Meeting 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

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Assistance and cooperation

Submitted by the European Union

1. Following the Seventh BTWC Review Conference in December 2011 in Geneva, the EU is engaged in the intersessional process, with the next Meeting of States Parties due to take place in Geneva in December 2013. With the present Working Paper, the EU is pleased to provide an overview of the implementation of Article X of the BTWC by the EU and its Member States, of the contributions allocated by the EU, and of the EU's engagement in the field of biosafety and biosecurity through its support to WHO activities and through the CBRN Centres of Excellence initiatives.

2. The EU has identified in its WMD-Strategy the increasing threat emanating from biological weapons. Since 2006, the **EU has funded projects in support of the BTWC** with approximately **EUR 4 million**. A **new Council Decision**, adopted on 23 July 2012 is currently under implementation and ensures continued support and financial contribution to increase adherence to, and promotion of, the implementation of the BTWC through: regional workshops, enhanced assistance programmes, and various enabling tools and activities.

3. The EU is actively engaged in supporting improvements in biosafety and biosecurity. A first **Joint Action** adopted in April 2008 and expired in December 2011 has **supported several World Health Organisation activities - worth EUR 2.1 million –** aimed at: 1) ensuring the safety and security of microbial or other biological agents or toxins in laboratories and other facilities, including during transportation as appropriate, in order to prevent unauthorised access to and removal of such agents and toxins, 2) promoting bio-risk reduction practices and awareness, including bio-safety, bio-security, bioethics and preparedness against intentional misuse of biological agents and toxins, through international cooperation in this area. **A new Council Decision to further support WHO activities in the areas of laboratory biosafety and biosecurity was endorsed by the CODUN Working Group in May 2012 and is under the final stage of its financial negotiation.**

4. The EU has also launched the **CBRN Centres of Excellence (CoEs) Initiative. This aims** at enhancing the institutional capacity of partner countries to mitigate CBRN risks, whether they are criminal, accidental or natural in origin. Thirty four projects amounting to **EUR 40 million** were recently launched and contracting is underway.. Current projects address issues such as: knowledge development and transfer of best practices on biosafety, biosecurity and biorisk management; strengthening laboratory biosafety and biosecurity through the development of a laboratory ISO-bank system; creation of an international network of universities and institutes for raising awareness on dual-use concerns in biotechnology. The CoEs Initiative is continuing and should reach a total budget of nearly EUR 100 million by the end of 2013.

Development assistance by EU institutions and EU member states with regard to capacity building in the fields of disease surveillance, detection, diagnosis, and containment of infectious diseases (Amounts are in USD million)

Source: Official Development Assistance - OECD, http://stats.oecd.org/index.aspx?DataSetCode=CRS1#

Type of assistance	*ODA* sector code*	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*
Infectious Disease Control	12250	469.54	473.70	422.26	369.78	276.89	364.011
Basic Health Care	12220	525.64	681.90	885.44	821.25	842.89	888.619
Health Education	12261	24.30	24.42	40.53	27.89	33.2	31.439
Basic health infrastructure	12230	76.13	128.49	204.09	177.29	146.92	115.233
Malaria control	12262	4.60	47.53	56.24	80.80	155.93	132.404
Tuberculosis control	12263	1.88	31.69	25.02	18.01	46.52	53.511

* Official Development Assistance

5. The Annex lists some illustrative projects by EU Member States and EU Institutions.

Annex

Illustrative projects by EU Member States and EU institutions

Belgium

The Institute for Tropical Medicine in Antwerp, Belgium – a partner for health professionals from the South (http://www.itg.be/itg).

For many years the Institute for Tropical Medicine in Antwerp (ITM) has been providing scholarship programmes for health professionals from the South, for training at advanced master level and for experts in specific fields of science through short courses. The majority of participating students benefit from scholarships financed by Belgian Development Cooperation. For this purpose EUR 12.9 million are available for the period 2008-2013. The ITM also receives core funding from several governmental entities. The ITM currently offers three Master tracks and nine specialised short courses covering the fields of tropical clinical sciences, public health (health systems policy & management and disease control) and tropical animal health. All Masters and short courses included in the scholarship programme are accredited through international bodies.

1. Master degrees included in the scholarship programme:

- Master in Public Health – Health Systems Management and Policy;
- Master in Public Health – Disease Control;
- Master of Science in Tropical Animal Health;
- Master in International Health – Tropical Clinical Sciences.

2. Specialised short courses accredited as course components of a Master degree:

- Short Course on Antiretroviral Therapy;
- Short course on Clinical Research and Evidence-based Medicine;
- Planning & Management of Reproductive Health Programmes;
- Planning & Management of Tropical Diseases Programmes;
- Health Policy;
- Strategic Management of Health Services.

Furthermore Belgian Development Cooperation helps the ITM to cooperate with and support similar institutions in the South in order to mutually reinforce capacities and accomplish their respective scientific and societal missions in the fields of tropical medicine for humans and animals, disease control and health services management. In the period 2006-2010 the ITM has been cooperating with and supporting the following institutions:

- The National Institute of Hygiene, Epidemiology and Microbiology and the Institute of Tropical Medicine Pedro Kouri in Cuba;
- Instituto de Medicina Tropical Alexander von Humboldt de Universidad Peruana Cayetano Heredia in Peru;

- The University of Pretoria, Department of Veterinary Tropical Diseases in South Africa;
- L'Institut National de Recherche Biomédicale de Kinshasa in DR Congo;
- The National Institutes of Malariology, Parasitology and Entomology in Vietnam, Cambodia and Laos;
- Le Centre Hospitalier Universitaire de Dakar in Senegal;
- The Tropical Disease Research Centre of NDOLA in Zambia;
- The Sihanouk Hospital Center of HOPE in Cambodia;
- Instituto de Salud Publica of the Pontificia Universidad Católica in Ecuador;
- The Institute of Public Health, Bangalore India;
- Le Centre MURAZ / Santé maternelle et nouveau-nés, paludisme, nutrition in Burkina Faso;
- Centro Internacional de Zoonosis, Quito, Ecuador.

Bulgaria

In the period 2007-2011, the National Center for Infectious and Parasitic Diseases (NCIPD) was designated as WHO Collaborating Center for research and training in surveillance of communicable diseases and antimicrobial resistance, among its tasks being the coordination and collaboration in this field with partners in countries in Southeast Europe, North Africa and Central Asia. The Center collaborated, *inter alia*, with NAMRO (Cairo) on hemorrhagic fevers, partners in the FYROM on polio and swine flu diagnosis, in Turkmenistan, Uzbekistan, Kyrgyzstan, as well as in Armenia on malaria diagnosis.

In 2006-2008, through twinning projects with The Netherlands and Italy (PHARE projects) aimed at strengthening the combat capacity against infectious diseases, NCIPD received equipment for identification of highly pathogenic bacterial and viral agents. As a part of these twinning projects, an intensive post- graduate educational programme was implemented, involving epidemiologists, microbiologists and virologists working in the field of surveillance of infectious diseases with a focus on early warning.

The Republic of Bulgaria has collaborated with EU partners and participated in activities carried out through the Executive Agency for Health and Consumers, the European Center for Disease Prevention and Control (ECDC), the EU Early Warning and Response System, etc.

Czech Republic

The Czech Republic fulfils its obligations under Article X through various projects in development aid and assistance.

The foreign aid projects include the health, agriculture and other related topics to the BTWC.

The Czech Republic has been recently active in providing help to prevent and cure infectious diseases. Through the bilateral project the program to prevent HIV/AIDS disease in Ethiopia was launched. Other programs providing help in management of cholera epidemics in Haiti and in Zimbabwe, including prophylactic and awareness rising issues, were completed. In 2010 the Czech Republic built microbiological laboratory for drinking

water analysis in Georgia. On July 14, 2011 the Memorandum of Understanding among the US Agency for International Development (USAID), the Swedish International Development Cooperation Agency (SIDA) and the Czech Development Agency (CzDA) was signed in Bosnia and Herzegovina in Sarajevo. The main goal is the participation in the long-term agricultural projects.

