pacific; Caribbean; Southern South America; Northern South America; European and Mediterranean; African; North American; Central American; and Australia and Pacific Island.²⁹

36. The IPPC establishes a Commission on Phytosanitary Measures within the FAO, which has as part of its duties the establishment of procedures and international standards to implement the IPPC:

1. Contracting parties agree to establish the Commission on Phytosanitary Measures with the framework of the Food and Agriculture Organization of the United Nations (FAO).

2. The functions of the Commission shall be to promote the full implementation of the objectives of the Convention and, in particular, to:

...

b) establish and keep under review the necessary institutional arrangements and procedures for the development and adoption of international standards, and to adopt international standards;

... (Article XI)

37. The Commission has adopted a series of such International Standards for Phytosanitary Measures, of which number 6 is Guidelines for Surveillance.³⁰ This politically binding measure establishes guidelines for effective surveillance of plant pests by national plant protection organizations (NPPOs), and mandates transparency as its final required measure:

6. Transparency

The NPPO should on request, distribute reports of pest presence, distribution, or absence derived from general surveillance and specific surveys. Reports should be adequately referenced in relation to pest occurrences.

International Trade as an Incentive for Disease Surveillance and Reporting

37. Compliance with the requirements of the Animal and Aquatic Animal Codes and of the IPPC has an important incentive in the General Agreement on Trade and Tariffs (GATT 1994)³¹, especially under the Agreement on the Application of Sanitary and Phytosanitary Measures (the SPS agreement)³², which allows Member States to establish sanitary and phytosanitary restrictions on agricultural imports, but which requires such restrictions to be based on scientific evidence:

1. Members have the right to take sanitary and phytosanitary measures necessary for the protection of human, animal or plant life or health, provided that such measures are not inconsistent with the provisions of this Agreement.

2. Members shall ensure that any sanitary or phytosanitary measure is applied only to the extent necessary to protect human, animal, or plant life or health, is based on scientific principles and is not maintained without sufficient scientific evidence...

3. Members shall ensure that their sanitary and phytosanitary measures do not arbitrarily or unjustifiably discriminate between Members where identical or similar conditions prevail, including between their own territory and that of other Members. Sanitary and phytosanitary measures shall not be applied in a manner which would constitute a disguised restriction on international trade. (Article 2)

38. Member States may establish disease-free areas and areas of low disease prevalence on the basis of scientific evidence, and other Member States are obliged to recognize these areas when considering any trade restrictions:

2. Members shall, in particular, recognize the concept of pest- or disease-free areas and areas of low pest or disease prevalence. Determination of such areas shall be based on factors such as geography, ecosystems, epidemiological surveillance, and the effectiveness of sanitary or phytosanitary control

3. Exporting Members claiming that areas within their territories are pest- or disease-free areas or areas of low pest or disease prevalence shall provide the necessary evidence thereof in order to objectively demonstrate to the importing Member that such areas are, and are likely to remain, pest- or disease-free areas or areas of low pest or disease prevalence, respectively. For this purpose, reasonable access shall be given, upon request, to the importing Member for inspection, testing and other relevant procedures (Article 6).

Compliance With Disease Reporting Systems

39. An assessment of compliance of obligated States with the above disease reporting requirements is beyond the scope of this Briefing Paper. However, it should be noted that despite their obligations, and for a variety of different reasons, many States do not fully comply with their reporting obligations. Some of these States lack adequate epidemiological infrastructure to develop the required information. However, others are nations with sophisticated epidemiological and public health systems; the reasons for their failure to report as required are less clear.

Diseases Listed in the BTWC Protocol and Existing Reporting Systems

40. Among the three human diseases reportable to the WHO, two (yellow fever and plague) are on the list in the draft Protocol of diseases under consideration as reportable to the BTWC Organization. Although additional diseases are reportable to the PAHO, these, apart from smallpox, are not on the list of diseases in the draft Protocol. Consequently, throughout the world only two of the 30 infectious agents in the Protocol list of human pathogens³³ are currently reportable.

41. Several additional zoonotic diseases of concern (eg Rift Valley fever, tularaemia, anthrax, Venezuelan equine encephalomyelitis, and Japanese encephalitis) are reportable to the OIE when they occur in their animal hosts. Although this reporting does not address concerns about human cases under the BTWC, it does provide important background information, and has the potential to significantly reduce concerns.

42. Current reporting systems provide thorough coverage of animal diseases of concern under the BTWC. 12 of the 14 animal pathogens currently listed in the draft Protocol are on List A or List B of the Animal Code.

43. Although there are no specific reporting requirements for listed plant diseases to international bodies, the requirement under the IPPC to share information on important plant diseases with other Member States should insure a high degree of transparency with respect to plant diseases of concern to the BTWC.

