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MANAGING TECHNOLOGY TRANSFERS UNDER THE BIOLOGICAL AND TOXIN WEAPONS CONVENTION

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I. INTRODUCTION

The oversight and control of technology transfers and the promotion of technological development have been the subject of much debate in the context of the 1972 Biological and Toxin Weapons Convention (BTWC). This is due to the fact that the obligations, scope, limits and management of relevant technology transfers are not specified in detail in the text of the convention. The origin and central point of the debate revolve around Article X, which reads:

> 1. The States Parties to this Convention undertake to facilitate, and have the right to participate in, the fullest possible exchange of equipment, materials and scientific and technological information for the use of bacteriological (biological) agents and toxins for peaceful purposes. Parties to the Convention in a position to do so shall also cooperate in contributing individually or together with other States or international organizations to the further development and application of scientific discoveries in the field of bacteriology (biology) for prevention of disease, or for other peaceful purposes.
> 2. This Convention shall be implemented in a manner designed to avoid hampering the economic or technological development of States Parties to the Convention or international cooperation in the field of peaceful bacteriological (biological) activities, including the international exchange of bacteriological (biological) agents and toxins and equipment

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SUMMARY

While the text of the 1972 Biological and Toxin Weapons Convention (BTWC) focuses mainly on disarmament obligations, it also includes one article on technology transfers and the promotion of technological development (Article X). The fact that the obligations, scope, limits and management of relevant technology transfers are not specified in detail in the text has since led to an ongoing and as yet unresolved debate.

After the verification protocol failed in 2001, Article X became one of the most discussed issues under the BTWC. The history of the debate as well as current developments highlight two main topics discussed under Article X: public health and transfer controls. Today, the debate is both conceptually and practically underdeveloped, and is dominated by the restatement of incompatible positions.

New proposals to rearrange transfer controls and the limited resources available under the BTWC could be used by states parties to recommence a more fruitful debate and find common ground on the issue of feasible obligations under Article X.

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> for the processing, use or production of bacteriological (biological) agents and toxins for peaceful purposes in accordance with the provisions of the Convention.[1]

It has been argued that Article X is 'so loosely constructed as to mean almost anything that a government or individual invoking it wants it to mean'.[2] This has resulted in an ongoing debate since the First Review Conference in 1980 over how much weight should be attached to Article X and how it should be interpreted. Despite the BTWC's focus on disarmament (as opposed to development), the discussion on Article X and its developmental aspects takes up a large part of the states parties' attention today.

Interpretations of the provisions of Article X vary greatly. A number of developing countries have called for positive measures to be taken as part of a full and comprehensive implementation of the article, meaning an active emphasis on a development regime that includes technology transfers and assistance.[3] For example,

> Mozambique is of the view that the implementation of Article X should be strengthened to give way to consensus on practical steps for the promotion of an effective international cooperation on the implementation of various critical aspects of the Convention, including the facilitation of economic and technological development.[4]

Other states, focusing on the disarmament nature of the BTWC, do not accept that the convention creates any obligation to transfer any given technology. In the context of Article X discussions, these states instead point to their contributions to existing international organizations, as well as development assistance programmes, as evidence that they have already fulfilled their obligations. Statements by Russia and Germany during the Seventh Review Conference, in 2011, provide good examples of this approach:

> Russia promotes international cooperation in the field of peaceful biology. We regularly—on an annual basis—provide information for building confidence in biological sphere. . . . We do not question the importance of countering infectious diseases or bioterrorism. However, it is not a topic of consideration within the BTWC. These issues are actively dealt with by other specialized international organizations and forums. Our convention, on the other hand, focuses on the prohibition of biological and toxin weapons, and its main purpose is to prevent reappearance of biological weapons in any form. This should be taken into account when organizing our future work.[5]

> Scientific and technological cooperation, as laid down in Article X of the Convention, is of great importance to us. Germany is pleased to report on a multitude of activities in this field. Our activities range from university projects of cooperation in the field of biotechnology to establishing close relations between the major German federal funded research organizations and national Academies of Science in several countries. . . . Germany does not interpret the requirements as set out in Article X in a narrow sense, but understands cooperation and assistance in the wider perspective of Official Development Assistance (ODA), as defined by the Organisation for Economic Co-operation and Development (OECD).[6]

Despite extended discussions, neither past nor present policies of states parties have provided any basis for a shared understanding of the implications of Article X. In general, the debate is severely underdeveloped, both conceptually and rhetorically,

[1] Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction, opened for signature 10 Apr. 1972, entered into force 26 Mar. 1975, *United Nations Treaty Series*, vol. 1015 (1976). A full list of official documents relating to the convention, as well as submissions to the various review conferences, can be found at <http://unog.ch/bwc>.

[2] Sims, N. A., *The Evolution of Biological Disarmament*, SIPRI Chemical & Biological Warfare Studies no. 19 (Oxford University Press: Oxford, 2001), p. 120.

[3] Sims (note 2) refers to the 2 different regimes under the BTWC: a compliance regime and a development regime.

[4] Seventh BTWC Review Conference, Statement by Mr Elias Jaime Zimba, Minister Plenipotentiary, Permanent Mission of the Republic of Mozambique to the United Nations Office and other International Organizations in Geneva, 5 Dec. 2011.

[5] Seventh BTWC Review Conference, Statement by H. E. Mr Gennady Gatilov, Russian Deputy Minister of Foreign Affairs, 5 Dec. 2011.

[6] Seventh BTWC Review Conference, Statement by Ambassador Rolf Nikel, Commissioner of the German Government for Arms Control and Disarmament, 5 Dec. 2011.

and characterized by a tendency on the part of states parties to repeat their existing positions rather than analyse differing perceptions of the article itself.[7] As long as agreement about the importance of Article X in the BTWC regime and about the requirements for its implementation remains elusive, the language about it in official documents will do so too. Thus, there will continue to be little or no guidance on what should be done or what should be avoided in cases where technology is transferred—or not transferred—between states.

