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BEYOND DISARMAMENT : « *CATCHING-UP WITH THE ARMS TRADE?* »

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(*) The views expressed in this paper reflect those of the author and not of UNIDIR.

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ACRONYMS

ACVs	Armoured Combat Vehicles
BWC	Biological Weapons Convention
CBMs	Confidence-Building Measures
CD	Conference on Disarmament
CFE	Conventional Armed Forces in Europe
COCOM	Coordinating Committee for Multilateral Export Control
CSBMs	Confidence — and Security-Building Measures
CSCE	Conference on Security and Co-operation in Europe
CWA	Chemical Weapons Agreement
CWC	Chemical Weapons Convention
IAEA	International Atomic Energy Agency
IISS	International Institute for Strategic Studies
INF	Intermediate-Range and Shorter-Range Missiles
ILO	International Labour Organization
IMF	International Monetary Fund
GRIP	European Institute for Research and Information on Peace and Security
FWTO	Former Warsaw Treaty Organization

MTCR	Missile Technology Control Regime
NATO	North Atlantic Treaty Organization
SAM	Surface-to-Air Missile
SSD	Safety, Security, and Disarmament
SSM	Surface-to-Surface Missiles
START I/II	Strategic Arms Reduction Treaty I/II
TLI	Treaty-Limited-Items
UAV	Unmanned Air Vehicles
UNSCOM	United Nations Special Commission

General Introduction

Disarmament issues have for long been an integral component of international security debates. Too often, disarmament is seen as an end in itself and is frequently equated to, *ipso facto*, better security. However, disarmament is a means to an end and much effort is needed to assess the real implications it causes for international security, either in a regional or a more global context. The objective of this paper is to shed some light on this debate as far as all forms of disarmament are concerned. It ventures to provide an understanding of that which lays beyond disarmament and the ramifications it may have for the arms trade. Indeed, disarmament and the arms trade — either in their national or international components — are two phenomena which recurrently succeed each other in a cycle that is usually misperceived.

A common fear in the collective wisdom of international security analysts is that disarmament, which has increased its pace with the last bilateral and multilateral agreements between the United States and the former Soviet Union and in the European theatre, might provide the necessary stimuli for arms suppliers to look more intensively at other regions for exports. The absence of an adequate and comprehensive international regime to provide transparency, let alone control, in arms transfers increases such apprehensions. This problem arises with respect to known and legal trade, but also as regards secret, undetected and/or illicit transactions.

The paper discusses, first and foremost, the different aspects of disarmament. It makes an assessment of arms and other military forces reductions — which may or may not include physical destruction of military assets. Signing an agreement is only one step in the disarmament process and a number of other events are expected to arise thereafter. The safe and secure dismantlement of nuclear and/or conventional forces is one. The export of military equipment and expertise is another. Subsequently, an

analysis of the different means of monitoring the arms trade, covering both informal and formal initiatives, is also undertaken. Two key issues which are part and parcel of new priorities of the international security agenda still under formation should not escape scrutiny in the present debate, namely : (1) transparency in the arms trade and (2) arms transfer control regimes, both in terms of the arms trade proper and the transfer of other military relevant (dual-use) material, services and technologies.

In conclusion, it seems to have become common wisdom lately to think that most of yesterday's ways and means of dealing with international security issues do not properly respond to today's priority challenges. The end of the cold war, the momentum of disarmament, the 1991 Gulf war, and the dissolution of the Soviet Union have provided fertile grounds for the strengthening of arms export policies and laws. The problem, however, is how to address this new security agenda in a more consistent and comprehensive manner than the old agenda ? How to move ahead in ways which, in some cases, call for a strong determination to *move mountains* in changing security perspectives ? The ultimate objective of this paper is therefore to identify some specific and practical ways not only to cope the arms trade in its traditional and more broad sense, but also to forge a new look at the relationship between the disarmament and arms trade phenomena.

I. Disarmament Agreements : An Overview

Understanding the relationship between disarmament and the arms trade calls for an in-depth discussion on both the type of disarmament which has been reached to date and also disarmament proposals which are most likely to be at the negotiating table tomorrow. Knowing what stockpiles have effectively been, or are about to be, decreased may hint to the different types of problems that both the arms trade industry and international security will likely face in the near future.

A. *The Body of Disarmament Agreements*

Disarmament does not exists in a vacuum, nor does it cope with all aspects of international security. Disarmament is only one component of a whole along side arms limitation and arms control agreements (1). Not too

(1) For the purpose of this paper, the term disarmament will be most often used in its large sense which may or may not include *arms limitation, disarmement, arms control* measures of a reduction or preventive nature. For a discussion on the concept of *arms control, arms limitation, disarmament*, different types of treaties, and references, see « The Evolution of Arms Control », Péricles Gasparini Alves, *World Encyclopedia of Peace*, Vol. 1, Linus Pauling (ed.), Oxford : Pergamon Press, 1989, pp. 63-66.

far in the past, for example, the 1925 Geneva Protocol, which is still in force, can be considered as an arms control measure in as much as it prohibits only the use of chemical weapons (see Table I). After World War II, conventional wisdom led many States to call for what was then referred to as *General and Complete Disarmament* (GCD). Soon, GCD appeared more and more infeasible, especially with the development of the Cold War in the late 1940s and throughout the 1950s, although it still remains an item in the international security agenda today. The 1959 Antarctic Treaty was the first in a series of post-war multilateral agreements on the limitation of armaments.

Today the body of disarmament agreements is neither comprehensive nor uniform, even though it addresses a variety of areas comprising weapons, equipment, and military personnel. As Table I illustrates, security-related agreements involving arms limitation, control and disarmament can be seen from four different angles. First are those agreements which are in force today, which on the aggregate cover certain weapons of mass destruction, but also conventional ones. What the table does not show, however, is that certain multilateral agreements are not legally binding on all States; in addition, some are politically binding only and not treaty proper. Nor does it show that some very important prohibitions have been signed or ratified by only a few States. The issue of adherence has its importance both in terms of political/military implications and as regards the credibility of international law itself. Accordingly, some prohibitions in weapons-specific agreements do not comprise all possible forms of military or dual-use technologies. All of these issues further complicate the relationship between disarmament and the arms trade.

Second is the category of some major agreements not in force but pending ratification. Here one can find four quite important and comprehensive bilateral and multilateral disarmament treaties covering weapons of mass destruction. Ratification and the proper implementation of these treaties is important not only to ensure effective disarmament, but also as a sign of good faith in disarmament as a means to ensure security. Of course, ratification also has implications for new instruments. The third category of agreements is those which are presently under negotiation, two of which cover nuclear related issues. In the case of the comprehensive nuclear test ban, the evolution of this new negotiation may well depend much on the respect by nuclear powers for a declared moratorium on nuclear testing, but also on any new nuclear explosion by non-declared nuclear States. As regards regional issues, the document on a nuclear-weapon-free zone in Africa, being drafted by a Group of Experts designated by the United Nations and the Organization of African Unity, is in a more advanced stage

and is expected to be submitted in a final form at the 49th session of the General Assembly (2).

Fourth and last are the discussions on proposed negotiations. In the nuclear field, the global stockpiles of plutonium and highly enriched uranium are issues of much concern. The debate in diplomatic quarters aims at an international agreement that would ban production of such weapon grade material. To these efforts are added debates on possible new nuclear-weapon-free zones in South Asia and the Middle East. In other fields, however, the call for a moratorium on anti-personnel land mine exports seems to be aimed at some kind of a multilateral and legally binding agreement. In this connection, it is quite likely that the Geneva-based March 1994 Review Conference of the Inhumane Weapons Convention includes either a prohibition or restriction of the use of anti-personnel land mines. Beyond that, a myriad of other issues fuel the debate on disarmament (3). Although they are important issues in their own right, few have a real chance of being raised as dominant matters of concern in the near future.

B. *Decreasing Stockpiles of Weapons and Equipment Systems*

The disarmament agreements briefly considered above have covered weapons of mass destruction, conventional weapons, equipment, and personnel. In the case of weapons of mass destruction, it includes both nuclear and chemical munitions of the United States and the Soviet-Russian stockpiles in their respective territories and in the European region. While agreements in the nuclear field have been selective in terms of weapons delivery vehicles (e.g., from intermediate — to intercontinental-range ballistic missiles and their payloads), chemical disarmament has been limited to specified amounts of agents in the order of thousands of tons. Europe has also been the theatre of conventional disarmament, the Conventional Armed Forces in Europe (CFE) Treaty being in the centre of attention. This is due to the nature of the Treaty and the amount of weapons that is subject to reductions, and also because of the Treaty's importance in the context of other measures aimed at assuring a smooth transition from the cold war environment to a co-operative one. Notably as an important motor along side measures designed to build confidence and security in the region.

