



# OIE Biological Threat Reduction Strategy

*– Strengthening Global  
Biological Security –*





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### Background

Infectious disease agents and toxins found in animal populations and animal products are a considerable and on-going threat to animal health, agricultural economies, food security (both crops and livestock), food safety, and public health.

By and large most disease outbreaks and food contaminations occur naturally. However, there is also a real risk that disease may be introduced into susceptible human or animal populations following a deliberate or accidental release of an infectious agent or toxin. These ‘unnatural’ biological threats<sup>1</sup> carry special risks because pathogens may be engineered or released in such a way as to make them more harmful. Although the probability of a deliberate or accidental release may be relatively low the impact may be catastrophic from a national to a global level.

Animal pathogens may be used as bioweapons or in bioterror because they have a high impact, are cheap, easy to acquire and propagate, and can be readily smuggled through border checks undetected. The biotechnology revolution means that options for engineering animal pathogens are increasing all of the time whilst the cost of doing so is decreasing. All of the animal pathogens that have been developed as bioweapons or have potential for use as such are listed by the World Organisation for Animal Health (OIE) (<http://www.oie.int/en/animal-health-in-the-world/oie-listed-diseases-2011/>).

Animals themselves play an important role as biosensors for accidental or deliberate releases of infectious agents and toxins, and for emerging diseases. The same disease surveillance and intelligence systems that are in place to detect day-to-day occurrences of natural outbreaks, within countries and at national borders, will also detect deliberate and accidental releases.

The response to disease is the same whether it is directed against natural infection, or deliberate or accidental release. In the case of zoonotic diseases, coordination of the animal health and public health response is essential, and control is often best focused on eliminating the pathogen in the animal source. Expert investigations carried out by health authorities are needed to establish the cause of a disease outbreak and Veterinary Laboratories are often the first to discover the source. When there is suspicion of malicious release, collaboration with law enforcement agencies becomes an important part of the response.

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<sup>1</sup> In this document biological threat or ‘bio-threat’ refers to the accidental or deliberate release of a pathogen or toxin into a susceptible population.



The most effective and sustainable way to protect against threats from deliberate and accidental releases of animal pathogens is to strengthen existing systems for surveillance, early on-farm detection and rapid response, and for biosafety and biosecurity, whilst fostering scientific networks that work towards altruistic goals. This approach has multiple collateral benefits for animal health, agriculture, public health, poverty alleviation, animal welfare, and economies.

In meeting its mandate to improve animal health, veterinary public health, and animal welfare worldwide, the OIE takes the threat posed by accidental and deliberate release of animal pathogens very seriously. The OIE's strategy for bio-threat reduction, which is summarised in this paper, focuses on strengthening, enhancing, and developing cross-links between existing health systems.

This strategy is consistent with and supported by the OIE's Fifth Strategic Plan (2011-2015) and cuts across all of its six objectives, namely international communication of global animal disease and zoonosis situation; development and implementation of science-based standards and guidelines on prevention, control and eradication of animal diseases, including zoonoses, and safety of international trade of animals and animal products as well as laboratory excellence; ensuring the scientific excellence of information and advice; capacity-building for national Veterinary Services, including their surveillance and response capacities; and strengthening the organisation's influence on policy design, applied research and governance.

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### *OIE's vision*

*“A world that is safe and secure from the accidental or deliberate release of animal pathogens, including zoonoses”.*

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## **OIE's strategy for bio-threat reduction addresses 5 key areas:**

- **Policies, advocacy, and communication**
- **Maintaining expertise and setting standards, guidelines, and recommendations**
- **International cooperation**
- **Global disease intelligence**
- **Capacity-building and solidarity**

### **1. Policies, advocacy, and communication**

To ensure that bio-threat reduction policies remain on the political and technical agenda, that they are sustainable and integrated into the existing animal health policy framework, and that they are communicated to relevant stakeholders.





## Declaration of G20 Agriculture Ministers

The OIE Biological Threat Reduction Strategy is also fully aligned with the recent Ministerial Declaration of the Meeting of G20 Agriculture Ministers held in Paris in June 2011, in which the Ministers stated that: *“As far as public health, animal health and plant health are concerned, we stress the importance of strengthening international and regional networks, international standard setting taking into account national and regional differences, information, surveillance and traceability systems, **good governance and official services, since they ensure an early detection and a rapid response to biological threats, facilitate trade flows and contribute to global food security. We encourage international organizations, especially FAO, the World Health Organization (WHO), the World Organisation for Animal Health (OIE), the Codex Alimentarius Commission (Codex), the International Plant Protection Convention (IPPC) and WTO to continue their efforts towards enhancing interagency cooperation.”***

