

A LEAN ORGANIZATION TO STRENGTHEN THE BIOLOGICAL WEAPONS CONVENTION

Graham S Pearson
HSP Advisory Board

Introduction

The Ad Hoc Group (AHG) of the States Parties to the Biological and Toxin Weapons Convention (BWC or BTWC) negotiating a Protocol to strengthen the Convention have touched from time to time on the question of the organisation needed to implement the legally binding instrument being negotiated to strengthen the BWC. Now that the work of the AHG has intensified with the fleshing out of a rolling text for the legally binding instrument, the nature of the organisation is receiving more and more attention as its size and cost are likely to influence the nature and effectiveness of the regime developed by the AHG.

This article briefly considers what can be learned from existing relevant organizations, notably the World Health Organization (WHO) and its counterparts for animal and plant diseases — OIE and FAO — and the United Nations Special Commission (UNSCOM) on Iraq. It then examines the detailed information available for the Organization for the Prohibition of Chemical Weapons (OPCW) to analyse the likely size and strength required for a lean and effective organization to implement the Protocol to strengthen the BWC. It is emphasised that these estimates are necessarily broad as the actual size of the organization will depend on the precise functions and responsibilities that it is given.

WHO, OIE and FAO

The World Health Organization was established as a specialist agency within the United Nations in 1948 by 61 Governments “for the purpose of cooperation among themselves and with others to promote the health of all people”. By July 1996, the number of member states had grown to 190.

The Constitution of the WHO sets the attainment by all peoples of the highest possible level of health as the ultimate objective of the WHO and its member countries. *World Health Report 1996* states that the primary focus of the Organization’s work is to continue to be the enhancement of countries’ capacity to define and implement their own priorities for health developments and public health action, disease prevention and health promotion and to establish sustainable health infrastructures. The 1996 Report concentrates on the work of the WHO in fighting disease and on its work to counter new and re-emerging disease which was strengthened by the World Health Assembly resolution in 1995. This requested the Director-General of the WHO *inter alia*:

to draw up plans for improved national and international surveillance of infectious diseases and their causative agents, including accurate laboratory diagnosis and prompt dissemination of case definition, surveillance information, and to coordinate their implementation among interested Member States, agencies and other groups.

to establish strategies enabling rapid national and international responses to investigate and to combat infectious disease outbreaks and epidemics including identifying available sources of diagnostic, preventive and therapeutic products meeting relevant international standards

It is clear that the emphasis of the WHO is to address the health implications of any serious outbreaks of disease and that the success of its work depends on the rapid reporting to the WHO of such outbreaks. The importance of a global surveillance programme to recognise and respond to emerging disease is paramount as there can be no response until an outbreak has been recognised and reported. It is only then that the WHO can respond rapidly and efficiently to calls for help in such emergencies and achieve its aim of having a team of experts at the location of an outbreak anywhere in the world within 24 hours of the WHO being officially notified of it.

The provision of information to the WHO on outbreaks is thus the foundation of its work to counter such outbreaks. It is in the interests of all countries for such outbreaks to be rapidly notified and countered — hence there is a clear need for the activities of the WHO in being notified of and responding to outbreaks to be kept separate from political considerations which can only introduce delay and increase the difficulties of containing and countering an outbreak. However, central to the WHO’s surveillance network is the timely and rapid provision of information to all concerned frequently through the EMC (Division of Emerging and other Communicable Disease Surveillance and Control) site on the World Wide Web.

The Office International des Epizooties (OIE) was established on 25 January 1924 by an agreement signed by 28 countries. As of December 1996, the OIE had 144 member states. The OIE is located in Paris and as the world organization for animal health, a main objective of the OIE is to inform governments of the occurrence and course of animal diseases throughout the world, and of ways to control these diseases. A principal product of the OIE is the provision of information. Notably, information is transmitted immediately by facsimile, telex or electronic mail to member countries upon the occurrence of any new outbreaks of highly contagious diseases.

The Food and Agriculture Organization (FAO) was established in October 1945 as a specialized United Nations agency following a meeting of 44 states. Today FAO has 174 member states together with the European Commission. The FAO has its headquarters located in Rome and as the world organization for food and agriculture, FAO has a mandate to raise levels of nutrition and standards of living, to improve agriculture productivity, and to better the condition of rural populations. Since its inception, the FAO has worked to alleviate poverty and hunger by promoting agricultural development, improved

nutrition and the pursuit of food security — the access of all people at all times to the food they need for an active and healthy life. The FAO offers direct development assistance, collects, analyses and disseminates information, provides policy and planning advice to governments and acts as an international forum for debate on food and agriculture issues. It is relevant to note that the FAO emphasises that its role as a “neutral forum” is closely tied to its work as an adviser to governments.

An Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases (EMPRES) is operated by the FAO. This system was established in June 1994 as an FAO priority programme. The animal diseases component of EMPRES aims to strengthen FAO’s role in preventing, controlling and, when possible, eradicating diseases that are highly contagious and may spread rapidly across national borders. EMPRES aims to contain, control and progressively eliminate the most serious epidemic livestock diseases by mobilizing international cooperation on a regional and global basis, involving early warning, early and rapid reaction, enabling research and coordination.

The WHO, OIE and FAO exist principally to help improve world public and animal health, food and agriculture. In this they have successfully established effective working relationships over time with individual countries which provide timely information to the organizations on the changing situation in their countries. The fundamental role of these three organizations is in alerting the global community to outbreaks of disease and countering them; they have developed their relationships with states to acquire and disseminate information about outbreaks of disease and to establish international global epidemiological networks. Their clearly recognised neutrality is essential for their effective operation. These organizations work together to help countries improve their national capabilities and the information that they provide to their member states and to international organizations will be of immense value to a future organization to strengthen the BWC. However, it is evident that it would be inappropriate — and indeed a retrograde step insofar as the primary roles and functions of the WHO, OIE and FAO are concerned — for any of them to be asked to undertake a monitoring or other role on behalf of the BWC organization for this could compromise their neutrality.

United Nations Special Commission on Iraq

UNSCOM was established in April 1991 by United Nations Security Council resolution 687 (1991), the cease-fire resolution at the end of the 1990–91 Gulf War. UNSCOM was given a mandate to “Carry out immediate on-site inspection of Iraq’s biological, chemical and missiles capabilities, based on Iraq’s declarations and the designation of any additional locations by the Special Commission itself”; and to oversee “the destruction, removal or rendering harmless ... [of all] chemical and biological weapons and all stocks of agents and all related subsystems and components and all research, development, support and manufacturing facilities” as well as to develop “a plan for the future ongoing monitoring and verification of Iraq’s compliance” with its undertaking not to use, develop, construct or acquire any of the above items.

The past six years has seen the carrying out of over 200 UNSCOM inspections mounted from outside of Iraq; over 50 of these have been biological weapons inspections. These inspections mounted from outside Iraq have been limited by the capability of UNSCOM to support such inspections and normally not more than two missions are in country at any one time. Insofar as the ongoing monitoring and verification system is concerned, this became operational some three years ago with inspections being carried out by a team of inspectors located at the Baghdad Monitoring and Verification Centre. Typically, some 700 inspections have been carried out over a six month period; some 240 of these have been biological monitoring of some 90 sites with 893 items of equipment being tagged.

The experience of UNSCOM in respect of biological inspections and monitoring is thus relevant to considerations of an organization to carry out the implementation of a strengthened BWC. However, it has to be recognised that UNSCOM is a unique organization. The staff of UNSCOM in the Headquarters in New York and the Baghdad Monitoring and Verification Centre are made up primarily of personnel seconded by supporting governments together with a small number of UN staff, both professional and support.

Personnel are seconded to UNSCOM by member states of the United Nations for periods of time ranging from a few days (e.g., to participate in a meeting or seminar at the United Nations in New York) to a few weeks (e.g., for a specific inspection mounted from outside Iraq) to several months (e.g., to join a monitoring group in Baghdad) or to several years (e.g., as a member of the UNSCOM staff in New York).

It is the fact that UNSCOM is largely staffed by personnel from supporting governments that makes UNSCOM an atypical UN organisation as it enables the Executive Chairman to request additional staff with specific skills very quickly from supporting governments without the necessity to follow the normal UN procedures for recruiting staff which are lengthy and require an appropriate geographical distribution. This inherent flexibility of UNSCOM is further augmented through the support in kind, such as equipment, provided by supporting governments which avoids the necessity for the normal UN bidding process for the purchase of equipment.

Although this flexible arrangement in respect of personnel has worked, the ability of UNSCOM to create specialist teams of inspectors at short notice has been limited and has resulted in operational penalties. The specialist experts generally have many other commitments and their availability depends on their ability to fit in an UNSCOM activity of a few weeks into their schedule.