(2) « Establishment of a Nuclear-Weapon-Free in Africa », *Official Records of the General Assembly*, A/RES/48/86, 7 January 1994.

(3) See a compilation of these issues in « Letter dated 3 January 1994 from the Secretary-General of the United nations Addressed to the President of the Conference on Disarmament Transmitting the Resolutions on Disarmament Adopted by the General Assembly at Its Forty-Eight Session », *Conference on Disarmament*, CD/1236, 17 January 1994.

TABLE I

Status of Selected Security-Related Agreements

Agreement	*Entry Into Force*	*Contracting Parties*	*Nature of Agreement*	*Nature of Obligation*
Geneva Protocol	as of 1927	●	CW	13
Antarctic Treaty	1961	●	MA	10, 12
Partial Test-Ban Treaty	1963	●	NW	4
Treaty of Tlatelolco	as of 1967	●, ◆	NW	10, 11, 12, 13, 14, 15
Outer Space Treaty	1967	●	WMD	10, 12
Non-Proliferation Treaty	1970	●	NW	11, 14, 15
Sea-bed Treaty	1972	●	WMD	12
ABM Treaty	1972	○	MD	5, 6, 7, 15, 16
Biological Weapons Convention	1975	●	BW	11, 12, 15, 16
SALT I	1972	○	NW	5, 6, 8, 10
Threshold Test Ban Treaty	1990	○	NW	4
Underground Nuclear Explosion for Peaceful Purposes	1990	○	NW	4
Environmental Modification Convention	1978	●	MA/E	13
Moon Agreement	1984	●	WMD	10, 12, 13
SALT II	▼	○	NW	5, 6, 8, 10
Inhumane Weapons Convention	1983	●	CtW	7, 13
Treaty of Rarotonga	1986	●, ◆	NW	10, 11, 12, 14
Stockholm Document	1987	●, ◆	MA/E	1, 7
Vienna Document	1991	●, ◆	MA/E	1, 7
INF Treaty	1988	○	NW	2, 10, 11, 12, 14, 16
CFE Treaty	1992	●, ◆	MA/E	1, 2, 6, 8, 16
UN Convention Arms Register†	1992	●, ◆	CtW	1, 3
CFE-1A Agreement	1992	●, ◆	MP	1, 6
Vienna Document	1992	●, ◆	MA/E	1, 6
Open Skies	1993	●, ◆	MA/E	1
Agreement not in force				
Chemical Weapons Agreement	■	○	CW	8, 11, 16
Chemical Weapons Convention	▲	●	CW	11, 13, 14, 15, 16
START I	■	○	NW	5, 6, 8, 10, 14, 16
START II	□	○	NW	5, 6, 8, 10, 14, 16

Agreement under negociation	*Entry Into Force*	*Contracting Parties*	*Nature of Agreement*	*Nature of Obligation*
Comprehensive Nuclear Test Ban	..	●	NW	10, 11, 13, 14, 15††
NW Free-Zone in Africa	..	●, ◆	NW	10, 11, 12, 14, 15††
Selected proposed negociation				
Weapon's Grade Fissile Material	..	●	NW	11, 14, 15††
NW Free-Zone in South Asia	..	●, ◆	NW	10, 11, 12, 14, 15††
NW Free-Zone in the Middle East	..	●, ◆	NW	10, 11, 12, 14, 15††
Anti-Personnel Land Mines Export	..	●	CtW	9††

1=Openness and Transparency	9=Limitation of transfer	BW=Biological Weapons
2=Establishment of database	10=Prohibition of testing	CtW=Conventional Weapons
3=Register of export/import	11=Prohibition of production	CW=Chemical Weapons
4=Limitation of testing	12=Prohibition of deployment	MA/E=Military Activity/Equipment
5=Limitation of production	13=Prohibition of use	MD=Missile Defence
6=Limitation of deployment	14=Prohibition of possession	MP=Military and Related Personnel
7=Limitation of use	15=Prohibition of transfer	NW=Nuclear Weapons
8=Limitation of possession	16=Destruction	WMD=Weapons of Mass Destruction

†=The UN Register is not an agreement *per se* but sufficiently relevant to merit inclusion in this table ; ††=Estimate of minimum obligations discussed ; ●=Multilateral ; ○=Bilateral US/Soviet Agreement, including US/Soviet-successor States (Republic of Belarus, Republic of Kazakhistan, Russian Federation, Ukraine) ; ▼=Agreement not ratified ; ▲=Entry into force pending ratification of the 65th State : only four States have ratified this Convention at time of writing ; ◆=Agreement of a regional scope ; ■=Entry into force pending ratification by all parties ; □=Entry into force subject to (a) entry into force of START I and (b) ratification ; ..=Not applicable/defined.

Source : Adapted from information given in Péricles Gasparini Alves, « The Evolution of Arms Control », *World Encyclopedia of Peace*, Vol. 1, Linus Pauling (ed.), Oxford : Pergamon Press, pp. 63-66 ; Serge Sur (ed.), *Verification of Current Disarmament and Arms Limitation Agreements : Ways, Means and Practices*, 1991 ; *Economic Aspects of Disarmament : Disarmament as an Investment Process*, UNIDIR, New York : United Nations Publications, 1993, pp. 42-43 ; and others.

As for disarmament of weapons of mass destruction involving other countries, efforts have called for the destruction of any possible Iraqi stockpiles (nuclear, biological and chemical). This call has also included the disarmament of Iraqi's stockpile of delivery vehicles (ballistic missiles). As it will be shown below, however, most of these disarmament measures are still under way, and all of them raise concern, in one way or another, for the arms trade.

1. *Weapons of Mass Destruction.*

a) *Nuclear Arsenals.*

Disarmament of nuclear arsenals are to date covered by the 1987 Intermediate-Range and Short-Range Missiles (INF) and the Strategic Arms Reduction Treaty (START I-1991, II-1993) agreements. As shown in Table II, the INF Treaty is the only of these agreements which has completed disarmament measures. In a period of about three years, an impressive number of missiles and launchers were destroyed and a complex and extensive monitoring mechanism aimed to ensure non-production of these classes of missiles were put in place both in the United States and the Soviet Union.

TABLE II
Nuclear Arsenals Disarmament Agenda

Delivery Vehicle/Warhead	*Disarmament Treaties*†			
	INF	*START I*	*START II*	
			Within the START I period (7 years)	*By 2003*
- Delivery vehicles deployed	1,794 to 2,181	1,600 to 2,500	◆	..
- IRBMs missiles	2,619	..	..	..
- IRBMs launchers and 2nd stages	2,925	..	..	..
- IRBMs warheads	..	..	..	..
- MIRVed ICBMs	..	◆	..	0
- ICBMs warheads	...	4,900	1,200	
- SLBMs warheads		2,160	1,750	
- MIRVed ICBM warheads	..	◆	1,200	0
- Warheads in heavy bombers	..	1,540	650	0
- Total warheads disarmed to date	▲	..	0	0
- Total warheads	..	6,000	4,250	3,500

†=Framed area indicates disarmament procedures already completed. Variations in the number of delivery vehicles are due to different count procedures (e.g., inclusion or not of deployed, non-deployed missiles, launchers and 2nd stages); **IRBMs**=Intermediate- and shorter-range ballistic missiles; ▲=All; ◆=Not determined; ..=Data not available or not applicable.

Source : Complied from information given in G.K. Khromov, « Delivery Vehicle Elimination », *UNIDIR NEWSLETTER*, No. 22 and 23, June/September 1993, p. 13; and others.