Denmark

Statens Serum Institut (SSI) prevents and controls infectious diseases, biological threats and congenital disorders. Since 1978 SSI researchers have been in charge of a major health research project in Guinea-Bissau, West Africa. The project, called Bandim, is financed primarily by external funds via Danida, the EU, the Danish National Research Foundation and private funds such as the Novo Nordisk Foundation.

The main focus of the project is demography surveillance of more than 100.000 people in 6 suburbs of the capital Bissau and additional 180 clusters of woman and their children in the rural areas. The thorough registration process provides the Bandim Health Project with a unique opportunity to study the population effects of new health interventions such as the introduction of new vaccines, vitamin A supplementation or the distribution of bednets to prevent malaria.

The registering of the population in the area has meant that the project returns valuable research results and health statistics to the population. One of the most important findings was that a new measles vaccine used in low-income countries was associated with a two-fold increase in mortality among girls. The discovery led to the withdrawal of the vaccine.

In addition, the participants are offered free health consultations and essential medicine. So far, the project has educated 12 local graduates (MAs) and six local PhDs.

Another and major part of SSI´s research focus has been on “forgotten and overlooked” diseases such as tuberculosis, malaria and HIV, which threaten mainly developing countries. The vaccine research program at SSI has special expertise in the production of synthetic vaccines that in contrast to live, but inactivated vaccines cannot trigger a disease outbreak. The vaccines are of special interest because they are safe, cheap to produce and potentially flexible. E.g. SSI´s inactivated polio vaccine has been prequalified by the WHO, which means that the vaccine will be considered when UN organizations purchase vaccines. Since 1988, WHO´s goal has been to eradicate the disease.

Estonia

Estonia fulfils Convention article X obligations partly through Ministry of Social Affairs (MoSA) and its competent authority Health Board, Estonia (HB).

HB is performing communicable disease surveillance, including the surveillance of diseases with epidemic potential, epidemiologic intelligence, early warning and response activities and microbiology laboratory biorisk management under WHO and ECDC recommendations. HB has established the early warning and response system, including rapid response teams of epidemiologists, for the purposes of alerting, assessing public health risks, recognition of biological emergency situations, including public health emergency of international concern in accordance with the IHR, and a serious cross-border threat to health. HB shall notify an alert in the EU EWRS system if the emergence or development of a serious cross-border threat to health fulfils the established criteria.

Estonia has close collaboration with WHO and EU partners carried out by ECDC. HB is using diagnostic capacity of WHO Collaborating laboratory centres for poliomyelitis, influenza, measles, rubella et. al.

HB has participated in the EpiNorth Network project to build up a communicable disease surveillance network of public health institutes of Nordic and Baltic countries with cooperation of North-West Russia, Ukraine and Belarus.

According to national legislation HB has responsibility to check and issue a license for the management of biorisk materials to laboratories with the objective a) ensuring safety and security of microbial, viral and other biological agents in laboratories, including during transportation in order to prevent contamination of staff and unauthorized access to and removal of agents, b) promoting biosafety, biosecurity and preparedness against intentional misuse of biological agents, c) recovery, investigation and containment of outbreaks and epidemics of communicable diseases.

Estonia has well-developed national immunization programme which has warranted high vaccination coverage of vaccine-preventable diseases among children and adolescence.

MoSA and HB are responsible for the implementation of the Decision No 1082/2013/EU of the European Parliament and Council of 22.10.2013 on serious cross-border threats to health.

Finland

Strengthening the Management of Public Health Emergencies in Vietnam - with focus on the Prevention and Control of Diseases of Epidemic Potential including Highly Pathogenic Avian Influenza (HPAI).

The United Nations system agencies (FAO, WHO, UNICEF, UNDP) in Vietnam have worked together with local ministries (Ministry of Agriculture and Rural Development, Ministry of Health, Ministry of Education) in implementing the Joint Government-UN Programme “Strengthening the Management of Public Health Emergencies in Vietnam - with a focus on the Prevention and Control of Diseases of Epidemic Potential including Highly Pathogenic Avian Influenza (HPAI).

Phase I of this Joint Government-UN Programme provided emergency support to control HPAI in poultry and respond to the threat of a human pandemic. The objectives were to reduce risk of a global pandemic of Highly Pathogenic Avian Influenza (HPAI) emanating from Vietnam and enhance national and local capacity to manage outbreaks of diseases of epidemic potential caused by human and animal pathogens. This was done by controlling the disease in poultry population at risk through vaccinations and by strengthening the national and local epidemiological and surveillance capacities.

Phase II of the Joint Programme supports Vietnam’s transition to a sustained response through implementation of activities within the Vietnam Integrated National Operational Program for Avian and Human Influenza, 2006-2010 (the OPI, also known as the “Green Book”). The OPI was prepared by a Government taskforce established under the National Steering Committee for Avian Influenza (NSCAI), with support from UN agencies, the World Bank and other donors. It was adopted by the Government on 31 May 2006 as the framework for mobilization of national resources and international support to fight HPAI. It was also broadly endorsed by the international community at a Government-Donor meeting on 2nd June 2006 as a basis for harmonised support following the principles of the Hanoi Core Statement (HCS).

Finland has supported both phases of the programme.

France

France fulfils its obligations under article X through many projects, among which two organizations' activities might be highlighted :

1. The Institut de Recherche pour le Développement (IRD)

The IRD is a French research institute which, working with Southern partners, addresses international development issues. The aims underpinning all its work are to improve health and public health with a view to achieving the global Millennium Development Goals.

Through partnership-based research, training and innovation, it is present in more than 50 countries in Africa, the Mediterranean basin and Latin America. Its projects are jointly run with partners and are based on an interdisciplinary approach. They address questions vital for Southern countries, such as tropical diseases, the links between health and environment, water resources or food security.

One emblematic project conducted by IRD, in the field of biological research, is RISA (Résistance Insecticide Santé Agriculture), a team working on insecticide resistance, health and agriculture, formed in 2009 and following a thesis funded by the IRD. It unites regional efforts to assess the impact of pesticide use in Africa on insecticide resistance in the malaria vector Anopheles gambiae and the plant pests Bemisia tabaci and Plutella xylostella. Research is conducted in Benin, Burkina Faso and Togo. The aim, at a time when food resources are strained, is to introduce crop protection programme management strategies that will limit the ecotoxicological risks connected with large-scale pesticide use.

2. The Institut Pasteur International Network (RIIP)

The RIIP is a partnership of 32 research and public health institutes on five continents. With its global presence and the top-level expertise of its scientists, the RIIP is well-positioned to perform infectious disease surveillance and participate in the global response to major epidemics. The Network hosts several Reference Centres and WHO Collaborating Centres, which carry out constant surveillance for diseases with epidemic potential such as influenza, cholera, dengue, yellow fever and emerging infectious diseases. As such, RIIP member institutes provide technical advice at the national and international level.

The RIIP interacts with local and international public health authorities and works closely with health ministries, the WHO's Global Outbreak Alert and Response Network (GOARN) and the Institut Pasteur's Laboratory for Urgent Response to Biological Threats (CIBU).

Research is conducted on several infectious diseases, among which: HIV/AIDS, tuberculosis, malaria, influenza, dengue, rabies, viral hepatitis, bacterial meningitis, antibiotic resistance, leishmaniasis, diarrheal diseases.

The RIIP also strives to improve scientific capabilities and human resources around the world. To achieve this, the RIIP develops training programs in partnership with universities and local stakeholders. Over 100 RIIP trainees come every year to complete their training by taking courses or serving traineeships in Paris.

The Institut Pasteur and the Institut Pasteur International Network provide international grants for traineeships and courses taken in Paris.

Germany

Under the 7th Framework Programme, which runs from 2007 to 2013, direct funding can be obtained for "International Cooperation" as an integral part of the thematic area "Health",

which is of particular significance in areas with a bearing on global health problems, such as resistance to microbicides, HIV/AIDS, malaria, tuberculosis, neglected diseases and international health systems. The calls for proposals and expressions of interest also cover topics of international relevance, which are tailored to the international partners' R&D needs and which, for example, are specifically intended to be implemented in collaboration with African partners.

