



Ship without sails

Chemical and biological weapons control in Africa

INTRODUCTION

The African continent faces a number of security challenges as many states struggle to provide their citizens with basic goods and services such as food, housing and health and educational facilities. The proliferation of small arms and light weapons and persistent illegal trans-border activities exacerbate the human security situation on the continent. Given the enormity of these immediate challenges, the question is whether Africa should be concerned about chemical and biological weapons (CBW).

The need to prevent the development and proliferation of biological and chemical weapons in Africa should be put into context. While the threat of a chemical or 'bioterrorist' attack occurring on the African continent is perceived to be small, the general state of the continent means that Africa could easily become a haven for groups who may either wish to execute a chemical or biological attack or to develop such weapons on the continent. Africa is also vulnerable to a host of infectious disease outbreaks that could threaten the security of the continent, given the inadequate medical facilities in many African states.

This paper argues that international chemical and biological weapons control mechanisms are currently not prioritising the specific concerns of African states, such as the need to put in place measures that could prevent the deliberate or accidental outbreak of disease. They are also not adequately geared towards increasing awareness of the implications of the 1972 Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction (BTWC) or the 1993 Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction (CWC), amongst the African scientific and industrial communities.

The paper discusses the experiences of African countries with both the CWC and BTWC, focusing on

African membership and participation in both conventions. The emphasis is on current African legislation to control chemical and biological weapons proliferation. The challenges faced by African countries regarding implementation of the conventions are also reviewed. From the concluding remarks and recommendations it is clear that much work is still to be done for African states to be truly incorporated into the global non-proliferation regime and that there is an urgent need, both on the part of African states and United Nations' support bodies, to engage more frequently and systematically on issues specifically relevant to developing countries.

BACKGROUND

The Chemical Weapons Convention

The Chemical Weapons Convention (CWC)¹ was signed on 13 January 1993 and came into force on 29 April 1997. It represents the world's first multilateral disarmament agreement providing for the elimination of an entire category of weapons of mass destruction within a fixed timeframe. The CWC is of unlimited duration, and if states wish to withdraw, they may do so after prior notification of 90 days. The CWC obliges States Parties not to develop, produce, acquire, stockpile, transfer, use or prepare to use chemical weapons. The convention also requires the destruction of all chemical weapons and chemical weapons production facilities owned or controlled by a State Party, as well as the destruction of chemical weapons abandoned by a State Party on the territory of another State Party (Tulliu & Schmalberger 2003:61–62).

The CWC is a complex document nearly 200 pages long, with 24 articles and three annexes on chemicals, their implementation and verification, and on the protection of confidential information (OPCW 2005). The CWC's verification regime is administered by the Organisation for the Prohibition of Chemical Weapons (OPCW) established under the convention. The OPCW

is responsible for gathering initial data on declarations submitted by States Parties and conducting inspections, and serves as a forum for consultation and cooperation among States Parties. It is also mandated to settle disputes between states regarding the application and interpretation of the CWC. Its Executive Council is empowered to determine whether a violation of the convention has occurred (Tulliu & Schmalberger 2003:61–62).

The OPCW comprises three main bodies: the Conference of States Parties, the Executive Council and the secretariat, and boasts 182 members worldwide. It plays a supportive role for member states through various meetings and other engagements as well as by hosting a comprehensive, user-friendly website. The website is especially helpful in mapping out the requirements and responsibilities of member states once they have joined the convention. The OPCW also provides state parties with access to legal experts, declarations advisors, and personnel trainers in order to aid states with the implementation process.

Since the convention entered into force in April 1997 and up to 30 June 2008, the OPCW has conducted 3 373 inspections on the territory of 81 States Parties, including 1 943 inspections of chemical weapon-related sites. During the same period, over 71 000 tonnes of chemical warfare agents have been declared and 29 251 tonnes of chemical agents and 3,07 million chemical weapons munitions have been destroyed (OPCW 2008d).

The BTWC lacks a vital component that the CWC has, namely an oversight body

The Biological and Toxin Weapons Convention

The Biological and Toxin Weapons Convention (BTWC)² opened for signature in 1972 and entered into force in 1975. It is of unlimited duration, and withdrawal requires three months prior notification. It forms part of the international community's efforts to address the proliferation of weapons of mass destruction, including chemical and nuclear weapons (Tulliu & Schmalberger 2003:46–47) and effectively prohibits the development, production, acquisition, transfer, retention and stockpiling of biological and toxin weapons. As of August 2008, 162 countries worldwide are States Parties and 13 are state signatories to the BTWC.

Amongst other provisions, States Parties are required by the convention to submit confidence-building measures (CBMs), which are reports divided into seven categories relating to amongst others the exchange of data on research centres and laboratories, publication of results and promotion of use of knowledge and declaration of legislation, regulations and other measures (UN Office at Geneva 2008b). CBMs are important 'in order to prevent or reduce the occurrence of ambiguities, doubts and suspicions and in order to improve international cooperation in the field of peaceful biological activities' (UN Office at Geneva 2008b).

The BTWC lacks a vital component that the CWC has, namely an oversight body. However, at the sixth review conference of the BTWC in 2006, the States Parties established an Implementation Support Unit (ISU), which is mandated to perform four main tasks, namely to provide administrative support, manage the CBMs of States Parties, exchange national implementation information amongst states, and promote universalisation of the Convention. However, the ISU at present has a staff of only three people, and although they have accomplished a substantial amount of work since the establishment of the unit, their limited mandate prevents them from fulfilling the substantial role of an oversight body or carrying out a verification regime such as the OPCW.

In addition and unlike the CWC, the UN Secretary-General is not the treaty depository, because formal requirements of ratifications and accessions by new members under the CWC are more straightforward than for the BTWC (Feakes 2006). Although there has been a great deal of discussion regarding the development of a new approach to promote universalisation, at present there seems to be no real drive to deviate from current strategies.

AFRICAN EXPERIENCES OF THE CHEMICAL WEAPONS CONVENTION AND THE BIOLOGICAL AND TOXIN WEAPONS CONVENTION

Chemical Weapons Convention

There are currently 50 African countries that are States Parties and three (Angola, Egypt and Somalia) that are non-signatory states to the CWC (OPCW 2008a). The Republic of Congo has been a State Party since January 2008. The latest African country to join the CWC was Guinea-Bissau, who did so in May 2008 (OPCW 2008a).

The experience of African states with the CWC has generally been better than with the BTWC. This is largely due to the numerous coordinating activities of the OPCW, which assists states with implementation and promotes universalisation, and to the fact that the

African Union (AU) declared Africa a chemical weapons-free continent at its inaugural summit in Durban, South Africa, in 2002.