Disarmament of intercontinental ballistic missiles is dealt with in the START I and START II Treaties. The entrance into force of START I and the Lisbon Protocol will bind the United States and the four former Soviet republics (Belaurs, Kazakhistan, Russia, and Ukraine) to the largest reduction in nuclear weapons ever agreed. Once START I and II are ratified, their disarmament procedures are expected to last a considerable amount of time (see Table II). START I calls for the elimination of weapons and their delivery systems by seven years after the Treaty enters into force, and START II only by 2003. The elimination period will certainly depend on an early entry into force of these agreements : neither START I nor II are in force at time of writing. The nature, characteristics, and number of strategic weapons makes the implementation of START I/II more complex than in the case of the INF Treaty. In addition to the elimination/recycling of nuclear warheads themselves, nuclear disarmament also calls for the elimination of missile launchers of the ground-based fixed, rail — and road-mobile type, as well as submarine launcher tubes. To this may also be added the elimination of certain components of submarines related to ballistic missiles and the reduction of heavy bombers.

The actual destruction of such weapons is not a new phenomenon since the United States and the Soviet Union were used to dismantling phased-out missiles and other weapons. The major and new problems today are the amount of weapons and material subject to destruction, transformation, or stockpiling. A whole new range of financial, environmental, recycling or conversion, and social implications follow in the implementation of these disarmament measures.

The financial issues of disarmament involve both burden and benefits (4). The cost of dismantling weapons arsenals, especially weapons of mass destruction, which may involve not only the elimination of weaponry but in many cases the very construction of dismantling and destruction facilities, are considerably high. A summary of compliance and on-site inspection costs for disarmament and arms limitation agreements made in 1990 envisaged a one-time total cost for the CFE Treaty ranging from US$ 105 to 780 million, while cost for the bilateral CW Agreement was expected to range from US$ 45 to 220 million (in 1990 dollars) (5). Estimates for START I alone was expected to range from US$ 410 million to about 1.8 billion. Under such circumstances, the financial implications of disarmament are particularly problematic for former Soviet republics. For example, Kazakhistan has estimated that it needs approximately

(4) See, for example, Economic Aspects of Disarmament : *Disarmament as an Investment Process*, UNIDIR, New York : United Nations Publications, 1993.

(5) « U.S. Costs of Verification and Compliance Under Pending Arms Treaties », Congress of the United States, *Congressional Budget Office*, Washington, D.C., September 1990, p. 41 ; For other estimates and discussion, see Patricia M. LEWIS and Peter D. ZIMMERMAN, « Costs of Verification », *Verification Report : 1991*, J.B. Poole (ed.), London : Vertic, 1991, pp. 207-211.

US$ 2 billion for the dismantling of nuclear weapons, coping with the consequences of 466 nuclear tests at the now closed Semipalatinsk Testing Ground and the Aral sea problem (6). In other cases, Ukraine is expected to receive some US$ 175 million in funds to help in the dismantling of former Soviet missiles (7).

Disarmament also calls for technologies which must respond to environmental concerns. In the INF Treaty, clauses conceived within the scope of procedures governing the elimination of intermediate-range ballistic missiles by means of authorized launches were limited to a number not greater than 100 missiles per party (8). In START, particular attention has to be given to the elimination or long-term storage of ICBM/SLBM solid and liquid fuels under environmentally accepted norms : e.g., liquid fuel accounts for more than 100,000 tons for the former Soviet stockpile alone (9). To this is added problems of eliminating missile canisters and motors themselves, for which specially designed methods have to be produced so as to ensure environmental safety.

Conversion of prohibited treaty items is also a subject of concern both to ensure non-military use and adaptation from military to civil applications. The technical characteristics of strategic weapons has inspired much consideration on conversion of both delivery vehicles and weapons payload material. For example, provisions in the START II Treaty allow for the use of a limited number of missiles as space launchers. Yet another example is that of some recycling which would bring some cash to weapons possessors. For instance, the sale of enriched uranium extracted from 1,500 warheads in the nuclear arsenal in the Ukraine is expected to yield an estimated amount of US$ 1 billion, an amount which is to be shared between the Ukraine and Russia.

Last but not least is the issue of tactical nuclear weapons. It has been reported at different occasions that American weapons have been repatriated from Europe to ships at sea and the Unites States, while former Soviet weapons have been taken into the Russian Federation (10). Although little transpires on the exact amount of weapons and fissile

(6) *Official Records of the General Assembly*, 16th Plenary Meeting, A/48/16, 5 October 1993, p. 17.

(7) « Nuclear Pact Hailed as Breakthrough », *Daily Bulletin*, United States Mission, Geneva, January 13, 1994, pp. 5-6.

(8) See « Protocol on the Procedures Governing the Elimination of the Missile Systems Subject to the Treaty Between the United States of America and the Union of the Socialist Republics on the Elimination of Their Intermediate-Range and Shorter-Range Missiles », *Arms Control and Disarmament Agreements : Texts and Histories of the Negotiations*, ACDA, Washington, D.C., pp. 420-30.

(9) See a discussion by Maj.-Gne. D. KHARCHENKO, « Implementation of START in the Russian Federation », UNIDIR NEWSLETTER, No. 22 and 23, June/September 1993, pp. 9-11.

(10) For instance, on the Soviet side, see an interesting monograph entitled *Nuclear Profiles of the Soviet Successor States*, by William C. POTTER, Monograph n° 1, Program for Nonproliferation Studies, Monterey : Monterey Institute for International Studies, May 1993.

material involved, the United States announced in September 1991 a unilateral arms reductions measure, for which it would withdraw and destroy all land-based nuclear artillery shells and remove all tactical nuclear weapons from surface ships and attack submarines, as well as land-based naval aircraft, and nuclear warheads for short-range ballistic missiles. In the following month, the still President Gorbachev responded by also announcing, among other things, the destruction of all USSR nuclear artillery shells, nuclear mines and tactical missile nuclear warheads, nuclear surface-to-air missiles, an tactical nuclear weapons on surface ships and multi-purpose submarines.

Three major remarks need mention here. The first is that although progress has been made on nuclear disarmament, disarmament of strategie weapons — which is in fact limited to US/former Soviet stockpiles — is yet to be achieved in practical terms (11). Additionally, present agreements do not ban development or possession of such weapons, nor do they reduce stockpiles to zero levels ; let alone the fact that agreements legally bind only a hand-full of States. This situation is to some extent similar in the case of other weapons of mass destruction. Second, there has been no international agreement on small tactical/battlefield nuclear weapons such as air-launched bombs, artillery shells, and mines. This implies that there are no set of specific norms and obligations with respect to destruction timeframes and other issues ; and unilateral disarmament must therefore be followed closely. Here too, other possessors of nuclear weapons have no legal obligations towards disarmament. The third remark is that present nuclear disarmament is a process which will require considerable time for completion and the many problems it raises may have serious implications for the arms trade. Of particular importance here is the trade not of weapons *per se*, but of nuclear material and other goods related to nuclear weapons production.

b) *Biological and Chemical Weapons.*

Other weapons of mass destruction subject to specific disarmament agreements are biological and chemical weapons. In the case of biological weapons, disarmament is inscribed in the Biological Weapons Convention (BWC), but shortcomings in this instrument, notably in the form of a lack of verification of destruction, has led to a situation where the possession of these weapons and size of eventual stockpiles will probably never actually be known. Reports of BW R&D have appeared sporadically since the Convention entered into force in 1975. Only recently, however, as of 1991, have

(11) However, it should be noted that, at time of writing, consultation has already started between the contracting parties in view of implementation of START I. Accordingly, the Ukraine has agreed on an early removal of 100 nuclear warheads of weapons in its territory to Russia.

BW-dedicated international inspections taken place, although within the framework of the United Nations Special Commission (UNSCOM) charged of the implementation of Security Council resolutions in Iraq. While no BW stockpiles have been found thus far (12), which explains the absence of destruction operations, many sites were found to have a dual-purpose capability and were therefore recommended for compliance-monitoring activities.

As for chemical weapons, disarmament treaties have taken a different direction. They consist of the bilateral US/Soviet Chemical Weapons Agreement (CWA) and the multilateral Chemical Weapons Convention (CWC). The CWA, which consists of both reduction and arms limitation at equal « low levels » obligations (13), is faced with both technical and financial problems related to stockpile destructions. As in the case of nuclear weapons, chemical weapons have been developed for different battlefield roles as well as in different weapons forms (e.g., air-launched munitions, tactical missiles, tube and rocket artillery, spray tanks, and hand-grenades). In addition, CW have also been developed by means of a variety of chemical agents (e.g., mustard gas, sarin, tabun), which makes the work of disarmament more complex.

