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**2006 and beyond: preparatory assistance and background activities**

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**Working Paper**

*Abstract: This paper is based on the assumption that the BWC intersessional process will produce only modest improvements to the implementation of the Convention. Coupled with the fact that the BWC has not had a full and successful review since 1991 the paper outlines issues the states parties must be prepared to take up in 2006. It advocates a programme of work that would aim to provide states parties with detailed background information on particular issues. Regional, like-minded and non-governmental groups could undertake most of this work and the objective would be to facilitate a successful conclusion to the Sixth Review Conference.*

**Introduction**

This working paper offers an initial assessment of the issues that require consideration in the run up to 2006 and beyond. Although this paper is offered under the 'NGO and Regional initiatives' agenda item, many of the issues identified should be considered by individual states parties, the states parties collectively, regional organisations, like-minded groups of states parties, appropriate international organisations and NGOs. In the penultimate section I identify those areas where NGOs might make a constructive contribution to the BWC. The issues and areas considered in this paper are by no means comprehensive and states parties and the NGO community will be able to identify many more issues than this initial paper has done. Indeed, I would suggest that the time available in 2004 and 2005 is used to undertake a comprehensive assessment of the role of the BWC and its implementation, with a view to providing states parties with specific information and substantive proposals in time for the Preparatory Committee in 2006.

My approach, and hence the working paper, is based on a number of assumptions about the 2003-2005 intersessional process, the status of multilateral arms control, and the actual ability of states parties to the BWC to bring to fruition a meaningful work programme. First, I take the view that the current work programme is an interim strategy which should be exploited to its full potential (which is much greater than many participants and observers appear to believe), but will require the states parties to undertake additional work after the Sixth Review Conference. Second, that arms control and multilateral treaty-based weapons-regulation has now evolved into a more 'honest' acceptance of the fact that the treaty-only approach to arms control is not a sufficient 'answer' to the problem by itself. Third, that collectively the states parties have yet to catch up with the new reality and we can only expect very modest achievements from them. Any individual interested in the BWC or the problem(s) posed by biological weapons more generally, cannot but ponder the question of whether the states parties as a collective body are actually up to the tasks they are legally bound to undertake: to ensure the development, production, stockpiling, acquisition and ultimately use of biological and toxins weapons does not occur. The collective failure of the states parties in recent years must, if nothing else, initiate a fundamental rethink of the BWC and how it is implemented.

## Expectations of the 2003-2005 process

Despite the fact that both I and others have suggested that the first meeting of experts under the new process (18-29 August) can be considered a modest success and a step in the right direction, the limited nature of its achievements cannot be ignored. [\[1\]](#)? The expectation appears to be that the annual meeting of states parties (10-14 November) will produce a similarly modest 'effective action' component.? By itself this indicates a much more radical approach to thinking about the BWC in 2006 is required to formulate policy proposals.

In a paper I offered to the meeting last year on a realistic inter-review conference strategy I supported a view put forward by Nicholas Sims: 'what is needed in the BWC review process is the more systematic and reliable implementation of the decisions of past Review Conferences.' [\[2\]](#)? I still support that view.? In the past states parties have attempted to strengthen the Convention by adding to their commitments or understandings.? Unless a radical break with the existing *acquis* of the Convention is envisaged, adding new commitments might not be the best way forward.? As Sims went on to note an emphasis on assessing existing obligations, how they and how the modalities of implementation might be improved would be an achievement in the current situation.? One might argue this is actually what is happening under the new process for the identified areas of work.? It does have the benefit of providing a clear focus of work from which the BWC could be strengthened and, in addition, assuages the concerns of those reluctant to agree to additional commitments.? As far as it goes this strategy is adequate for the 2003-2005 period, because states parties need to rebuild confidence in the BWC and among themselves as a group.? However, it needs to be continued, strengthened and expanded in 2006 if the BWC is to retain its relevance to efforts to prevent the development, production, stockpiling, acquisition, or use of biological and toxin weapons.

The logical place for states parties to begin their work in the 2003-2005 period is their existing legally binding obligations under the Convention and the politically binding obligations they have all supported, as contained in the Final Declarations of the 1980, 1986, 1991 and 1996 review conferences.? Therefore, it is reasonable to expect, as a minimum, that the existing and appropriate politically binding agreements will have been considered and addressed before the Sixth Review Conference.? Based on past practice, that is probably as much as we can expect from the states parties.?