The effectiveness of UNSCOM has depended greatly on those members of its staff which have been seconded to UNSCOM for several years or who have participated on a regular basis. It is clear that Iraq has been quick to exploit any gaps in continuity. UNSCOM staff involved in missions to Iraq have essentially learnt on the job. Over the past few years it has been recognised that well qualified scientists are not necessarily well qualified to lead inspections, to be physically fit enough to carry out inspections in a harsh environment, or to have the mental

toughness needed to work under pressure in difficult circumstances. A further example of the importance of continuity is that UNSCOM chief inspectors have increasingly been appointed from the UNSCOM staff, especially for declaration verification missions. This has greatly contributed to the effectiveness of such missions as such chief inspectors are intimately familiar with the nuances of the series of Iraqi declarations and are likely to have also participated in the seminars with Iraqi personnel which have sought to clarify and augment the declarations. An efficient and effective inspection team has to be trained to work as a team; the value of inspections is greatly enhanced when each individual knows what to look for as part of the team. Furthermore, the protection of commercial proprietary information in the context of UNSCOM inspections in Iraq by part-time inspectors, who are seconded to UNSCOM for two to three weeks to carry out a specific inspection and then return to their national positions, has not been a particular problem.

The salaries of seconded personnel are paid by the supporting governments who also pay the costs of the equipment and other services provided to UNSCOM. Such costs can only be estimated. The UNSCOM report S/1995/1038 of 17 December 1995 to the Security Council said that “the Commission estimates that contributions in kind from various Member States have covered about two-thirds of the total cost of its operations.” The same report goes on to note that the cash costs of UNSCOM to date have amounted to around \$20 to \$25 million a year. If anything, it might be expected that these December 1995 figures could be on the low side as in mid 1995 Iraq had only just admitted its biological weapons programme to UNSCOM. A round figure of \$100 million a year would seem reasonable for the total cost of UNSCOM.

The OPCW

The Chemical Weapons Convention (CWC) is the arms control treaty that is of greatest relevance to the BWC. The CWC, which opened for signature on 13–15 January 1993 and entered into force on 29 April 1997, comprises a regime of comprehensive declarations together with both routine and challenge inspections as well as provisions for the investigation of alleged use and the monitoring of the destruction of declared chemical weapons and chemical weapon production facilities. The CWC provides for the establishment of the OPCW located in The Hague with responsibilities for implementing the Convention. The relevance of the provisions of the CWC to the BWC is three fold. First, both conventions prohibit the development and production of weapons which attack people — in the one case by non-living materials (chemicals) and in the other by living materials (micro-organisms) and their non-living products (toxins).

Second, there is an overlap — and rightly so — between the two conventions in that both cover toxins. Thus the CWC and its verification regime applies to toxins — and examples of toxins, such as saxitoxin and ricin, are listed in the CWC Schedules — as does the BWC. Third, it is much more closely relevant than the nuclear Non-Proliferation Treaty, the Comprehensive Test Ban Treaty or the International Atomic Energy Agency’s 93 + 2 programme.

The structure and provisions of the CWC are thus well worth examining as, in order to reach agreement on the CWC, the negotiators had to resolve many issues which will arise in similar, if not always identical, form in the BWC context.

It is therefore particularly relevant to examine the provisions relating to organization in the CWC in order to draw out what is potentially relevant to an organization for the implementation of a strengthened BWC. Article VII of the CWC required each state party to designate a National Authority for domestic implementation. Article VIII established the OPCW as the international authority to achieve the object and purpose of this Convention, to ensure the implementation of its provisions, including those for international verification of compliance with it, and to provide a forum for consultation and cooperation among states parties.

Detailed information is available on the structure of the OPCW and on the costs associated with its activities. In September 1997, there were 405 approved posts, made up of 265 headquarters staff and 140 inspectors {OPCW document, S/14/97, 11 September 1997}. The staff are divided into four Administrative and Other Divisions and two Verification Divisions as follows:

A1	Executive Management	Director-General, Deputy DG, Health & Safety, etc	31	
		Office of Legal Adviser	9	
		Secretariat for Policy Making Organizations	36	76
A2	Administration			74
A3	External Relations			15
A4	International Cooperation and Assistance			10
Sub-total				175
V1	Verification			64
V2	Inspectorate	26 + 140 Inspectors		166
Sub-total				230
Overall Total				405

Close to 60% of the personnel is thus for verification and inspection with the balance primarily in management and administration. For 1998, the budget is based on a total of 491 posts which are made up of 303 (62%) for verification and inspection and the balance of 188 (38%) for management and administration. The increased number of posts is made up of 71 further inspectors and 15 additional posts approved for 1998.

The costs associated with these 491 posts are set out in the 1998 budget. As the CWC entered into force on 29 April 1997, it is more informative to examine the budget for the full calendar year 1998 rather than considering the costs for the part year 1997. The budget information broadly follows the organizational structure although an additional Administrative element is used for common services which are not distributed to specific programmes.