The development regime under the BTWC

Nicolas Sims has extensively described how the BTWC has progressively incorporated a development regime, based on Article X, that was 'not part of the common ground among the states parties in 1972'. According to Sims, the development regime

> has little basis in the BTWC and is derived more from subsequent interpretation of the convention at the first four review conferences than from the treaty text. . . . The obligations that the BTWC proclaims as incumbent upon states parties are primarily disarmament obligations that barely extend into the realm of development. In short, the BTWC is a disarmament not a development treaty.[8]

Yet, problematically, he argues that 'the development orientation of the BTWC has come to be the principal criterion, or one of the key criteria, by which many of its parties judge its success'.[9]

While the weight attached to the issue of development has grown, there has been no effort to discuss the issue at the same level of detail accorded to the compliance regime for the BTWC. Meaningful statements on the importance of Article X are seldom heard, either inside or outside the conference room in Geneva. However, there are two main trends visible within the Article X development debate. One is an increased tendency to focus on issues of public health within the BTWC—a tendency that has also been identified in other parts of the development community, where it has been labelled 'healthization'. The other refers to the notion of 'justification', which has been explained by Una Becker-Jakob as the belief that states should receive all of the things to which they are entitled under the treaty if the BTWC is to be regarded as non-discriminatory and just, including technology.[10] According to this view, access to technology for peaceful uses becomes an entitlement.

With regards to the 'healthization' of the debate, public health issues were first linked to Article X in one sentence of the Final Document of the Second Review Conference, in 1986: 'The Conference calls for greater co-operation in international public health and disease control.'[11] The Final Document of the Third Review Conference, in 1991—the first review conference in which the World Health Organization (WHO) participated—reflected the growing focus on public health under Article X, and the issue has been taken up at all subsequent BTWC meetings. The Third Review Conference not only called for 'greater cooperation in international public health and disease control' among states parties but also urged

> Cooperation in providing information on their national epidemiological surveillance and data reporting systems, and in providing assistance, on a bilateral level and/or in conjunction with WHO, regarding epidemiological surveillance, with a view to improvements in the identification and timely reporting of significant outbreaks of human and animal diseases. . . . The Conference notes that existing institutional ways and means of ensuring multilateral cooperation between the developed and developing countries would need to be developed further in order to promote international cooperation in the field of peaceful activities in such areas as medicine, public health and agriculture. . . . Furthermore it urges the specialized agencies, inter alia, FAO, WHO, UNESCO, WIPO and UNIDO, to participate in this discussion.[12]

[7] E.g. of the 144 documents on the Think Zone (a collection of articles, papers and other resources that might have helped preparations for the Seventh Review Conference), only 3 deal with Article X or technical cooperation. UN Office at Geneva, 'Disarmament: think zone for the Seventh Review Conference', <http://www.unog.ch/bwc/thinkzone>.

[8] Sims (note 2), p. 119.

[9] Sims (note 2), p. 119.

[10] Becker-Jakob, U., *Notions of Justice in the Biological Weapons Control Regime*, Peace Research Institute Frankfurt (PRIF) Working Paper no. 9 (PRIF: Frankfurt, Aug. 2011).

[11] Second BTWC Review Conference, Final Document, 30 Sep. 1986.

[12] Third BTWC Review Conference, Final Document, 9–27 Sep. 1991.

The increasing focus on disease surveillance, detection, diagnosis and containment and combating infectious diseases has reached a point where it is now one of the main issues discussed under Article X.[13] This might be because public health is one of the few issues that all states parties are able to agree on. However, this agreement is mainly based on the Western states' perception of public health and disease surveillance as a security issue; but focusing on public health within the discussion of Article X disregards many interests of the Non-Aligned Movement (NAM) in the field of technical cooperation in other areas of biotechnology.

Besides the focus on public health, notions of justice also play a role in explaining why it has been so difficult to agree on anything meaningful under Article X. The debate about justice within the BTWC regime is more far-reaching than the discussion about public health and disease surveillance, but the tendencies can be seen as interconnected. As the ability to fight diseases is also partly connected to the different levels of technological development within states, one could argue that denying relevant capabilities to states that need them is an inherent injustice. Additionally, those who lack national capabilities are often also unable to afford expensive medical equipment. Therefore, hampering the transfer of technology and failing to offer technologies and assistance to developing countries not only causes harm to public health but also reduces the ability to control infectious disease in ways that would help to implement the BTWC. Hence, the issue of justice within the BTWC is not limited to public health issues but extends to technology transfers and possession in general.

The trend towards a justification of the debate may also be a consequence of the view emerging in a number of states that arms control and disarmament treaties—including the BTWC—must be fair and just in order to be effective in the long term. In this context, that would mean finding a balance between the rights and obligations contained in a treaty and elaborating transparent and objective procedures to ensure that all rights and obligations are respected. Unless all parts of a treaty are seen as an integrated whole, the incentive for states to invest in ensuring that they comply with certain articles will diminish over time. According to this view, since the BTWC does not establish a hierarchy among its various articles, failing to balance the discussion of disarmament compliance with other factors is unjust.[14]

This 'substantive' dimension of justice—that fairness will increase effectiveness—is also found in the 1968 Treaty on the Non-Proliferation of Nuclear Weapons (Non-Proliferation Treaty, NPT) and the 1993 Chemical Weapons Convention (CWC); it is not limited to the field of biological weapons.[15] For example, Article IV of the NPT has also increasingly been seen by some states as creating an entitlement to technology—including proliferation-sensitive items—intended for peaceful purposes.

Compared to the NPT, however, the BTWC provides few incentives for states to join if they do not consider biological weapons to be a threat (existential or otherwise). The equipment, technology and materials relevant to the purposes of the BTWC are widely available from an international market that is governed by many other treaties and regulations. Also, many of the relevant items (e.g. vaccines) are owned by the private sector. States may not be able to provide certain technologies because of ownership rights. Their role is limited to a gate-keeping function, balancing efforts to promote particular technologies with the interests of private owners in competitive markets.

The Swedish representative at the Third Review Conference spoke of the 'potential conflict of interest between growing commercial interests in the area of biotechnology and genetic engineering on the one hand and the interests of a free exchange of information on the other'.[16] The United Kingdom's representative later stated this concern more clearly:

> It must be recognized that much of the work in these fields is the preserve of commercial companies. States Parties cannot replicate the activities of the private sector, nor dictate to biotechnology companies what information they should release. However, there may be opportunities for cooperation in areas such as Good Manufacturing Practice, safe laboratory procedures, biological containment,

[13] Approximately half of the 2-page text on Article X in the Final Document of the Seventh Review Conference deals with public health issues.

[14] Becker-Jakob (note 10).

[15] Müller H., *Justice in International Diplomacy*, Peace Research Institute Frankfurt (PRIF) Working Paper no. 8 (PRIF: Frankfurt, Aug. 2011).