## Governing biological disarmament

The second aspect underlying this paper relates to the state of play in the multilateral arms control regimes and conferences.? Arms control agreements have always evolved, in terms of their scope, the methods of negotiation, and the means of implementation.? The BWC is now more than 23 years into its life and the underlying trend towards multilateral centralised arms control regimes is, most likely, at an end.? The CWC, and if it ever enters into force the CTBT, represent the last of the regimes in their idealised sense.? While multilateralism is not dead, the single-treaty silver-bullet approach to a weapons problem is.? History has taught us that in the biological weapons area regulations, controls, administrative arrangements, and enforcement of these, is required at all levels: individual, sub-national, national, regional, and international.?

As a consequence of the failure to strengthen the BWC through a legally binding agreement efforts to strengthen the Convention and enhance implementation of all its obligations in one go (through one agreement) have also come to a halt.? That strategy has been replaced by an effort to improve implementation of specific obligations (as identified in the mandate of the new process) in discrete blocks, namely the allocation of the work into particular years with no envisaged year-on-year follow-up.

This BWC-specific development is in fact in line with the evolution, rather than revolution, in arms control.? States have applied controls and restrictions in many areas at the national and like-minded

level and/or the regional level in the past with a view to working towards international agreements.? Whether or not such arrangements are precursors to international agreements or supplementary to them after entry into force, they will continue to exist.? For example, additional means of supplementing treaties or mechanisms aimed at enhancing agreements or reducing the scale of proliferation include the MTCR, HCoC, Australia Group, NSG, the activities of the G8 and the PSI, and the Wassenaar Arrangement, and regional activities such as Mendoza and the NWFZs, in addition to any bilateral arrangements, regional actions (e.g. DPRK), or UN Security Council decisions.? The internal dynamic of treaties themselves comes into play because review conferences have acted as a conduit for further development of international arrangements.? Successful or failing implementation of international agreements can, and has, acted as a catalyst for the development of supplementary mechanisms.? The BWC, or rather its states parties, is failing and we should expect to see a more disaggregated approach to governing biological weapons in the future, rather than a centralising strategy to address the biological weapons problem. [\[3\]](#)

What this entails for the BWC in the next few years is still far from clear, but unless the states parties deliver ?effective action? on the implementation of the Convention, it is likely to be shunted further to the periphery of efforts to prevent proliferation and ensure biological disarmament.? Only success in the 2003-2005 period can begin to move the BWC back towards a central role in international efforts against the use of biological weapons.? Expressing that view leads on to an assessment of the states parties themselves, or rather the collective ability of the states parties to fulfil their obligations under the BWC.? The record here is not encouraging given recent failures.? Again, only the states parties can act ? and decide to act ? in a manner that returns confidence in their ability to uphold the BWC, but continued failure will lead to other actors stepping into the BWC arena.? This will include like-minded states parties acting on their own and regional groupings, but will also lead to non-governmental organisations taking up an increasing role in the BWC.? Failure in 2003-2005 will exacerbate the problems with the Convention and sideline it even further, rather than serve as a catalyst to strengthen it through renewed multilateral efforts.

## **A work programme to 2006**

Even though the new process might, and should, deliver some practical results the scale of the problems facing the BWC means the Sixth Review Conference has a significant amount of work before it.? This opens doors for other actors to assist the states parties ? individually or collectively ? in their task.? Given the fact that a full review last occurred in 1991 [\[4\]](#) and that the states parties must consider the outcome of the 2003-2005 process, the usual three-week session may not provide sufficient time to consider all the issues, unless a significant amount of preparatory work is undertaken beforehand.? It is in this preparatory phase that NGOs may take on a significant role.? To begin thinking about what role such actors might play it is worthwhile considering what the Sixth Review Conference must do.

The first decision states parties must take is that the Sixth Review Conference will in fact be a full review, rather than a partial review of work over the last few years.? Hence the agenda would have to include:

- (a)?????? A review of the operation of the Convention itself;
- (b)?????? The impact of scientific and technological developments relating to the Convention;
- (c)?????? The relevance, and the implementation, of the CWC on the implementation of the BWC, taking into account the degree of universality attained by the conventions in 2006;
- (d)?????? The effectiveness of confidence-building measures as agreed at the Second and Third Review Conferences;
- (e)?????? The requirement for, and the operation of, the requested allocation of resources by the United Nations Secretary-General and other requirements to assist the effective implementation of

the Convention;

(f)??????? The work of the annual meetings of states parties and the meetings of experts in 2003, 2004 and 2005, and any further action to be taken with regard to these meetings;

(g)??????? The work required between the Sixth Review Conference and Seventh Review Conference;

(h)??????? A decision to hold further review conferences.