African countries appear to participate frequently in OPCW activities. According to an OPCW press release on 1 November 2007 during an official visit to New York in connection with the 62nd session of the UN General Assembly, the Director-General of the OPCW, Ambassador Rogelio Pfirter, held bilateral meetings with representatives of states not party to the CWC, including Egypt. This type of engagement occurs frequently and does seem to promote universalisation of the convention (OPCW 2007).

The creation of an 'African Group' has enabled African states to plan meetings on the continent on topics that are relevant to them. This highlights two important aspects of the OPCW framework: the first is that it gives African states the opportunity to discuss issues that are specifically relevant to these countries, and second, it shows that African states are committed to the vision of the OPCW of a chemical weapon-free world. Most African states are not primarily concerned about the destruction of chemical weapons and on the whole rather focus on issues relating to the promotion of the peaceful uses of chemistry. In fact, most developing countries do not possess chemical weapons. The formation of regional groups enable states to discuss issues relevant for their particular region, and groups designate members to the OPCW Executive Council. The African Group comprises 50 states and is one of the largest within the Organisation. From 12 May 2008 to 11 May 2009, the following countries represented the African Group on the Executive Council: Algeria, Cameroon, Ghana, Lesotho, Libyan Arab Jamahiriya, Nigeria, South Africa, Sudan and Tunisia (OPCW 2008a).

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In January 2006, the AU signed a memorandum of understanding with the OPCW to foster better cooperation between the two organisations. During a visit to the 41st session of the executive council on 28 June 2005, former chairperson of the AU, President Olusegun Obasanjo of the Federal Republic of Nigeria, reaffirmed Africa's commitment to the CWC (Idris 2007:4–5).

In a 2007 statement by the African Group to commemorate the OPCW's tenth anniversary, African states reaffirmed their full commitment to the CWC towards achieving universality, ensuring the protection of States Parties from being subjected to the threat or use of chemical weapons, and the promotion of assistance to member states in the field of the peaceful use of chemistry for developmental purposes (Idris 2007:4–5).

In 2007, two implementation workshops were held in Africa. The first, a sub-regional workshop for the CWC national authorities in the Southern African Development Community (SADC) region was held in Pretoria, South Africa. The meeting raised awareness of States Parties' obligations under the CWC and generated mutual support amongst States Parties to address challenges relating to the CWC's national implementation requirements.

The second implementation meeting was held in Lusaka, Zambia, where the Southern African Customs Authority discussed the CWC's international chemical transfer regime. The meeting focused on best practices in transfer regulation, methods to identify scheduled chemicals, and the use of a harmonised system, which are all listed amongst the current recommendations of the World Customs Organisation. Most issues discussed related directly to the experience of national customs officials.

During the fifth African national authorities meeting in Yaoundé, Cameroon, in October 2007 further steps were identified that States Parties needed to take in order to implement their article VII commitments. Article VII obligates States Parties to assist other states that have been exposed to a threat resulting from a violation of the BTWC. A detailed implementation support plan for the region and sub-regions was discussed which would enhance the quality of declarations and make it possible to review and implement the CWC's trade provisions. Each participating member state had to describe their current practices and the challenges they have encountered, as well as the type of assistance they have received and have provided to other member states (OPCW 2007:14).

All States Parties to the CWC are concerned about the impact of chemical weapons destruction, even if they are not directly involved in the process. At the 12th session of the conference of States Parties held in November 2007, the African Group stated that 'the African States Parties remain of the firm conviction that the destruction of all chemical weapons continues to be the primary objective of the Organisation' (African Group 2007:1).

During the second review conference of the Chemical Weapons Convention in April 2008, States Parties supported the Director-General's programme to strengthen cooperation with Africa on the Chemical Weapons

Convention, but asked for further information on the budgetary implications of the programme, and also stressed the importance of the African Group's involvement in the development of the programme. In addition, States Parties decided that the proposal that an African office be established, would be considered at the 54th session of the CWC (OPCW 2008c:6).

In order to increase the capacity of national authorities in Africa, the OPCW has organised two key meetings on the continent in 2008. The first meeting was a regional basic training course for representatives of National Authorities of 22 States Parties in Africa,³ which took place from 22 to 26 September in Pretoria, South Africa. This basic training course was the first held for the African region as part of the Programme to Strengthen Cooperation with Africa, or Africa Programme, of the OPCW, and offered African States Parties an opportunity for bilateral consultations with staff of the Technical Secretariat. The second meeting to be held in 2008 is the Sixth Regional Meeting of National Authorities of States Parties, which will take place from 11 to 13 November in Kampala, Uganda (OPCW Technical Secretariat 2008a). The focus of this meeting is the identification of further steps, if any, which each State Party needs to take in order to fulfil its Article VII obligations (OPCW Technical Secretariat 2008b).

Libya has until December 2010
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Although Africa's experience with chemical weapons is on the whole rather limited in comparison to other regions such as North America and Europe, four African countries have in the past allegedly been involved in the development of chemical and biological weapons programmes for either offensive or defensive purposes, namely South Africa, Libya, Egypt and Sudan. For this reason, too, it is very important that African states reject the use of chemical weapons. According to Abalo (2006), Africa is involved, both directly and indirectly, in the global debate about chemical weapons proliferation.

Libya had a biological and chemical weapons research and development programme which had the potential to produce small amounts of agents. In 2003, however,

Colonel al-Qadhafi stated that Libya would give up its biological and chemical weapons programmes and Libya did accede to the CWC in 2004. The United States is currently assisting Libya with the destruction of its chemical weapons stockpile. However, the task is costing more than anticipated and the US Department of Defense cannot afford such an expensive undertaking, especially as the US has its own stockpile to destroy (Nguyen 2006). In the light of this and other constraints, Libya requested an extension of its 29 April 2007 deadline, which was granted. The country now has until 31 December 2010 to destroy all its Schedule 1 chemical weapons stockpiles. Schedule 1 includes chemicals that have been or can easily be used as weapons and which have very limited, if any, peaceful uses.

Libya has also pledged to destroy all of its Schedule 2 weapons by 31 December 2011, and has already destroyed over 37 per cent in this category, as well as 100 per cent of its Schedule 3 chemical weapons stock. Schedule 2 chemicals include those that are precursors to, or that in some cases can themselves be used as weapon agents, but which have a number of other commercial uses. Schedule 3 includes those that can be used to produce or be used as chemical weapons, but which are widely used for peaceful purposes (OPCW 2008d).

According to Abalo (2006) some Western intelligence sources claim to have evidence suggesting that Sudan maintains an interest in developing a chemical and biological weapons program. However, Sudan acceded to the CWC in 1999 and is a State Party to the BTWC. Furthermore, these allegations are unlikely to be true in view of the fact that since becoming a State Party to the CWC, Sudan has been very active in the African Group in the Executive Council and its ambassador chaired the Second Review Conference.

