
**Eighth Review Conference of the States Parties
to the Convention on the Prohibition of the
Development, Production and Stockpiling
of Bacteriological (Biological) and
Toxin Weapons and on Their Destruction**

9 November 2016

English only

Geneva, 7-25 November 2016

Agenda item 10

**Review of the operation of the Convention as
provided for in its Article XII**

Implementation of Article X of the Convention

**Background information document submitted by the Implementation
Support Unit**

Addendum

Summary

The Preparatory Committee decided to request the Implementation Support Unit (ISU) to prepare a background information document on the implementation of Article X, to be compiled from information submitted by States Parties, including information submitted pursuant to paragraph 61 of the Final Declaration of the Seventh Review Conference (see BWC/CONF.VIII/PC/9, paragraph 26(h)). The ISU duly requested submissions from States Parties, and all submissions provided to the ISU by 27 September 2016 were included in document BWC/CONF.VIII/INF.4. Additional submissions were included in BWC/CONF.VIII/INF.4/Add.1 and Add.2. This document includes submissions received as of 8 November 2016. Any subsequent submissions from States Parties will be included in further addenda. The information in this document is reproduced as submitted by States Parties, in some cases with minor editing.

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Canada

Background

1. Canada places great importance on cooperation and assistance under Article X of the Biological and Toxin Weapons Convention (BTWC), and remains committed to international cooperation and collaboration in fields related to health and life sciences. Such cooperation is essential to curbing the threat posed by disease, be it naturally occurring, the result of accidental releases from laboratories performing peaceful research, or a deliberate biological weapons attack.

2. In accordance with the decision of the Preparatory Committee of the Eighth Review Conference, in which the Implementation Support Unit was requested to prepare a “background information document on the implementation of Article X, to be compiled from information submitted by States Parties, including information submitted pursuant to paragraph 61 of the Final Declaration of the Seventh Review Conference”, Canada has prepared the following non-paper providing details on various ongoing projects organized and/or funded by the Government of Canada that fall under Article X of the BTWC.

3. As Canada considers that a wide range of topics fall under Article X implementation, so too do the projects listed in this non-paper. The projects listed herein aim to:

- (a) improve States Parties’ capacities to perform surveillance, detection, diagnosis, and containment of infectious disease;
- (b) improve capacities to prepare for, assess risks of, and respond to outbreaks of infectious disease, be they the result of naturally occurring pathogens, accidental releases, or biological weapons use; and
- (c) provide training in biosafety, biosecurity, and bioethics.

4. The projects in this report should be viewed in conjunction with Canada’s report on the implementation of Article VII. As often efforts to build capacity under Article X also enhance efforts under Article VII – and vice versa – numerous projects are repeated in both reports. Canada’s projects conducted under the auspices of *the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction* (GP) can be found in a separate report prepared jointly by GP member states, to be submitted to the Eighth Review Conference.

5. This submission for the Eighth Review Conference contains only projects that were active during calendar year 2016. This paper should be viewed in conjunction with all previous papers prepared by Canada on this subject, including a 2009 paper covering international activities in disease surveillance, detection, diagnosis, and containment (BWC/MSP/2009/MX/WP.6), Canada’s contribution to the Implementation Support Unit’s report on the Implementation of Article X submitted at the Seventh Review Conference (BWC/CONF.VII/INF.8), and Canada’s papers on international activities in support of Article X at the 2012, 2013, 2014, and 2015 Meetings of States Parties (BWC/MSP/2012/INF.1, BWC/MSP/2013/INF.2, BWC/MSP/2014/WP.11, and BWC/MSP/2015/INF.2).

Projects

<i>Project Title</i>	<i>Caribbean Public Health Agency (CARPHA)</i>
Themes	Disease detection and diagnosis
Dept. Responsible	Office of International Affairs for the Health Portfolio
Other Partners	N/A
Project Value	In kind contribution of expertise and resources
Project Duration	2008-ongoing
Area Affected	Caribbean Community (CARICOM)
Description	<p>Located in Trinidad and Tobago, CARPHA became a legal entity in July 2011 and has been operational since January 2013.</p> <p>The Public Health Agency of Canada (PHAC) works closely with CARPHA, providing technical assistance and strategic policy advice as they continue to expand their range of public health programs and services they offer to their 24 member jurisdictions. This in turn helps to enhance the health security of the Americas region as a whole.</p> <p>PHAC provides strategic policy support to CARPHA on the development of its administrative functions and programming through participation on CARPHA's Technical Advisory Committee (TAC). PHAC is also a member of CARPHA's laboratory advisory group, providing policy and technical advice regarding CARPHA's laboratory facilities and operations. .</p> <p>PHAC and CARPHA are currently exploring the development of a bilateral work plan to guide further engagement. Possible areas for cooperation could include further assistance with laboratory capacity building, including operationalizing CARPHA's Biosafety Level 3 laboratory, supporting IHR implementation in the Caribbean, addressing public health emergencies such as Zika, promoting healthy living, travel and tourism health, antimicrobial resistance, strategic policy and planning.</p>
<i>Project Title</i>	<i>Contract for an OIE laboratory (or Collaborating Centre) Twinning Project: Technical support to the LNDV for the diagnosis and control of Avian Influenza and Newcastle Disease</i>
Themes	Disease surveillance, detection, and diagnosis
Dept. Responsible	National Centre for Foreign Animal Disease of the Canadian Food Inspection Agency
Other Partners	World Organization for Animal Health (OIE); National Veterinary Diagnostic Laboratory (LNDV-ICA-Colombia)
Project Value	€ 99,092
Project Duration	Ongoing
Area Affected	Colombia
Description	The project aims to implement laboratory diagnostic methods at the National