With the exception of (f) ? which is required ? and (g) ? which will arise *de facto* even if it is not on the formal agenda ? this is a standard review conference agenda.? It should not, therefore, be contentious.? I would also suggest that a thorough assessment of the existing final declarations of the BWC review conferences is undertaken with a view to identifying those measures which have not been carried out or implemented and may therefore need particular attention.

The standard review conference agenda provides a useful framework to initiate some thinking on these issues and the following sections identify areas of work that may benefit from further exploration by NGOs, regional organisations or states parties.

## **Scientific and Technological Developments**

Although the states parties have consistently reaffirmed that the scope of Article I of the BWC, and more specifically its general-purpose criterion, is sufficiently comprehensive to cover scientific developments, the submitted background papers to previous review conferences have also included individual assessments of the impact of scientific and technological developments on the BWC.? In actual fact, these papers are rarely considered in the review conferences themselves, but they do have a beneficial influence on the review because they focus the efforts of some states parties to ensuring the BWC remains comprehensive.? To assist that effort the following would appear to be useful preparatory activities to 2006:

(a)??????? A review of the submitted papers on scientific and technological developments in 1980, 1986, 1991, 1996, and 2001 to provide an overview of the scope of developments since entry into force and the methods by which states parties have adapted to such developments.? This might be done with a view to assessing how useful or comprehensive the response of states parties has been and where, or if, any gaps in the scope of the BWC exist.?

(b)??????? An assessment of the issues likely to arise in the period between 2006 and 2011.

(c)??????? The relationship between the BWC and the CWC and how, or if, formal co-ordination and liaison between the states parties and the OPCW might assist both conventions in areas such as sub-national groups, assistance and/or emergency response;

(d)??????? The impact of the dissemination of certain knowledge and/or technologies, e.g. aerosolization and aerobiology;

(e)??????? The issue of biocontrol agents and genetically modified organisms (GMOs);

(f)??????? The question of non-lethal weapons/technologies and their use in law enforcement (or other operations).

## **The CWC**

By 2006 the CWC will have been in force for nine years and the action plan developed at the First Review Conference of the CWC (28 April-9 May 2003) will have been in place for 3 years.? How successful has that action plan been?? Did the inclusion of defined timelines engender more effective implementation?? What lessons can the BWC learn from implementation of the CWC?

## Universality of the BWC and the CWC

The CWC is now steadily outpacing the BWC in terms of the number of states parties.

If universal membership of the BWC is a serious objective (even with all the problems it could bring) new strategies to bring states into the BWC will be required. Continuing behind-the-scenes diplomatic activity and co-ordinated demonstrations is no longer an appropriate way forward if the objective of universality is to be pursued seriously.

Additional strategies to encourage and induce states to ratify, or accede to, the Convention must be considered. Although there are two categories of states that are non-parties, signatories and non-signatories [5], it may be helpful to distinguish between those states which are unlikely to pose a direct threat to the Convention and those states in regions of concern or states that have the capability to develop biological and toxin weapons. The group of states unlikely to pose a direct threat to the BWC generally consists of those that do not feel threatened by biological weapons or consider the financial cost and administrative burden of joining the BWC as too high. This would include states such as: Andorra, Angola, Azerbaijan, Burundi, Cameroon, Central African Republic, Comoros, Côte d'Ivoire, Gabon, Guinea, Guyana, Haiti, Kiribati, Liberia, Madagascar, Malawi, Marshall Islands, Mauritania, Micronesia, Mozambique, Namibia, Nauru, Samoa, Trinidad and Tobago, Tuvalu, United Republic of Tanzania, and Zambia. The continued omission of states in regions of concern and/or those that already have the capability to develop biological weapons undermines the Convention. This group would include: Chad, Egypt, Djibouti, Eritrea, Israel, Kazakhstan, Kyrgyzstan, Myanmar, Nepal, Republic of Moldova, Somalia, Syrian Arab Republic, United Arab Emirates, and Tajikistan.