Following the first two rounds of the call for proposals and expressions of interest, 25 African states are currently involved in projects in the thematic area "Health". African scientists are collaborating with German institutions in 18 projects which have an African input. An example is the Poverty Related Diseases College: International Programme on BioMedicine and Development (PRD College) project, which will help to close educational gaps between the bio-sciences and the health and development sector in Africa. The creation of a training and exchange programme for African doctors and young scientists is being supported. The project is coordinated by the University of Yaoundé in Cameroon. The network includes African partners in Cameroon, South Africa, Zambia, Uganda and Tanzania and European institutions, including the Department for Infectious Diseases and Tropical Medicine of the University of Munich and the Max Planck Institute for Infection Biology in Berlin.

Since 2007, partnerships between German universities and clinics on the one hand and medical schools and clinics in developing countries on the other have been supported as part of Germany's development cooperation policy. These partnerships have, among other things, facilitated exchanges in the field of applied and clinical research with a view to improving medical treatment for HIV/AIDS sufferers. In Cameroon, for example, the aim is to optimize the treatment of HIV by means of early diagnosis and research into the causes of resistance to treatment, in cooperation with a German research institute. Universities and hospitals in African partner countries will benefit from the know-how of German scientific institutions and will learn to adopt the necessary quality standards required for implementing clinical trials, etc.

In cooperation with the Kwame Nkrumah University of Science and Technology (KNUST), the Bernhard Nocht Institute for Tropical Medicine (BNI) in Hamburg operates the Kumasi Centre for Collaborative Research in Tropical Medicine (KCCR) in Kumasi (Ghana) as a joint venture. The KCCR provides a platform for collaborative research projects involving Ghanaian scientists and has acquired an international reputation as a teaching and research centre which is open to scientists from around the world. The collaboration is based on a long-lasting contract. In the first years of the collaboration the research projects at KCCR were financed predominantly by the BNI. The project financing by the BNI now decreases and financing of projects by other resources increases. This demonstrates that KCCR is now established and acknowledged in a way which makes investment in research for other donors more and more interesting, and thus creating an element of sustainability.

Greece

1. Mediterranean Zoonoses Control Programme of the World Health Organization and its Coordinating Centre in Athens, Greece

The Mediterranean Zoonoses Control Centre (MZCC) started its operation in February 1979 following a special agreement between WHO and the Greek Government. During the last 5 years, the activities of the MZCP co-ordinated by the MZCC and with the support and contribution of the Greek Government, have been as follows: besides the regular MZCP activities development, the Greek Government provided an extraordinary financial contribution to implement 2 projects in Syria and Jordan on the inter-sectoral epidemiological surveillance of Brucellosis in humans and animals. Both were successfully

concluded. The Government of Greece is available to further support the MZCP and its Coordinating Centre in Athens, financially and technically. This will permit further expansion and enrichment of the capacity building activities of this regional programme. To this end, negotiations are on the way with WHO and other International Organizations.

2. National Reference Laboratory for Arboviruses and Hemorrhagic Fever Viruses, Aristotle University of Thessaloniki, School of Medicine, Dept. of Microbiology

Training of scientists from the Central African Republic, Nigeria, Iran, China, Albania and Bulgaria on the rapid diagnosis and molecular epidemiology of viral hemorrhagic fevers. Their expenses were jointly covered by EU Research Programmes (INCO), WHO and the Greek Government.

3. Ministry of Rural Development and Food (MRDF) - General Veterinary Directorate

- Programme TAIEX. Study visit on Protection and Control Strategies, monitoring and reporting system of Echinococcosis and Hydatidosis (May 2011 with the participation of Greece and Turkey).
- Control and eradication programmes of Bovine Brucellosis, Sheep and Goat Brucellosis and Bovine Tuberculosis (July 2009 with the participation of Greece and Armenia).
- Control of Foot and Mouth Disease (FMD) Includes activities such as sero-surveillance, vaccination campaigns and training workshops.
- Monitoring of Zoonoses and Zoonotic agents, antimicrobial resistance of zoonotic agents and food borne outbreaks. Zoonoses Monitoring - Implementation of National control and eradication programmes based on European Veterinary Legislation (Directive 2003/99/EC). Covers mandatory monitoring for the major zoonoses: Brucellosis, Tuberculosis, Echinococcosis, Salmonellosis, Campylobacteriosis, Listeriosis, Trichinellosis, Verotoxigenic Escherichia coli. Participation of the the Balkan Tripartite (EuFMD/EC/O.I.E) Group of Bulgaria, Greece and Turkey.

4. Ministry of Foreign Affairs

Greece contributes to the Global Fund to Fight AIDS, Tuberculosis and Malaria and supports EU activities in the area of HIV/AIDS, whilst it also contributes to UNAIDS.

5. Ministry of Health and Social Solidarity

The Hellenic Center for Disease Control and Prevention, Athens, Greece (Zoonoses and Foodborne diseases Bureau), coordinated the WP8 Zoonoses of the EpiSouth from 2006 to 2010, for the 27 Mediterranean and Balkan countries participating to the network. The aim was the construction of a firm network of public health institutes, epidemiologists and laboratory experts, for the exchange of epidemiological data and the diffusion of public health alerts concerning infectious and non infectious agents.

From 2010 to 2013 the Hellenic Center for Disease Control and Prevention, Athens, Greece is participating in the EpiSouthPlus, as member of the steering committee of the WP5, co-led by the Instituto de Salud Carlos III (Spain) and the Institut National de Santé Publique (Algeria) Public Health Preparedness and Response, and the WP7 co-led by the World Health Organization - Lyon office (WHO-LYO) and the Italian National Institute of Health (ISS), aimed to facilitate IHR implementation in the EpiSouth Region.

Hungary

Hungary facilitates the exchange of equipment, materials, scientific and technological information concerning the use of bacteriological (biological) agents and toxins for peaceful purposes. Hungary also supports the development and application of scientific discoveries in the field of bacteriology (biology) for the prevention of disease and for other peaceful purposes.

Hungarian medical system often provides medical help in different parts of the world in cases of natural disasters, including the prevention of epidemics. For example: At the end of last year a Hungarian group of doctors with appropriate equipment and the necessary drugs provided support for the treatment and for the prevention of the outbreak of dangerous epidemics in flood stricken Thailand. In such cases Hungarian specialists use "the available best technology", and in conjunction with that they also provide assistance to the local experts on how to apply that technology.

In addition to providing assistance for the diseased people, the National Centre of Epidemiology has further developed its international relations in the area of the prevention of different epidemic diseases.

Several thousand of foreign students study at Hungarian universities and follow courses in foreign language (English and German), thus foreign students can study without knowing Hungarian. Accordingly universities and the academia provide ample opportunities for them to familiarise themselves and learn about the latest developments in the scientific-technical field.

A number of young foreign PhD students and high academics are involved in scientific research and studies at the Hungarian universities and scientific research institutes of the Hungarian Scientific Academy. The themes of these studies and research programmes in the field of biology (bacteriology, viruses), biochemistry, chemistry (toxins), and related engineering disciplines (equipment), or medical sciences (epidemics) may be relevant in the context of the BTWC.

Ireland

IRELAND VIETNAM BLOOD BORNE VIRUS INITIATIVE (IVVI)

UCD & NIHE: Irish Aid contribution EUR 2.5 million

Bringing Vietnamese research capacity to a new level: Laboratory Facility and Skills Development.

The Ireland-Vietnam Blood-Borne Virus Initiative (IVVI) began in 2007 with funding from Irish Aid and Atlantic Philanthropies. The goal was to develop the infrastructure and capacity needed to better diagnose viral diseases such as HIV, Hepatitis B and C, and the Human T Lymphotropic Virus (HTLV). The project also aimed to improve Vietnam's health policies, which will in turn reduce the burden of infectious diseases.

Ireland's National Virus Reference Laboratory in University College Dublin and the Vietnam's National Institute of Hygiene and Epidemiology (NIHE), are the two driving forces behind IVVI.