[16] Third BTWC Review Conference, Background document on compliance by States Parties with all their obligations under the BTWC, 26 Aug. 1991.

product standards, quality control and new biotechnology methods.[17]

II. HISTORY OF THE DEBATE

Until the mid-1990s the most focused discussions inside the BTWC framework excluded consideration of Article X. The mandate of the Ad Hoc Group of Governmental Experts (VEREX), established in 1991 to examine effective verification of the implementation of the BTWC, does not mention Article X at all. The terms of reference for the group were strictly limited to identifying and assessing measures that could determine whether a state party was developing biological weapons.[18] The VEREX mandate was limited to Article I measures; additional prohibitions (e.g. to transfer biological weapon relevant material) or obligations (regarding national implementation) contained in the BTWC were neither mentioned nor addressed in VEREX's later work.

The underlying suggestion that only the implementation of one part of the treaty needed to be verified created political tensions by the end of the VEREX process. On the last day of the third session of VEREX, the NAM states made a statement criticizing the work of the group in unusually blunt terms:

> We regret to note that, so far, the exercise carried out in the Ad Hoc Group has concentrated on accommodating the interests of the developed countries. These countries have proven to possess resources, capabilities, expertise and technology enabling them to conduct the work of the Group without due regard to the legitimate interests and concerns expressed by developing countries. . . . It will therefore be difficult for the developing countries to participate in the consensus over the final results of the present exercise if their interests and concerns are not properly taken into account.[19]

After VEREX completed its work, another Ad Hoc Group (AHG) was established to continue discussing effective verification. While the AHG—which was active between January 1995 and August 2001—had also a mandate to discuss measures to implement Article X, Western states initially still took the view that the BTWC was not the place to deal with development issues.

In fact, no initial progress was made to include implementation of the promotional aspects of the BTWC. At the Fourth Review Conference in 1996 many countries commented on the balance between the different aspects of the AHG's work and NAM delegates emphasized, without exception, the importance of implementing Article X. Bangladesh said that, in this respect,

> No Article may be employed to the detriment of another. There is concern that Article III may be used to deny transfer of technology, equipment and materials, clearly in contravention of Article X. For developing countries, Article X on international cooperation and development is of central importance. Should our preoccupation with compliance and verification lead to restrictive measures beyond those clearly spelt out in Article III, many in the developing world would see little merit in the ongoing exercise.[20]

The tone of the discussion changed slightly in September 1998, when an informal gathering of 57 foreign ministers in New York agreed on a declaration in which Western states accepted, for the first time, the NAM states' demand for the implementation of promotional aspects of Article X. They agreed to the following formulation: 'The Ministers stress the importance of fulfilling all aspects of the Ad Hoc Group mandate . . . They strongly believe that benefits in terms of security and development will accrue to all States Parties to the protocol.'[21]

Further progress was made in January 1999 when NAM proposed the establishment of a Cooperation Committee within the envisaged international

[17] Ad Hoc Group of the States Parties to the BTWC, Working paper submitted by the United Kingdom, 'BWC Article X: Areas of biological activity of direct relevance to the Convention', 28 Nov. 1995, <http://www.opbw.org/ahg/docs/03rd%20session/wp007.pdf>.

[18] Third BTWC Review Conference (note 12), pp. 16–18.

[19] Ad Hoc Group of Governmental Experts to Identify and Examine Potential Verification Measures from a Scientific and Technical Standpoint, Statement of the Non-Aligned and other developing countries, 4 June 1993, <http://bwc.unog.ch/1993-06-VEREX3/BWC_CONF.III_VEREX_WP.150.pdf>, pp. 2–3.

[20] Fourth BTCW Review Conference, Statement by Ambassador M. Anwar Hashim, Leader of the Bangladesh delegation, 26 Nov. 1996, <http://www.opbw.org/rev_cons/4rc/docs/statements/IV-OS-BANGLADESH.pdf>.

[21] Informal Ministerial Meeting on the Negotiation Towards Conclusion of the Protocol to Strengthen the Biological Weapons Convention, Declaration, New York, 23 Sep. 1998, <http://www.brad.ac.uk/acad/sbtwc/other/meeting1.htm>.

organization that would be responsible for ensuring the implementation of the cooperation aspect of the BTWC.[22] Western states were at first hesitant to accept such a committee as a political body of the future organization but, after further deliberations, their reservations slowly disappeared. By early 2000, states were in general agreement about the Cooperation Committee.

Nevertheless, Western states were still unwilling to address the regulatory aspects of Article X. Particularly difficult questions such as the future of export controls were still absent from the Article X discussion, despite several NAM states' demands that the issue be raised in the AHG. The first working paper by Western states containing general statements on export control issues was tabled at the end of February 2001.[23] During the last months of the AHG, discussions on the regulatory aspects of Article X became more and more difficult. The differences in views on this issue would have been one of the biggest obstacles to a BTWC verification protocol even if the United States had supported its successful conclusion.

III. LIMITING AND CONTROLLING TECHNOLOGY TRANSFERS

The concept of transfer controls as measures to prevent the spread of weapons and dual-use goods originates in post-World War II efforts by the USA to deny strategic goods and materials to Soviet bloc states.[24] After the cold war, when the political and strategic environment changed and globalization tendencies increased, the bloc-orientated focus was superseded by new priorities, not least the discovery of an extensive biological weapon programme in Iraq. Today, export controls are widely seen as a useful instrument for reducing the risk of proliferation of weapons and dual-use items that could be used for the production of nuclear, biological and chemical (NBC) weapons and longer-range ballistic missiles.

While national authorities ultimately take licensing decisions, there are four transfer control regimes in which states discuss how to make their national export controls more effective. Three of these—the Nuclear Suppliers Group (NSG), the Missile Technology Control Regime (MTCR) and the Wassenaar Arrangement for Conventional Arms and Dual-Use Goods—cover a range of nuclear, missile and conventional weapon-related items. The fourth, the Australia Group, considers export controls for items relevant under the BTWC and CWC.

The fact that all multilateral treaties for the control of NBC weapons are covered by export control regimes means that these four regimes must deal with similar conflicting obligations: while they prohibit the proliferation of weapon-relevant equipment and technology, they also commit states parties to supporting the peaceful use of the technologies in question.