The destruction of huge amounts of chemicals (about 80,000 agent tons — see Table III) calls for measures to ensure the safety and protection of the environment, involving the conception of specific technologies and facilities for chemical material and weapons destruction (14). Destruction could not legally start until after 31 December 1992, but is expected to last until the first years of the next decade, with established low levels of destruction in the order of at least 1,000 agent tons a year ; and a limiting number of CW storage facilities to a maximum of eight units by the end of 2002. Had it not been for the CWC, these two States would still legally possess chemical weapons, probably well into the next century. If and when

(12) Fifth Report of the Executive Chairman of the Special Commission », *United Nations Security Council*, S/25977, 21 June 1993, p. 14.

(13) « Letter dated 12 June 1990 from the Acting Representative of the United States of America Addressed to the president of the Conference on Disarmament Transmitting the Text of the Agreement Between the United States of America and the Union of Soviet Socialist Republics on Destruction and Non-Production of Chemical Weapons and on Measures to Facilitate the Multilateral Convention on Banning Chemical Weapons, the Agreed Statement in Connection with That Agreement and the United States-USSR Joint Statement on Non-Proliferation », *Conference on Disarmament*, CD/1001, 12 June 1990.

(14) Co-operative measures in this regard have led to an important agreement on the safe, secure, and ecological destruction of CW between the United States and the Russian Federation. See « Letter Dated 3 August 1992 From the Representative of the United States of America Addressed to the President of the Conference on Disarmament Transmitting the Agreement Between the Department of Defense of the United States of America and the President's Committee on Conventional Problems of Chemical and Biological Weapons of the Russian Federation Concerning the Safe, Secure and Ecological Sound Destruction of Chemical Weapons », *Conference on Disarmament*, CD/1161, 5 August 1992.

the CWC comes into force, stockpiles of other nations will have to be destroyed as well.

TABLE III
Chemical Weapons Arms Limitation and Disarmament Agenda

States and Reduction/ Disarmament Instruments	*CW Stockpiles and Reduction/ Disarmament Conditions*
CW Stockpiles	
- United States	No more than 30,000 agent tons†
- Soviet Union	No more than 50,000 agent tons (15)
- Iraq	No more than 14,000 agent tons
CW Reductions : CWA	
- Each State shall :	
- - by 31 December 1999	have destroyed 50 % of its aggregate quantity of CW
- - by 31 december 2002	not exceed 5,000 agent metric tons in its aggregate quantity of CW
CW Ban : CWC	
- The US/USSR-Russia shall :	not exceed 500 agent metric tons in the aggregate quantity CW for each State by the end of 8 years of entry into force
- Other contracting parties :	
UN Security Council : UNSCOM	
- As of April 1991	unconditional destruction, removal, or rendering harmless all CW and stocks of agents, related subsystems and components and all research, development support and manufacturing facilities

†=Estimate

At time of writing, the only other known State for which CW stockpile is to be destroyed is Iraq. As shown in Table IV, a total of 28,332 different munitions, 14 CW precursors, and four types of CW agents have been destroyed in Iraq by 1993. According to planning figures, daily destruction involved rates of about 3,500 litres of mustard and 350 litres of tabun (16).

(15) « Letter dated 12 January 1988 From the Representative of the Union of Soviet Socialist Republics Addressed to the President of the Conference on Disarmament Transmitting the Text of the Statement of 26 December 1987 by the Ministry of Foreign Affairs of the Union of Soviet Socialist Republics », *Conference on Disarmament*, CD, 790, 13 January 1988, p. 2.

(16) Sixth Report of the Executive Chairman of the Special Commission », *United Nations Security Council*, S/26910, 21 December 1993, p. 20.

TABLE IV

Status of the Destruction of Chemical Weapons in Iraq (as of December 1993)

Munition	*Number*	*Precursor*	*Number*
- 122 mm rockets and warheads	283	- 1†† D4	123,722
		- 1 DF	14,600
- 122 mm rocket warheads	6,410	- 1 dichlorethane	1,120
- 122 mm rocket motors	863	- 1 isopropyl alcohol	211,023
- 122 mm rocket propellant grains	16,695	- 1 thio-diethyleneglycol	153,980
		- 1 cyclohexanol/isopropyl alcohol	1,200
- 122 mm rocket motor tubes	2,388		
- 155 mm mustard-filled artillery shells	12,638	- 1 phosphorus oxychloride	297,400
		- 1 thionyl chloride	148,800
- 155 mm empty projectiles	34	- 1 phosphorous trichloride	415,000
- 155 mm oil-filled projectiles	2	- 1 di-isopropylamine	30,000
- Al Hussein warheads of GB/GF	29	- 1 morpholine	3,000
		- 1 chlorobenzaldehyde	53,000
- R400 bombs	337	- 1 ethylchlorohydrine	1,900
- R400 tail fin assemblies	333	- 1 monoethyleneglycol	16,000
- 250-gauge tail fin assemblies	471		
- 250-gauge bomb, oil-filled	4		
- 250-gauge bomb, empty	5,172		
- 250-gauge bomb, polymust† (partial)	1,097		
- 500-gauge bomb, oil-filled	4		
- 500-gauge bomb, polymust (partial)	675		
- DB 0 bomb	61		
- DB 2 bomb	1,115		
Total	28,332		1,470,745

CW Agent	*Number*
- 1 GA nerve agent	17,815
- 1 GB nerve agent	330
- 1 GB/GF nerve agent	60,498
- 1 Mustard	247,966
Total	326,609

†= I.e., polymerized mustard agent; ††= Litres

Source : Sixth Report of the Executive Chairman of the Special Commission, » *United Nations Security Council*, S/26910, 21 December 1993, pp. 21-22

Destruction work is expected to continue through March/April 1994, probably not as a task of the CWC, but again that of the UNSCOM which scrutinizes the Iraqi CW programme since 1991 in implementing UN Security Council Resolution 687. Destruction related to the CWC has of course not been officially initiated, since the agreement cannot enter into

force until it is ratified by 64 countries, and only four States have ratified this document so far.

2. *Conventional Weapons.*

In the conventional field, disarmament has also been undertaken by the UNSCOM to destroy Iraqi missiles proscribed by the same UN resolution addressing the destruction of biological and chemical weapons. At present, monitoring cameras in different missile test facilities have been installed and destruction of items used or intended for use in prohibited missile activities is carried out.

However, it is in the European theatre that conventional disarmament is most comprehensive. The 1990 CFE Treaty is a mixture of disarmament, arms reduction and limitation measures limiting the number of weapons (tanks, armoured fighting vehicles, artillery, combat aircraft, and combat helicopters) and locations where they can be deployed in the region by both NATO [North Atlantic Treaty Organization] and FWTO [Former Warsaw Treaty Organization]. Short of actual physical destruction, Treaty-Limited-Items (TLI) can be used as ground targets or for instructional purposes, modified, reclassified or recategorized, placed on static display and/or converted for non-military purposes depending on the nature of the weapon or equipment (17). Added to this approach to disarmament is what has been known as the weapons' « cascading » system, whereby countries possessing TLI can dispose of such material by removing it outside the treaty zone to another country. In turn, recipient countries would dispose of their own weapons thus providing a cascade effect.

Deeply imbedded in the disarmament approach of the CFE Treaty is the issue of conversion. This is not surprising since, as shown in Table V, FWTO countries alone are expected to eliminate a little over 25,000 tanks, armoured combat vehicles, artillery equipment, and aircraft between December 1992 and August 1995 (18). As it is also depicted by the Table, several countries are actually authorized to increase the total number of equipment they hold : e.g., 1,761 aircraft for NATO, or 817 helicopters for both NATO and the FWTO. Tank main parts, armoured personnel carriers and other equipment find many civil-use applications in different fields,

(17) See « Conventional Armed Forces in Europe », SIPRI Yearbook 1991 : World Armaments and Disarmament, Oxford : OUP, 1991, pp. 461-74. For a summary discussion by Patricia M. Lewis, « The Conventional Forces in Europe Treaty », in *Verification at Vienna : Monitoring reductions of Conventional Armed Forces*, Jürgen Altmann, Henny van der Graaf, Patricia M. Levis, and Peter Markl (eds.), Philadelphia : Gordon and Breach Science Publication, 1992, p. 58.

(18) These figures do not represent total reductions/authorized increases from the entry into force of the Treaty on July 1992. Such calculation can be made by subtracting established ceiling numbers from the highest holdings reported either at the time of signature (November 1990) or its entry into force (July 1992). See article VII for more details.