Approximately 60% of the budget is for verification and field operations with the other 40% primarily for management and administration; external relations and international cooperation account for about 6% of the total budget. For 1998 the budget is as follows:

	Dutch Guilders
A1 Executive Management	17,991,500
A2 Administration	13,563,000
A3 External Relations	2,918,400
A4 International Cooperation & Assistance	4,996,400
A5 Common Services not Distributed to Programmes	17,999,000
	57,468,300
V1 Verification	18,912,100
V2 Inspection Management & Field Operations	64,416,600
	83,328,700
Total	140,797,000

The OPCW annual budget is thus about US\$70 million a year (assuming an exchange rate of 2 Dutch Guilders to \$1).

There is, however, an important qualification in respect of the inspection costs included in V1/V2 in regard to the costs associated with the implementation of Article IV (Chemical Weapons) and of Article V (Chemical Weapons Production Facilities) of the Convention. Each state party has to reimburse the costs to the OPCW of verification of storage and destruction of chemical weapons and of verification of destruction of chemical weapons production facilities, unless the Executive Council decides otherwise.

The estimate in 1998 for the reimbursable expenses from those member states where Article IV and Article V verification activities are carried out is some US\$5 million.

It is equally important to recognise that in respect of the strengthened BWC, there are unlikely to be comparable costs relating to the destruction of biological weapons as no state has so far admitted possession of such weapons. After all, Article II of the BWC required each state party to destroy proscribed items within nine months of entry into force. As entry into force of the Convention took place in 1975, the deadline for destruction or diversion has long since passed. Insofar as past biological weapons facilities are concerned, the dual use nature of such facilities is likely to result in such facilities being converted with only biological weapons unique equipment being destroyed. Although it is possible that there will be additional verification requirements for such past biological weapons facilities, the associated costs are unlikely to be large and will not significantly modify the estimates developed in this article for the size and cost of the organisation needed to implement a strengthened BWC.

The detailed information available for the OPCW and its activities can usefully be analysed further. The *1998 Programme of Work and Budget* provides estimates for the numbers of different locations to be inspected, the numbers of inspections, the inspection team size, the inspection duration, and the annual frequency of inspections. These figures are based on the number of inspections that would be conducted in the Russian Federation and in one other hypothetical state party that declares as a chemical weapon possessor; should no state party, other than the Russian Federation, declare as a possessor in time to be inspected in 1998 then more inspections of non-chemical weapon sites would take place in 1998.

Type of inspection	Number of sites	Number of Inspections	Inspection team size	Duration on site, hours	Annual Frequency
CW production facilities	17+19+7	52	3–9	120	0.3–2
CW storage facilities	26+8	68	6–10	120	2
CW destruction facilities	4+4+2	[90]	7–18	Contin.	Contin.
Old and abandoned CW	42	14	5	120	As nec.
Schedule 1	40	30	3–4	48	0.5
Schedule 2	400	68	5	96	1 in 3 yrs
Schedule 3	500	4	5	24	Limited
Total		326			
Article IX and X activities†		8			

†These activities cover challenge inspections and investigations of alleged use. The 1998 budget document states that such activities, in terms of the numbers or durations, cannot be predicted in advance and no estimate is made for their costs. For budgetary purposes, the required personnel and equipment would be drawn from available resources and such resources will be organised to ensure a sufficient surge capability to carry out these activities as required. The planning assumptions are based on 8 such incidents in a year with an unspecified number being the subject of an OPCW inspection/investigation.

The inspection team numbers and resources needed to carry out the 326 inspections planned in 1998 — 224 of which are of chemical weapons facilities and 102 of which are of scheduled-chemical facilities — are detailed in the 1998 budget as follows:

Post	Number
Team Leader	21
Senior Inspectors	100
Inspectors	72
Technical Inspection Assistants	12
Total	205†

†The authorized number of inspectors in 1998 is 211 — however, only 205 are assumed to be available in 1998

The costs for the inspection management and field operations are as follows:

Item	Cost
Salaries and CSC costs	46,616,600
Inspector travel	7,000,000
Inspector per diem	4,000,000
Inspection equipment	5,000,000
Interpretation	2,000,000
Total	64,416,600

Insofar as considerations of an organization to implement a strengthened BWC are concerned, the inspections of weapon production facilities, storage areas, destruction facilities and old and abandoned weapons in the above table can be disregarded as not being relevant.

Indeed, it is evident that the costs of the verification of such chemical weapon production facilities, storage areas, and destruction facilities fall under Articles IV and V and are thus born by the state party concerned. The OPCW budget for inspection management and field operations distinguishes between the chemical weapon-related and the schedule-related facility inspections.