In the BTWC context this is reflected in mutual contradictions between the cooperation obligation under Article X and the non-proliferation obligation under Article III. The NAM states frequently stress that, by signing the CWC and the BTWC, almost all of them have made a legally binding commitment not to acquire chemical and biological weapons. Hence, they argue that additional trade limitations outside the BTWC and CWC contexts, like the Australia Group in which no NAM member participates, are at odds with the provisions for the 'fullest possible technical exchange' for the advancement of peaceful scientific endeavours.[25]

Even though states parties increasingly recognize the need for an effective system of export controls as a necessary part of compliance with BTWC obligations—something reflected, for example, in the record of support for United Nations Security Council Resolution 1540—the instruments used today to control the trade with dual-use goods have considerable disadvantages.[26] It is therefore problematic that there is no truly harmonized international approach to export controls. Other problematic developments include the increasing globalization of markets, the corresponding increasing volume of international trade, and the growing number

[22] Ad Hoc Group of the States Parties to the BTWC, Working paper submitted by the Group of NAM and Other Countries, 'Establishment of a Cooperation Committee', 21 Jan. 1999, <http://www.opbw.org/ahg/docs/13th%20session/wp349.pdf>.

[23] Ad Hoc Group of the States Parties to the BTWC, Working paper submitted by Australia, Austria, Belgium, Canada, Germany, Italy, South Korea, Sweden and the UK, 'Article III, Section F', 26 Feb. 2001, <http://www.opbw.org/ahg/docs/22nd%20session/wp443.pdf>.

[24] On the origins of Western transfer controls, which date to at least 1947, see US Department of Commerce, *A Report to the National Security Council by the Secretary of Commerce on Export Controls and Security Policy* (National Security Council: Washington, DC, 26 Apr. 1950), declassified 1992.

[25] Arms Control Association, 'The Australia Group at a glance', Dec. 2010, <http://www.armscontrol.org/factsheets/australiagroup>.

[26] United Nations Security Council Resolution 1540, 28 Apr. 2004.

of international companies contributing to a global diffusion of knowledge and equipment, any of which could render the existing export control regimes obsolete in the mid-term future.

The increasing variety and complexity of biotechnology, which has created a growing number of products and market participants, has also led to insufficient market transparency. This difficulty became clear in connection with the Iraqi biological weapons programme in the late 1980s and early 1990s, when Iraqi procurement efforts successfully identified sources of supply for items that were already under control. However, the difficulty of coordinating the implementation of national export controls and sharing assessments about likely end-use were among the factors that prevented regulators from drawing the proper conclusions. No individual transfers from different supplier states were considered sufficiently risky to block on the basis of the available information. Although much has been done to tighten export controls, this weakness remains basically unchanged.

Other export control weaknesses include the difficulty of ensuring that control lists remain up to date and the lack of common methodologies for assessing export applications, even among members of existing multilateral export control regimes. For example, despite the fact that a single piece of primary legislation is binding for all European Union (EU) member states, national authorities cannot be certain about how their partners will decide on a particular application to export controlled items.[27] More broadly, neither individual licensing decisions nor the way that regime policies are incorporated into national law are transparent or shaped by common standards.[28]

Finally, detailed information on possible technology applications, the importer and the end-user is needed in order to issue a reliable export licence. This knowledge is often not available to important implementers of export controls, including licensing officers, exporters and customs officers.

While these shortcomings of export controls are known, of greater importance for the Article X debate is the fact that many states do not participate in discussing them and see their exclusion from the debate as highly unjust. Only 40 states, none of them belonging to the NAM group, participate in the Australia Group, which has only admitted one new participant in the past five years (Croatia, in 2007). As many states are excluded from participation, suspicions are heared that regime decisions are sometimes tailored to protect the economic interests of the suppliers.[29] It is not hard to imagine that these suspicions will grow in parallel with the already multibillion-dollar world market for biotechnology.

From limiting transfers to monitoring trade

The brief analysis above indicates that the shortcomings of existing approaches to controlling technology transfers are recognized and growing, but there has been little progress towards an alternative within the framework of the BTWC. What, therefore, can be done about this?

In recent years several interesting proposals have sought to reduce tensions between the participants and non-participants in export control regimes over trade with dual-use items. The three proposals described below are all based on moving away from the current approach of traditional export controls towards a more transparent and inclusive system. They all use economic advantages as the main driving force for their implementation, and remain open to broad participation in ways that serve to implement both Article III and Article X. None of the proposals can promise to entirely remove the risk of misuse of dual-use technology, and all three have disadvantages or unsolved problems when it comes to their implementation. Nonetheless, each can play a part in reaching a comprehensive approach towards, on the one hand, non-proliferation and, on the other, the transfer of technology.

Industry self-regulation

After 2001, when discussions on efforts by non-state actors to acquire biological agents intensified, there was also a focus on whether the more widespread availability of certain biotechnological goods could provide terrorists with a shorter route to obtaining biological weapons. Some of the developments scrutinized were those in synthetic biology and their implications. As the price for gene synthesis decreased, calls for a control mechanism for the gene synthesis

[27] Jeremias, G. and Hunger, I., *Building Transparency in the World Wide Trade in Biological Dual Use Equipment*, Research Group for Biological Arms Control Occasional Paper no. 12 (University of Hamburg: Hamburg, 2010).

[28] Beck, M. and Gahlaut, S., 'Creating a new multilateral export control regime', *Arms Control Today*, Apr. 2003.

[29] Kimball (note 25).

market grew. Afraid that a regulatory system designed by governments might hamper their business, synthetic biology enterprises took the lead in organizing the discussion and proposing measures to identify and reduce any risks associated with selling DNA sequences of particular agents. Several proposals for screening mechanisms were put forward by companies. The most comprehensive of these was elaborated by the International Association of Synthetic Biology (IASB) and launched in April 2008.

The IASB, an association of seven companies, developed a draft for a standardized screening procedure for each ordered piece of DNA.[30] At best, the screenings would not be limited to one company but also cross-checked in a database integrating information from other companies to reveal any order assembling the diverse pieces of a pathogen from different companies. The system would be solely based on industry self-regulation and would rely on participating companies understanding the importance of security, as well as the need to be active in creating rules in order to avoid being confronted with rules made by others. Governments could also support industry self-regulation by ordering public institutions to buy from these companies, creating an incentive for even more companies to participate in the screening system.