Biological and Toxin Weapons Convention

The BTWC has been in force for 30 years, yet membership has not increased dramatically in the last ten years. There are currently 35 African countries that are States Parties and eight that are signatories to the BTWC, which means that ten African countries have neither signed nor ratified the treaty.

African states have invested very little in the BTWC for several reasons, but the main one is that biological weapons control does not feature on national, regional and continental agendas, and is sometimes only briefly referred to in UNSC 1540 reports. There are exceptions, for example Algeria makes specific reference to its status on chemical, biological and nuclear weapons and South Africa also submitted a comprehensive report to the 1540 committee.⁴ A further reason is that African countries are offered very few incentives to actively participate in the BTWC. Biological weapons are not considered a

direct primary threat on the continent, and the fact that the treaty remains unenforceable only entrenches the idea that it is unnecessary to develop new legislation to monitor and regulate the movement of biological agents.

By September 2008 only eight African countries have submitted CBMs, South Africa leading with 11 submissions (UN Office in Geneva 2008a). Attendance at official meetings in Geneva is low: only one state signatory (Egypt), and 14 African States Parties attended the meeting of experts in August 2008. This included four from North Africa and ten from the sub-Saharan African region (Benin, Botswana, Ghana, Kenya, Nigeria, Senegal, South Africa, Sudan, Swaziland and Zambia) (BTWC 2008). Interestingly, two non-signatory states from Africa also attended the meeting, namely Cameroon and Mauritania. According to Georgi Avramchev, the chairman of the August 2008 meeting, both Cameroon and Mozambique are in the advanced stages of accession and the Comoros and Côte d'Ivoire are considering accession in the near future (Avramchev 2008:1).

The lack of CBM submissions, as well as the low attendance at official meetings by African states may indicate that these states are either struggling with the requirements of the BTWC or that biological weapons control is not high on their agendas.

In a statement to the 6th review conference of the BTWC, the Institute for Security Studies (ISS) maintained that Africa should play an important role in upholding the Convention, especially in the light of the impact that natural and deliberate outbreaks of diseases could have, and in some cases does have, on the continent. The ISS also maintained that most health facilities in Africa are ill equipped to manage large-scale disease outbreaks, and that the rapid spread of disease remained a far bigger threat than the possibility of a bioterrorist attack. The ISS also noted its concern about the increase in the scale of the biodefence activities of certain States Parties, particularly the United States, and said that the BTWC should foster transparency around biodefence activities in order to prevent the proliferation of biological weapons.

Three issues remain especially important to African states: CBM submissions, the transfer of peaceful technology and the enhancement of national health care systems in order to respond to disease outbreaks, and the challenge of universalisation. With regard to universalisation, African states need support from other States Parties, a matter that should be prioritised (ISS 2006:1–2).

At the 2007 Biological and Toxin Weapons Convention (BTWC) experts meeting, Madame Khadija Rashida Masri, permanent representative of the AU Mission to the UN in Geneva, reaffirmed the African continent's commitment to the implementation of the BTWC. However, she made it very clear that African

states were also facing far more pressing security issues, such as under-development and the proliferation of small arms.

Overall, Masri's statement focused on the two main themes of the meeting: ways and means of enhancing, enforcing and strengthening national implementation, on the one hand, and assessing regional and sub-regional cooperation in BTWC implementation, on the other. She highlighted the importance of involvement by regional and sub-regional organisations in implementing the BTWC and stressed the need for better international cooperation in order to strengthen the capacity of member states and encourage national implementation of the convention. Although these issues were discussed broadly, Masri also mentioned a number of regional initiatives by the AU, including

- The adoption of the Model Law on Safety and Biotechnology in 2001
- The Revised African Convention on the Conservation of Nature and Natural Resources in 2003
- The Protocol to the Convention on the Prevention of Combating of Terrorism in 2004
- The endorsement of the Regional Approach to Biosafety Policy in Eastern and Southern Africa, an initiative of the Common Market for Eastern and Southern Africa
- The attendance by many African states in workshops hosted by the European Union in 2006 and 2007

Biotechnology has steadily gained attention in Africa because it has the potential to positively impact on development. The AU statement called for specific delineation between peaceful and non-peaceful uses of biotechnology and genetic engineering. The AU feels that all member states should have the right to develop such technology to boost food security and develop vaccines. Masri (2007) reiterated the importance of technological development for African states, particularly with reference the dual-use potential of new biotechnologies.

Two key challenges emerge from the AU statement. The first challenge is to address the need for funding and to establish a support structure. In the absence of a support body which can act as a liaison, the BTWC struggles to communicate adequately with its member states and effective monitoring of state behaviour and progress cannot take place either.

The second challenge is to translate the convention into national legislation (Masri 2007). The Review Conference did result in the establishment of an Implementation Support Unit (ISU) under the UN Department of Disarmament Affairs to guide member states through the process of completing and submitting CBMs.

However, as Ambassador Masood Khan stated in his closing remarks at the meeting of experts in Geneva in 2007, there is no 'one size fits all' solution for national implementation. The needs of States Parties must be taken into account through an 'implementation checklist', as suggested by the OPCW, which may prove more useful than providing model legislation alone. Khan stressed the need to help States Parties with capacity building, not just by providing guidance on enacting legislation, but also on a more practical level of enforcing and managing such legislation (Khan 2007a).

At the meeting of States Parties to the BTWC, held in Geneva from 10 to 14 December 2007, an increased number of African countries made statements (Algeria, Kenya, Libya, Morocco, Nigeria, South Africa and Sudan) and submitted working papers (Nigeria submitted a working paper on the country's experience of the BTWC and Cuba, who represented the Non-Aligned Movement and other countries (which include all the African States Parties to the BTWC), submitted a proposal for improving national implementation of the Convention and regional and sub-regional cooperation). The main themes of the statements highlighted the difficulties surrounding implementation of legislation at national level, the importance of regional and sub-regional cooperation, the need for consolidation of international cooperation under article X of the Convention, and the requirement of more resources and technical assistance to member states.⁵

LEGISLATION AND NATIONAL AUTHORITIES

Chemical Weapons Convention

As part of article VII of the CWC, African states are required to establish a national authority responsible for overseeing implementation of and compliance with the Convention. The national authority is also expected to oversee the development of domestic legislation relevant to the CWC. In a 2006 official note by the director-general of the OPCW, only 16 of the 48 listed African states reported that they have legislation in place. This indicates that African States Parties are either not prioritising the

implementation of legislation, or that they are struggling to develop legislation, given that it is a very labour intensive and resource dependent process.

The quality of the legislation varies from very comprehensive, as in the case of South African legislation, to very basic, where activities relating to chemical weapons are included under the penal code, as in the case of Ethiopia. In countries such as The Gambia control of chemical weapons has been included in anti-terrorism acts, while Lesotho and Mauritius both have separate chemical weapons acts (OPCW technical secretariat 2006).