Using the above data, the number of inspector-days actually used in inspections at each of the facilities can be calculated using the average inspection team sizes:

Type of inspection	Number of Inspections	Inspection team size	Duration† on site, days	Inspector-days per inspection	Inspector-days per year
CW production facilities	52	3–9	5+3	6x8=48	48x52=2496
CW storage facilities	68	6–10	5+3	8x8=64	64x68=4352
CW destruction facilities	[90]	7–18	Cont.	12.5x28=350	350x9=3150
Old and abandoned CW	14	5	5+3	5x8=40	40x14=560
Subtotal	224				10,558
Schedule 1	30	3–4	2+3	3.5x5=17.5	17.5x30=525
Schedule 2	68	5	4+3	5x7=35	35x68=2380
Schedule 3	4	5	1+3	5x4=20	20x4=80
Total	326				13,543

†Duration is the number of days on site plus 3 days needed for getting to and from the site.

The 1998 planned overall total inspector-days used in inspections per year is thus 13,543; this is made up of Scheduled facility inspections totalling 2,985 days (525+2380+80=2,985) or 22%, and chemical weapon-related inspections totalling 10,558 days (2496+4352+3150+560=10,558) or 78%. It needs to be recognised that the 1998 figures are based on a high number of chemical weapon-related inspections. As already noted, if no additional state party, other than the Russian Federation, declares as a chemical weapon possessor in 1998, then the number of inspections to schedule-related facilities would increase. In addition, the proportion of inspections to Scheduled facilities will increase as chemical weapons and facilities are destroyed over the coming years. It is therefore judged to be more representative to consider inspections to schedule-related facilities as being some 20 to 30% of the inspection activities of the OPCW.

Consequently the OPCW manpower and budget, using the 1998 budget figures and a figure of 25% as an indication of the proportion of schedule-related facility inspections, can be summarised in broad terms as follows:

Activity	Personnel	Cost
Management & Administration	33%	35%
External relations & international cooperation	5%	6%
CW related verification	47%	}59%
Scheduled facility verification	15%	

Ad Hoc Group

The Ad Hoc Group has increasingly started to address the organization that will be required to implement a legally binding instrument to strengthen the BWC. At the seventh session in July 1997 working papers prepared by the Netherlands {WP.186} and by South Africa {WP.152} were introduced. The Netherlands working paper stated that the language proposed for the Article in the rolling text dealing with organization had been drawn, as might be expected, extensively from the relevant language in the CWC and the Comprehensive Test Ban Treaty. At the same session South Africa also produced two working papers which addressed the laboratory functions {WP.153} and the laboratory support {WP.160} needed in support of

investigations of non-compliance concern. From these papers language was introduced into the rolling text annexed to the procedural report of the seventh session.

At the eighth session in September/October 1997, there was relatively little change to the text in Article IX although a further working paper by South Africa {WP.202} addressed the organisation of the technical secretariat. In the rolling text of 6 October 1997, Article IX on organization and implementational rearrangements was reorganized with much of the detail on the technical secretariat together with additional material being incorporated in a new Annex (H) entitled The [Technical] Secretariat. There is considerable duplication between text on the technical secretariat in Article IX and that in Annex H. This situation was continued in the January 1998 version of the Protocol. Some of this leads to significant variation between the text in one part and that in another — a particular example relates to the role of the Technical Secretariat in conducting visits and investigations. Article IX, para 41 states that the Technical Secretariat functions shall include:

[(f) Conducting [[Non-Challenge][Random]Visits][and] [Clarification Visits][Request Visits][Confidence-Building Visits][Voluntary Visits] in accordance with the provisions of Article III, Part F and of Annex G;]

(g) Receiving requests for [investigations to address a non-compliance concern][field and facility investigations][challenge inspections] and processing them, carrying out the preparations for, and *providing technical support during the conduct of [investigations to address a non-compliance concern][field and facility investigations][challenge inspections]*, and reporting to the [Executive Council] [Consultative Council];]

whereas Annex H para 20 states that the Technical Secretariat functions shall include:

(c) *Initiate and perform investigations of non-compliance concern* in accordance with Article III and Annex D;

(i) [Conducting [[Non-Challenge][Random] Visits][and] [Clarification Visits][Request Visits][Confidence-Building Visits][Voluntary Visits] in accordance with the provisions of Article III, Part F and of Annex G;]

It is assumed that the much better language in Annex H will be incorporated into Article IX in later versions of the rolling text, or that the paragraphs are indeed removed, as proposed by a footnote in Article IX. It is vital that the Technical Secretariat of the BWC organization be responsible for carrying out all visits and investigations.