<i>Project Title</i>	<i>Contract for an OIE laboratory (or Collaborating Centre) Twinning Project: Technical support to the LNDV for the diagnosis and control of Avian Influenza and Newcastle Disease</i>
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Veterinary Diagnostic Laboratory of the Colombian Agriculture Institute (ICA) in Bogotá, Colombia for the surveillance, identification and characterization of Avian Influenza and Newcastle Disease viruses. This will be based on OIE Standards and will be accomplished with the support of the parent laboratory, the National Centre for Foreign Animal Disease (NCFAD) located in Winnipeg, Canada. The three-year project will involve direct interactions between scientists and technicians of candidate and parent laboratories. Workshops and hands-on training in select diagnostic test methods and test result evaluation, as well as trouble-shooting, quality assurance, inter-laboratory comparison testing through the exchange of proficiency panels, and reagent preparation will form the basis of the twinning project.

<i>Project Title</i>	<i>Global Health Security Agenda (GHSa)</i>
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Themes	Biosecurity and Biosafety
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Dept. Responsible	Office of the International Affairs (OIA) for the Health Portfolio
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Other Partners	Other Government of Canada Departments and Agencies, GHSa countries and international organizations
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Project Value	In kind contribution of expertise and resources
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Project Duration	2013-2019
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Area Affected	Worldwide
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Description	<p>The GHSa is a five-year initiative launched by the United States and the World Health Organization which aims to strengthen multi-sectoral action in support of health security, and to assist countries in meeting relevant international obligations, including the International Health Regulations (IHRs) (2005) and the Biological and Toxin Weapons Convention (BTWC).</p>
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Under the GHSa, partner countries and international organizations are engaged in a process to identify new or expanded work areas for the prevention, detection, and response to infectious disease globally, regardless of their origin (i.e. natural, intentional or accidental). The Office of International Affairs of the Health Portfolio (OIA) coordinates Canada's engagement in select GHSa Action Packages as well as in the GHSa's Steering Group, which oversees the direction and activities of the initiative.

As a co-leading country of the Biosafety and Biosecurity Action Package (Prevent 3), Canada works in close collaboration with its GHSa partners to support the development, implementation, and maintenance of national biosafety and biosecurity oversight frameworks. At a GHSa Action Package face-to-face meeting in Lisbon, Portugal, in April 2016, Canada reinforced its commitment to help build biosafety and biosecurity capacity in the area of national program development and legislative and regulatory development. This will be achieved through the development and piloting of a policy guidance manual that will assist countries with the development of their national oversight frameworks. Canada also committed to hosting training workshops, and sharing online training tools, lessons learned and best practices as part of the development of a new

<i>Project Title</i>	<i>Global Health Security Agenda (GHSAG)</i>
	Biosafety/Biosecurity Resource Catalogue. In addition, Canada also committed to actively recruit and expand GHSAG Prevent 3 membership using existing forums and leverage affiliations with countries that belong to Global Partnership Program (GPP), Biological and Toxins Weapons Convention (BTWC), and United Nations Security Council Resolution 1540.