Although the figures provided in the 2006 official note have not been updated, the quarterly journal of the OPCW, *Chemical Disarmament*, regularly lists recent legislation that has been submitted by States Parties. This source shows that in April 2008 Zambia presented its first Article VII(5) submission in the form of the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons Act, 2007 while the Côte d'Ivoire submitted a copy of Article 16 of its Criminal Code, which provides for the extraterritorial application of its penal legislation, in May 2008 (OPCW 2008e:25).

The overall lack of consistency in terms of the quality of the legislation is not an African phenomenon, as it occurs in all regions of the world. It is also subject to the strength of the national legislative framework in place in a particular country and the infrastructure and resources available to develop new legislation pertaining specifically to chemical weapons.

A requirement of the CWC is the establishment of a national authority responsible for co-ordinating the requirements of the CWC within a country. At present only Cape Verde, Comoros, Republic of Congo and Mauritania, of a total of 50 African States Parties to the CWC, do not have national authorities in place (OPCW 2008b). The national authorities are housed in a wide variety of different departments, some as part of a general weapons of mass destruction department, as part of the foreign affairs portfolio, or under departments of trade and industry. Similarly the relevant legislation differs from country to country. Table 1 indicates where national authorities are situated in the different African States Parties.

Table 1 CWC national authorities in African countries

COUNTRY	NATIONAL AUTHORITY
Algeria	Comité Interministériel chargé de la mise en oeuvre de la Convention sur l'interdiction de la mise au point, de la fabrication, du stockage et de l'emploi des armes chimiques et sur leur destruction
Benin	Department of International Organisations, Ministry of Foreign Affairs and African Integration
Botswana	Inter-Ministerial Committee for the Implementation of the Chemical Weapons, Convention, Office of the President
Burkina Faso	Autorité Nationale pour la Convention sur les Armes Chimiques (ANCAC)
Burundi	Direction des Affaires Juridiques et du Contentieux, Ministère des Relations Extérieures et de la Coopération

COUNTRY	NATIONAL AUTHORITY
Cameroon	Ministère des Relations Extérieures
Cape Verde	None as yet
Central African Republic	Ministère des Affaires Etrangères, de l'Intégration Régionale et de la Francophonie
Chad	Ministry of Foreign Affairs
Comoros	No national authority as yet
Congo	Established, but no contact details listed as yet
Côte d'Ivoire	Commission pour l'Interdiction des Armes Chimiques en Côte d'Ivoire
Democratic Republic of Congo	Ministry of Foreign Affairs
Djibouti	Ministry of Foreign Affairs and International Cooperation
Equatorial Guinea	Ministry of National Defence
Eritrea	Department of Americas and International Organisations
Ethiopia	National Authority Advisory Board , Ministry of Trade and Industry
Gabon	Ministère des Affaires Etrangères, de la Coopération et de la Francophonie
Gambia (The)	Department of state for Defence, Office of the President
Ghana	Ministry of Environment, Science and Technology
Guinea	Commission Nationale de Lutte contre les Armes Chimiques, Direction Nationale des Affaires Juridiques et Consulaires, Ministère d'Etat Chargé des Affaires Etrangères
Guinea-Bissau	Established, but no contact details listed as yet
Kenya	Government Chemists Department, Ministry of Health
Lesotho	Ministry of Foreign Affairs
Liberia	Ministry of Justice
Libya	National Committee for the CWC
Madagascar	National Authority of Madagascar, Ministry of Foreign Affairs
Malawi	CWC National Authority, Ministry of Foreign Affairs and International Cooperation
Mali	Ministère des Affaires Etrangères et des Maliens de l'Extérieur
Mauritania	No national authority as yet
Mauritius	Mauritius National Chemical Weapons Authority, Prime Minister's Office
Morocco	Ministère des Affaires Etrangères et de la Coopération
Mozambique	Directorate for Legal and Consular Affairs, Ministry of Foreign Affairs and Cooperation
Namibia	Ministry of Foreign Affairs
Niger	Ministère des Relations Extérieures
Nigeria	National Authority on Chemical and Biological Weapons Convention, Political Affairs Office, Office of the Secretary to the Government of the Federation, The Presidency
Rwanda	Department for UN Affairs, Ministry of Foreign Affairs and Cooperation
São Tomé and Príncipe	Ministry of Economy
Senegal	Commission Nationale sur les Armes Nucléaires, Biologiques et Chimiques
Seychelles	Ministry for Foreign Affairs
Sierra Leone	Ministry of Foreign Affairs and International Cooperation
South Africa	The South African Council for the Non-Proliferation of Weapons of Mass Destruction, Department of Trade and Industry
Sudan	Committee for Banning Chemical Weapons, Ministry of External Relations
Swaziland	Ministry of Defence
Tanzania (United Republic of)	Interim National Authority for the CWC, Ministry of Defence and National Service
Togo	Ministère des Affaires Etrangères
Tunisia	Direction Générale des Organisations et Conférences Internationales, Ministère des Affaires Etrangères
Uganda	Occupational Safety and Health Department, Ministry of Gender, Labour and Social Development
Zambia	Ministry of Foreign Affairs
Zimbabwe	National Authority for the Chemical Weapons Convention

Source: OPCW 2008b.

Biological and Toxin Weapons Convention

National legislation addressing the issue of biological weapons in Africa is rather poor. A large number of African states lack the capacity to implement adequate domestic legislation to criminalise the use of biological weapons. As is the case with the CWC, some countries have highly developed legislative frameworks, such as South Africa, while others simply include biological weapons within their anti-terrorist legislation or the penal code of the country.

As part of its mandate, the ISU developed a comprehensive National Implementation Database (NID), which lists national measures that might be relevant to the Convention in as many states for which it has been possible to obtain data (Implementation Support Unit 2007:4). In addition, the ISU identified national points of contact for 52 States Parties, which are listed on the UN Office at Geneva's website, at <http://www.unog.ch>. The status of African States Parties in terms of legislation listed in the NID and the existence of a national point of contact is set out in table 2. Of 35 African States Parties, only six have identified a national point of contact, and the legislation of only 14 States Parties is available on the NID. Egypt, which does not feature on the list, is the only African signatory party that has provided legislation to the NID.

A recent study undertaken by the Africa Biosecurity Project,⁶ a group of researchers from nine African countries (amongst them South Africa, Ghana, Rwanda, Kenya, Ethiopia and Tanzania) brought together by the Kellogg Foundation as part of a worldwide legislative study, revealed that most African states faced structural problems with regard to the implementation of national biosecurity legislation. The project developed a working document called the Nairobi announcement,⁷ in which the agenda of the project was set out and which also identified the key challenges that African states face with regard to the control of biological weapons.