Licensing

Licensing systems for end-users, a variation of which has been proposed by Jean Pascal Zanders, offer another possibility when it comes to monitoring and controlling technology transfers.[31] While such systems would not need to be linked to the BTWC, doing so could create an additional incentive to join the convention on the assumption that participation would bring economic advantages. Zanders describes a licensing system that is based on three pillars: (*a*) an international organization; (*b*) a national authority; and (*c*) suppliers and end-users—the private or public organizations or companies that send or receive tangible or intangible biotechnological goods. End-users would receive a licence from their national authority provided that they could demonstrate compliance with the accreditation standards and accept verification measures such as inspections. The national authority would have the responsibility to inspect the economic units and to ensure that they were in compliance with accreditation norms. The national authority would also have the role of collecting and processing the information about technology transfers received from the accredited economic units. The international authority would be responsible for monitoring all trade data received from the national authority as well as the verification of accreditation procedures within each country. The system would accelerate transfers between licensed parties, providing the main incentive to participation: a transfer would simply be a matter of notifying the national authorities of the supplier and receiver states. If a non-accredited unit were involved, however, the national authority would need to issue a traditional export licence.

Trade monitoring

A third proposal to resolve the tensions between articles III and X is a system of passive technology transfer monitoring. Such a system is based simply on the creation of more transparency within the biotechnology market. Items essential to biological weapon programmes are already being traded in immense volumes on the global market in order to run modern biotechnology plants and laboratories.[32] Revealing the types and volumes of equipment transferred to countries could to help identify patterns that are inconsistent with what is known about civil biotechnology.[33] Inconsistencies would be a starting

[30] Maurer, S. M. and Fischer, M., 'How to control dual-use technologies in the age of global commerce', *Bulletin of the Atomic Scientist*, vol. 66, no. 1 (Jan–Feb 2010), pp. 41–47; and Hart, J. and Trapp, R., 'Science and technology and their impacts on the Biological and Toxin Weapons Convention: a synthesis report on preparing for the Seventh Review Conference and future challenges', SIPRI, Dec. 2011, <http://www.sipri.org/research/disarmament/bw>, pp. 23–24.

[31] Zanders, J. P., *A Verification and Transparency Concept for Technology Transfers under the BTWC* (Weapons of Mass Destruction Commission: Stockholm, 2004).

[32] Such items are summarized on arms control lists, e.g. the 2007 United Nations Monitoring, Verification and Inspection Commission (UNMOVIC) biotechnology items list.

[33] Monitoring the import and export of biotechnological equipment has already helped in one clear case: in uncovering a suspected biological weapon programme during the United Nations Special Commission (UNSCOM) mission to Iraq. After analysing charts summarizing the trade data of relevant items, Iraq was at a loss to explain the vast amounts of biological growth media that had been imported and, in the end, admitted developing biological weapons. United Nations, Security Council, Letter dated 25 January 1999 from the Executive Chairman of the Special Commission established by the Secretary-General pursuant to paragraph 9 (b) (i) of Security Council Resolution 687 (1991) addressed to the President of the Security Council, S/1999/94, Annex, 29 Jan. 1999; and Jeremias, G. and van Aken, J., 'Harnessing global trade data for biological arms control', *Nonproliferation Review*, vol. 13, no. 2 (July 2006).

point for further investigations. Cross-checking import and export data would also make the means of technology exchange visible and serve as an indicator for the implementation of Article X. An important source for such an import and export monitoring system might be the information gathered by the UN Statistics Division (UNSTAT), which is free of charge and publicly available. The UN Comtrade database and the European Commission's Eurostat database gather statistical information about the import, export and reimport of all goods worldwide. These databases are open source, allowing anyone to download aggregated data on the value and volume of international trade for defined products.[34] However, the current practice of compiling statistics would require some modification in terms of new product definitions in order to be useful in the BTWC context.

The Harmonized System (HS) of the World Customs Organization (WCO), in which product category codes are specified, forms the basis for the definitions of products.[35] Importers and exporters have to fill in HS codes in their customs declarations. These codes are read out by border services and forwarded to databases, where they are aggregated and published. According to the WCO, the HS covers 98 per cent of international trade. Given this broad coverage, it is possible to visualize the global trade flows of many items. The HS works on a relatively simple basis: it classifies, describes and identifies items in a hierarchical structure of internationally uniform six-digit codes. For example, code 85 is for the chapter 'electrical machinery and parts thereof'; within this chapter, code 85.28 is for 'reception apparatus for television'; and code 8528.12 is the sub-heading for 'colour television sets'. Although any item can be placed into a category covered by an HS six-digit code, most of these codes (referred to as 'basket numbers') identify a group of items.

At the moment, 'prepared culture media for development of microorganisms' is the only biotechnology item identified with an individual HS code. All other items relevant to biotechnology are hidden within a category covered by a basket number, thus limiting the possibilities for monitoring biotechnology trade. This limitation is due to the fact that biotechnology was a developing field when the HS nomenclature was developed in the 1980s, and not the globalized branch of industry with trade volumes of billions of US dollars that it is today. However, the HS Convention does provide for updating codes 'in the light of changes in technology or in patterns of international trade'.[36] Such an amendment seems to be overdue for two reasons: the substantial increase in the volume of trade in biotechnology items, and the conception of the HS as a 'multipurpose international product nomenclature'.[37] In the past both states and international organizations have requested HS amendments to facilitate the work of regulators. Approved amendments are implemented once every five years. The current amendment cycle ends in 2014.

Some important steps towards an amendment of the HS to enable the trade monitoring of biological goods have already been taken. The Research Group for Biological Arms Control at Hamburg University approached the WCO in mid-2007 with a proposal to amend the HS nomenclature. At the 37th session of the HS Review Sub-Committee in May 2008 the HS Secretariat introduced the Research Group's amendment proposal, including new HS codes that were developed in close cooperation with the WCO, into the official amendment process.[38] However, at the same session, the process was adjourned for procedural reasons. According to the Canadian representative, a number of delegations had reservations about adopting a proposal submitted by an academic institution and whether this would set an unacceptable precedent. Hence, the Sub-Committee decided not to pursue the issue further.[39] States suggested that if a state or international organization willing to adopt the proposal could be found, the amendment process could be reactivated. In order for this to happen, the idea now needs support from such an actor. A similar project, taking place at the European Commission's Joint Research Centre, has been examining how to refine

[34] United Nations Commodity Trade Statistics Database (UN Comtrade), <http://comtrade.un.org>; and European Commission, Eurostat, <http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/>.

[35] Much of the following text is taken from Jeremias and Hunger (note 27), which describes the proposal for biotechnology trade monitoring in more detail.

[36] World Customs Organization (WCO), International Convention on the Harmonized System, Preamble, <http://www.wcoomd.org/home_hsoverviewboxes_tools_and_instruments_hsconvention.htm>.

[37] World Customs Organization (note 36).