<i>Project Title</i>	<i>Global Health Security Action Group (GHSAG) – Lab Network</i>
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Themes	Disease surveillance
Dept. Responsible	Infectious Disease Prevention and Control Branch of the Public Health Agency of Canada
Other Partners	Other members of the GHSAG, WHO (Observer)
Project Value	In kind contribution of expertise and resources
Project Duration	2001-Ongoing
Area Affected	Canada, the European Commission, France, Germany, Italy, Japan, Mexico, the United Kingdom, the United States
Description	<p>In the wake of the 9/11 terrorist attacks, laboratory representatives from the G7 countries and Mexico met to share their concerns and capabilities and to discuss ways of working more collaboratively together. These meetings resulted in the establishment of a laboratory network as part of the Global Health Security Action Group (GHSAG). Since 2002, the Lab Network has been involved in the preparation and response to influenza outbreaks. Since 2012, the Lab Network has taken on a broader mandate to collaborate on public health events of international concern, such as Ebola, MERS-CoV, Zika, and similar pathogens.</p> <p>The Public Health Agency of Canada’s National Microbiology Laboratory (NML) plays a central role in coordinating the activities of the laboratory network of GHSAG and is the home of the lab network secretariat.</p> <p>The Lab network’s objective is to ensure GHSAG member laboratories work together to support the GHSI and GHSAG activities by:</p> <ul style="list-style-type: none"> Ensuring coordinated, validated, and standardized diagnostic capability for bioterrorist threat agents and other pathogens; Ensure training, validation, and standardization on evolving diagnostic technologies; Developing a response checklist to support laboratory response to outbreaks or other public health threats; Mapping the diagnostic capacity of member laboratories; Improving the response capability; Contributing to global surveillance for biothreats and sharing information with GHSAG member laboratories; Providing a mutual surge capacity; Liaising with other working groups and their secretariats; and

<i>Project Title</i>	<i>Global Health Security Action Group (GHSAG) – Lab Network</i>
	<p>Ensuring that minimal common standards for biosafety and biosecurity guidelines are in place at all GHSAG laboratories.</p> <p>Between 2010 and 2012, the NML, in collaboration with other PHAC, Health Canada and Defense participants contributed to the development of a biological Threat Risk Assessment Tool under the leadership of Germany. This work has been revised in 2015 and the Lab Network is contributing.</p> <p>In addition, the NML has participated in and/or hosted several workshops including an Unknown pathogen detection workshop (CAN/UK) in 2012. This work continues as data interpretation and other challenges of Whole Genome Sequencing are sorted out.</p> <p>The Lab Network continues to be a key contributor to the Sample Sharing Task Group formally established in 2013 to deal with the challenges of timely sharing of samples and information in response to outbreaks of international concern.</p> <p>Finally, the GHSAG Laboratory Network continues to work together to determine the impacts of rapidly evolving technologies, changing global infectious disease profiles, antimicrobial resistance, and climate change on the public health laboratories in our countries.</p>
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Other Partners	Other members of the GHSAG, WHO (Observer)
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	<p>bioterrorist threat agents and other pathogens;</p> <p>Ensure training, validation, and standardization on evolving diagnostic technologies;</p> <p>Developing a response checklist to support laboratory response to outbreaks or other public health threats;</p> <p>Mapping the diagnostic capacity of member laboratories;</p> <p>Improving the response capability;</p> <p>Contributing to global surveillance for biothreats and sharing information with GHSAG member laboratories;</p> <p>Providing a mutual surge capacity;</p> <p>Liaising with other working groups and their secretariats; and</p> <p>Ensuring that minimal common standards for biosafety and biosecurity guidelines are in place at all GHSAG laboratories.</p> <p>Between 2010 and 2012, the NML, in collaboration with other PHAC, Health Canada and Defense participants contributed to the development of a biological Threat Risk Assessment Tool under the leadership of Germany. This work has been revised in 2015 and the Lab Network is contributing.</p> <p>In addition, the NML has participated in and/or hosted several workshops including an Unknown pathogen detection workshop (CAN/UK) in 2012. This work continues as data interpretation and other challenges of Whole Genome Sequencing are sorted out.</p> <p>The Lab Network continues to be a key contributor to the Sample Sharing Task Group formally established in 2013 to deal with the challenges of timely sharing of samples and information in response to outbreaks of international concern.</p> <p>Finally, the GHSAG Laboratory Network continues to work together to determine the impacts of rapidly evolving technologies, changing global infectious disease profiles, antimicrobial resistance, and climate change on the public health laboratories in our countries.</p>

<i>Project Title</i>	<i>International Expert Group on Biosafety and Biosecurity Regulation – IEGBBR</i>
Themes	Capacity Building
Dept. Responsible	Centre for Biosecurity – Health Security Infrastructure Branch of the Public Health Agency of Canada
Other Partners	International partners - United States, Switzerland, France, Denmark, Japan, Australia, Germany, Singapore, United Kingdom, WHO
Project Value	In kind contribution of expertise and resources
Project Duration	2007-Ongoing
Area Affected	Worldwide
Description	This group was initiated in 2007, with the first meeting in Ottawa, Canada. The

<i>Project Title</i>	<i>International Expert Group on Biosafety and Biosecurity Regulation – IEGBBR</i>
	<p>IEGBBR consists of regulatory personnel representing competent authorities, as well as personnel involved in promoting biosafety and biosecurity standards and culture in their country. The biennial meetings provide an opportunity for networking, cooperation, and developing expertise to promote a more global or mutual response to emerging biosafety and biosecurity issues and threats. The fifth biennial meeting of the IEGBBR took place in Berlin, Germany on August 30 – September 2, 2015.</p> <p>The Centre for Biosecurity’s contribution to the IEGBBR also supports, <i>inter alia</i>, the biological threat reduction priorities of the <i>Global Partnership Against the Spread of Weapons and Materials of Mass Destruction</i>, and strengthens national/regional compliance with commitments under the <i>Biological Weapons Convention</i> and the WHO’s <i>International Health Regulations</i>.</p>