Through IVVI, 33.000 individuals representing a large cross-section of the population, including blood donors, renal dialysis patients, blood transfusion patients, pregnant women and the general population have been tested. Along with large scale testing, IVVI has also provided virus testing for outbreaks, such as measles in northern Vietnam and swine influenza (H1N1).

To help IVVI achieve its targets in training and testing, financial support went towards building a modern diagnostic laboratory at NIHE in Hanoi. New approaches have cut the cost of tests.

In addition to construction of a high tech facility, nine NIHE staff members have completed a Master's degree in clinical and diagnostic virology in University College Dublin and now have the capacity to manage the NIHE/IVVI laboratory and implement studies that will help improve healthcare in Vietnam. Joint research work between the University College Dublin and NIHE will continue with these trained researchers.

The NIHE/IVVI laboratory has been recognised as a reference laboratory by the Ministry of Health. It has received international ISO accreditation and is taking initial steps to be certified by the World Health Organisation as a HIV drug resistance-testing centre in Vietnam and as a regional training centre for South East Asia.

Italy

Over the last three years, the activity in the health sector has been organised following the provisions contained in the guidelines "Global health: leading principles of the Italian Cooperation", a policy document which was approved in 2009 by the Italian Steering Committee for Development Cooperation sitting in the Ministry of Foreign Affairs and represents the reference framework for the activities of Italian Cooperation in the social and health fields.

Within this framework of reference, the initiatives which are currently under way and those which were approved in 2012 are primarily intended to offer assistance to Developing Countries in order to improve their policies and practices in fields such as: the organization and management of basic social and health services, the control of infectious diseases, environmental health, medical and surgical emergencies, the fight against mother and infant mortality, the control of chronic and degenerative diseases, the community mental health, the promotion and protection of disabled people's rights.

Italy has assigned about 8% of its Official Development Assistance (ODA) to interventions in the health sector. In 2012, the Directorate General for Development Cooperation alone allocated about EUR 112.3 million for specific projects in the field of health and sanitation, mainly to support Muskoka initiative, in priority Countries identified by Italy's Programming Guidelines and Directions.

In the field of infectious diseases one activity of major interest is the initiative in Tanzania implemented by the Italian National Institute of Infectious Diseases "L.Spallanzani" aimed at constructing a BSL 3 (Bio Safe Level 3) laboratory in Bagamoyo that represents one of the most advanced laboratories in East Africa. Activities carried out in the laboratory focus on control of highly infectious diseases such as Viral Haemorragic Fever (Ebola, Marburg, Dengue Fever, etc.). In Burkina Faso, Italy is financing projects for Malaria control: Italy has already supported the Health sector development plans and specifically the National Program Malaria Control, contributing to the strengthening of the health systems as well as the improvement of the health status of children and pregnant women.

WHO, moreover, has given Italy the task to elaborate an evacuation plan for UN staff in countries with a high risk factor for infectious diseases in Africa. The plan is to be implemented in collaboration with the above Institution, which has wide ranging experience in managing one of Italy's safest laboratory (BSL 4) and ward for treatment and isolation of patients worldwide.

Also in South Africa, jointly with the Italian National Institute of Health and the South African Government, Italian Cooperation is carrying out a program for the phase two experiment on the therapeutic HIV vaccine.

In Vietnam, in collaboration with the University of Sassari, the Italian Cooperation has funded, in the city of Hue, the creation of a Center for Control of Viral Diseases, which includes the construction of a laboratory BSL 3 for diagnosis of viral diseases, the construction and an intensive care unit for treatment of patients. In the University annexed to the Center it has also funded the institution of a Master Course of two years on "Microbiology and Virology in Public Health" opened to students coming from the region (Vietnam, Laos, Myanmar).

Netherlands

The Netherlands facilitates and participates in the fullest possible exchange of equipment, materials, and scientific and technological information for the use of bacteriological (biological) agents and toxins for peaceful purposes.

The Netherlands contributes individually and with other states, international organizations, non-governmental organizations, and other relevant partners, to the further development and application of scientific discoveries in the field of bacteriology (biology) for the prevention of disease and for other peaceful purposes.

The Netherlands has a strong tradition in international cooperation and belongs to the world's largest donors to the specialized UN agencies that are relevant for implementing this clause of the convention. In this regard, in particular the Dutch longstanding support to the WHO is worth noting. The Netherlands seeks to support the WHO's work with a sizeable contribution, of which a large part is un-earmarked. The WHO undertakes various initiatives, including guiding public health responses to biological and chemical weapons, as well as ensuring access to, quality and use of medical products and technologies. The Dutch Ministry of Health, Welfare and Sports contributed to these efforts by co-funding a conference in Geneva in February 2013. The conference brought together biosafety and biosecurity experts with health experts and scientists to discuss dual use research issues and raise ideas on how the two communities can be brought together in the various stages of research in the future. An important outcome of the conference was that these two communities were brought together, including aspects related to animal and plant protection with regard to dual use for future discussions. Cooperation between the WHO, BTWC and FAO on this subject will be enhanced. Dual use research will also be an important aspect within the bilateral partnership programme of 2014-2017 between the WHO and the Dutch Ministry of Health, Welfare and Sports.

In addition, the Netherlands has, since the Global Alliance for Vaccines and Immunisation (GAVI) was launched in 2000, contributed more than EUR 200 million to this global public-private partnership for immunization. GAVI aims at enlarging the "standard package" of vaccination with relatively expensive vaccines, like the ones against yellow fever, hepatitis B, pneumonia and other diseases. Research is planned on new vaccines against AIDS, tuberculosis and malaria. In this context, the Netherlands donated bilaterally over $ 600 million to the Global Fund to Fight AIDS, Tuberculosis and Malaria and EUR 252 million to the WHO in the period 2000-2010, of which EUR 126 million for the termination of polio. In addition, the Netherlands has committed more than EUR 170 million to the development of new drugs, vaccines and diagnostics through international product development partnerships and the European Developing Countries Clinical Trials partnership.

On a smaller scale, the Netherlands is involved in several MATRA and Twinning Projects aimed at the strengthening of infectious disease surveillance, early warning and response systems in new EU Member States and pre-accession countries (a.o. Bulgaria, FYROM). The National Institute for Public Health and the Environment (RIVM) collaborates with China, Vietnam, Indonesia, Ethiopia and Gambia in the field of infectious disease control, for example by participating in AsiaFluCap. In Ethiopia, access to safe water and sanitation is stimulated in public-private partnership programs by training of local parties in water safety planning and microbial water quality testing. Through various consortiums, the Netherlands is also implementing several CoE Initiative projects, both on CBRN preparedness in general and on biosafety and biosecurity specifically, by developing a laboratory information system for research facilities and hospitals in Indonesia, the Philippines and Thailand. Education in biosecurity awareness and biosecurity management are provided in train-the-trainer programs in South East Asia as well as in countries in Northern Africa, including Uganda, South East Europe and Southern Caucasus.

Finally, the Dutch Ministry of Foreign Affairs is funding, within the framework of the G8 Global Partnership, several projects in the field of Biosecurity in Uganda since October 2012. The Dutch Commitment involves USD 1.178.000. The projects aim to improve the Biosecurity and Biosafety regime in Uganda. More specific, there are at the moment 3 projects being implemented:1/ Planning and implementing Laboratory Biorisk Management Accreditation/ Certification Assessments in Uganda;

2/ Adaption of Biorisk Curriculum for University Application in Uganda;

3/ Biosecurity for plague research and other biothreat-related activities in Uganda.

Poland

Poland facilitates the exchange of equipment, materials and scientific and technological information concerning the use of bacteriological (biological) agents and toxins for peaceful purposes.

Poland also supports the development and application of scientific discoveries in the field of bacteriology (biology) for the prevention of disease and for other peaceful purposes.

Polish universities and research institutes are actively engaged in the international exchange of knowledge in the field of health and bacteriology, including through participation in international research projects and hosting international seminars and symposiums.