In countries where relevant legislation may exist, there were also a number of issues which affected effective implementation. Two issues of importance in this regard are first that insufficient emphasis is being placed on the strategic importance of biosecurity by policymakers and by scientists, and second that in many cases the legislation would be difficult to apply in the prosecution of cases of intentional hostile use of biological agents. In addition, while there is great interest amongst African scientists especially in southern and East Africa about biosecurity and related legislation, there are very few fora where such groups can discuss issues related to biosecurity.

Table 2 Status of African states parties to the BTWC in terms of legislation in the national implementation database (NID) and national contact points

No	States Parties	Legislation in NID	National point of contact
1	Algeria	Yes	
2	Benin		
3	Botswana		
4	Burkina Faso		Autorité Nationale pour la Convention sur les Armes Chimiques
5	Cape Verde	Yes	
6	Congo (Republic of)		
7	Congo (Democratic Republic of)	Yes	
8	Equatorial Guinea	Yes	
9	Ethiopia		
10	Gabon		
11	Gambia (The)		
12	Ghana	Yes	
13	Guinea-Bissau		
14	Kenya	Yes	Ministry of Foreign Affairs
15	Lesotho		
16	Libyan Arab Jamahiriya	Yes	Libyan National Committee for Bioethics
17	Madagascar		
18	Mali		

No	States Parties	Legislation in NID	National point of contact
19	Mauritius	Yes	
20	Morocco	Yes	United Nations and International Organisations, Ministry of Foreign Affairs
21	Niger		
22	Nigeria	Yes	National Authority on Chemical and Biological Weapons Convention
23	Rwanda		
24	São Tomé and Príncipe		
25	Senegal	Yes	
26	Seychelles		
27	Sierra Leone		
28	South Africa	Yes	Non-Proliferation Secretariat, South African Council for Non-Proliferation of Weapons of Mass Destruction
29	Sudan		
30	Swaziland		
31	Togo		
32	Tunisia	Yes	
33	Uganda		
34	Zambia		
35	Zimbabwe	Yes	

CHALLENGES

Chemical Weapons Convention

While there is a clear national advantage to regulating the import and export of listed chemicals and ensuring safety and accountability in the chemical industry, African developmental issues are not being adequately addressed in CWC fora. Continuous dialogue within Africa is extremely important so that knowledge may be gained on how African countries are dealing with the implementation process for the CWC. As many African states have limited resources, states can support each other by sharing their experiences and formulating regional understandings and action plans. This could also win over those countries that have no chemical industries and persuade them to put effort and resources into regulating chemical imports.

Such cooperation works across many levels, from national authorities and customs officials to scientists working within the chemistry field. African participation in OPCW events is also crucial if the continent wishes to remain informed about developments in other parts of the world, and on requirements that may have an impact on the continent's scientific development.

African States Parties are concerned about the low level of representation of African nationals in the technical secretariat and Africans should certainly be

incorporated into this body to promote Africa's commitment to the convention. The technical secretariat should also consider adjusting its actions when mobilising and co-ordinating assistance for African States Parties to enable it to adequately respond to these countries' needs. African states for example need more specialised assistance under the sub-regional 'train the trainer' programmes on protection and emergency responses than is currently available (African Group 2007:2–3). The African Group (2007:4) has stated bluntly that African States Parties often do not receive adequate 'international cooperation to assist with the development of chemical industries on the Continent as well as the transfer of technology to it'. Therefore article XI of the convention should be fully implemented as soon as possible at the same level of intensity as the other provisions, for it is clear that despite the existence of an oversight body, the African States Parties under the CWC face very similar challenges as under the BTWC.

Biological and Toxin Weapons Convention

Of the 53 countries in Africa, ten remain outside of the BTWC⁸ more than 30 years after its entry into force. Eight countries have signed but not ratified the Convention.⁹ Although Angola and Mozambique (two of the BTWC non-signatory states) have indicated that they may join the BTWC in the near future,¹⁰ the importance

of the BTWC for the majority of African countries is no more clearly illustrated than by their regular absence from BTWC meetings and discussions. The notable exception to this is South Africa, who has played an active role in the BTWC for more than ten years.

Seemingly, most African states have invested very little in the BTWC. With a few exceptions the majority of African states remain on the margin of the debate surrounding biological weapons control. Biological weapons are not perceived as a threat, and therefore do not feature high on the list of priorities at national, regional or continental levels. UNSC 1540 requires member states to report on their WMD status as a whole, but only 19 African countries have submitted reports as of October 2008, and only 18 of these have provided the 1540 Committee legislative database with information on their legislation relevant to weapons of mass destruction.¹¹

There is little incentive for African states to participate in the convention (primarily because biological weapons are not perceived as a threat by either other states or non-state actors), because the treaty remains unenforceable and declarations of compliance remain unverifiable. This tends to provide little motivation to invest in the process of strengthening the agreement so as to enhance national security.

African countries are becoming more involved in biotechnology developments, and this has implications for the control measures

Deliberate outbreak of disease

Africa's interest in the BTWC is relevant specifically with regard to a deliberate outbreak of disease and the catastrophic effects such an occurrence would have on the health systems of African countries. As a region, Africa has the least developed public health infrastructure in the world. According to research by *The Economist* (cited in Borrie & Loye 2005:97) '41 of the 50 countries with the lowest overall life expectancies in the world in 2003 were in Africa. Twelve of the 26 countries with the lowest health spend per capita as a percentage of gross domestic product were African.'

Africa is particularly vulnerable to the threat of deliberately introduced disease not necessarily because Africans could be specifically targeted, but rather

because major infectious diseases that could potentially be used in biological attacks are endemic to regions such as East Africa – and thus potentially easier to access. According to Njuguna (2005:14) 'more than half of the organisms recognised as having a potential in biological warfare are endemic to the eastern African region'. These include anthrax, tularaemia, plague, smallpox, haemorrhagic fevers and botulism toxin. Although public health systems have thus far controlled outbreaks of Ebola fever and Rift Valley fever in countries like Uganda and Kenya, a successful intentional disease attack would cripple most African public health systems.

Africa's dependency on agriculture and farming for survival renders Africans vulnerable to disease outbreaks, and the consequences of such an event could have a ripple effect that could devastate entire economies. In addition, the porous nature of Africa's borders means that people, animals and goods are moving from one country to another with little monitoring, which means that disease could spread with frightening ease and speed (Njuguna 2005:14).