<i>Project Title</i>	<i>International Health Regulations (2005) – National Focal Point International Capacity Support</i>
Themes	Public Health
Dept. Responsible	Public Health Agency of Canada
Other Partners	PAHO; US; Mexico
Project Value	In kind contribution of expertise and resources
Project Duration	Ongoing
Area Affected	G7 priority countries; Americas
Description	<p>The Canada IHR National Focal Point (NFP) contributes to the enhancement of the IHR core capacity Coordination and NFP Communications. Canada supports missions to countries, in conjunction with the Pan-American Health Organization, to provide technical assistance; share best practices and lessons learned; and support the development of processes and standard operating procedures.</p> <p>Increased IHR capabilities will make WHO Member States more resilient in the face of severe public health events, regardless of their origin (i.e. due to a pandemic, biological attacks and warfare, or a natural disaster) therefore contributing to their overall stability.</p>

<i>Project Title</i>	<i>Laboratory Response Network (LRN)</i>
Themes	Disease surveillance, detection, and diagnosis
Dept. Responsible	Public Health Agency of Canada (National Microbiology Laboratory), National Defence (Defence Research and Development Canada – Suffield)
Other Partners	US Centres for Disease Control and Prevention
Project Value	In-kind contribution of expertise and resources
Project Duration	2006-Ongoing
Area Affected	Worldwide

<i>Project Title</i>	<i>Laboratory Response Network (LRN)</i>
Description	The Public Health Agency of Canada directs the Canadian Laboratory Response Network in partnership with the USA CDC Atlanta, to provide oversight of the provincial public health laboratories within Canada to ensure an efficient, expeditious Canadian public health response to threat agents that may arise within the Canadian Public Health Care system. Partnership with the USA LRN networks Canada with the USA and their partners of approximately 160 US and international laboratories in the United Kingdom, Australia, Mexico, Republic of Korea, and Canada. The mission of the LRN and its partners will develop, maintain, and strengthen an integrated national and international network of laboratories that can respond quickly to needs for rapid testing, timely notification and secure reporting of results associated with acts of biological or chemical terrorism and other high priority public health emergencies.
<i>Project Title</i>	<i>Memorandum of Understanding Concerning Research, Development and Acquisition of Chemical, Biological and Radiological Defense Materiel (CBR MOU) (medical and non-medical)</i>
Themes	Counter-proliferation: Assessment, detection, identification, monitoring, protection, medical countermeasures
Dept. Responsible	Department of Defence (Defence Research and Development Canada)
Other Partners	International: Australia, United Kingdom, United States National: Public Health Agency of Canada and other Government Departments.
Project Value	Government of Canada funding as well as in kind contribution of expertise and resources Allies, and Canadian OGDs, academia, and industry.
Project Duration	1980-Ongoing
Area Affected	Australia, Canada, United Kingdom, United States
Description	The CBR MOU encompasses cooperative research, development, testing, acquisition, destruction and disposal of Chemical, Biological and Radiological defence materiel, whose maturation may leads to enhancements of the national CBR defense posture. This MOU provides the means for AS/CA/UK/US to initiate, conduct and manage information exchange, harmonize and align efforts and conduct cooperative CBR Projects. Furthermore, the MOU provides the means for each nation to acquaint each other with any CBR issues in order to avoid unnecessary duplication of national CBR defense programs and collaborate to develop CBR defence capabilities to close any gaps. Collaborative activities include: Hazard assessment, risk, threat and operational impact analyses to provide evidence-based support for strategic and operational level decision making; Development of information systems and S&T required to enhance early warning and reporting and real-time situational awareness of CBR threats; Development of improved capability options to provide physical protection and hazard management technologies to protect people, equipment and infrastructure against CBR threats; and Development of medical countermeasures (drugs, vaccines and diagnostic tests) to