Of the latter group some are not entirely in control of their own territory and may need special assistance, but of those which are in complete control of their territory, it is important to underline that in effect they are refusing to be bound by the BWC. In short, they are refusing to rescind the option of biological and toxin weapons. It is perhaps necessary to think through the implications of labelling those states which do not have administrative or financial reasons underlying their non-party status for what they potentially are; international pariahs.

To ameliorate this situation regional or other organisations might take a lead here. For example, the African Union, the Arab League, ASEAN, the European Union and the OSCE could all take forward action plans in this area. Likewise, other groups of states, such as the Commonwealth nations, might adopt a strategy to increase universal adherence to the Convention.

If the increase in concern about biological weapons is real, and states parties are determined to reduce the threat posed by these weapons by, *inter alia*, reinforcing the norm via universality, consideration must be given to assisting smaller states to ratify or accede, through the provision of advice and assistance with procedures for ratification and accession. The development of model laws would be one example in this latter category which might flow from the work of states parties under the new process in 2003, or be taken up by the EU, other regional organisations, other states parties or NGOs. Another option would be convening a conference along the lines of the 1989 Paris Conference on the Prohibition of Chemical Weapons, to which 150 states subscribed to the Final Declaration. Such a conference could be convened by the Depositaries (or a depositary), a regional body such as the EU or by the United Nations. It could be co-convened with the OPCW and/or be linked with the 1925 Geneva Protocol, or as a special initiative under the United Nations First Committee or be a Special Conference of the BWC states parties. Financial assistance to smaller and least developed countries to achieve maximum participation may need to be considered in this area. Such a conference would provide states parties with an opportunity to develop new initiatives and allow civil society to demonstrate its support for the object and purpose of the BWC.

## The CBMs

By 1991 the view that the CBMs had not met the expectations of states parties was already being



promulgated [6] and the revisions and additions made to the CBMs in 1991 have failed to enhance confidence in the BWC.? In the absence of an alternative legally binding agreement for the submission of relevant information, however, the CBMs remain useful.? The paucity of the existing CBMs, both quantitatively and qualitatively, suggests significant efforts are required in this area.?

The government-to-government nature of the submissions is highly unlikely to alter, but given that each state party ?owns? its CBM, on an individual basis states parties could initiate a step forward by actually making their own data available to others.? This might include submission to a government or parliamentary committee for review, to industry, professional bodies and academic institutions, or to individuals and other organizations upon request.? Although there are, potentially, both security and confidential proprietary implications to the release of all information, greater transparency of CBM returns would enhance confidence within a state and among states parties.

The Sixth Review Conference should embark on a fundamental overhaul of the CBMs including the following areas: submission and processing; analysis and clarification of submitted information; and, the scope of the CBMs.

### ***Submission and processing***

In the information age the submission and collation of CBMs in hard copy form only should no longer be acceptable.? The opportunity to submit the required information electronically should now be available to all states parties and in addition to the hard copy circulation the submissions should at least be collated on a CD-Rom.? A greater improvement would be a CBM database available to states parties.? The issue of translation of the submissions also needs to be considered by the state parties because CBM submissions are of limited value to most states parties in their current format.? However, the costs incurred by translating the information would need to be given careful consideration.?

Whether or not electronic submission would improve the abysmal rate of return is open to question, but the shift to a computerised system would imply at least two further changes, one necessary and the other optional.? The necessary change would be technical assistance to states parties, in that the BWC Secretariat (if, and in whatever form, it continues to exist) would have to be the point of contact to assist states parties when technical problems arise in the collecting and submission of information.? This is most likely to be a technical trouble-shooting activity rather than on-site technical assistance.? The other element of this is that the CBM contact point would require a similar contact person or office in each state party.? If such a CBM contact point is established, the office responsible for it might, as an option, be empowered by the states parties to act on their behalf two or three times each year to issue simple reminders to those states parties which have not submitted the requested information.?

### ***Analysis and clarification***

States parties will also need to consider the agreed procedures and mechanisms for discussing, consulting and clarifying any issue raised by the submitted information.? To date, it has been understood that the consultation and co-operation procedures under Article V of the BWC includes the CBMs.? Whether or not this understanding needs to be extended or formalised should at least be considered.? Furthermore, through an agreed CBM process other clarification mechanisms might be developed through bilateral or regional initiatives, or in conjunction with Article V of the Convention.