At present the actual threat level of a deliberate disease attack in Africa is not known. Therefore it is essential that a threat assessment be undertaken so as to inform the debate surrounding biological terrorism. Such an assessment should include identification of threatening groups or individuals, the agents that could be used, the logistics of an attack, the motivations for an attack, and the possible locations that could be targeted. Although Africans may not be the specific target for bioterrorist attacks, there is a possibility that they may become indirect victims of attacks. For example, the bomb attacks on American embassies in Kenya and Tanzania in 1998 killed over 200 and injured over 4000 Kenyan citizens, and killed 11 Tanzanian citizens (PBS 2008). Therefore, it is important for African countries to remain vigilant of possible deliberate bioterrorist attacks within their borders.

Increased awareness in the scientific community

The African region is certainly lagging behind as far as education, technology and infrastructure in the area of science is concerned. This does not, however, mean that scientific development is not relevant for Africa. Increasingly, African countries are becoming more involved in biotechnology developments, and this has implications for the control measures. Due to the lack of strict controls in laboratories, African countries have become attractive destinations for some scientists. It is also more cost-effective to work in African states. However, this attractiveness comes at a price, in the form of possible toxic waste dumping and the potential for

misuse in the form of development of biological weapons. Some governmental facilities in Africa already have the capacity to produce biological weapons agents, which raises a number of ethical and moral questions that need to be addressed (Borrie & Loye 2005:102).

CONCLUSION

Because the threat of a chemical or biological weapons (CBW) attack on the African continent is perceived to be low, knowledge of relevant conventions dealing with chemical and biological weapons is also limited. This is exacerbated by the requirements set out in the Chemical Weapons Convention and the Biological and Toxin Weapons Convention: many African states find them difficult to implement because of a lack of resources and of technical support and know-how, which is exacerbated by a non-prioritisation of such issues and a general sense that there are far more pressing issues that need to be attended to immediately.

However, in view of the general state of (in)security on the continent and the ease with which goods can be moved across borders through regular trade routes or illicit crossings, Africa could easily become a haven for groups who may either wish to execute a biological or chemical attack or to develop such weapons on the continent. Africa is also vulnerable to a host of infectious diseases, and a deliberate disease outbreak could threaten the security of the continent, particularly in view of the inadequate medical facilities in many African states.

Figure 1 shows the status of African countries to the CWC and BTWC (see annex A for a complete list of the African states and their status in terms of the CWC and BTWC). Both figure 1 and annex A show clearly that participation in the CWC is far higher, which is largely a testament to the work of the OPCW and a reflection of the absence of an oversight body for the BTWC. The BTWC lacks an 'international organisation to oversee its implementation, there are no detailed verification requirements and procedures, there are no standing bodies to govern the day-to-day implementation of the

convention, to deal with allegations of use or treaty violations, to monitor scientific and technological progress, and so on'. Although States Parties to the BTWC meet more than once a year, the meetings remain ad hoc and 'subject to the vicissitudes of the international political climate' (Zanders 2007:2).

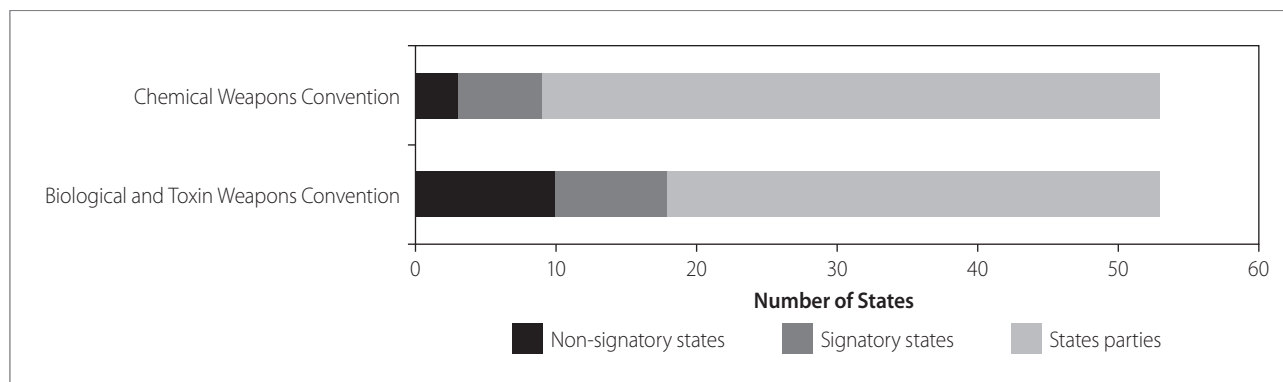
Biological weapons may not threaten Africa at present, but issues surrounding biosafety and biosecurity and the development of biotechnologies do have an impact on the continent. Therefore it is important that African member states put pressure on regional and sub-regional bodies such as the Southern African Development Community and the East African Community to develop policies and strategies that support national legislation aimed at regulating bio-industries and preventing future 'bioterrorist' acts.

Before the CWC came into force the provisional technical secretariat of the OPCW initiated regional briefings at which signatory and non-signatory states aired their concerns regarding the requirements of the CWC, the responsibilities and obligations of States Parties, and the security and development benefits States Parties would receive. During these briefings the provisional technical secretariat, and later the technical secretariat, 'learned about the concerns and desires specific to each region and sub-region, enabling them to design and develop strategies to promote universality and national implementation of the CWC, as well as a range of assistance programmes, which give member states tangible benefits' (Zanders 2007:3). This leads to the assumption that the greater knowledge about the CWC is related to the activities and efforts of the technical secretariat.

In contrast, a considerable number of officials from non-member states have not even heard of the BTWC, a lack which can to a large extent be ascribed to the absence of an international organisation which is able to promote and raise awareness of the Convention.

A great deal of emphasis is placed on 'universality', a concept which has two main components: The first is to increase the number of countries that are States Parties to the conventions and the second is to improve the quality

Figure 1 Status of African countries to the CWC and BTWC



of national participation in the regimes of the treaties. However, there is a very low level of knowledge among States Parties regarding the BTWC requirement to adopt laws and regulations and the fact that these prohibitions should be incorporated into national legislation. Article IV of the convention is poorly implemented and parties often cite the lack of human, financial and technical resources to design, draft, enact and enforce the legal obligations in order to explain the situation. Some non-States Parties do not wish to assume legal obligations when they know beforehand that they cannot fulfil them.

These problems are exacerbated by a lack of commonly accepted requirements for effective national laws, which in turn hampers the development of model legislation and legislative modules that can be adapted to the specific needs of individual countries. Many countries also lack the systems and technologies to monitor and regulate activities, such as research, development and production or transfers of pathogens and equipment in the field of biotechnology (Zanders 2007:4). By being party to the BTWC and implementing it at the domestic level, the probability of the improvement of the primary health care response systems to natural outbreaks of disease would be significant – especially if there was increased cooperation between States Parties from the developed world and those from Africa and the WHO. If brought to their attention, this kind of ‘incentive’ could increase the interest of African States Parties in the BTWC and encourage accession by those who have not yet done so.