The Government of Poland has been providing scholarships programmes for students and trainees from the developing countries pursuant to bilateral agreements. In the period 2006 – 2010 more than 2000 undergraduate and postgraduate students, as well as trainees from the South, were provided free education in medicine, health science and biological sciences. The costs amounted to over EUR 5 million, and the value of grants paid by the Ministry of Science and Higher Education and the Ministry of Health exceeded EUR 2 million.

The following study modes are available for the holders of the scholarships of the Republic of Poland:

- Bachelor studies (1st cycle studies) – duration of 3 to 4 years; a student receives Bachelor title;
- Master’s studies (2nd cycle studies) – duration of 2 years; designed for students with Bachelor degree; a student receives Master’s degree;
- Master’s long-cycle studies – duration of 5 to 6 years; a student receives Master’s degree or a medical doctor title in case of medical studies;

- PhD studies (3rd cycle studies) – duration of 2, 3 or 4 years depending on a subject; available to students with Master's degree; a student receives PhD degree.
- Medical specialization, the period of training is 4 to 6 years, depending on the requirements of the specialization.

Foreign students can also take part in the post-doctoral internships, science internships, specialization courses and medical internships. Individuals applying for a scholarship should contact Polish diplomatic posts.

Portugal

I. Portugal fulfills its obligations under article X, partly through the Ministry of Health and two of its institutions: the Directorate-General of Health, and the National Institute of Health "Dr. Ricardo Jorge" (INSA), which is the Portuguese National Laboratory of Reference for disease surveillance and detection.

The Directorate-General of Health fosters the development and transfer of best practices on biosafety, biosecurity and biorisk management, and has, since 2012:

- Supported the Ministry of Health of Cape Verde on capacity-building activities regarding virology, bacteriology, and development of national public health laboratory network;
- Shared information with African Portuguese Speaking Countries within vector borne diseases – surveillance, control and response – a goal also promoted by the Ministry's National laboratoty of Reference (please, see below);
- Shared documentations with African Portuguese Speaking Countries within the implementation of IHR with regards to airports and ports monitoring systems.

Other projects are implemented through INSA. For INSA, the responsible dissemination of technical and scientific information is a priority. Indeed, acknowledging that only through scientific exchange and collaboration with other Partners is it possible to strengthen laboratory response and enhance national capacities as well as those of Partners, INSA has been developing a sustained collaboration with its counterparts in many countries, namely in Europe and in Africa. For this reason, INSA continues to work within the framework of relevant international networks and international organizations, such as:

(a) the World Health Organization, with whom INSA collaborates for more than 20 years - The Portuguese Reference Centre for tuberculosis is a reference centre of the WHO;

(b) those inscribed in European projects connected to biosafety and biosecurity in microbiological laboratories and emergency response and biopreparedness as Establishment of Quality Assurances for Detection of Highly Pathogenic Bacteria of Potential Bioterrorism Risk (EQADeBa); Quality Assurance Exercises and Networking on the Detection of Highly Infectious Pathogens (QUANDHIP, both virus and bacterias) http://www.quandhip.info/Quandhip/EN/Home/Homepage_node.html; Establishment of Quality Assurance for the Detection of Biological Toxins of Potential Bioterrorism Risk (EQUATOX) http://equatox.net; European Research Infrastructure on Highly Pathogenic Agents (ERINHA) http://www.erinha.eu; and Iberian network of laboratories of biological alert (IB-Bioalernet). – These projects envisage Quality control schemes involving detection of highly pathogenic microorganisms, early detection of biological threats, development of methods for rapid laboratory diagnosis of biologic agents and simulation of emergency situations in case of a bioterrorism event;

(c) the Global Outbreak Alert & Response Network (GOARN), of whom INSA is a founding member;

(d) the CBRN Centres of Excellence (CoEs) Initiative, since 2011.

(e) INSA has also invested in the training of human resources, the improvement of infrastructures and the development of standard operating procedures applied to investigation and research. The following are examples of those activities:

- Every year, INSA organizes a course on Biosafety and Biosecurity in BSL-3 laboratories, open to other institutions, raising awareness on biological risks and biocontainment measures, where the principles of the BTWC are extensively explained to the attendees.
- INSA also organizes annually one course on Transport of Infectious substances, which follows the instructions of the World Health Organization.
- INSA is the coordinator of the national surveillance program of vector and vector borne diseases, improving of disease surveillance and outbreak investigation, namely through close cooperation with animal health departments and other human health authorities. All these actions were optimized through the participation in international exercises and trainings.

II - Article X goals are also pursued by other Research and Development (R&D) institutions, such as the Institute of Hygiene and Tropical Medicine (IHMT) of the New University of Lisbon http://www.ihmt.unl.pt/ and http://cmdt.ihmt.unl.pt.

The IHMT is highly recognized both nationally and internationally for its research, post-graduate training, and support to the community, namely in various specialized diagnosis, environmental impact studies, partnerships and joint ventures with industry, IHMT has also an important role in the dissemination and translation of knowledge on tropical diseases and its determinants to students and general society. IHMT is a national reference institution for cooperation and development in health promotion areas and a privileged interlocutor of the Portuguese speaking countries.

IHMT courses are certified and evaluated by National Accreditation Agency and cover the fields of Tropical Clinical Sciences, Tropical Animal Health and Public Health, Medical Parasitology and Medical Microbiology, Biomedical Sciences, Infection and Genetics:

Master programs:

- Medical Parasitology;
- Medical Microbiology;
- Biomedical Sciences;
- Tropical Health;
- Health and Development;
- Epidemiology;

PhD programs:

- Biomedical Science;
- Tropical Medicine;
- International Health;
- Human Genetics and Infection;

IHMT also offers e-learning courses, and in loco, courses in African Portuguese speaking countries. These courses vary from basic laboratory techniques, to Health workforce empowerment.

IHMT is a Collaborating Centre for Human Resources of the World Health Organization.

IHMT is collaborating with WHO AFRO to develop the following areas:

- Enhancement of epidemiological surveillance and response with focus on training of rapid response team of experts;
- Preparedness and response to vector borne disease outbreaks through capacity building in medical entomology;
- Strengthening of local laboratory capacity;
- Human Resources for Health.

IHMT has institutional cooperation protocols, among others, with the National Institute of Health, in Mozambique, Ministry of Health and University "Agostinho Neto" in Angola, and Fundação Oswaldo Cruz, in Brazil.

IHMT integrates a network of European and African TB laboratories, currently being extended to North America, South America, and India laboratories. These networks focus the training of human resources, and control of multi-drug resistant (MDR) and extensive drug resistant (XDR) strains of Mycobacterium tuberculosis.

IHMT is a collaborating partner in Research/ Development projects on Control of Malaria in Angola, Cape Verde, Kenya, Mozambique and São Tomé e Príncipe.

IHMT integrates Research projects in African Trypanosomosis in Kenya, Mozambique, South Africa, Uganda and Republic of Congo.

Surveillance of tick and mosquito-borne arboviruses in high-risk at Portuguese and Lusophone countries areas, in particular dengue in Cape Verde, South Africa and Portugal;

III. The Faculty of Sciences of University of Lisbon (FCUL) is another public higher education and research centre in the field of life sciences, with a a long history of international cooperation.

FCUL has ongoing collaboration with Portuguese speaking countries such as Mozambique, Angola, Cape Verde and Brazil. Students of those countries have been taking FCUL courses throughout the years and this number is rising due to recent cooperation agreements, in particular, we are in the process of receiving about sixty students from Brazil.

In addition, Master degree courses in the field of chemistry are developed at the University "Agostinho Neto", in Angola, and at the University "Eduardo Mondlane", in Mozambique, in partnership with the FCUL. Both degrees include Safety as one of the subjects.

Furthermore, FCUL is very keen in the exchange of scientific and technological information concerning several aspects of biological agents and toxins for peaceful purposes. FCUL, in close collaboration with its R&D units, provides its researchers with a wide range of multi-user facilities (e.g. computing, microscopy, mass spectrometry, cell cultures, greenhouses, etc.), fostering interdisciplinary experimentation.