- a) Highlight that OIE listed diseases and emerging diseases in domestic and wild animals are important global bio-threats, and that universally strong and well governed Veterinary Services are needed to reduce these threats.
- b) Ensure that bio-threat reduction is addressed by OIE Specialist Commissions, at regional and global-level meetings and in strategic planning.
- c) Advocate that investments in mechanisms to prevent, detect, and control natural outbreaks of animal diseases, emerging diseases, and zoonoses are effective in reducing bio-threats, that they provide multiple collateral benefits, and that such investments provide more sustainable benefits than by investing specifically in bio-threat reduction alone.
- d) Ensure that OIE standards and recommendations are acknowledged as the leading global standards and guidance for the animal health sector (zoonoses included) to reduce international threats from animal pathogens, including from natural, accidental, and deliberate release.
- e) Ensure that subjects related to bio-threat reduction are integrated into Veterinary Services evaluation frameworks, education programmes, capacity-building for policy makers, and communication strategies.
- f) Advocate that fostering of altruistic scientific networks at the national, regional, and global level is a means of sustaining expertise, and preventing scientists from contributing to bioweapons development by encouraging a culture of responsible science.
- g) Reduce biological risks linked to veterinary laboratories and animal facilities with efficient biosecurity and biosafety practices.

## 2. Maintaining expertise and setting standards, guidelines, and recommendations

To maintain a global network of leading experts and to set relevant science-based standards, guidelines, and recommendations to support bio-threat reduction policies:

- a) Develop and maintain global networks - OIE ad hoc working groups and Reference Centres - of technical expertise encompassing biosafety and biosecurity, bioethics, and biotechnology. Information from these networks also provides early warning of potential dual use technologies.



b) Maintain up-to-date international standards and guidelines on disease surveillance and notification, and disease prevention and control by OIE Member Countries as well as on animal production and food safety.

c) Cooperate with public health partners (WHO) to develop joint risk-based guidance on laboratory biosafety and biosecurity and sample shipment, also accounting for risks posed to animal health and the environment.

d) Maintain up-to-date international standards and guidelines on biosafety and biosecurity in veterinary laboratories and animal facilities, and on sample shipment. Strengthen compliance through capacity building e.g. using twinning projects.

e) Ensure standards and guidelines are accessible to all OIE Member Countries, that they are risk-based, and that they do not adversely affect the ability to transport diagnostic samples to laboratories quickly and to detect pathogens rapidly.

#### Transparency of the global disease situation

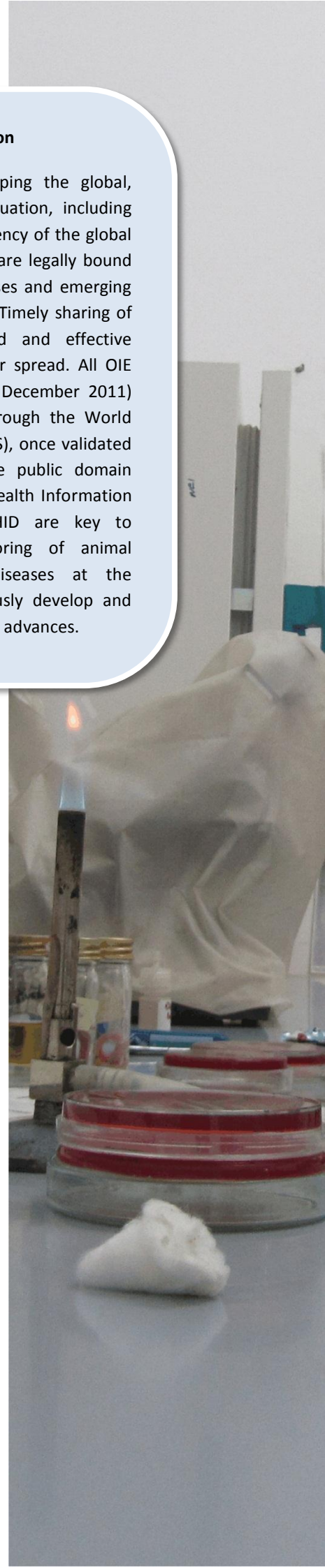
Enhancement of tools capable of mapping the global, regional and national animal disease situation, including zoonoses, is needed to maintain transparency of the global disease situation. OIE Member Countries are legally bound to report occurrences of OIE listed diseases and emerging diseases in animals to OIE Headquarters. Timely sharing of this disease information enables rapid and effective international response, preventing further spread. All OIE Member Countries (178 countries as of December 2011) report disease events directly online through the World Animal Health Information System (WAHIS), once validated the information is rapidly put into the public domain through the OIE WAHID (World Animal Health Information Database) interface. WAHIS and WAHID are key to strengthening surveillance and monitoring of animal diseases, zoonoses, and emerging diseases at the international level. They must continuously develop and evolve to meet demands and technological advances.