TABLE V

CFE Reductions to Meet Treaty Ceilings Between December 1992 and August 1995

Country Group	*Tanks*	*ACVs*	*Artillery*	*Aircraft*	*Helicopters*
- Belgium	28	168	58	(30)	(36)
- Canada	(17)	(205)	(6)	(66)	(13)
- Denmark	146	(23)	0	0	0
- France	29	334	100	(112)	24
- Germany	2567	5180	1664	46	(56)
- Greece	541	(1104)	271	(192)	(17)
- Italy	(72)	407	86	(108)	35
- Netherlands	70	365	230	(55)	21
- Norway	35	(101)	17	(12)	0
- Portugal	(154)	(150)	(96)	(69)	(26)
- Spain	102	(531)	(91)	(135)	(43)
- Turkey	439	(1258)	(313)	(395)	(32)
- UK	63	(173)	(134)	(183)	(44)
- USA	505	(572)	(719)	(450)	(177)
- *Total NATO*	*4,282*	*2,337*	*1,067*	*(1,761)*	*(364)*
- Bulgaria	734	232	335	101	(23)
- Czech.	746	1095	845	1	(13)
- Hungary	496	31	197	(37)	(69)
- Poland	1077	266	699	48	(100)
- Romania	1585	1043	2453	75	(105)
- Slovakia	373	548	423	1	(7)
- Armenia	(143)	(31)	(125)	(97)	(37)
- Azerbaijan	58	118	9	(50)	(44)
- Belarus	1657	1347	(5)	129	(1)
- Georgia	(145)	(171)	(261)	(96)	(47)
- Moldova	(210)	(92)	(142)	(21)	(50)
- Russia	1593	4989	588	937	99
- Ukraine	1972	1577	(438)	560	(56)
- *Total FWTO*	*9,793*	*10,952*	*4,578*	*1,551*	*(453)*
- *Total NATO/FWTO*	*14,075*	*13,289*	*5,645*	*(210)*	*(817)*

ACVs = Armoured Combat Vehicles ; **FWTO** = Former Warsaw Treaty Organization ; **NATO** = North Atlantic Treaty Organization ; **()** = Indicates authorized increase and not reduction.

Source : Adapted from information given in Jane M.O. Sharp, « Conventional Arms Control in Europe », *SIPRI Yearbook 1993 : World Armaments and Disarmament*, Oxford : OUP, 1993, pp. 608-09. Please see footnote on page 610 for references on original sources.

although not without certain shortcomings (19). Reportedly, the T-54, T55, T62, T-64, T-72 and Leopard I tanks, and the BMP-1 and BTR-60

(19) For a brief but dense discussion, see Joe GIBBON, « The Conversion of Military Equipment for Civilian Use », in *Verification at Vienna : Monitoring Reductions of Conventional Armed Forces*, Henny van der Graaf, Patricia M. Levis, and Peter Markl (eds.), Philadelphia : Gordon and Breach Science Publication, 1992, pp. 68-70.

armoured vehicles can be converted to, among others, bulldozers, fire-fighting vehicles, cranes and the sort (20). Neither special nor multi-purpose combat helicopters can be converted, although they can be used for static display or ground instruction, and in some cases, recategorization for multi-purpose helicopters. This is also the fate of aircraft, which cannot be recategorized, modified, used as ground targets, or converted for non-military use. (Although some aircraft — Su-15, Su-17, MiG-15, MiG-21, MiG-23, Il-28 and MiG-25 — are said to be allowed to be disarmed and reclassified as training aircraft (21)).

II. After Disarmament ?

What lays beyond disarmament is often a challenging quagmire of events : clearly, disarmament is not the end of security concerns but only the bridge between one set of issues and another. As discussed above, several societal problems emerge during the disarmament process itself and often do not completely unfold for years after. Yet, a major question which one should ask is how effective have disarmament agreements been to reduce the levels of weapons and equipment systems ? Two crucial issues should be addressed in this context.

One is the arms trade proper — be it legal or illicit. The other is a multitude of means to recycle or transfer weapons, their means of production and technologies. In both cases, their assessment is not easily quantifiable. On the one hand, they depend on purchasing demands in the national and international markets, which are to some extent a product of threat assessments. On the other hand, they also depend on three major factors : (a) the existence, and extent, of legal verification provisions and technical means made available in disarmament treaties, (b) respect for national laws, and (c) multi-nation trade control arrangements and international norms in the form of arms transfer embargoes. The interplay between responding to defence and economic needs from arms sales and respecting these norms is at the centre of attention of the following discussions.

A. *Implications for the Arms Trade*

Implications of disarmament for the arms trade are multifarious, but two major aspects of this issue deserve special attention here. First, one cannot but reflect on potential disarmament implications for the arms trade that conventional agreements such as the CFE may have : estimates from the figures in Table V indicate that about 33,000 pieces of military equipment would be subject to elimination ; in particular since the Treaty allows for

(20) Lewis, « The Conventional Forces in Europe Treaty », *op. cit.*, p. 59.
(21) *Loc. cit.*

the removal of certain weapons and equipment systems outside the Treaty application zone in Central Europe. In this context, it has been recalled that, while T62 and T64 tanks are partly removed behind the Urals, Turkey and other States such as Spain receive stocks of later versions of M48 and M60 tanks from NATO arsenals (22). Other countries in the same situation are Greece and Turkey, which, for example, are said to have been passed a variety of German Leopard I and USM60 tanks (23). Such deals are also reported to regions outside Europe, such as the authorization of a sale of 700 M60 tanks to Egypt (24).

This type of transfer appears to have no legal obstacles, although some analysts argue that after ratification of the CFE, TLI are not permitted to be exported as a means of reduction (25). In this context, it has been noted that « ...a significant percentage of the arms delivered in 1992 was to NATO countries, owing to the redistribution of weapons, or 'cascading', resulting from the CFE Treaty » (26). *Surplus material* is sold by the West, but also by the former Soviet States for significantly cheap prices. In some cases, surplus material is accompanied with arrangements for material, concept and technologies upgrades. Economic constraints on the part of prospective buyers seems to be one of the reasons to welcome such deals. This is to some extent what occurs with some East-German Soviet/Russian-built military equipment since the 1989 reunification. The Germans have been selling equipment which was originally deployed in the European theatre and accounted for as TLI. For example, Finland and Sweden have reportedly bought towed and self-propelled artillery pieces, large calibre rocket launchers, T-72 tanks, and armoured combat vehicles from Germany (27).

Incidently, such purchases are also believed to reduce the demand to purchase new equipment directly from the Russian Federation. It should be noted that the elimination of TLI by transfer or export means is also expected to take place in the case of former East Bloc countries. Reports make specific reference to Bulgaria, the former Czechoslovakia, Hungary and Poland (28). However, the CFE Treaty will certainly have other more

(22) See Otfried ISCHEBECK and Hartwig SPITZER, « Evolution of Tanks and Anti-Tank Weapons : Assessment of Offence-Defence Dynamics and Arms Control Options », in *Military Technological Innovation and Stability in a Changing World*, Win A. Smit, John Grin, and Lev Voronkov (Eds.), Amsterdam : Vu University Press, 1992, p. 189 ; Neil MUNRO, « Swedish Tank Buy Reflects New Market », *Defence News*, January 24-30, 1994, pp. 3, 36.

(23) MUNRO, *op. cit.*

(24) *Loc. cit.*

(25) Refer to Anthony, SIPRI Yearbook 1992, *op. cit.*, p. 288.

(26) Refer to Edward J. LAURANCE, Siemon T. WEZEMAN, and Herbert WULF, *Arms Watch : SIPRI Report on the First Year of the UN Register of Conventional Arms*, Oxford : OUP, 1993, p. 2, 29. For a list of CFE-related arms transfers within NATO, see ANTONY, *SIPRI Yearbook 1992, op. cit.*, pp. 288-91.

(27) See GIOVANNI DE BRIGANTI, « Finland, Sweden Find E. German Arms Bargains », *Defense News*, January 24-30, 1994, p. 10. Also see the SIPRI Yearbooks for compilations of other such sales (legal or illegal) to these and other countries.