[38] World Customs Organization (WCO), 'Identifying WCO Harmonized Codes', Powerpoint presentation, NR0741B1a, Annex, Trinidad and Tobago, Oct. 2011.

[39] World Customs Organization (WCO), Report of the 37th Session of the Harmonized System Review Sub-Committee, NR0751E1b, Annex C/15, Brussels, 21 May 2008.

trade data in ways that facilitate tracking dual-use items in the nuclear non-proliferation context.

IV. PROPOSALS FOR PROMOTING TECHNOLOGY TRANSFERS UNDER THE BIOLOGICAL AND TOXIN WEAPONS CONVENTION

Proposals on how to implement Article X were rare before the Third Review Conference, in 1991, when the NAM states made the absence of restrictions on technological development a precondition for their support for a verification protocol. At the same time, the first specific initiatives that connected Article X to public health issues were being formulated. The Federation of American Scientists (FAS) developed the Program for Monitoring Emerging Diseases (ProMED) and the Program for Controlling Emerging Infectious Diseases (ProCEID).[40] ProMed relied on the creation of a network of centres linked by a database to monitor emerging diseases directly through surveillance of selected syndromes and was established as a tool completely outside of the BTWC context.[41] ProCEID would have involved consolidating biomedical research with potential relevance to the BTWC into modern facilities where work would be carried out by international teams of scientists and be subject to international scrutiny. The programme would have been managed by WHO, but it never left the conceptual stage.[42]

Other concrete proposals on the implementation of Article X made during the time when the AHG was active were compiled in a Friend of the Chair (FOC) document.[43] These included the following suggestions:

1. To establish an office in the WHO to handle declarations of significant outbreaks of human and animal disease under the BTWC, utilizing existing WHO links to the Food and Agriculture Organization (FAO) and the World Organisation for Animal Health (OIE) for plant and animal diseases, in order to consolidate reporting, standardize the format of reports and ensure proper follow-ups.

2. To adopt or further refine the Biesenthal Vaccine Initiative, or any appropriate programme to that effect (e.g. Vaccines for Peace).[44]

3. To recommend the ProMED and ProCEID programmes to the parties of the BTWC and, in particular, to help implement a network for the exchange of epidemiological data.

4. To initiate discussions with the International Centre for Genetic Engineering and Biotechnology (ICGEB) about a framework cooperative agreement, including: (*a*) providing technical assistance to upgrade national biological safety practices; and (*b*) training personnel and conducting collaborative research with scientists from developing countries that are parties to the BTWC in areas related to the convention.

5. To exchange views and possibly coordinate with the parties to the BTWC on biodiversity, with the aim of creating synergies and mechanisms for cooperation in areas of technical assistance and research. In particular, learning from the experience from the Convention on Biological Diversity's endeavour to establish a clearing house and its relevance for the BTWC.

While noting that a number of specific proposals were in fields of activity clearly relevant to the BTWC, the AHG also noted that most of the cooperative work on implementing Article X was already being carried out in other forums such as WHO.[45] Its suggestion was as follows:

> Determine whether there is therefore a new and real role for the BWC, and what this might be. Given the breadth and depth of existing and potential cooperative activities in these other fora, the most appropriate and efficient role may be as a collector and disseminator of information about these activities, as relevant; and as a possible coordinator of advice and assistance on subjects related to the implementation of the compliance protocol.[46]

[40] Geissler, E., Hunger, I. and Buder, E., 'Implementing Article X of the Biological Weapons Convention', ed. O. Thränert, *Enhancing the Biological Weapons Convention* (Dietz: Bonn, 1996), pp. 158–74.

[41] Federation of American Scientists (FAS), Program for Monitoring Emerging Diseases (ProMED), <http://www.fas.org/promed/index.html>.

[42] Program for Controlling Emerging Infectious Diseases (ProCEID) Steering Committee, 'ProCEID: mission statement', *Politics and the Life Sciences*, vol. 14, no. 1 (Feb. 1995), pp. 89–92.

[43] Friend of the Chair on Article X, 'Informative note concerning some activities of multilateral cooperation in areas related to the BWC and their relevance for cooperation under Article X of the BWC', 30 Nov. 1995, <http://bwc.unog.ch/1995-11-AHG03/BWC_AHG_wp.23.pdf>.

[44] The essence of the Biesenthal Vaccine Initiative and the Vaccines for Peace programme was to place the development, production and distribution of key vaccines under the control of an international body, probably WHO.

[45] Ad Hoc Group of the States Parties to the BTWC (note 17).

[46] Ad Hoc Group of the States Parties to the BTWC (note 17).

Debates within the AHG about the implementation of Article X were affected by different opinions about the legitimacy of export controls between BTWC states parties.[47] The NAM states wanted clear language on regulating technology transfers and, in particular, export controls integrated into the text of a verification protocol. This was mainly due to the fact that when negotiating the CWC, the NAM states felt that they had been given a promise that the application of licensing guidelines, such as those agreed in the Australia Group, on a case-by-case basis would be phased out in respect of CWC states parties—something that did not happen.[48] At the end of the AHG negotiations, the text of the draft verification protocol under Article VII described measures and mechanisms to implement Article X.[49] Many parts of the AHG text related to promoting scientific and technological exchanges were uncontested. However, hardly any of the language on measures to avoid hampering economic and technological development—which mainly deals with export controls—was agreed upon.

Current debate

While the negotiations about the verification protocol were discontinued without agreement, Article X became one of the main subjects discussed under the BTWC at subsequent intersessional process meetings and review conferences. The NAM states were instrumental in keeping it on the agenda, submitting several proposals for mechanisms to implement Article X. During the Sixth Review Conference in 2006 the NAM states submitted a 'Proposal for a plan of action on implementation'.[50] This proposal addressed not only topics like technology exchange, financial support and capacity building in the field of public health (especially in the field of drug and vaccine production), but also suggested administrative measures for the implementation of Article X. The proposed measures included a review of national regulations concerning the implementation of Article X, as well as a process for obtaining assistance to implement the convention on request. It further tasked the recently established Implementation Support Unit (ISU) with coordinating agreed measures—including a database on cooperation opportunities, which was duly established at the Seventh Review Conference. The NAM proposal included calls for the following details:

1. Annual national reports on the implementation of Article X.
2. An annual report on the implementation of Article X by the ISU.
3. A database of opportunities for cooperation.
4. Development of a coordination mechanism between relevant UN agencies and international and national organizations to promote scientific cooperation and technology transfer.
5. The review of national regulations on transfers to ensure their consistency with the BTWC.
6. Assistance in national implementation.
7. Cooperation and technology transfers to increase customs control.
8. Exchange of information, concerning research programmes in biosciences and greater cooperation in public health and agriculture.
9. Capacity building in the fields of surveillance, detection, diagnosis and containment of infectious diseases and related research
10. Assistance in development and production of vaccines and drugs.
11. Promotion and facilitation of regional workshops on scientific and technological cooperation and exchanges.
12. Promotion of networks between scientific communities and academic institutions regarding the peaceful use of biotechnology.[51]

During the Seventh Review Conference in 2011 the NAM states continued with their efforts to strengthen Article X by further promoting proposals for implementation mechanisms. During the conference concrete proposals were made by Iran, South Africa

[47] Littlewood, J., *The Biological Weapons Convention: A Failed Revolution* (Ashgate Publishing: Aldershot, 2005), pp. 139–60.