Other Disease Reporting Systems

44. The above sections have described the existing official international systems of disease reporting. In addition to these, there are a very large number of other disease reporting systems, including international systems of voluntary reporting or information collection, NGO systems of information collection, and national reporting systems. Among the more prominent of these are:

The Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases (EMPRES) of the FAO³⁴ is a system of regional monitoring of plant and animal pests. It includes as priorities for monitoring a number of animal diseases on the OIE List A: rinderpest; foot and mouth disease; peste des petits ruminants; contagious bovine pleuropneumonia; rift valley fever; and lumpy skin disease. No plant diseases are included as priorities.

The Regional Animal Disease Surveillance and Control Network (Radiscon)³⁵ is a joint FAO/IFAD program aimed at strengthening veterinary epidemiology in 26 countries in North Africa, the Sahel, the Horn of Africa, the Middle East, and the Arab Gulf. Databases on rinderpest, foot-and-mouth disease, pest des petits ruminants, and brucellosis are under construction.

WHO operates a number of programs focusing on particular human diseases, all of which necessarily include some component of surveillance.³⁶ Over 30 different infectious diseases are subject of such programs, including some listed in the BTWC Protocol.

The WHO also maintains a weekly list, with restricted circulation, of outbreaks reported to it by its collaborating centers but unverified by States

ProMED-mail (Program for Monitoring Emerging Diseases by email)³⁷ provides daily reports from about 15 thousand subscribers in about 150 countries of outbreaks of human, plant and animal diseases. Since a large number of epidemiologists and health care professionals are subscribers, the coverage of this unofficial service is extensive.

The European Union states along with other European States report epidemiological information on the Eurosurveillance web site.³⁸

Most states have national disease reporting requirements for human diseases; many also have reporting requirements for specified plant and animal diseases. Much of this information is available on the web.

Concluding Remarks

45. This Briefing Paper has provided information on current international reporting of disease to the international organizations WHO, PAHO, and OIE, as well as on the plant disease information sharing requirements of the IPPC within the FAO system. Plant and animal disease reporting requirements, either to UN Organizations or to other States, are reasonably complete. Much information is made available rapidly on the internet. Official reporting of human disease is much less extensive, especially outside the Americas. However, there is much information available from other official sources, as well as numerous unofficial ones. It is unlikely that any significant human, animal or plant outbreak could escape international attention.

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3. Group of NAM and Other Countries, *Investigations: Exclusion of All Natural Outbreaks of Disease*, BWC/AD HOC GROUP/WP.262, 23 January 1998. China, Cuba, India, Indonesia and Pakistan, *Working Paper*, BWC/AD HOC GROUP/WP.339, 6 January 1999.

4. United Nations, *Final Document of the Second Review Conference of the Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons, and on Their Destruction*, BWC/CONF.II/13/II, 30 Sept 1986

5. United Nations, *Report, Ad Hoc Meeting of Scientific and Technical Experts from States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons, and on Their Destruction*, BWC/CONF.II/EX/2, 21 April 1987.

** It is understood that this may include organisms made pathogenic by molecular biology techniques, such as genetic engineering.

6. World Health Organization, *Laboratory Biosafety Manual*. (World Health Organization: Geneva, 1983).

7. CBM A requires the exchange of information on laboratories with containment facilities sufficient to handle high-risk pathogens.

8. United Nations, *Final Document of the Third Review Conference of the Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons, and on Their Destruction*, BWC/CONF.III/23/II, 1991.

9. Politically binding obligations are ones that a representative of a government has committed to in his official representative capacity, but which has not been ratified by the State Party. This is in contrast to a legally binding

obligation which has been duly and formally ratified. Failure to live up to the former does not constitute a treaty violation; failure to live up to the latter does.

10. Erhard Geissler, *Reporting of Outbreaks of Disease under BTWC Confidence-Building Measures* in Malcolm R. Dando & Graham S. Pearson (eds), *Scientific and Technical Means of Distinguishing between Natural and Other Outbreaks of Disease*, Kluwer Press, in press. Iris Hunger, *Article V: Confidence Building Measures*, in Malcolm R. Dando & Graham S. Pearson (eds), *Strengthening the Biological Weapons Convention: Key Points for the Fourth Review Conference*, Quaker United Nations Office, September 1996. Available at <http://www.brad.ac.uk/acad/sbtwc>

11. World Health Assembly, *International Health Regulations*, Resolution WHA 22.46, Fourteenth plenary meeting, 25 July 1969. Available at <http://www.who.int> WHO Official Records No. 176 (1969)

12. World Health Assembly, *Amendment of the International Health Regulations (1969)*, Resolution WHA 34.13, Fourteenth plenary meeting, 20 May 1981. Available at <http://www.who.int>

13. *International Health Regulations (1969)*, third annotated edition. Geneva: World Health Organization (1983).