(28) ANTHONY, SIPRI Yearbook 1992, *op. cit.*, p. 290-91.

direct impacts on the export of arms from the Russian Federation, especially to the former Eastern bloc countries. In this context, it should be noted that a new phenomenon in former East European arms trade is taking place. There is a desire on the part of some countries in the region to move away from Russian supplied equipment. Difficult economic times dictate payments in hard currency, a form of payment which is not appealing to these former Soviet customers which are used to paying military goods in a combination of several means (hard and non-convertible currency, barter arrangements, etc ...). In addition, some of these countries have hinted to the interest of standardizing their military equipment with that of the NATO Alliance in view of future partnership. The former Soviet conventional arms industry may therefore have to look evermore at non European markets, where prospective buyers are not so concerned with geopolitical-historical links with the Soviet Union, nor with financial means of payment.

The second implication of disarmament for the arms trade which should be mentioned here is the fact that higher technology-base weapons are becoming more readily available in the world market, in particular as regards sophisticated and advanced weapons such as Surface-to-Air Missile (SAM), Surface-to-Surface Missiles (SSM), sophisticated radar equipment, and anti-ship missiles. Some of these weapons have been sold in the international market in the past, not least by the Soviet Union. However, they were accompanied by a certain degree of dependency for training and employment. Today, evermore autonomous and mobile (portable) systems, such as the Russian *Antey* S-300V tactical ballistic missile, are on sale, which may somewhat change the profile of prospective buyers. Moreover, trading in former Soviet arms is not only a Russian issue. Some of the former Soviet republics have inherited a significant weapons manufacturing capability (including personnel and R&D) and are in a position to trade a variety of weapons in the international market. Ukraine, for example, is known to possibly supply missiles to any country (29). Moreover, reports of illegal arms traffic are a subject of concern not only with respect to State purchases, but also related to illicit sales to criminal gangs, terrorists, and revolutionary organizations (30).

The objective purpose of the CFE agreement, or any other recent disarmament instrument for that matter, was conceived in a time when East/West relations were in the process of exiting the cold-war era. (Its implementation, fortunately, is taking place in a more co-operative environment where most past concerns are nothing but historical tails.) Its

(29) Taras KUZIO, « Ukraine's Arms Exports », *Jane's Intelligence Review*, February 1994, pp. 65-66.

(30) « Illegal Weapons Flowing Out of Former Soviet Bloc », *Daily Bulletin*, United States Mission, Geneva, December 17, 1992, pp. 10-11.

rationale are based on disarmament in view of responding to precise security concerns. It is only fair to acknowledge that none of these Treaties were conceived with the view of, directly or indirectly, coping with the arms trade issue. Notwithstanding, the question of what will be the real impact of disarmament on the arms trade remains unanswered. At present, it is difficult to assess with precision how much European disarmament will really stimulate arms exporters to look for, or intensify, sales outside of the region. In addition, to what extent, and under which circumstances, would prospective buyers become real recipients is unknown. Only time can provide an answer to these questions. There are a number of variables which could influence such events, and little can be said if a basic flow of information over a number of years is not available to the international community.

B. *Transferring Arms Manufacturing Capabilities*

Other disarmament implications for the arms trade derive from events which are perhaps more difficult to discern than the arms trade proper, namely : the transfer of arms manufacturing capabilities such as technology, knowhow, plant blueprints, computer programmes, and human resources (engineers, etc ...). Of particular importance is the issue of trade in nuclear material which may stem from START I and II disarmaments. Nuclear disarmament so far has been conceived with certain assurances on the non-use of delivery vehicles due to physical destruction or limited authorized use as space launchers. However, less is known of the end-use and final storage of nuclear material in weapon payloads in the long run. Precaution in this matter is never excessive, not only due to the nature of the material, but also because of the huge quantities involved. This issue may not be a problem with American stockpiles, but certainly raises concerns with respect to former Soviet weapons. Reports that radioactive substances can be illegally bought from former Soviet military officers dismantling missiles have appeared in the media (31). In addition, reports on possible disappearances of nuclear material after the break-up of the Soviet Union are worrisome, although the nature of such events do not constitute an issue of direct concern to be addressed by this paper.

Also of particular importance is the human resources issue. The sheer size of the military industrial complex inherited by the former Soviet republics compels one not to ignore the impact that uncontrolled resources could have on the changing international security scene. Reports have indicated that 20 per cent of their Gross National Product derives from defence

(31) One such report has mentioned that 56 kg of plutonium was exported to North Korea in late 1992. See « Reports That Illegal Radioactive Material is leaving the CIS To Go Abroad, to for Example, North Korea », *CIS Today* (in Russian), The Newspaper *Kommersant*, cited in *Nuclear Profiles of the Soviet Successor States*, POTTER, *op. cit.*

industries (32). In the Russian Federation alone, it is estimated that more than 50 percent of the country's industrial output is said to involve the defence sector, where 35 million people are believe to depend on the military industrial sector (33). The main problem related to nuclear disarmament, and to some extent conventional disarmament, is the so called *brain drain* issue, where scientist and others employed in the nuclear field may leave the former Soviet Union to work on military-nuclear programmes elsewhere.

However, this is not only a Russian problem. In the CW field, there has been reports of Thai labourers providing construction services for Libyan CW related projects (34). Other reports indicated alleged transport of CW components (precursors : thiodiglycol and thionyl cloride) by the Chinese Yin He vessel to Iran (35), even though inspection of the Chinese vessel in a Saudi port has not shown any evidence of the transport of chemical weapons components (36).

III. Inhibiting the Arms Trade

There are only a few tools available for the international community to cope with the arms trade in the horizon of disarmament agreements. This is not only because disarmament agreements have not gone far enough in their scope, but also due to some events and circumstances which escape political control. As a result, two major approaches are explored by the international community : one is to provide evermore important levels of transparency in armaments and the other is to tighten selective or universal control regimes. Transparency is gaining more importance as time goes on and its evolution has also gained momentum lately. The international community is at present developing a new collective wisdom on this matter. Much progress, however, needs to be achieved on the interrelationship between transparency of the arms trade and that of arms possession, military budgets and procurement. Control regimes too are under considerable change, evolving both in terms of control items and supporters.

(32) « NAS Report Urges Support for Russian Defense Conversion », *Daily Bulletin*, United States Mission, Geneva, April 5, 1993, pp. 6-7.

(33) *Ibid.*

(34) « U.S. Welcomes Thai Action on Libyan CW Facilities », *Daily Bulletin*, United States Mission, Geneva, October 27, 1993, p. 2.

(35) « U.S. Awaiting Inspection of Chinese Vessel », *Daily Bulletin*, Geneva, United States Mission, August 24, 1993, p. 5 ; « U.S. to Advice Saudis Inspecting Chinese Ship », *Daily Bulletin*, Geneva, United States Mission, August 27, 1993, p. 3 ; « U.S. Had Credible Reports About Chemicals on Chinese Ship », *Daily Bulletin*, Geneva, United States Mission, September 8, 1993, p. 2.

(36) « Inspection of Chinese Ship in Saudi Port », *Daily Bulletin*, Geneva, United States Mission, September 3, 1993, p. 4 ; « U.S. Had Credible Reports About Chemicals on Chinese Ship », *op. cit.*, p. 2.

Both of these tools stand a good change of inhibiting the arms trade, but there exists a number of fundamental problems in their conception and implementation. Astonishingly enough, they are addressed not only as separate issues in themselves, but also as different efforts within each set of approaches. One may question what is necessary so that States decide to undertake a more comprehensive approach in dealing with these issues. There is maybe a lack of realization in their interrelation and also in their complementarity. Or maybe it is purely due to a lack of issue maturity. A combination of both is not to be excluded and the following discussion will address these points.

A. *Transparency in Armaments*

The scarcity of data in the military field surprises few. Most arms trade contracts have clauses preventing the disclosure of such sales. Yet, this is not an obligation which is requested only by recipient States. It is also often imposed by suppliers themselves who are not overly enthusiastic, for political/military or other reasons, to disclose arms transactions. Often, when such data is available, it refers to complete systems and little detail is known on specific integral or adjacent components, support services, facilities, etc. (37). One of the major concerns in arms trade is also the transfer of technology, which is often absent in arms trade reports, especially the transfer of dual-use technologies (both in terms of technologies *per se* and knowhow).

Two categories of data collecting methods can be distinguished in this discussion. One is the selective and/or informal stock-taking of different arms deals. It is basically undertaken on a sporadic manner whereby private or other institutions collect the data, some of which are available as open literature. The other method is a more formal one. It consists of institutional data collecting procedures agreed upon legal norms. None of these methods seems, in themselves, sufficient to provide viable levels of transparency.