<i>Project Title</i>	<i>Memorandum of Understanding Concerning Research, Development and Acquisition of Chemical, Biological and Radiological Defense Materiel (CBR MOU) (medical and non-medical)</i>
	CBR threats and emerging infectious diseases.
<i>Project Title</i>	<i>Procinorte – Animal Health Task Force</i>
Themes	Disease surveillance, diagnosis, risk assessment, and preparedness
Dept. Responsible	Canadian Food Inspection Agency
Other Partners	United States Department of Agriculture (USDA)'s Agricultural Research Service (ARS) and Mexico's Instituto Nacional de Investigaciones Forestales, Agrícolas y Pecuarias (INIFAP) and Servicio Nacional de Sanidad, Inocuidad y Calidad Agroalimentaria (SENASICA)
Project Value	In kind contribution of expertise and resources
Project Duration	Ongoing
Area Affected	Mexico-United States-Canada
Description	<p>Procinorte is a mechanism to promote the cooperation in research and technology transfer in the Northern Region for a competitive and sustainable agricultural development.</p> <p>The objectives of Procinorte are:</p> <ul style="list-style-type: none"> To promote dialogue to identify priority research issues common to the three countries and to influence the regional, hemispheric and global agendas; To facilitate the exchange of experiences, information and training through building linkages among public and private country institutions of the Northern Region and with the major research and technology transfer actors in the region, the hemisphere and the world; and To facilitate collaboration among the countries to solve problems of mutual interest. <p>Procinorte task forces include: Animal Health, Agricultural Libraries and Information Services, Genetic Resources, Tropical and Subtropical Fruits, Plant Health.</p> <p>Activities of the Animal Health Task Force (AHTF) have included workshops on animal influenzas (H1N1 pandemic influenza; wet workshop on influenza 'A' virus molecular diagnostic techniques; Mexican outbreak of H7N3 highly pathogenic avian influenza) bovine spongiform encephalopathy (two workshops) and bovine tuberculosis (two workshops). The above workshops have enabled scientists from the three countries to share experiences, information and hands-on approaches in the above areas and to promote networking, friendship and trust in the process.</p> <p>The AHTF also aims to identify and discuss ways in which the three countries could harmonize diagnostic methods for animal disease and manage outbreaks.</p> <p>This tri-national collaboration has successfully involved the animal health regulatory agencies of the three member countries and promoted scientific networking.</p>

<i>Project Title</i>	<i>Procinorte – Animal Health Task Force</i>
	A web based share point serves as a central communication tool for the task force members.
<i>Project Title</i>	<i>PulseNet</i>
Themes	Disease surveillance and outbreak detection and response
Dept. Responsible	Infectious Disease Prevention and Control Branch of the Public Health Agency of Canada
Other Partners	Other countries using PulseNet
Project Value	In kind contribution of expertise and resources
Project Duration	2005-Ongoing
Area Affected	86 countries spanning Central and South America, Europe, the Middle East, Sub-Saharan Africa, and the Asia-Pacific region
Description	<p>Foodborne and waterborne diseases due to bacterial pathogens result in substantial human health and economic burdens. Strong national, molecular-level surveillance for these diseases is critically important.</p> <p>PulseNet Canada is a PHAC-led laboratory network that comprises the provincial public health laboratories as well as the Canadian Food Inspection Agency (CFIA). Through this network, the DNA "fingerprints" of cases of foodborne and waterborne bacterial disease across the country are centrally analyzed in real time (i.e., as the cases occur). Because of this daily surveillance, data sharing and analysis, outbreaks caused by bacteria such as Salmonella, Listeria, E. coli, and Shigella are detected at the earliest possible stage, facilitating timely public health interventions including, for example, food recalls. PulseNet Canada utilizes Virtual Private Network (VPN) connections that directly link the databases of the member laboratories, plus a secure discussion board for communications among partners. PulseNet Canada provides training and Quality Assurance for all member laboratories to ensure the highest quality, reliable data are consistently generated.</p> <p>The National Microbiology Laboratory is leading the implementation of whole genome sequencing to replace traditional molecular DNA fingerprinting techniques in PulseNet Canada; this is necessary in order to upgrade the surveillance network with better methodology and maintain comparability with other countries' data, as many countries have already, or are beginning to, implement genome sequencing. Currently, PulseNet Canada uses genome sequencing to support outbreak response, with plans to fully decentralize the test to provincial public health laboratories and replace molecular tests for all routine surveillance in the future.</p> <p>Data are also shared across international jurisdictions through the PulseNet International network, which is comprised of 86 countries spanning Central and South America, Europe, the Middle East, Sub-Saharan Africa, and the Asia-Pacific region; this facilitates the identification of emerging regional and global trends. Canada is a member of the PulseNet International Steering Committee, which provides guidance on the adoption of standardized new genomics technology such that global comparability is maintained. Through the PulseNet</p>

<i>Project Title</i>	<i>PulseNet</i>
	International network Canada provides capacity building and guidance to other countries on devising and maintaining national or regional laboratory-based surveillance for foodborne disease. Additionally, Canada and the United States participate in a bilateral Memorandum of Understanding (MOU) that enables real-time sharing and direct access to national-level foodborne disease data, ensuring that outbreaks and emergencies that span (or potentially span) both sides of the border can be identified and investigated without delay. This MOU was initially signed in 2005 and was renewed in 2010 and 2015. The 2015 renewal was updated to incorporate genomics data.