A further element worth considering is the addition of an annual report to the states parties on the submitted information.? Rather than the five-yearly collation provided at review conferences, immediately prior to the deadline for the annual submission a brief factual report on the number of submissions could be provided to states parties, including a list of those states parties that did submit information and those which did not. ?The Depositaries might also consider this annual

report a useful method for circulating an up-to-date list of states parties to the BWC, which, in my view, should include not only those states which have ratified the BWC, but those who are signatories and those who are neither states parties nor signatories.

### ***Scope***

At the initial session of the Fifth Review Conference proposals were made to increase the scope of existing CBMs and agree to new CBMs.? Over the next two years there is time to think through the scope of the CBMs more thoroughly, going back to the initial proposals in 1986-87, the revisions and additions of 1991 and the proposals of 2001, as well as any suggestions which were put on the table in the intervening periods.? To begin this process I would offer the following initial suggestions for more detailed consideration in the future:

(a)??????? CBM on scientific and technical developments.? States parties may use this to bring to the attention of others issues they consider are of relevance to the object and purpose of the BWC.? In the absence of a scientific advisory panel to the BWC, this goes some way to bridging the five-year gap between the opportunity to provide information on these developments;

(b)??????? A one-off or occasional CBM on compliance with Article II of the BWC.? This would support the existing CBM ?F? on past offensive and defensive activities and could include information on when, and how, stockpiles of prohibited items were destroyed in line with Article II and be extended to information on the destruction, or conversion, of (previous) production facilities;

(c)??????? CBM on assistance and protection measures and emergency response plans under Article VII;

(d)??????? CBM on the implementation of Article X of the BWC, not least because such information has been requested by each review conference to date;

(e)??????? A miscellaneous CBM which a state party may use to submit any other information it considers relevant to the objective of enhancing implementation of the BWC.

The above are by no means comprehensive and in all likelihood a CBM could be designed for most of the articles of the Convention or existing CBMs revised for such purposes.?

### **Resources to support implementation of the BWC**

Under the standard review conference agenda the resources requested and allocated by the states parties and the United Nations are considered only very briefly.? The Sixth Review Conference should consider this issue in greater detail.? At least since 1997 the states parties have effectively paid for additional personnel to support their work.? As someone who was once employed by the states parties I cannot be objective in my approach to this issue, but the discrete support offered to the Ad Hoc Group between 1997 and 2001, the Fifth Review Conference between 2001 and 2002 and the first year of the new work programme in 2003 has been only a small additional financial commitment which has both facilitated the work of the states parties and provided additional benefits to them.? The CD-Rom on national implementation measures is only one example.? As a matter of practical implementation of the Convention it would make sense to have at least one dedicated BWC official available to states parties between the review conferences, even if no additional work is undertaken after 2006, simply to oversee the CBM submissions and provide assistance and advice to the states parties upon request.

### **NGO initiatives**

Prior to the Third Review Conference in 1991 a significant number of NGO publications and papers established a practical foundation for the work of states parties. [\[7\]](#)? As indicated, 1991 was the last full (successful) review of the BWC because efforts in 1996 were influenced by the on-going work

which led to the negotiations on the protocol and that conference was itself of only two weeks duration.? In the lead up to the Sixth Review Conference a similar effort would be worthwhile, but should encompass many possible elements for strengthening the BWC and enhancing its implementation.? A distinction may need to be made here between the advocacy NGOs and work that stands back from the immediate problems or issues in the Convention to think differently about the many areas which need attention.

While these two types of work are not unrelated to, or necessarily distinct from, each other, the latter would permit a broader perspective of the options available in 2006 to emerge.? Areas of the BWC where such work would prove of particular value to states parties would include:

- The impact of scientific and technological developments;
- Export controls;
- National implementation measures;
- CBMs (particularly submission, processing, analysis and scope);
- Societal verification at the national level [\[8\]](#);
- Co-ordination of emergency response and assistance with international organisations, e.g. WHO;
- The relationship to the Geneva Protocol (reservations) and the CWC; and
- Peaceful co-operation directly relevant to the BWC.

Again, this is by no standard a complete list and work on the annual outcome of the meeting of states parties would also be appropriate, but the issues referred to above would benefit from much deeper analysis.? The role of regional initiatives in supporting the BWC and non-proliferation efforts would also benefit from more detailed analysis.?