1. *Informal Stock-Taking.*

Data on the arms trade is collected by a number of institutions. In Europe, for instance, the Stockholm International Peace Research Institute (SIPRI), the European Institute for Research and Information on Peace and Security (GRIP), and the International Institute for Strategic Studies (IISS) have worked extensively in this field. As an example, SIPRI regularly maintains a database on arms transfers — reportedly based on

(37) See a discussion in Economic Aspects of Disarmament : Disarmament as an Investment Process, *op. cit.*, p. 51.

public sources (38) — since the late 1960s and mostly concentrates on the collection of data on the flow of conventional arms. In other regions, institutions such as the Nuclear Supplier's Database of the Monterey Institute for International Studies concentrate on the trade of fissile material and equipment (39). Yet other sources, as the United States Arms Control and disarmament Agency (ACDA) which is a full-fledged government organization, collects data on the transfer of conventional, nuclear, biological, chemical weapons and equipment (40). It is often recognized that these data gathering systems are quite different not only in substance, but also conceptually and in terms of analytical tools.

However, these informal means of collecting data have their own merit. They are not limited by *a priori* concerns of a structural nature related to formal data-gathering agreements. They may be flexible enough to focus on various regions, various weapons systems, or yet various aspects of the arms trade (financial, technological, strategic, etc ...), for given periods of time. Moreover, flexibility can also be seen in the scope of the details in informal data collection, which are not limited to agreed political and other compromises.

Yet, informal databases at times suffer from a source-credibility problem. In this context, the development of formal arms transfer registers may provide the means to improve data collection credibility. The usefulness of these two approaches has been clearly recognized, and are generally seen as reinforcing each other (41). Among other reasons, formal and informal databases or registers can be used in crosschecking data for « informal verification » purposes, which could prove to be a useful exercise in specific circumstances.

2. *Institutional Data Gathering.*

One formal and multi-party method of collecting armaments data has been under development by the Five Permanent members of the UN Security Council. They have met on several occasions to discuss ways and means to control conventional arms transfers and also delivery vehicles capable of carrying weapons of mass destruction such as ballistic missiles (42). In 1991, they agreed on a set of guidelines for conventional arms

(38) See the different SIPRI Yearbooks ; Laurance, *op. cit.*

(39) *Nuclear Supplier's Database*, Program for Nonproliferation Studies, at the Monterey Institute for International Studies, California, USA.

(40) See *ibid.* for a short discussion and references.

(41) *Ibid.*, p. 14.

(42) See for example, « 'Perm Five' Experts Faced with Difficult Arms Trade Issues », *Basic Reports on European Arms Control*, No. 20, 19 February 1992, pp. 1-5 ; « Washington Arms Trade Meeting Shows Scant Results », *Basic Reports on European Arms Control*, No. 22, 3 June 1992, pp. 1-3.

transfer in their October meeting in London (43). Beyond these guidelines, the idea emerged of reaching an agreement whereby most of the transparency component would be based on the circulation of confidential information on key combat equipment between these five countries. The *notification* aspect of the agreement is perhaps one of the most important element of such a document — that is to say : quick notification, if possible no less than 30 days before delivery of the material to be exported. Such a proposal contrasts with other data collecting efforts which are based on a post-sales principle, and on a voluntary basis. The *Perm.-Five*, as it is often referred to, has advanced the following major objectives in the transparency of arms trade :

— Advanced notification of weapons deliveries on a geographic basis of areas of concern, e.g., the Middle East ;
— The restraining of missile and missile technology transfers ;
— Reduction in exports of conventional weapons.

While quite ambitions, *Perm.-Five* discussions are faced with considerable obstacles. They have agreed upon an « Interim Guidelines Related to Weapons of Mass Destruction » on 29 May 1992 which included, *inter alia*, engagements on three major issues : (a) to link the export of any nuclear materials, equipment or facilities with notification to the IAEA, as well as to the Agencies' safeguards, (b) to exercise restraint in the transfer of sensitive nuclear material and not to export equipment, material, services or technology which could be used in the manufacture of nuclear weapons-useable material without specific civil-use guaranties, (c) not to assist in any way whatsoever in the possession of nuclear weapons by non-nuclear weapon States, as well as the possession of chemical and biological weapons by any State — including, by exporting equipment, material, services or technology. In addition, they are also to call for assurance on the part of recipient States on the control and retransfer of such exports. Notably, no agreement has so far been reached on the notification of conventional weapons transfer, be it *a priori* or *posteriori*.

Another example of formal attempts made to uncover data on armaments is in disarmament agreements. Treaties such as the START, INF, and CWC disclose the stockpiles of contracting parties. However, these are in the most case static and for which weapons are usually scheduled for destruction anyhow. Another dimension of this issue is the example of the CFE, CFE-1A and the 1992 Vienna Document databases, which are to register the possession and other information on different

(43) « Guidelines for Conventional Arms Transfer Agreed by the Five Permanent Members of the Security Council in London », 17-18 October 1991, *Conference on Disarmament*, CD/113.

categories of weapons (44). Beyond these restricted methods are efforts to improve the IAEA's ability to disclose clandestine acquisition of nuclear equipment by creating an international register of nuclear-related imports and exports. To this could be added the 1991 United Nations Register on the arms trade.

a) *The CSCE Information Exchange System.*

The 1992 Vienna Document on the Conference on Security and Co-operation in Europe (CSCE) contains both arms limitation and transparency measures. In terms of transparency, it specifies a zone of application for CSBMs whereby participating States have undertaken to exchange annual data (no later than 15 December of each year) relating to deployment and activities of various types of weapons, equipment systems, and military-related personnel. The flow of information takes place in an agreed format and contains far-reaching details. Among others, exchange of information of major weapons and equipment systems include the type, calibre, number, and normal peacetime location of tanks, helicopters and a number of other military items (see Table VI).

Measures of transparency of this type have military tactical and strategie relevance and also a significant political value, especially since verification provisions guarantee inspections for evaluation of the information provided under certain circumstances. In addition, contracting parties also have to supply information on plans for the deployment of major weapons and equipment systems, as well as information on military budgets (itemizing expenditures) for the forthcoming fiscal year. Here, efforts to improve transparency in arms transfers and other acquisitions find their true *raison d'être*. Knowing in advance plans of deployment or purchase (including information on replacement/addition to existing weapon/equipment systems) may be quite useful in preventive diplomacy and crisis avoidance initiatives. This is all the more so since contracting parties may ask for clarification of budgetary information provided in the transparency regime.

It seems too early to draw an exact picture of the successes and failures of improving transparency in military-related issues in the European region. As a matter of fact, certain practical measures still need some further fine-tuning. However, much could be learned from the principle of this regional transparency regime. The need for CSBMs is not only confined to European affairs. This brings us to a discussion on universal efforts aimed at the transparency of the arms trade.

(44) For example, see a discussion by Hans J. Drucks in « CFE, Databases and Common Information Systems for Verification », *Verification at Vienna : Monitoring Reductions of Conventional Armed Forces*, Altmann, *op. cit.*, pp. 105-12.