Spain

The Health Institute Carlos III - The International reference on Spanish bio-research

The Health Institute Carlos III is the main Public Research Entity funding, managing and carrying out biomedical research in Spain. Its key mission is to support the development of scientific knowledge in the health sciences and to contribute to innovation in healthcare and the prevention of disease. It is responsible for national and international representation, coordination and cooperation in many international fora related to biological research and health sciences. For more than ten years, the Institute has been involved in cooperation projects and international programs aimed at supporting the sustainable development of biological sciences.

Among the projects that can be named, Spain would like to underline:

(a) The long term collaboration activities with the Organización Panamericana de la Salud (Pan American Health Organization, PAHO) supported by the Spanish Agency for International Cooperation and Development (AECID) of the Ministry of Foreign Affairs and Cooperation. This programme is implemented by workshops, seminars, training, funding and direct support to education and training projects, as well as the support to a system of early alarm on the spread of infectious diseases.

(b) InfoSaludLaboral: Activity of international cooperation between the National School of Occupational Medicine of the Health Institute Carlos III and PAHO within the framework of the cooperation Agreement between the Kingdom of Spain, through the AECID, and PAHO / WHO.

(c) It is a website (http://new.paho.org/isl/) aimed to the scientific community and practitioners of health promotion and prevention of occupational hazards of Spain and the Latin American countries which is integrated within the framework of action of the PAHO / WHO, facilitating access to and dissemination of information on quality of life and working conditions, prevention and health promotion in the workplace.

(d) The collaboration with the World Health Organization since more the 20 years. Five Units of the National Centre for Microbiology are WHO Collaborating Centres. They act as National Reference Laboratory for Polio, Influenza, Measles, Rubella, and Leishmaniasis and carry out quality control programs and field activities in developing countries (Ethiopia, Sudan, etc.).

(e) Project VIRORED: this project is aimed at creating and reinforcing the existence of laboratories of reference for the purpose of identifying and correct diagnostic of emerging viral pathogens. This project is being implemented with regional workshops, and direct communication among laboratories, researchers and scientists.

(f) The Red Iberoamericana Ministerial de Aprendizaje e Investigación en Salud (Latin American Ministerial Network for Learning and Research on Human Health, RIMAIS) is the result of a commitment by the Costa Rican Ministry of Health at the Fifteenth Ibero-American Summit of Heads of State and Government. RIMAIS basic goal is to strengthen the ability of Latin American Ministries of Health to provide support for learning and research in the field of public health by increasing the availability of information and the expertise gained and disseminated via regional initiatives. Cooperation with and support for the RIMAIS network forms part of the strategic plans of the Health Institute Carlos III to internationalize Spanish research in health and encourage scientific and technical cooperation with Latin America. One of the activities envisaged in this connection is cooperation between the RIMAIS and the European Union.

(g) The Health Institute Carlos III is a member of the International Association of National Public Health Institutes (IANPHI), a worldwide initiative of the Bill and Melinda Gates Foundation to strengthen public health systems and to improve their coordination. Set up formally in 2006, the Association seeks joint coordinated responses to the challenges and possible risks of public health in the world today. IANPHI also acts as a

platform for collective action by the directors of more than sixty public health institutes all over the world, encouraging and facilitating communication and cooperation between them.

Spain is also part of many multilateral programs; among those Spain would like to mention:

The TDR (WHO), a worldwide programme of scientific cooperation for research and training in tropical diseases. It has a double mission: To carry out research into the diseases of poverty and develop new, improved approaches to them and to strengthen and develop research skills in the countries where these diseases are prevalent. The Health Institute Carlos III represents Spain in this programme, which is financed by the AECID.

With regards to training activities, Spain would like to mention:

The National School of Public Health (ENS) provides basic and advanced training to healthcare professionals. The ENS and the National Centre of Tropical Medicine offers Masters, Higher Diplomas, short courses and specialized training seminars aimed at national and international staff involved in comprehensive health care, diagnosis, and treatment of tropical diseases, and/or health cooperation. Among them the following:

1. Master's degrees: Training programme designed to further students' careers in the field of Public Health and Health Administration:

- Master in Public Health
- Master in International Public Health
- Master in Field Applied Epidemiology

2. Higher Diplomas: Programmes designed to complete students' professional training in a specific area of Public Health, Health Administration or related disciplines.

- Diploma in International Public Health
- Diploma in Food, Nutrition and Public Health
- Diploma in Health Promotion

3. Ongoing training: Training programmes, with a workload of less than 120 hours, geared to the continuous training of public health professionals:

- Child Nutrition in the Tropics
- Malaria: Clinical, Research, and Control
- Qualitative Research Applied to Health Research
- Molecular Diagnosis of Tropical Diseases
- Tropical Medicine and Communicable Disease Control for Health Personnel of International Cooperation
- Tropical Pathology Nursing
- Update on Tropical Infections
- Parasitological Diagnosis of Tropical Diseases

Sweden

SIDA (Swedish International Development Co-operation Agency) and the Ministry for Foreign Affairs.

Sweden’s total health aid (SIDA and MFA) amounted to 4 053 million SEK in 2012, an increase with 30 % compared to 2010 (not including health research or humanitarian

support). The increase is partially a result of an extra disbursement during 2012 for MDG 4 and 5 (350 million SEK). Major areas of support are, apart from maternal and child mortality, MDG 6 and SRHR.

SIDA primarily works with bilateral aid (43% of the total health aid in 2012) but also regionally, and has a budget line for global programs. The Ministry for Foreign Affairs works with multilateral aid (57% of the total health aid in 2012), the GFATM and UNFPA being the two largest recipients.

The major areas of support regarding the bilateral health aid according to DAC classification are (2012): reproductive health care (36%), basic health care (23%) and STD control incl. HIV/AIDS (21%). These three areas together make up 80 % of the total bilateral health aid.

The number of countries where SIDA has bilateral programs in place for support of the health sector declined between 2006-2011 due to increased support to conflict affected countries and post-conflict countries. An increase could be seen in 2012 where Sweden had 11 on-going country programs for health aid in Bangladesh, DRC, Somalia, Sudan/South Sudan, Uganda, Zambia, Zimbabwe, Tanzania (hiv/aids), South Africa (hiv/aids), India and Guatemala.

SIDA has continued the work on new financial instruments to enable support for product development and innovation in the health sector. The main objective of the process is to create the conditions for mobilizing capital from the private sector, foundations, etc., for research in poverty areas. In the first pilot project, SIDA investigated the possibility of establishing a funding model, to promote the flow of capital into the research and development of pharmaceuticals and diagnostics for poverty related diseases. The model has been tested in the development of new antibiotics and/or the development of a diagnostic tool for detection of antibiotic resistance. Four guarantees are now up and running.

United Kingdom of Great Britain and Northern Ireland

The UK government (including, but not limited to, Department for International Development (DFID), Ministry of Defence (MOD), Public Health England (PHE), Animal Health and Veterinary Laboratories Agency (AHVLA)), academia and industry conduct and fund a broad range of activities, including the Global Partnership, that fall under the Article X heading.

The UK's background paper on its implementation of Article X, submitted to the Seventh Review Conference, outlined examples of UK activities. Further examples were given in the UK contribution to the EU paper on Assistance and Cooperation submitted to the 2012 Meeting of Experts – see BWC/MSP/2012/MX/INF.7. What follows is an up-date indicative example only covering activities in 2012 and 2013, and is by no means comprehensive:

1. Government departments

Global Partnership projects

A set of projects in Tajikistan has resulted in international engagement with previously isolated institutes working on endemic dangerous pathogens, safer working practices, and improvements in laboratory safety and security, as well as in-country diagnostic capability, surveillance and reporting.

A UK contribution to a US-led project has enabled Georgian scientists working on dangerous pathogens to engage with others internationally. The project has resulted in improved national capability to detect and diagnose viral pathogens, safe working practices for handling biological materials in containment facilities, and reporting of disease outbreaks.