[48] Tucker, J. B., 'Strengthening the CWC regime for transfers of dual-use chemicals', Discussion Paper, 52nd Pugwash CBW Workshop, Noordwijk, The Netherlands, 17–18 Mar. 2007, <http://www.pugwash.org/reports/cbw/52nd-workshop-2007/6-Tucker.pdf>; and 629th Plenary Meeting of the Conference on Disarmament (CD), Statement made on behalf of the Australia Group by the Representative of Australia, Ambassador Paul O'Sullivan, CD/1164, 7 Aug. 1992.

[49] Ad Hoc Group, Rolling Text of a Protocol to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, BWC/AD HOC GROUP/55-1, <http://www.brad.ac.uk/acad/sbtwc/ahg55/ahg55.htm>, Article VII, p. 153.

[50] Sixth BTWC Review Conference, States Parties of the Non-Aligned Movement and other States, 'Proposal for a plan of action on implementation of Article X', 8 Dec. 2006, <http://www.opbw.org/rev_cons/6rc/docs/WP/BWC_CONF.VI_WP.39_EN.pdf>.

[51] Sixth BTWC Review Conference (note 50).

and Cuba. All three suggested the establishment of a mechanism that would enable states parties to submit and match offers of and requests for assistance. The Iranian statement contained the most extensive proposals, especially in regard to export controls and mechanisms for handling disputes over transfer denials. It suggested in detail to:

> (a) Identify and address the needs of the States Parties in terms of equipment, materials and scientific and technological information . . . .
> (b) Identify and remove all undue restrictions and/or limitations hampering the full, effective and non-discriminatory implementation of the Article X of the Convention, including by addressing the denial cases of States Parties through the ISU.
> (c) Mobilize the necessary resources, including financial resources, to facilitate the fullest possible exchange of equipment, materials and scientific and technological information . . . in particular from developed to developing States Parties.
> (d) Coordinate cooperation with other relevant international and regional organizations for the financial and technological support of activities . . . .
> (e) Establish a database to submit . . . offers of assistance and request for assistance in different areas under the scope of Article X through the establishment of a database to be administered by the ISU.
> (f) Develop procedures for the settlement of disputes arising from concern raised on the implementation of the Article X.[52]

The NAM states subsequently submitted a proposal entitled 'The establishment of a mechanism to promote the full effective and non-discriminatory implementation of Article X of the Convention' that included the Iranian suggestions, but emphasized establishing a request and offer database for assistance.[53] This idea was further developed in a paper submitted by South Africa proposing an ISU-established database for requests for and offers of assistance under Article X: 'The ISU should be tasked to collect data on existing co-operation programmes that run under the auspices of Article X. In this regard States Parties may inform the ISU of any such programmes'.[54] The proposal also included the establishment of an 'open-ended working group on Co-operation and Assistance'.[55] This working group would meet for one day during the annual meetings and its agenda should include (*a*) a report from the ISU on numbers of requests and offers received, matches made, matches not made and the outcome of matches during the year; (*b*) briefings by States Parties on programmes that resulted from matches; and (*c*) presentations by experts and visiting scientists on other relevant programmes and activities.[56]

The fact that all proposals for a new intersessional process after the Seventh Review Conference include Article X (in combination with Article VII) demonstrates the extent of what remains to be done. In addition, a long list of national implementation measures can be found on the ISU page under the heading 'Implementation', whereas under the heading 'Article X' there is just one line: 'Reports from States Parties will be placed here as and when they are submitted.'[57]

V. CONCLUSIONS AND RECOMMENDATIONS

The technological capacities of states, including those needed to fight diseases, are highly unequal, causing harm in developing countries where they are lacking. It is crucial that disarmament treaties like the BTWC do not impose additional barriers to technology exchange or leave countries depending on the good will of others when facing public health crises. However, it is debatable whether the BTWC can or should provide a forum for intensive discussions about public health or economic development. The BTWC is, first and foremost, an arms control treaty intended to guarantee the security of its members.

[52] Seventh BTWC Review Conference, Statement by the Islamic Republic of Iran, 'The full, effective and non-discriminatory implementation of Article X', 20 Dec. 2011.

[53] Seventh BTWC Review Conference, Statement by Cuba on behalf of the Group of Non-Aligned Movement and other States, 'The establishment of a mechanism to promote the full effective and non-discriminatory implementation of Article X of the Convention', 29 Nov. 2011.

[54] Seventh BTWC Review Conference, Statement by South Africa, 'Mechanism for advancing the implementation of Article X', 21 Oct. 2011.

[55] Seventh BTWC Review Conference (note 54).

[56] Seventh BTWC Review Conference (note 54).

[57] United Nations Office at Geneva (UNOG), 'National reports on the implementation of Article X', <http://www.unog.ch/80256EE600585943/%28httpPages%29/51E123B7722F591CC12576810059AB10>.

Whether or not the promise of assistance was a key incentive for countries lacking technology to join the BTWC, there is little to be gained by restating incompatible positions regarding the approach to implementing Article X.[58] As it stands today, the debate on how to interpret Article X is both conceptually and practically underdeveloped.

On the conceptual level, a number of facts need to be acknowledged to enable a fruitful debate. First, the BTWC is primarily a disarmament treaty, but there is little incentive for many states to play an active role in its implementation as long as they do not consider themselves to be facing the threat of biological warfare. Second, while unequal access to technology is a serious issue that cannot be ignored, there are already large sums being allocated for both development assistance and the strengthening of the field of public health. This includes a lot of scientific and technological cooperation.