This article is focused primarily on the optimum size and cost of the future organization. Consequently, attention is concentrated on those elements of the rolling text of most relevance to these aspects. Much of the language in the rolling text is comparable, as might be expected, to that in the CWC for the OPCW. However, the current rolling text has language, albeit in square brackets and to a lesser extent than did previous rolling texts, about the possible role of part-time staff in the Technical Secretariat. Whilst the option of being able to call upon part-time staff — to complement a full time chief inspector and a core inspection team made up of full-time staff — may be valuable for investigations of unusual outbreaks of disease or for investigations of a particularly specialist plant,

part-time staff are unlikely to be appropriate for the baseline functions of the Technical Secretariat in evaluating declarations and in carrying out visits and investigations.

The experience gained by UNSCOM over the past seven years has demonstrated that whilst it has been possible to carry out the work of UNSCOM in Iraq by part time staff, this has worked well for UNSCOM because of its unique nature and focus on the activities of a single state.

There are numerous lessons which show that such a dependence on part-time staff would not be as effective or appropriate in implementing a multilateral arms control treaty. These include the following:

- UNSCOM has functioned through supporting states being approached by the Executive Chairman to provide specific expertise and equipment as required for particular missions in Iraq. This has enabled UNSCOM to react rapidly to developments and operate with much greater flexibility and speed than would have been possible for a fully UN staffed organisation.
- The effectiveness of UNSCOM has depended greatly on those members of its staff who have been seconded to UNSCOM for several years or who have participated on a regular basis.
- UNSCOM chief inspectors have increasingly been appointed from the UNSCOM staff especially for declaration-verification missions. This has greatly contributed to the effectiveness of such missions as such chief inspectors are intimately familiar with the nuances of the series of Iraqi declarations and are likely to have also participated in the seminars with Iraqi personnel which have sought to clarify and augment the declarations.
- UNSCOM staff involved in missions to Iraq have essentially learnt on the job. Over the past few years it has been recognised that well qualified scientists are not necessarily well qualified to lead inspections, to be physically fit enough to carry out inspections in a harsh environment or to have the mental toughness needed to work under pressure in difficult circumstances.
- An efficient and effective inspection team has to be trained to work as a team. The value of inspections is greatly enhanced when each individual knows what to look for as part of the team.
- Part time staff provided to UNSCOM for missions to Iraq generally have many other commitments and their availability is frequently limited.

Whilst the above lessons can be drawn from UNSCOM experience, it is also worth emphasising that the concern about the protection of commercial proprietary information demands that the future organization depend on full-time staff appointed to the organisation on multi-year contracts and with their loyalty to the organization. It is after all the investigations which will probe deeply into the activities at particular sites — and if they are to be credible, will need to address fully the circumstances that led to the non-compliance concern. It is also significant to note the considerable effort that the OPCW has needed to put into the training of their full time inspectorate. A solution depending on part-time staff to carry out investigations is simply not credible.

A Lean Organization

It is evident that, for an effective strengthening of the BWC, there will need to be an organization to implement the legally binding instrument. The organization will need to liaise with the national authorities of the states parties to collect, analyse and evaluate the mandatory declarations, carry out the non-challenge visits, both random and focused, and conduct investigations of non-compliance concerns and of the alleged use of biological and toxin weapons. There is broad agreement that such an organization should be “lean and mean” — and that it should concentrate on those activities necessary for strengthening the BWC.

The organization will need to develop links with other international organizations — notably the OPCW as both the CWC and the BWC will address the prohibition of toxins, as well as the international organizations concerned with human, animal and plant diseases. It will, however, be important to avoid unnecessary duplication of activities with organizations such as the WHO, FAO and OIE which are far better placed to acquire and disseminate information about outbreaks of disease and to establish international global epidemiological networks. Likewise, there are several activities stemming from the Rio Earth Summit of 1992 and from the Convention on Biological Diversity which, whilst being of potential relevance to the BWC, should not be duplicated by the future BWC organization. The language in Article VII (Scientific and Technological Exchange for Peaceful Purposes and Technical Cooperation in respect of [Institutional Mechanisms and] International Cooperation) strikes the right note:

[The BTWCO shall establish a cooperative relationship, maintain working ties and when necessary conclude agreements and arrangements...and develop joint programmes with relevant organizations, bearing in mind the need to avoid duplicating existing activities and mechanisms; [including [OPCW] WHO, FAO, IOE, UNIDO, ICGEB, UNEP and other agencies engaged in the implementation of Agenda 21 and the Convention on Biological Diversity (CDB) in order to, inter alia,]

(a) Derive the greatest [possible synergy][benefits] in such fields as

- (i) the collection and dissemination of information on listed pathogens;
- (ii) sharing information on environmental release of genetically modified organisms;....

(b) Maintain a record of cooperative activities promoted by international organizations in areas considered relevant to the BTWC, to raise awareness of and facilitate access to those activities by States Parties ..., and coordinate with those organizations its own promotional activities;

The square brackets around ‘OPCW’ here should be removed since a cooperative relationship with the OPCW will, for the reasons already stated, be essential.