14. Smallpox was included until the third edition, when it was removed from the reporting requirement because of its eradication.

15. Diseases that infect animals as well as humans, and which may be maintained in animal populations (reservoirs).

16. A vector is a species that transmits the diseases among hosts, often arthropods such as mosquitoes or fleas.

17. The Weekly Epidemiological Record is available at <http://www.who.int/wer/>

18. The Member States are Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, USA, Uruguay and Venezuela. In addition, there are three Participating Governments outside the Americas (France, Netherlands, and the UK), an Associate Member (Puerto Rico), and two observer nations (Spain and Portugal).

19. Pan American Sanitary Code, Havana, Cuba, November 1924. Available at <http://www.paho.org/english/coedeng.htm>

20. The executive arm of the PAHO.

21. International Animal Health Code, 7th edition, May 1998. Available on the web at http://www.oie.int/Norms/MCode/A_summry.htm.

22. International Aquatic Animal Health Code, 2nd edition, 1997. Available on the web at http://www.oie.int/norms/FCCode/A_summry.htm.

23. Office International des Epizooties, *Disease Information*, available at http://www.oie.int/info/A_info.htm

24. International Plant Protection Convention. The 1979 Convention is available at <http://www.fao.org/ag/agp/agpp/pq/Conven/1979text.htm>

25. International Plant Protection Convention. The New Revised Text approved by the FAO Conference at its 29th Session, November 1997 is available at www.fao.org/ag/agp/agpp/pq/Conven/conventn.htm

26. Contracting Parties to the 1979 IPPC as of 26 February 1999 available at <http://www.fao.org/ag/agp/agpp/pq/Conven/1979mem.htm>

27. Contracting Parties to the 1997 IPPC (The New Revised Text of the IPPC) as of 26 February 1999 available at <http://www.fao.org/ag/agp/agpp/pq/Conven/1997mem.htm>

28. As the 1997 text is the latest version of the IPPC and was approved unanimously at the FAO Conference in November 1997, it is reasonable to assume that most of the Contracting Parties to the 1979 IPPC will become Contracting Parties to it. Consequently, in this Briefing Paper, unless otherwise specified, language from the 1997 text is used as this is generally a development of the earlier language in the 1979 IPPC.

29. For Regional Plant Protection Organization (RPPO) names and member countries, see www.fao.org/WAICENT/FaoInfo/Agricult/AGP/AGPP/PQ/Info/rppo.htm

30. Endorsed by the 29th session of the FAO Conference, November 1997; published in Rome in 1998 by the Secretariat of the International Plant Protection Convention, FAO.

31. The Uruguay Round Protocol GATT 1994 is available at <http://wto.org/wto/legal/finalact.htm> A summary of the Final Act of the Uruguay Round is available at http://wto.org/wto/legal/ursum_wp.htm

32. World Trade Organization, *Agreement on the Application of Sanitary and Phytosanitary Measures*. Available at <http://www.wto.org/wto/goods.spagr.htm>

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33. The list of pathogens in the current draft Protocol (BWC/AD HOC GROUP/44, 29 January 1999] comprises 16 viruses, 12 bacteria (including 3 rickettsiae) and 2 protozoa.
 34. Available at <http://www.fao.org/WAICENT/FAOINFO/AGRICULT/AGA/AGAH/EMPRES/WFS.htm>
 35. Available at <http://www.fao.org/ag/aga/agah/id/radiscon/default.htm> The Radiscon countries are clustered into four sub-regions: Mahgreb/Sahel sub-region comprising Algeria, Chad, Libya, Mali, Mauretania, Morocco, Niger and Tunisia; Middle East sub-region comprising Egypt, Palestinian Authority, Israel, Jordan, Iran, Iraq, Lebanon, Syria and Turkey; Arab Gulf sub-region comprising Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and United Arab Emirates; and the Horn of Africa/others sub-region comprising Ethiopia, Sudan, Somalia, Djibouti, Eritrea and Yemen.
 36. Health Topics and Policy. This page provides direct links to Diseases: Communicable diseases, Diseases: Tropical diseases and Diseases: Vaccine preventable diseases as well as directly to specific diseases. Available at http://www.org.home/map_ht.html
 37. The Program for Monitoring Emerging Diseases Electronic Conference. Available at <http://www.healthnet.org/programs/promed.html>
 38. EuroSurveillance. Available at <http://www.ceses.org/eurosurv/>