<i>Project Title</i>	<i>Trichinella diagnostics, Proficiency Testing and Lab Certification for Trichinella Testing</i>
Themes	Disease surveillance
Dept. Responsible	Canadian Food Inspection Agency
Other Partners	OIE, International Commission on Trichinellosis, and National reference labs in EU, US, etc.
Project Value	In kind contribution of expertise and resources
Project Duration	Ongoing
Area Affected	Worldwide
Description	Advice and participation to draft international standards and quality assurance mechanisms for the detection of <i>Trichinella</i> in pork and wildlife, and Certification of <i>Trichinella</i> Testing Labs. Confirmatory testing of positive international samples.

Conclusion

6. This paper is intended to show only a brief overview of Canada's international activities related to Article X. Further projects are also listed on Canada's report on the implementation of Article VII, as well as the joint report produced by the Global Partnership. For additional information on Canada's projects, please contact C. Andrew Halliday at the Non-Proliferation and Disarmament Division, Global Affairs Canada by phone at +1-343-203-3139 or by e-mail at christopherandrew.halliday@international.gc.ca. Additionally, to get in contact with the organizations that fund these projects, please consult Canada's entry on the Article X database.

Cuba

7. Cuba considers as a priority to achieve the full, effective and non-discriminatory implementation of Article X, essential for achieving the objective and purpose of the Convention and for economic and technological development of States Parties.
8. We cannot overlook the fact that there are marked disparities in development among the States Parties to the Convention that could be reduced through the full, effective and non-discriminatory implementation of Article X.
9. Developed countries should promote international cooperation for the benefit of the States Parties to development through transfer of technology, material and equipment for peaceful purposes in the field of biology as well as the elimination of all restrictions which contravene the letter and spirit of the Convention.
10. It is an obligation of States Parties to promote the fullest possible exchange of equipment, materials and scientific and technological information for the use of biological agents and toxins for peaceful purposes and not to hamper the economic and technological development.
11. In this sense, it is unacceptable any attempt to condition international cooperation through the creation and promotion of arbitrary mechanisms of export control and transfers. Cuba opposes the establishment of export controls and unilateral, discriminatory and selective, outside the framework of the Convention transfer.
12. While recognizing the satisfactory results in international cooperation achieved by the Seventh Review Conference of the Biological Weapons Convention, we believe that much remains to advance the matter. It corresponds to the VIII Conference to make decisions and act upon this reality.
13. Cuba makes available to the States Parties concerned its experiences in the implementation of Article X of the BWC:

I.

14. Cuba participates in the exchanges of equipment, materials and scientific and technological information for the peaceful use of bacteriological (biological) agents and toxins and it has contributed with other States or international organizations or agencies to develop and apply scientific breakthroughs in the field of bacteriology (biology) to prevent diseases and for other peaceful purposes.
15. The National Center for Plant Protection and Animal Health (CENSA) of Cuba is the Collaborating Center with the World Organization for Animal Health (OIE) to lower animal health disaster risks and it has the MYCOLAB laboratory, which is the OIE reference laboratory for the diagnosis of contaminating mycoplasmas in sera, cell cultures, biological products and vaccines for both animal and human use. Equally, it provides services for the detection and characterization of mycoplasmas affecting birds, swine and bovines using clinical samples.
16. In 2013, MYCOLAB approved the CAPES international project, which is still being carried out. That project is about the molecular epidemiology and antimicrobial susceptibility of pathogenic mycoplasmas associated to swine enzootic pneumonia and it includes the building of diagnostic capacities as part of the programs to control that disease in Cuba.
17. Technology transfers of biological controls obtained at the Center have been done, as those related to Sevetric, Klamic and CBIONEM. Exports of strains for these transfers

have been done with the authorization of the National Center of Biosafety and the National Center of Plant Health.

18. Every four years, CENSA holds the International Seminar on Plant Protection and Animal Health. During that conference, important regional gatherings take place, cooperation agreements are signed and alliances with Cuban and foreign entities are strengthened.

19. The Institute for Plant Health Research (INISAV) of Cuba has international collaboration relations with over 100 scientific institutions of more than 30 countries in the form of scientific publication exchanges.

20. Since 1993, it has had a portfolio of plant health postgraduate and training courses thanks to which tens of specialists, researchers, professors, managers and manufacturers, mainly from Latin America, have got their degrees.

21. Cuba celebrates with regularly the International Seminar on Plant Health: For the Sustainability of Agricultural Systems and the Well-Being of Farmers took place. It is regularly attended by more than 50 foreign delegates mainly from Latin America, the U.S., Canada and Europe.

22. Also, and for over 20 years, it has been carrying out cooperation projects with international agencies, such as FAO, UNDP, UNEP, IAEA and ONUDI, and also with regional organizations like PRECODEPA and CORBANA, among others.