The OPCW has adopted an action plan in support of national implementation of the CWC. The relationship between the OPCW and the individual States Parties is such that the responsibility for reporting information and monitoring and inspecting facilities is shared between them. The division of labour forces States Parties to set up national authorities and the mechanisms to collect all necessary information relating to treaty-relevant activities taking place on their territory. These obligations remove an obstacle and justification for not implementing the CWC, but this lack still affects the BTWC.

In its role as oversight body the OPCW is responsible for running several programmes to improve laboratory standards and engage industry representatives, scientists, technicians and engineers as well as their respective professional communities. The lack of a verification system in the BTWC and associated implementation activities means that many people active in the fields of biology and biotechnology are still able to reject any suggestion that their work might contribute to present and future biological weapon capabilities (Zanders 2007:4).

It is evident that both the CWC and BTWC are not adequately addressing the concerns of developing states.

There is a clear need to shift the balance of the international security agenda so that the interests of developing states are also reflected. This cannot be done without effort from both sides. African countries, in particular, need to engage on a much higher level than they are doing at present, while developed states need to create the space for African countries to air their views on the topic of chemical and biological weapons control.

In conclusion, the OPCW (with respect to the CWC) and the ISU (in terms of the BTWC) must develop new ways of engaging with developing states. This should take place on a number of levels, and include government officials, civil society and scientists involved in the chemical and biological fields. African states will remain on the fringe of WMD discussions if a concerted effort is not made by all parties to change their approach to international security and provide adequate support at the domestic level.

NOTES

- 1 The Chemical Weapons Convention is available at http://www.opcw.org/docs/cwc_eng.pdf.
- 2 The Biological Weapons Convention is available at [http://www.unog.ch/80256EDD006B8954/\(httpAssets\)/C4048678A93B6934C1257188004848D0/\\$file/BWC-text-English.pdf](http://www.unog.ch/80256EDD006B8954/(httpAssets)/C4048678A93B6934C1257188004848D0/$file/BWC-text-English.pdf).
- 3 Algeria, Benin, Burundi, Cameroon, Central African Republic, Côte d'Ivoire, Democratic Republic of Congo, Ethiopia, The Gambia, Kenya, Liberia, Madagascar, Malawi, Mauritius, Morocco, Mozambique, Nigeria, Rwanda, Sierra Leone, Tanzania, Uganda and Zambia.
- 4 For a list of 1540 reports see the 1540 Committee website at <http://www.un.org/sc/1540/nationalreports.shtml>.
- 5 For a complete list of working papers and statements, visit the UN Office at Geneva website at [http://www.unog.ch/80256EE600585943/\(httpPages\)/CA652A2BD8D94AF5C12573B4004211F1?OpenDocument](http://www.unog.ch/80256EE600585943/(httpPages)/CA652A2BD8D94AF5C12573B4004211F1?OpenDocument).
- 6 For more information on the project, see <http://law.depaul.edu>.
- 7 Available at http://www.law.depaul.edu/centers%5Finstitutes/iwcc/pdf/nairobi_announcement.pdf.
- 8 Angola, Cameroon, Chad, the Comoros, Djibouti, Eritrea, Guinea, Mauritania, Mozambique, Namibia, and Zambia.
- 9 Burundi, Central African Republic, Côte d'Ivoire, Egypt, Liberia, Madagascar, Malawi, Somalia and Tanzania.
- 10 In a verbal note to the UN 1540 Committee in October 2004, Angola stated that preparatory steps were being taken to promote a number of international conventions, including the BTWC. Also, the Minister of Foreign Affairs and Cooperation of Mozambique, Dr Alcinda Antonio de Abreu, wrote to the chairman of the BTWC, Ambassador Masood Khan (2007b), that ‘the process for accession by the Republic of Mozambique to the Convention is at an advanced stage and hopefully will be concluded soon’.
- 11 See the 1540 Committee website for the legislative database, at <http://www.un.org/sc/1540/legisdocuments.shtml>.

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Annex A Legal status of African countries to the CWC and BTWC

Country	Chemical Weapons Convention		Biological and Toxin Weapons Convention	
	Signature	Ratification accession	Signature	Ratification accession
Algeria	13/01/1993	14/08/1995	22/07/2001	22/07/2001
Angola				
Benin	14/01/1993	14/05/1998	10/04/1972	25/04/1975
Botswana		31/08/1998	10/04/1972	05/02/1992
Burkina Faso	14/01/1993	08/07/1997		17/04/1991
Burundi	15/01/1993	04/09/1998	10/04/1972	
Cameroon	14/01/1993	16/09/1996		
Cape Verde	15/01/1993	10/10/2003		20/10/1977
Central African Republic	14/01/1993	20/09/2006	10/04/1972	
Chad	11/10/1994	13/02/2004		
Comoros	13/01/1993	18/08/2006		
Congo (Republic of)	15/01/1993	04/12/2007		23/10/1978
Congo (Democratic Republic of)	14/01/1993	12/10/2005	10/04/1972	16/09/1975
Côte d'Ivoire	13/01/1993	18/12/1995	23/05/1972	
Djibouti	28/09/1993	25/01/2006		
Egypt			10/04/1972	
Equatorial Guinea	14/01/1993	25/04/1997		16/01/1989
Eritrea		14/02/2000		
Ethiopia	14/01/1993	13/05/1996	10/04/1972	26/05/1975
Gabon	13/01/1993	08/09/2000	10/04/1972	16/08/2007
Gambia (The)	13/01/1993	19/05/1998	08/08/1972	21/11/1991
Ghana	14/01/1993	09/07/1997	10/04/1972	06/06/1975
Guinea	14/01/1993	09/06/1997		
Guinea-Bissau	14/01/1993	20/05/2008		20/08/1976
Kenya	15/01/1993	25/04/1997		07/01/1976
Lesotho	07/12/1994	07/12/1994	10/04/1972	06/09/1977
Liberia	15/01/1993	23/02/2006	14/04/1972	
Libyan Arab Jamahiriya		06/01/2004		19/01/1982
Madagascar	15/01/1993	20/10/2004	13/10/1972	07/03/2008
Malawi	14/01/1993	11/06/1998	10/04/1972	
Mali	13/01/1993	28/04/1997	10/04/1972	25/11/2002
Mauritania	13/01/1993	09/02/1998		
Mauritius	14/01/1993	09/02/1993	10/04/1972	11/01/1973
Morocco	13/01/1993	28/12/1995	02/05/1972	21/03/2002
Mozambique		15/08/2000		
Namibia	13/01/1993	24/11/1995		
Niger	14/01/1993	09/04/1997	21/04/1972	23/06/1972
Nigeria	13/01/1993	20/05/1999	10/07/1972	09/07/1973
Rwanda	17/05/1993	31/03/2004	10/04/1972	20/05/1975