A less practical approach is suggested in one paragraph of Article IX [[The Organization][and Implementational Arrangements] which unrealistically suggests that the verification responsibilities should be entrusted to organizations such as the WHO:

[The Organization shall conclude an agreement(s) with the relevant specialized international organizations such as WHO which shall be entrusted with the verification respon-

sibilities determined by this Protocol and with the rendering of conference, logistic and infrastructural support required by the Organization.]*

* The view was expressed that tasking other international institutions and organizations such as the WHO with central functions raises legal, organizational and political concerns to be investigated further.

That the unrealistic nature of this paragraph is recognised by at least some members of the AHG is shown by the square brackets around the entire paragraph and the footnote. Such an approach is impractical as it fails to recognise the fundamental role of the WHO, FAO and OIE in alerting the global community to outbreaks of disease and to countering them. A suggestion that such organizations should implement the verification responsibilities of the Protocol would jeopardize the primary function and the neutrality of such organizations as States would be reluctant to provide information if they thought that the organization concerned was going to use it to judge whether they were compliant with the BWC. There is a clear need for the BWC organization (BWCO) to use fully the information collected and disseminated globally by organizations such as the WHO, FAO and OIE — but not to task them to carry out activities on behalf of the BWCO.

A lean BWCO could therefore be expected to have a structure comprising:

- Director-General
- Administration
- International Relations & Cooperation
- Compliance Monitoring & Visits/Investigations

This would comprise a permanent staff. It would be possible to include provision for the Director-General to have the authority, as he judged fit, to augment the teams investigating allegations of unusual outbreaks of disease by additional qualified and trained experts on a part-time basis.

The essential technical expertise and capabilities would be embedded in the organization in the sections concerned with International Relations & Cooperation and with Compliance Monitoring & Investigations. The proposal that there should be a small organizational laboratory supported by accredited international laboratories, which is similar to the arrangements under the OPCW, is sensible. There should be no necessity for the number of staff in the BWC organizational laboratory to be more than the number (4) in the OPCW Laboratory.

By considering the information available on the OPCW it is possible to estimate the possible number of posts needed for a BWCO. The following assumptions for the BWCO have been made for the purposes of this article:

- The numbers of visits and investigations will be about 30% of the 300 to be carried out by the CWC, i.e., about 100 a year and hence the required number of staff to carry out these visits and investigations will be about 30% of the 303 OPCW posts in 1998 for CWC verification and inspection.
- The numbers of declarations made to the BWCO are assumed to be comparable to the numbers made to the OPCW. Although current OPCW numbers for Schedule One, Two and Three facilities are 40, 400 and 500 respectively (totalling 940), these are indicated in

the 1998 budget as being low estimates which may rise to 40, 950 and 1500 respectively (totalling 2450). It is assumed that there will be no comparable declarations under the BWC to those of chemical weapons storage, destruction facilities or of old and abandoned chemical weapons under the CWC although there may be declarations of past biological weapons facilities. Although no parallel is envisaged in the BWC Protocol to Schedule One facilities in the CWC, which are currently estimated as being 40, it is probable that there will be a comparable number of biological defence facilities requiring to be declared. As for the numbers of other facilities likely to be declared this is envisaged as being some tens of facilities in each state party. Consequently, for the 140 states parties of the BWC, the numbers of declarations can be anticipated as being in the range from 1400, if there were an average of 10 facilities to be declared in each state, up to 7000 if there were to be an average of 50 to be declared in each state. It seems probable that the overall number of declarations will be of the order of several thousands, say 4,000.

It is interesting to note that if 100 visits and investigations were carried out annually and if visits to the assumed 40 biological defence facilities were to occur more frequently, say once every two years, (the same frequency as that planned by the OPCW to Schedule 1 facilities) then the number of visits to other declared facilities would be some 80 visits each year. If there were also to be more frequent visits to past BW facilities, say once every two years, and assuming that there were 20 such past BW facilities under government funding or control, then the number of visits both clarification and random to other declared facilities would be some 70 a year — or an average of one such visit to a State Party every two years.