23. The “Pedro Kouri” Tropical Medicine Institute (IPK) of Cuba is involved in international research projects on various topics related to communicable diseases. Its facility includes a Collaborating Center of the World Health Organization (WHO).

24. In 2015, it is developing 49 projects under programs, 20% of which have some foreign finance and 10 are being implemented with institutions and, of these, only 10% are receiving funds from abroad. The financing sources are PAHO/WHO, TDR, the World Fund, the Belgian Cooperation, the European Union, the International Atomic Energy Agency, Atlantis Philanthropic Gavi, The Vaccine Alliance and MedicubaSuiza.

25. Cuban specialists from that Institute have made frequent trips to many countries as advisers or technicians and been involved in many cooperation projects through the Pan-American Health Organization (PAHO), WHO and other organizations.

26. IPK has sent training missions to Guinea-Bissau, Burkina Faso, Gabon, the Republic of Congo, Jamaica and Venezuela.

27. Specialists from the Institute also attended a course about the Operation and Maintenance of Biocontainment Facilities in CSCHAH, Winnipeg, Canada. Virologists got training on laboratory diagnostic techniques (PCR) at EVE, LNM and CSCHAH in Winnipeg, Canada.

28. In the last few years, more than 54 000 students, including nearly 5 120 from more than 104 countries in the five continents, have benefited from some kind of training at IPK, which offers a wide range of courses of various forms and levels such as master and doctor’s degrees, residences, workshops, specialization courses, diplomas, individual training as requested, as well as publications.

29. The National Center for the Production of Laboratory Animals (CENPALAB) of Cuba and the State Universities of Santa Cruz and RuaSilveira Martins of the State of Bahia, Brazil, have signed letters of intent to train professionals in pre-clinical, pharmacological and toxicological studies about components for human and animal health whose shared goals lead to the creation of the institutional basis for the signing of a mutually advantageous cooperation agreement.

II.

30. The Seventh Review Conference of the BTWC requested the State Parties to promote the development and production of vaccines and drugs to treat infectious diseases through international cooperation and, as appropriate, public-private sector partnerships.

31. The Finlay Institute of Cuba, which devised, with international cooperation, an effective B-group meningococcal vaccine (VA-MENGOC-BC®) has a current strategy in order to look for new drugs to fight diseases having no prophylactic-curative remedy to-date.

32. It has been involved in international exchanges of microorganism strains or the sending of biological agents to characterize or do specific tests on them. Every two years, it holds two alternate international conferences on vaccine topics: VACCIPHARMA, which took place in June 2015, and NEISSERIAVACCINE.

33. The lines of work of the Center for Genetic Engineering and Biotechnology (CIGB) of Cuba include the production of vaccines for human and animal infectious diseases.

34. In the sphere of international cooperation, CIGB products are contributing to the diagnosis, prevention and treatment of nearly 30 diseases, including chronic hepatitis, Hib meningitis, condylomas, myeloid leukemia, melanomas, kidney and bladder cancer, acute myocardial infarction, recurrent respiratory papillomatosis and hemorrhagic conjunctivitis. CIGB is also producing diagnostic kits for HIV, hepatitis C, pregnancy, rotavirus and the celiac disease. At present, CIGB has nearly 300 health registers approved in 57 nations.

35. It is estimated that 350 million persons all over the world are suffering from some form of chronic hepatitis B, which is killing more than one million a year. ABX2013 is a first-rate immunotherapy developed by CIGB intended to suppress the virus and which has a longer effect than existing therapies and, potentially, it can cure it. Abivax, a French concern which is the holder of the hepatitis B therapy license, announced a public tender for shares at the Paris Euronext stock market to finance the medical trials on the ABX203 therapeutic vaccine, that is, to use the vaccine candidate in phase III clinical trials.

36. The Center for Genetic Engineering and Biotechnology is doing projects in various countries with products obtained from recombinant DNA or chemical synthesis technologies. It has carried out technology transfers of the hepatitis B and Haemophilus influenzae vaccines and of drugs such as alpha 2B human recombinant interferon (lyophilized or liquid product), 2B human alpha pegylated recombinant interferon, recombinant streptokinase, human recombinant erythropoietin, Herbernem and pegylated recombinant GCS.

III.

37. Cuba has been working widely to meet the call from the VII Review Conference of the BTWC, in line with Article X, to continue establishing and/or improving national and regional capacities to study, detect, diagnose and combat infectious diseases as well as other possible biological threats and integrate these efforts into national and/or regional emergency and disaster management plans.

38. For instance, the National Center of Plant Health has signed both inter-institutional and inter-governmental plant health cooperation agreements with 28 countries with the chief aim of strengthening bilateral cooperation on the protection of territories from the introduction and spreading of exotic and regulated pests so as to reduce harvest losses caused by pests and adopt the relevant measures to combat them.