Country	Chemical Weapons Convention		Biological and Toxin Weapons Convention	
	Signature	Ratification accession	Signature	Ratification accession
São Tomé and Príncipe		09/09/2003		24/08/1979
Senegal	13/01/1993	20/07/1998	10/04/1972	26/03/1975
Seychelles	15/01/1993	07/04/1993		11/10/1979
Sierra Leone	15/01/1993	30/09/2004	24/11/1972	29/06/1976
Somalia			03/07/1972	
South Africa	14/01/1993	13/09/1995	10/04/1972	03/11/1975
Sudan		24/05/1999		17/10/2003
Swaziland	23/09/1993	20/09/1996		18/06/1991
Tanzania (United Republic of)	25/02/1994	25/06/1998	16/08/1972	
Togo	13/01/1993	23/04/1997	10/04/1972	10/11/1976
Tunisia	13/01/1993	15/04/1997	10/04/1972	06/06/1973
Uganda	14/01/1993	30/11/2001		12/05/1992
Zambia	13/01/1993	09/02/2001		15/01/2008
Zimbabwe	13/01/1993	25/04/1997		05/11/1990

Source International Committee of the Red Cross (ICRC)

Statement

Meeting of Experts of the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction

18 August 2008

Chairman and Distinguished Representatives. We thank you for the opportunity to address this Meeting of Experts to the Biological and Toxins Weapons Convention. Chairman, we congratulate you on the initiatives that you and the Implementation Support Unit (ISU) have taken to open space for additional participation by non-governmental organisations (NGO) in meetings such as this.

The Institute for Security Studies (ISS) is an African policy research organisation that has offices in Ethiopia, Kenya, and South Africa. Mr Chairman, we note that the subjects for discussion are of direct relevance to our continent and to the work that we have been doing over the past few years under a project funded by the Royal Norwegian Government. This project aims to identify Africa's role in international efforts to strengthen disarmament and nonproliferation as they relate to weapons of mass destruction (WMD) in the context of Africa's developmental imperatives. Thematically, the project deals with the African Nuclear-Weapon-Free Zone Treaty (Treaty of Pelindaba); the Treaty on the Non-Proliferation of Nuclear Weapons (NPT); the Biological and Toxin Weapons Convention (BTWC); the Chemical Weapons Convention (CWC); and relevant United Nations Security Council resolutions such as UNSCR 1540.

Let us note here that ten of the 20 states that have not yet signed the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction, and eight of the 13 who have signed but not ratified, are African.

We need to understand why many African states have invested so little in the BTWC. The most obvious reason is that biological weapons control is not a priority item on national, regional and continental agendas (outside of the reporting requirements for the UNSCR 1540). This is something we are trying to address in the context of our membership of the BioWeapons Prevention Project (BWPP).

Chairman, we believe that any discussion about biosafety and biosecurity, which is a main subject of your deliberations this week, should be informed by the fact that scientific research and diagnostic research facilities remain under-resourced and under-developed on the African continent. While no comprehensive audit has been conducted to determine the number of laboratories in sub-Saharan Africa, in our experience, the laboratories that do exist often have insufficient biosafety measures. Improvement of biosafety procedures, rather than sophisticated and expensive biosecurity-related infrastructure, is in our view a pressing priority for the continent.

Chairman, in May this year the ISS and the Centre for International and Security Studies at Maryland University held a workshop in South Africa. The participants were senior scientists from 12 sub-Saharan countries. We believe it is important to bring to the attention of this meeting some of the

conclusions reflected in a final statement issued by the scientists at the close of the meeting. The participants agreed, for example, [and I quote] that:

While there is a risk that human, plant or animal disease could be caused by an accidental or deliberate release of pathogens and products from African laboratories, our primary concern is not the intentional misuse of science to cause harm, but rather, the risk from natural disease outbreaks either originating on the continent or elsewhere. At the same time, there is an urgent need to develop and strengthen the capacity, both human and infrastructural, for life sciences research and diagnosis across the continent and to improve the safety practices at laboratories through the formulation of policy and legislation. African governments and scientific associations need to become more involved in national, regional and international discussions and deliberations about biosecurity, and to start developing and implementing policies that promote safe, responsible science.

Mr Chairman, turning to the second subject under consideration by this meeting, namely, education and awareness raising with the aim of preventing misuse in the context of advances in bio-science and bio-technology with the potential of use for purposes prohibited by the BTWC.

It is our view that non-governmental organisations (NGOs) and professional associations have a key role to play in raising awareness about dual-use concerns in the life sciences and in the development of educational material for scientists and science students.

Over the past few years, the ISS has partnered with the Universities of Exeter and Bradford in conducting seminars about dual-use issues and the life sciences. These seminars have been conducted at a number of academic and science research facilities in South Africa, Uganda and Kenya. We have found that very few scientists are aware of the matters under discussion in forums such as this. Indeed few are aware of the existence of the BTWC. Even more important for this forum, is the finding that most of the African scientists we have engaged with, once aware of the problem, are open to further discussion; recognise the importance of measures to reduce the risk associated with dual-use research; and, express support for the development of appropriate oversight mechanisms. It is clear that this dialogue with the scientific community should be continued and that significant efforts must be made to educate and sensitise policy makers, regulators, scientists and technical workers.

The ISS is committed to the development of educational materials which can be used to train scientists, science educators and students about the risks, rules and responsibilities associated with research, and in particular, the potential dual-use nature of such research. To this end, the ISS held a workshop at the end of 2007 that brought together academics, practicing scientists, government officials and international experts to design a short course for scientists. Since then, several institutions elsewhere on the continent have expressed interest in using the model to develop their own courses. From these experiences, it is possible to conclude that NGOs, with the support of states and professional associations, can play a positive role in promoting and facilitating education and raising awareness.

Chairman, we thank you for the opportunity to address the meeting and hope that your deliberations will be successful.

Thank you

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ABOUT THIS PAPER

The African continent faces a number of security challenges, including the proliferation of small arms and light weapons and illicit trans-border activities such as drug and human trafficking. Given the enormity of these immediate challenges, should Africa be concerned about chemical and biological weapons? This paper argues that the 1972 Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction (BTWC) and the 1993 Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction (CWC), do not adequately address the specific concerns of African states, such as the prevention of the deliberate or accidental outbreak of disease. Neither the BTWC's Implementation Support Unit nor the Organisation for the Prohibition of Chemical Weapons of the CWC are geared towards increasing awareness amongst the African scientific and industrial communities of their obligations to actively counter the proliferation of weapons of mass destruction. The conclusion is that much work must still be done before African states can be truly incorporated into the global non-proliferation regime and that there is an urgent need to engage more frequently and systematically on issues relevant specifically to developing countries.

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