A project conducted by Liverpool University, supported by the Oman Ministry of Agriculture, has improved disease surveillance and understanding of the reservoirs of specific viruses in Oman.

Development of a twinning project between the Royal Veterinary College and the Veterinary Faculty at Jordan University of Science and Technology is being progressed. The project will strengthen veterinary education in Jordan and across the MENA region, contributing to improved capabilities in disease awareness, awareness of biological risks and responsibilities, surveillance and control, as well as strengthening international linkages.

Support to a joint OIE/FAO post-eradication programme which will ensure the security of remaining stocks of a highly pathogenic agent of concern (Rinderpest), and reduce the number of laboratories holding the agent. In May 2013, OIE released a Rinderpest sequestration advocacy video.

Activities undertaken as part of an OIE Twinning project between AHVLA and the EU-supported Central Veterinary Diagnostic Laboratory, Kabul, have included training, exchange of reagents and oversight of the implementation of diagnostic tests in Afghanistan. The first two week training workshop was held in Istanbul with the co-operation of the Pendik Veterinary Control Institute, Turkey. The training focused on diagnostic approaches for a number of animal diseases, as well as safe laboratory working, sample handling and laboratory quality systems. This project is helping both to improve safety and security, and to develop continuing international cooperation.

Projects are in progress with FAO that will provide a basis for improving safety and security and the detection and response to disease threats in the areas of animal and plant health in the Middle East, North African and Central Asian states. These projects include translation of the Phytosanitary Capacity Evaluation (PCE) tool to assist surveillance of plant diseases in Russian and Arabic speaking countries, and training in Good Emergency Management Practice (GEMP) in North Africa to improve regional capacity in surveillance of and response to animal disease outbreaks.

Other Government funding

In August 2013, DFID announced that it will invest £138 million over the next five years into nine public-private partnerships[1] to support the development of innovative new drugs, vaccines, insecticides, diagnostic tools and microbicides to prevent, diagnose and treat HIV, TB, malaria, diarrhoea and neglected tropical diseases. Working together in product development partnerships, the public and private sectors have a chance to bring together their expertise for the benefit of the world's poorest and most vulnerable people.

The UK announced in April 2013 that it will provide support of £300 million over six years to vaccinate up to 360 million children against polio. This will help provide routine immunisations against polio to some of the most vulnerable and hard to reach groups of

[1] They are: Drugs for Neglected Diseases Initiative (DNDi); Medicines for Malaria Venture (MMV); Innovative Vector Control Consortium (IVCC); Foundation for Innovative New Diagnostics (FIND); TB Alliance; Aeras; New Products for Diarrhoea and Malaria (PATH); International AIDS Vaccine Initiative (IAVI) and International Partnership for Microbicides (IPM).

people. The overall UK commitment will support the implementation of the Global Polio Eradication Initiative's plan to achieve a polio free world by 2018, and may include some bilateral support directly to Afghanistan, Nigeria and Pakistan, where polio has not yet been eradicated.

The Global Alliance for Livestock Vaccines and Medicines (GALVmed) is a public private partnership, supported by DFID and the Bill & Melinda Gates Foundation. Working collaboratively with a broad spectrum of organisations, GALVmed aims to make livestock vaccines, diagnostics and medicines accessible and affordable to the millions for whom livestock is a lifeline. For example, it has facilitated the production of a million vaccine doses against East Coast fever, a parasitic disease that kills a million cattle every year. With plans for commercial production to meet future needs, GALVmed has also facilitated product registration and attracted commercial distributors. This work towards a sustainable model for manufacture and distribution will ensure that the vaccine is made available, accessible and affordable, and will enable the scale up of its production for the future.

2. Academia

The Royal (Dick) School of Veterinary Studies at the University of Edinburgh has a new five year project starting in October 2013 that is addressing capacity building in zoonotic diseases management using the integrated approach to ecosystems health at human-livestock-wildlife interface in Eastern and Southern Africa.

Researchers from the University of Edinburgh and their collaborators have recently published results that have significant implications for the control of ticks and tick-borne disease (TBD) in West Africa.[2] This study ascertained the presence of a broad variety of cattle tick species, most of which are of veterinary importance. The presence of each tick species was correlated with the potential occurrence of tick-borne pathogens and suggestions for tick control in the area were considered. Results should assist the diagnosis of related TBD in cattle as well as the strategic planning of cost-effective tick control.

The London Centre for Neglected Tropical Disease Research was launched in January 2013 and seeks to sustain and coordinate the commitments made to the London Declaration on Neglected Tropical Diseases in January 2012. This new centre is a joint initiative of Imperial College London, the London School of Hygiene & Tropical Medicine and the Natural History Museum, which undertakes cutting-edge research to build the evidence base around the design, implementation and evaluation of NTD control and elimination programmes. Amongst its outputs, the Centre provides: support to countries planning, developing, and implementing NTD control programmes; scientific advice to the pharmaceutical companies donating treatments for NTDs; development of capacity building programmes in disease endemic countries to strengthen local capabilities for research, control, mapping, diagnosis and monitoring and evaluation; and open-access resources to assist in NTD control programmes.

3. Industry

In October 2013, GlaxoSmithKline (GSK) announced its plan to seek regulatory approval for the world's first malaria vaccine. In a large scale trial, the vaccine known as RTS,S was shown to have almost halved the number of malaria cases in young children and to have reduced by around a quarter the number of malaria cases in infants. This was Africa's largest-ever clinical trial involving almost 15,500 children in seven countries. GSK is developing RTS,S with the non-profit PATH Malaria Vaccine Initiative, together with

[2] A further paper has been published see http://wwwnc.cdc.gov/eid/article/19/10/13-0389_article.htm

prominent African research centres, supported by funding from the Bill & Melinda Gates Foundation. An extended team of organisations work on RTS.S, including scientists from across Africa, Europe and North America. GSK intends to submit, in 2014, a regulatory application to the European Medicines Agency, under a process aimed at facilitating new drugs for poorer countries. If the required regulatory approvals are obtained and public health information is deemed satisfactory, the WHO has indicated that a policy recommendation for the malaria vaccine candidate is possible as early as 2015, paving the way for decisions by African nations on large-scale implementation of the vaccine through their national immunisation programmes. An effective vaccine for use alongside other measures such as bed nets and anti-malarial vaccines would bring a positive advance in malaria control.

EU institutions

The EU Strategy against the proliferation of WMD, which was adopted by the European Council (EU Heads of State and Government) on 12 December 2003, derives from the European Security Strategy and, together with the New lines for Action adopted in December 2008, provides overall guidance on the approaches, policy tools and specific actions to be taken to counter the WMD threat.

The EU is committing considerable financial resources to support the BTWC. In 2006, the EU Council adopted its first Joint Action in support of the BTWC which ran from 2006 to 2008. In the course of the implementation of the Joint Action, the EU carried out regional outreach to almost all States which are not yet parties to the BTWC. It organised five regional seminars to promote the universality of the BTWC. The EU provided assistance to Peru and Nigeria where EU experts were actively involved in the drafting of national legislation implementing the BTWC. Following the implementation of this Joint Action, seven more States have acceded to the Convention.

Based on the positive experience of the first Joint Action, the second Joint Action was adopted on 10 November 2008 and expired in December 2011. It encouraged local and regional ownership of the projects and the building of a partnership between the EU and the recipient countries. The Implementing Agency of the Joint Action was the Implementing Support Unit of the BTWC, under the political control of the EU High Representative for Foreign Affairs and Security Policy.

The four areas of support, for which the EU has spent EUR 1.4 million are:

1. Universalisation: this project provides for outreach in States not Parties to the Convention. The EU organised regional workshops, provided legal assistance related to the ratification or the accession to the Convention and means to raise awareness among stakeholders. The EU also provided financial grants for training and awareness-raising visits of national stakeholders to the authorities of EU Member States in charge of the implementation of the Convention.

2. National implementation: with the goal to ensure that States implement their obligations under the Convention by means of national legislation and administrative measures and enforce them effectively, and to prevent violations of the BTWC, the EU provided legal advice to seven interested States Parties.