## Conclusion

The chaos caused by the failure of the protocol negotiations and the limited outcome of the Fifth Review Conference means that the BWC is in many ways standing still at a time when scientific developments, globalisation, and the rapid development and dissemination of information are accelerating.? The Sixth Review Conference will therefore be an extremely important point in the life of the Convention.? Failure in 2006 to address many of the problems which the Convention faces will lead to it becoming ever more peripheral in the policy frameworks states parties use to ensure biological disarmament and combat proliferation.? Such failure is not something the international community can afford, hence while states parties focus on discrete problem areas of the Convention in 2003, 2004 and 2005, the non-governmental community must begin to work with other actors to think about and plan for a far-reaching and successful conclusion to the Sixth Review Conference.? This may well entail exploring new approaches to the biological weapons problem and proposing policies which have not, as yet, met with universal favour among the states parties, but there is sufficient time to think issues through before 2006 and that time should not be wasted.

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[\[1\]](#).? Jez Littlewood, ?Substance Hidden Under A Mountain Of Paper: The BWC Experts? Meeting in 2003? *Disarmament Diplomacy* Issue No. 73 (October-November 2003) pp 63-66.? Available at <http://www.acronym.org.uk/dd/dd73/73news05.htm>

??????????? Graham S. Pearson, ?The Biological Weapons Convention New Process? Report from Geneva, *CBW Conventions Bulletin* No 61 (September 2003) pp.8-14

[\[2\]](#).? Nicholas A. Sims, ?Return to Geneva: The Next Stage of the BWC Fifth Review Conference? Strengthening the Biological Weapons Convention, Review Conference Paper No 5 (University of



Bradford, Bradford, 2002) page 15

[3].?Jez Littlewood, ?The EU Strategy against the Proliferation of Weapons of Mass Destruction? in *Journal of European Affairs* Volume 1 Number 1 (August 2003) pp25-26, available at <http://www.eupolicynetwork.org.uk/JournalOfEuropeanAffairs.pdf>

[4].?Nicholas A Sims, ?Biological Disarmament Diplomacy in the Doldrums: Reflections After the BWC Fifth Review Conference? *Disarmament Diplomacy* Number 70 (April/May 2003) p.16

[5].?The 16 signatories are: Burundi, Central African Republic, C?te d'Ivoire, Egypt, Gabon, Guyana, Haiti, Liberia, Madagascar, Malawi, Myanmar, Nepal, Somalia, Syrian Arab Republic, United Arab Emirates, United Republic of Tanzania.

??????????? The 25 non-signatories are: Andorra, Angola, Azerbaijan, Cameroon, Chad, Comoros, Djibouti, Eritrea, Guinea, Israel, Kazakhstan, Kiribati, Kyrgyzstan, Marshall Islands, Mauritania, Micronesia, Mozambique, Namibia, Nauru, Republic of Moldova, Samoa, Tajikistan, Trinidad and Tobago, Tuvalu, Zambia.

[6].?United Nations, ?Third Review Conference of the Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction? Geneva, 1991, BWC/CONF.III/23 Part III page 52

[7].??Examples of the detailed studies made by NGOs are:

??????????? S. J. Lundin (Editor), ?Views on Possible Verification Measures for the Biological Weapons Convention? SIPRI Chemical & Biological Warfare Studies No. 12, (Oxford, Oxford University Press, 1991);

??????????? Federation of American Scientists, ?Proposals for the Third Review Conference of the Biological Weapons Convention? *Arms Control* Volume 12, Number 2 (September 1991) pp 240-254;

??????????? Jozef Goldblat and Thomas Bernauer, ?The Third Review Conference of the Biological Weapons Convention: Issues and Proposals? UNIDIR Research Paper No. 9 (New York, United Nations, 1991);

??????????? Nicholas A. Sims, ?Reinforcing Biological Disarmament: Issues in the 1991 Review? *Faraday Discussion Paper* No 16, The Council for Arms Control (London, Brassey's UK, 1991);

??????????? ?Barbara Hatch Rosenberg and Gordon Burck, ?Verification of Compliance with the Biological Weapons Convention? pp 300-329, and for a wider perspective, Richard Falk and Susan Wright, ?Preventing a Biological Arms Race: New Initiatives? pp 330-351, both in Susan Wright (Editor) *Preventing a Biological Arms Race* (Cambridge, Mass., The MIT Press, 1990).

[8].?Some preliminary thinking is given to this issue in the forthcoming *Verification Yearbook 2003* published by VERTIC.