One may analyse the posts and functions in the OPCW in terms of that necessary for a lean BWC organization. Any posts that are unlikely to have a direct analogue in the BWC regime, such as the chemical demilitarization branch or specific chemical weapons-related posts may be disregarded, and the numbers of other posts reduced to reflect the reduced number of inspectors, which have been assumed to be about a third of those in the OPCW. The outcome of the analysis gives the following broad indications; in order to facilitate comparison with the OPCW, external relations and international cooperation have been shown as separate divisions and the corresponding OPCW numbers in 1998 are included:

Post	BWCO	OPCW
Director-General (Security, Health & Safety, Legal Adviser, Internal Oversight, Secretariat for Policy Making Organs)	42	85
Administration (Budget, Human Resources, Information Systems, Travel, Training)	32	77
External Relations	10	15
International Cooperation & Assistance	10	11
Compliance Monitoring (Declarations, Information Processing, Validation, Evaluation and Confidentiality, Organization Laboratory)	44	66
Visits & Investigations	70	237
Total	208	491

It must be emphasised that the purpose of the exercise is to gain a feel for the likely size of a lean BWCO; there may

UNIVERSITY OF BRADFORD
BIOLOGICAL AND TOXIN WEAPONS CONVENTION
PROJECT

The Department of Peace Studies in the University of Bradford has a project to strengthen the Biological and Toxin Weapons Convention which is preparing Briefing Papers addressing key issues relating to the strengthening of the BWC for presentation and distribution to the states parties. Thus far, some 7 Briefing Papers have been produced:

1. The Importance of On-Site Investigations (July 1997)
2. The Necessity for Non-Challenge Visits (September 1997)
3. Discriminating Triggers for Mandatory Declarations (September 1997)
4. National Implementation Measures (January 1998)
5. An Optimum Organization (January 1998)
6. Article X: Some Building Blocks (March 1998)
7. Article X: Further Building Blocks (March 1998)

These Briefing Papers are all available on the project web site at <http://www.brad.ac.uk/acad/sbtwc> which is constantly being updated with the Procedural Reports and Working Papers of the Ad Hoc Group. An objective of the project is to make available on this website the papers presented at the meetings of the Ad Hoc Group as well as other papers relating to the BWC such as the Final Report of the Fourth Review Conference held in November 1996. This web site is a joint CBW project with SIPRI

be scope for further reductions in numbers as some functions might be combined or there may be additional functions required for the BWCO.

As the approved OPCW figures for 1998 total 491 posts, the proposed BWCO with a strength of just over 200 would be well under half of the size of the OPCW. An indication of the order of costs for the BWCO can be deduced by assuming that the costs per staff member in the respective divisions would be the same as those in the OPCW and calculating, using the ratio of the numbers of posts in the BWCO to those in the OPCW from the table above, the appropriate proportion of the OPCW budget costs. The OPCW 1998 budget figures and the corresponding estimated costs for a BWC Organization are as follows:

Function	OPCW (1998 Budget)	Factor	BWCO
A1 Executive Management	17,991,500	42/85	8,890,000
A2 Administration	13,563,000	32/77	5,640,000
A3 External Relations	2,918,400	10/15	1,945,600
A4 International Cooperation & Assistance	4,996,400	10/11	4,542,100
A5 Common Services	17,999,000	208/491	7,625,000
	57,468,300	—	28,642,700
V1 Verification	18,912,100	44/66	12,128,000
V2 Inspection & Field Operations	64,416,600	70/237	19,026,000
	83,328,700	—	31,154,000
Total (in Dutch Guilders)	140,797,000		59,797,000
Total (in US\$)	65,331,050		29,898,850

The overall costs for a BWC Organization are thus estimated as being less than half of those for the OPCW.

Conclusions

This article has considered what can be learned from existing relevant organizations — notably the WHO, OIE and FAO — and concludes that whilst the information obtained, analysed and distributed by these organizations will be essential for a future BWCO, it would be inappropriate, and indeed would jeopardize the primary function and the neutrality of such organizations, to task them to carry out activities for the BWCO. Although the United Nations Special Commission on Iraq has been effective, its nature is unique and such an arrangement of part-time participants would be ineffective for a future BWCO.

The detailed information available on the staffing and budget for the OPCW have been used to estimate the likely overall size and cost of a lean BWCO. It is concluded that such an organization would need about 200 posts and an annual budget of under \$30 million; it would be well under half the size of the OPCW with a budget of less than half that of the OPCW.

This article is based on An Optimum Organization, University of Bradford Biological and Toxin Weapons Convention Project Briefing Paper No 5.

Developments in the Organization for the Prohibition of Chemical Weapons

The year 1998 should be a highly significant one for the OPCW. Not only will it be the Organization's first full year of operations, but it will also see the Organization take up residence in its new headquarters building in The Hague. The first months of the year have seen fewer meetings of the Executive Council, but important work has continued in relation to the implementation of the Convention and also to

the institutional evolution of the Organization. This quarterly review covers the period from just after the second session of the Conference of the States Parties (CSP) in December 1997, to early March 1998.

Implementation of the Convention has proceeded apace with the receipt of initial declarations by the Secretariat and the conducting of initial inspections to verify some of those