### 3. International cooperation

To engage with international partners and stakeholders, particularly key national policy makers (OIE Delegates, OIE National Focal Points, and OIE Reference Centre Experts), and provide technical expertise and build capacity when needed - through active participation in meetings, discussions, country missions, collaboration and planning activities - to ensure that international efforts to reduce threats from accidental or malicious release of pathogens are well coordinated.

a) Communicate on OIE bio-threat reduction activities to OIE Member Countries, OIE National Focal Points, and OIE Regional Offices, through capacity-building seminars and dissemination of scientific and technical information, instructions, communication material, meeting reports, PowerPoint presentations and regional and international meetings.

b) Advocate for the non-proliferation of biological weapons including support for the Biological and Toxin Weapons Convention (BWC).



- c) Ensure that public health and animal health sectors promote complementary and harmonised bio-threat reduction policies, particularly in relation to zoonoses.
- d) Engage and work closely with international bio-threat reduction initiatives such as the Global Partnership (GP).
- e) Maintain a close working relationship with focal points in other relevant international partner organisations and with key stakeholders including WHO, FAO, BWC, IAEA, UNODA, UN1540 Committee, INTERPOL, IFBA, GPP, G8 and G20.
- f) Provide expertise to international agencies involved in investigating suspicion of malicious release of animal pathogens e.g. UNODA.
- g) Maintain OIE participation to the FAO-OIE Crisis Management Centre – Animal Health (CMC-AH) as a joint tool to deploy rapid response technical missions to countries in the face of animal health crises.
- h) Provide support to veterinary laboratories e.g. using North–South and South–South twinnings.
- i) Provide, together with FAO, a secretariat to the Joint FAO/OIE Advisory Body Committee on Rinderpest Research and Biosecurity and implement key post-eradication activities

#### 4. Disease intelligence

Maintain global disease transparency and accurate up-to-date information on rumours and confirmed outbreaks of animal diseases, emerging diseases, and significant epidemiological events, including zoonoses. Disseminate officially confirmed information to the international community.

- a) Maintain transparency of the global animal disease situation by ensuring that OIE Member Countries comply with their legal obligation to report OIE listed diseases as well as new and emerging diseases to OIE as stated in chapters 1.1.1. and 1.1.2. of the *Terrestrial and Aquatic Codes*.
- b) Improve global and regional electronic monitoring systems to collate and map global, regional, and national animal disease data. Maintain and develop WAHID and WAHIS.
- c) Continue to enhance the sensitivity of international disease reporting by tracking rumours about important animal disease events and zoonoses and by sharing this information with other international technical agencies through the WHO/OIE/FAO Global Early Warning System (GLEWS) for major animal diseases, including zoonoses. Further deploy GLEWS, in collaboration with FAO, WHO and other partners such as the US-CDC, as a One Health Global Network.
- d) Maintain a global network of OIE Reference Centres so that all OIE Member Countries have access to high quality expertise needed for rapid and accurate pathogen detection and characterisation. Note: as of December 2011 more than 250 OIE Reference Centres exist worldwide.



- e) Support disease-specific networks such as OFFLU (OIE-FAO global network of expertise on animal influenzas) and the Foot and Mouth Disease network, which provide a valuable source of informal and comprehensive technical information to provide early warning of emerging or re-emerging threats.

## 5. Capacity-building and solidarity

To ensure that OIE Member Countries have the capacity, expertise, resources and governance to comply with international standards, guidelines and recommendations that will reduce the risk of malicious use of animal pathogens or their accidental release.

- a) Build capacity for surveillance and control of animal diseases that are potential bio-threats.
- b) Maintain the OIE Laboratory Twinning Programme to improve compliance with OIE International Standards, including for biosecurity and biosafety, to create a culture of responsible science and good laboratory practice, and to develop scientific expertise in developing countries.
- c) Maintain the OIE Laboratory Twinning Programme and inter-laboratory post-twinning activities to create a more even global distribution of scientific excellence, whilst building international scientific networks, ensuring quality control, and strengthening disease surveillance networks.
- d) Support the implementation of the OIE PVS Pathway and WHO-IHR. Continue joint One Health PVS Pilot missions and further develop the OIE PVS Gap Analysis tool on Veterinary Laboratories, using the OIE PVS and PVS Gap Analysis tools to identify gaps in Veterinary Services that may compromise their ability to prevent or respond to bio-threats. Advocate for investment to close these gaps.
- e) Provide training through regional workshops, conferences, and twinings to increase awareness of the importance of animal diseases as bio-threats, to improve effective implementation of bio-threat reduction activities, and to build and maintain sustainable scientific networks.
- e) Develop twinning between veterinary education establishments in order to promote relevant concepts on bio-threat awareness and reduction and to create a culture of responsible and ethical science to students.
- f) Translation of relevant supporting information into different languages including Chinese, Russian, Arabic.





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