39. Since 2003, technical assistance has been provided to the Bolivarian Republic of Venezuela by specialists from the Cuban State System of Plant Health to implement integrated pest management, carry out early pest diagnosis (field and laboratory work), apply biological controls (entomophagous and entomopathogens), tighten border controls, train producers on the above-mentioned topics, etc.

40. The LABIOFAM Business Group has produced highly-prestigious and good-quality biopesticides. Their efficacy has been attested by the full eradication of pests in many countries as Nicaragua, Tanzania, Ghana and Brazil. Biorat, a rodenticide, has been used in more than half a dozen countries to control harmful rodent populations. The active principle of this product is the *Salmonella enteritidis* var. Danysz strain, a negative phagotype 6a lysine that is pathogen-specific for rats and mice.

41. Bactivec and Griselesf are also biopesticides whose use to combat pests has been successful. Africa is the largest cooperation market to the pest control.

42. LABIOFAM has signed technological cooperation contracts in the biological sphere with the United Republic of Tanzania (under a license) for Bactivec and Griselesf; with the Republic of Serbia (a licensed production contract and technical assistance for the product) for Bactivec; and with the Republic of Belarus (a joint license contract) for Bionraiz, Biorat, Fitomas,-E,Biojas, Biobras-16, Thurisave-24, Thurisave-26, Verticid, Glutucid, and Basisave.

43. LABIOFAM is also carrying out comprehensive vector control programs in various parts of the world with good results, including the supply of its own biopesticides, technical assistance and technology and know-how transfers for their sustainability.

44. Every two years, the Group holds its International Congress to promote scientific exchanges on various topics, including those related to the use of biological agents, such as:

- (a) Comprehensive programs on disease-carrying vector prevention and control.
- (b) Animal health prophylaxis and therapies.
- (c) Biopesticides, biofertilizers and biostimulants for agriculture.

45. The National Environmental Health Division of the Ministry of Public Health of Cuba has a far-reaching academic training program to provide scientific learning to researchers on human disease diagnosis and mitigation which includes doctor's degrees on major topics like TB, leprosy and mycobacteria, dengue and other arboviruses, vaccine validations, acute respiratory infections, acute diarrhea diseases and polioviruses and master degrees on infectious diseases.

46. As coordinated by its Ministry of Public Health, Cuba has given national and international professional upgrading courses including the following: 18 national courses on epidemic outbreak research in primary healthcare practice, laboratory quality management, biosafety management in the Cuban national health system, Ebola prevention and control, malaria, syphilis and STD diagnosis and enteroviruses, among others, attended by 1134 students; and 12 international courses like an international training course to fight Ebola, and updates on TB and human immunodeficiency virus co-infections. Other courses have been taught in 29 countries to 411 participants.

47. In 2014, Cuba hosted a coordinating meeting of the ALBA countries and a technical meeting of experts from the ALBA-CELAC countries on the combat against the Ebola Virus Disease (EVD). Also, in April 2015, the Ebola Symposium/2015 Health Convention was held.

489 IPK participated in the 1st Symposium on "Prevention and Containment of EVD" in Caracas, Venezuela, that took place in November 2014.

49. The Civil Defense Scientific Research Center (CICD), together with other institutions, has coordinated with PAHO the international courses on the prevention of and combat against the Ebola disease virus and other hemorrhagic fever diseases and it participated in a PAHO exercise to demonstrate the absence of HIV mother-to-child transmission.

50. On September 19, 2005, the Henry Reeve Internationalist Contingent was created in Cuba with medical specialists to deal with disasters and big epidemics.

51. As offspring of that contingent, medical brigades have been sent to Guatemala, Pakistan, Indonesia, Bolivia, Peru, Mexico, China, El Salvador, Chile, Haiti, Sierra Leone, Guinea Conakry, Liberia and Nepal.

52. All in all, the contingent has joined 41 emergency medical brigades in 25 countries which have been hit by various disasters, including great epidemics. For instance, more than 1000 cooperants of the Henry Reeve Brigade went to fight the 2010 cholera outbreak in Haiti and more than 250 dealt with the Ebola outbreak in West Africa in 2014.

53. Together with WHO, Cuba has started a prevention program in African countries which have been spared by the Ebola epidemic and also in Latin American and the Caribbean.

54. Despite the obstacles being faced by Cuba to carry out wider international cooperation in the sphere of peaceful biological activities as a result of the economic, commercial and financial blockade being imposed by the U.S., Cuba ratifies its readiness to cooperate with all States Parties to promote scientific exchanges on biological and technological sciences to improve biosafety and protection and the surveillance on and detection of infectious diseases or those harming humans, animals and plants, based on the regional and international development of the peaceful use of science and technology.