3. Promotion of Regular Submission of Confidence Building Measures (CBM): with the purpose of promoting and increasing the submission of CBM declarations on a regular basis a guide had been drafted and launched in December 2009 to help States Parties in submitting CBMs. The EU carried out demarches to all states parties that have never or not since 2006 submitted CBM declarations and gave a contribution to the UNODA to facilitate the improvement and the maintenance of the existing secure CBM website and to improve

the technical aspects of the electronic submission of existing CBM declarations. Two assistance visits took place to the Philippines and to the FYROM and two CBM workshops were organized in 2010 in the margins of the experts meeting and the States Parties meeting to exchange experiences about the CBM process and to facilitate (first time) submission of CBMs.

4. Support to the BTWC intersessional process: several discussions on inter-sessional topics were promoted (November 2009, Brussels, "International Workshop on Improving Cooperation under Article X for Disease Surveillance, Detection, Diagnosis and Containment"; June 2010, Madrid, "International Workshop on Responding to the Alleged Use of Biological Weapons"; June 2013, Geneva " EU Workshop in Support of BWC Action Extended Assistance Programmes").

A new Council Decision in support of BTWC (EUR 1.7 million) was adopted by the Council on 23 July 2012 and is currently under implementation.

The EU is also very active in the specific fields of biosafety and biosecurity. A first Council Joint Action was adopted in April 2008 in support of World Health Organisation activities in those areas.

It expired in December 2011 and had a financial reference amount of EUR 2.1 million, with the following objectives:

1. ensuring the safety and security of microbial or other biological agents or toxins in laboratories and other facilities, including during transportation as appropriate, in order to prevent unauthorised access to and removal of such agents and toxins;

2. promoting bio-risk reduction practices and awareness, including bio-safety, bio-security, bioethics and preparedness against intentional misuse of biological agents and toxins, through international cooperation in this area.

To achieve those objectives the EU introduced projects consisting of the following measures:

1. organisation of outreach workshops, consultations and training for competent authorities in the relevant sectors and for laboratory managers/staff at the national, subregional and regional levels, aiming at a deeper understanding of bio-risk reduction practices and their effective implementation in laboratories and other facilities, including during transportation as appropriate;

2. assistance to a selected country (Oman) to review public health response capacity in the context of enhancing national biological preparedness, to develop and implement a biorisk reduction management plan, particularly concerning laboratory practice and safety, and to harmonise it with integrated national preparedness plans, and to strengthen the performance and sustainability of national laboratories by connecting them with regional and international networks.

A new Council Decision to further support WHO activities in the areas of laboratory biosafety and biosecurity was endorsed by CODUN working group in May 2012 and by RELEX group in October 2013.

In addition to natural outbreaks, the increasing number of high-level containment laboratories and evolving technologies in the life sciences pose risks and threats, including the dissemination of dangerous pathogens or toxins by bioterrorists or other actors, with severe economic and social impacts. Today, many of the laboratories handling infectious agents are insufficiently protected and the associated security risks may not be fully realized, therefore further actions are being taken by the EU to address and prevent this new type of risks.

In this context, the EU uses its different development and cooperation instruments to contribute to enhance bio–safety and bio-security in third countries. In particular, the Instrument for Stability (long-term component) is an adequate instrument allowing for a systematic effort to respond to the threats outlined in the European Security Strategy through innovative capacity building measures on a global scale, in response to locally identified needs.

The EU assistance projects in third countries in the field of bio-safety and bio-security cover a large number of areas and activities, such as legislative and regulatory assistance, training, safety and security for the handling, storage and transportation of dangerous biological agents, promoting a culture of bio-safety and biosecurity and include the following:

1. The EU supported a project from 2008 to strengthen bio-safety and bio-security capabilities in Central Asian countries to improve safety/security practices of key biological facilities (Instrument for Stability, EUR 6.8 million). The overall objective of the project is to improve the bio-safety and bio-security by raising the scientific and technical skills of the personnel working at or supervising relevant laboratories in the countries, by providing training and additional equipment and improving the epizootiological monitoring systems and diagnostics capabilities for infectious diseases. This program encompasses training (including biosecurity) at the Kazak Institute KSCQZD (260 students from Kazakhstan, Mongolia, Tajikistan and Uzbekistan), renovation of training infrastructure and dormitories, renovation of the existing vivarium, training program in Dushanbe for Tajik and Afghan scientists as well as other specific activities targeting the Uralsk anti-plague station.

2. The EU is funding the 'EpiSouth' project to build-up a network for the control of health, epidemiology, security threats and other bio-security risks in countries of the Mediterranean basin (Instrument, for Stability, EUR 3 million for 17 non EU countries). The overall objective of this project is, through a complementary approach with existing efforts within the EU's territory, to increase the health security in the Mediterranean Area and South-East Europe by enhancing and strengthening the preparedness to common health threats and bio-security risks at national and regional levels. A follow-up project "MediPIET" to support capacity building for the prevention and control of natural or man-made threats to health (€ 6.5 M for 10 non-European countries was set-up in 2013.

3. The EU is funding the establishment of Mobile Laboratories for Pathogens up to Risk Group 4 in combination with CBRN Capacity Building (Instrument for Stability contribution EUR 3.5 million) to strengthen control epidemic-prone diseases, including cholera, malaria, meningitis, measles, viral haemorrhagic fevers and plague, continue to pose serious public health threats in many sub-Saharan countries. Two units will be deployed in Tanzania and Nigeria, a third unit being available for training and eventual deployment in south east Europe.

4. The EU is funding 12 actions to strengthen and improve bio-safety and bio-security capabilities in Central Asia and in the Southern Caucasus. (Instrument for Stability - contribution EUR 5 million).

5. The EU also launched a project in Afghanistan in 2009 to provide technical assistance to design and build a new 1,100sqm Central Veterinary Diagnostic & Research Laboratory (CVDRL) in Kabul and to offer training to a team of twelve laboratory technicians on a wide range of diagnostic tests, largely focusing on parasitology, microbiology, serology and hematology (Development Cooperation Instrument).

6. The EU is supporting the establishment of regional CBRN Centres of Excellence in a number of regions (South East Asia, Middle East, North Africa, Atlantic Façade, South Caucasus / Ukraine / South East Europe, Gulf Cooperation countries and sub-saharan Africa). The approach proposed by the European Union is to mobilize national, regional

and international resources to achieve the common objective to develop a coherent CBRN policy at national and regional level. The main objective is to build national and regional capacities to optimize the sharing and use of CBRN expertise through a regional network that could collect, analyze, identify and deploy resources to respond to the identified needs. It would cover all aspects of CBRN policy, such as export control, border monitoring, bio-safety and security, illicit financing, engagement of the scientific community. They address all CBRN hazards: criminal, accidental or natural.

The regional Centres of Excellence, through national point of contacts, would identify needs in the different domains and the European Union would consider how to respond to them. It should therefore contribute to reinforcing local capacities in the field of CBRN as well as increase local ownership, sustainability and accountability in the partner countries. Also several projects on Bio-risk management projects, Knowledge development and transfer of best practice on bio-safty/bio-security bio-risk management, and strengthening laboratory bio-safety and security through development of laboratory iso-bank systems started in the framework of the CoE initiative (€ 4.5 M) in 2012/13.

7. The European Commission is full member of the Global Health Security Initiative (GHSI) which is an informal, international partnership among like-minded countries to strengthen health preparedness and response globally to threats of biological, chemical, radio-nuclear terrorism (CBRN) and pandemic influenza. GHSI members are the G7 countries, Mexico and the European Commission. WHO participates as observer. A table top exercise was conducted in autumn 2010 to test communication between the GHSI partners in an emergency situation.

8. Countries facing a biological incident that overwhelms or threatens to overwhelm their national response capability may at any time issue an official request aiming at the activation of the Community Mechanism for Civil Protection. This mechanism pools and channels immediate civil protection and medical assistance available in and offered by Member States of the European Union. Vaccines, countermeasures and related medical assistance can be part of the overall ad hoc emergency assistance channeled through the Civil Protection Mechanism.