On the practical level, what should be addressed under the term 'technical cooperation' in the BTWC context, and how this should or could be done, needs to be clarified first. In doing so, states should keep in mind that the BTWC is a weak disarmament treaty and that resources to promote activities that are outside its core focus are extremely limited. Promoting development aid as an incentive for states to join the convention is an unrealistic goal but continuing to strengthen cooperation and information exchange with existing bodies such as the WHO, the FAO or the OIE is a feasible one. These organizations have more resources available and have already established tools for providing this kind of assistance. They also offer such assistance without imposing any obligation in terms of treaty membership.[59]

States parties have, however, tasked the ISU with supporting capacity-building activities in functional areas relevant to the purposes of the BTWC, by (*a*) facilitating communication and partnerships and (*b*) acting as a clearing house for information on needs for and sources of assistance and cooperation. More work is needed to clarify what kinds of activities would fall under the scope of this initiative and what kinds of assistance are needed and available.

Summarizing the debate, public health and transfer controls were the two main topics discussed under Article X during recent years. In order to find feasible solutions, public health appears to be the easier issue to agree on. As mentioned above there is already a lot of cooperation and assistance on public health issues that could be collected and summarized to also serve Article X purposes. Even though the ISU, as it is currently configured, cannot manage any technical cooperation projects, it could compile reports on such measures undertaken by states and organizations.

However, reaching agreement on the role of transfer controls will be a harder task. The need for states to put in place effective national export controls has become more widely accepted since 2004, when UN Security Council Resolution 1540 made them mandatory. At the Sixth Review Conference, in 2006, it was recognized that all BTWC states parties should put in place effective national export controls in order to reduce the risk that direct or indirect transfers might undermine the convention. Nevertheless, subsequent NAM statements and proposals have shown that suspicions remain about the implications of coordinating export controls in groups with limited participation—namely the Australia Group. Such export control regimes are perceived by most of the NAM states as highly unjust. Also from a more technical and market-oriented perspective, new strategies and innovative approaches to export controls are needed. New supplier states that are not members of any export control regime are increasingly active and new types of product are being brought to the market, thus rendering obsolete existing export controls.

New transparency-building and non-discriminatory methods of trade monitoring and accreditation—as proposed by the IASB, Zanders, and Jeremias and Hunger—may help to resolve the tensions that export controls cause. In this context, security cannot be gained from exclusion: techniques and material are necessary to provide public health care, and biotechnology continues to diffuse to new states and end-users. Security can only be gained from inclusive, transparent measures that address all relevant users as well as technology and material flows.

It appears that there is movement in this direction. At the Seventh Review Conference, in 2011, India acknowledged the importance of Article III and

[58] Gould, C., 'Making Article X work: practical considerations for implementation of Article X beyond 2011', Civil Society Preparations for the 7th BWC Review Conference 2011, 3 Feb. 2011, <http://www.bwpp.org/revcon.html>; and Sixth BTWC Review Conference, Statement by Finland on behalf of the European Union, 'Article X of the Biological and Toxin Weapons Convention (BTWC)', 20 Oct. 2006.

[59] Sims (note 2).

framed transfer controls as an instrument to facilitate transfers:

> The conference reiterates that States Parties should not use the provision of this Article to impose restrictions and/or limitations on transfer for purposes consistent with the objectives and the provisions of the Convention of scientific knowledge, technology and equipment. The Conference notes that strengthened implementation of Article III would help to facilitate the exchange of equipment, materials, and scientific and technological information in accordance with Article X.[60]

This might be a positive sign that states are now ready for a serious debate and prepared to seek common ground on how to interpret their obligations under Article X of the BTWC. The EU member states should take advantage of the more favourable climate by developing a balanced common position and moving away from hard line views. Concerning transfer controls, this would mean looking for and promoting new, inclusive ideas. Regarding public health, a first step could be to increase the transparency of past and ongoing support. Promoting a dialogue about what has already been done in other frameworks—possibly with the participation of the involved organizations—and what is still needed could provide new perspectives for a fruitful discussion. Such approaches could take place within or outside the intersessional process, as it might be easier to first seek common ground within smaller groups. First and foremost, however, states need to get seriously involved in the debate—and realize that all sides bear the responsibility of making it work.

[60] Seventh BTWC Review Conference, Chair of the Committee of the Whole, 'Proposals made to the Committee of the Whole', 9 Dec. 2011.

ABBREVIATIONS

AHG	Ad Hoc Group
BTWC	Biological and Toxin Weapons Convention
CWC	Chemical Weapons Convention
FAO	Food and Agriculture Organization
IASB	International Association of Synthetic Biology
ISU	Implementation Support Unit
MTCR	Missile Technology Control Regime
NAM	Non-Aligned Movement
NBC	Nuclear, biological and chemical
NPT	Non-Proliferation Treaty
NSG	Nuclear Suppliers Group
ODA	Official development assistance
OECD	Organisation for Economic Co-operation and Development
OIE	World Organisation for Animal Health
VEREX	Ad Hoc Group of Governmental Experts
WHO	World Health Organization

EU Non-Proliferation Consortium

The European network of independent non-proliferation think tanks

A EUROPEAN NETWORK

In July 2010 the Council of the European Union decided to create a network bringing together foreign policy institutions and research centres from across the EU to encourage political and security-related dialogue and the long-term discussion of measures to combat the proliferation of weapons of mass destruction (WMD) and their delivery systems.

STRUCTURE

The EU Non-Proliferation Consortium is managed jointly by four institutes entrusted with the project, in close cooperation with the representative of the High Representative of the Union for Foreign Affairs and Security Policy. The four institutes are the Fondation pour la recherche stratégique (FRS) in Paris, the Peace Research Institute in Frankfurt (PRIF), the International Institute for Strategic Studies (IISS) in London, and Stockholm International Peace Research Institute (SIPRI). The Consortium began its work in January 2011 and forms the core of a wider network of European non-proliferation think tanks and research centres which will be closely associated with the activities of the Consortium.

MISSION

The main aim of the network of independent non-proliferation think tanks is to encourage discussion of measures to combat the proliferation of weapons of mass destruction and their delivery systems within civil society, particularly among experts, researchers and academics. The scope of activities shall also cover issues related to conventional weapons. The fruits of the network discussions can be submitted in the form of reports and recommendations to the responsible officials within the European Union.

It is expected that this network will support EU action to counter proliferation. To that end, the network can also establish cooperation with specialized institutions and research centres in third countries, in particular in those with which the EU is conducting specific non-proliferation dialogues.

http://www.nonproliferation.eu

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