TABLE VI
CSCE Transparency Regime

Military-Related Item	*Selected Major Requirements*
Military forces	command organization, headquarter's location, total number of units
Weapon and equipment systems	
Armoured combat vehicles (1)	(a) type, calibre, (b) certain features on capabilities ; photos
Armoured combat vehicles look-alike (2)	(a) type, calibre, (b) certain features on capabilities ; photos
Armoured vehicle launched bridges	(a) type, (b) certain features on capabilities ; photos
Anti-tank guided missile launchers (3)	type ; photos
Artillery pieces, mortar and multiple rocket launchers (4)	type, calibre ; photos
Battle tanks	(a) type, main gun calibre, (b) certain features on capabilities ; photos
Combat aircraft	(a) type, (b) type of integrally mounted armaments ; photos
Helicopters	(a) type, (b) primary role, type of integrally mounted armaments ; photos
Military budgets	no later than two months after approval
Major weapon and equipment systems deployment plans	Type, total number, information on replacement/addition to existing weapon/equipment systems

(a) Existing ; (b) New ; (1) armoured personnel carrier, armoured infantry fighting vehicle, and heavy armament combat vehicle ; (2) armoured personnel carrier look-alikes and armoured infantry fighting vehicle look-alikes ; (3) permanently/integrally mounted on armoured vehicles ; (4) self-propelled and towed equipment (100 mm calibre and above).

b) *The UN Register.*

On January 1992, the United Nations created the « Register of Conventional Arms » through a General Assembly resolution aimed at providing data on international arms transfers (45). The Register took into account different views of States and contains data on seven weapons categories : battle tanks, armoured combat vehicles, large calibre artillery systems, combat aircraft, attack helicopters, warships, and missiles or missile systems. A number of problems has been identified with the registration of arms trade, notably with respect to the definition of weapons and weapon

(45) « Transparency in Armaments », *Official Records of the General Assembly*, A/46/36 L, 9 December 1991 ; also see *Study on Ways and Means of Promoting Transparency in International Transfer of Conventional Arms*, Report of the Secretary-General, A/46/301, 9 September 1991 ; for a discussion on the history of this resolution, see, for instance, Lawrence, *op. cit.* ; Michael MOODIE, « Transparency in Armaments : A New item for the New Security Agenda », *Washington Quarterly*, vol. 15, no. 3, Summer 1992, pp. 75-82.

systems, their contents and function (46). However, this Register is an evolving document and member States have until 30 April 1994 to make their views known to the Secretary-General on improvements that might be made to it, both in terms of its contents and substance.

In this connection, discussions taking place at the Geneva-based Conference (CD) on Disarmament, which has established for some two years an *Ad Hoc* Committee on « Transparency in Armaments », elaborates, among other things, on the issue of arms production and trade related to the UN Register. The debate is still open but some changes and addition may be expected in light of the work undertaken at the CD, notably, additions of weapons categories (47). There seems to be a trend towards the idea of universal compliance as a practical means of CBMs (48). Although several issues of discussion are of interest, Table VII illustrates only those which receive special attention.

One particular issue is the Register's scope. Some countries prefer to aim at a quantitative and qualitative enlargement of the categories of items to be reported. Such an improvement could include different types of conventional arms. The crux of the matter is ascertaining whether new categories of weapons should cover sophisticated weapons such as high precision munitions or less advanced ones as in the case of small weapons. In addition, it is also debated if new categories should include stockpiles of weapons of mass destruction, R&D on new weapons type, as well as military support operations such as communication and surveillance equipment. This debate raises at least two concept questions : one is *how much transparency is enough* and the other is *what type of transparency is necessary* to enhance international security ? The issue of coverage (transparency on transfer only or possession as well) is therefore a real challenge. Needless to say that such a change to the Register would escape the narrow scope of a conventional arms trade register.

The present discussions show that the Register is only a component in a larger attempt to make arms transfers, but also national holdings and procurement, more transparent to the world community. The rationale of such proposals are understandable when one considers that, as depicted above, the implementation of disarmament agreements will take several years and there seems to be a need to show more transparency during this period. Additionally, other nuclear stockpiles such as those of China, France, and the United Kingdom are not subject to disarmament agreements and therefore escape comprehensive measures of transparency.

(46) See A/46/301 ; *Economic Aspects of Disarmament : Disarmament as an Investment Process.* BOTH, *op. cit.*

(47) « Report of the Ad Hoc Committee on Transparency in Armaments », *Conference on Disarmament*, CD/1218, 24 August 1993.

(48) *Ibid.*, p. 5.

TABLE VII

United Nations Register of Conventional Arms : Present Regime and Major Discussions on Improvements

Reporting Items	*Present Regime*	*Improvement Discussed*
- Reporting obligation	▼	◇
- Reporting date	○	◆
- Name of reporting country	●	●
- Name of exporting country	●	●
- Name of importing country	●	●
- Name of intermediate country	●	●
- Scope of reporting items	★	▲, ■
- Description of reporting item	●	▲, □
- Service operations	▼	■
- Military support equipment and systems	▼	▲, □
- Military technology transfer	▼	■
- Dual-use technology transfer	▼	■
- Military production	⊗	■
- Military holdings	⊗	■
- Military procurement	⊗	■
- Related policies	⊗	..
- Verification of registered transfer	▼	..

● = Member States are called upon to provide annual data ; ○ = On an annual basis by 30 April each year ; ◇ = Mandatory ; ◆ = Limit reporting to a specified period after the transfer : e.g, one, three or six months ; ▼ = Nonexistent ; ▲ = quantitative and qualitative increase ; ★ = Limited to seven categories : battle tanks, armoured combat vehicles, large calibre artillery systems, combat aircraft, attack helicopters, warships, and missiles or missile systems ; ■ = Additional categories, including joint ventures whenever applicable ; = Two approaches may be considered : (a) related to items in categories I-VII as well as additional categories and (b) in general ; ⊗ = Under invitation on a temporary basis and not part of the Register but of the main body of the GA Resolution ; □ = Detailed data, including subsystems and accompanying/ related equipment ; .. = Data *not available/applicable*.

Another issue of concern is that of the reporting period. At present, reports are expected to be done by 30 April every year. The question remains unanswered as to the efficiency of CBMs which could produce a gap of up to a full year for a given arms trade. This may not be a problem between countries enjoying good relations, but it could be quite a different situation with respect to some destabilizing weapons in regions of tension. Other questions may be raised as to the possibility of reporting prices as well as weapons themselves. While the commercial aspect of an arms deal is important, it does not seem, *de prima face*, essential for the political/ military aspects of CBMs. It is both the type and quantity of weapons which matter.

The additional debate involving the transfer of arms technology and service, as well as that of dual-use technology, is another important compo-

nent of the arms trade equation, granted that there would be serious problems in discerning dual-use technology from single civil-use. How, for example, to distinguish those technologies which are not inherently dual-use, but which can be used for military purposes either if modified or in combination with other technical means ? Naturally, such an inclusion of dual-use items and technologies would also call for a policy which would focus not only on numbers and mission capability, but probably also on levels of technology sophistication — a difficult and complex issue.

Last but not least is the issue of verification of registered transfers. Most caution is called upon in dealing with verification of information in the Register. Switching the voluntary nature of the Register to a mandatory one may affect participation by States and hence the Register's very efficiency. Nonetheless, one cannot but make a parallel with the UN Registration of Objects Launched into Outer Space. Although the Registration Convention is a different agreement in a different area, the experience of this document could enrich the way the Register would evolve. In this connection, many wish to make reporting in that instrument more rigid and enforced.

B. *Strengthening Selective Control Regimes*

National and international control regimes have been put into place by different countries to stream-line certain arms trade. They provide the basic framework governing arms trade policies with national security interests. Control regimes are important from both the supplier and recipient ends of the arms trade spectrum. The level of flexibility of one may to some extent affect the effectiveness of the other.

1. *National Level.*

Published *Ad hoc* compilations of national legislations provide an interesting historical analysis of import/export laws (49). At first glance, one notices that existing national regimes are not standard. There exists major distinctions of different national laws, policies, and guidelines with respect to the arms trade of conventional weapons, but also in relation to issues involving weapons of mass destruction. Different combinations of control are possible for both suppliers and recipients States alike involving, *inter alia*, the control of weapons and equipment, transit, re-export, service, military technology, and/or end-use of civil technology. Some national laws cover only the arms trade proper, failing to include dispositions on either the transfer of dual-use technologies or re-export practices. In addition, in certain cases, national laws do not cover all varieties of weapons in the

(49) See for example, Ian Anthony (ed.), Arms Export Regulations, SIPRI, Oxford : OUP, 1991 ; Herbert Wulf, *Arms Industry Limited*, Oxford : OUP, 1993.

international arms trade market. In contrast, countries such as the United States and certain European States, for example, have had more comprehensive laws or policies for several years (50). Nevertheless, a number of countries and institutions both in developing countries and in Eastern Europe have undertaken to pass decrees or laws related to the arms trade in the last two or three years.

In Scandinavia, for example, additional regulations are relatively new. Finland reportedly made the decision on 7 March 1991 to place the licensing of materials and technologies related to missiles under close monitoring (51). Sweden has exercised control via procedures of export licensing requirements (52). In principle, where *end-use certificates* are not officially required, they are nevertheless requested in practice. In the European continent, it suffices to recall the implications that the participation of German firms in the construction of CW in Libya has had to this country perception of the need for change in national control regimes. Belgium has also introduced a new law on August 1991 related to the import/export/transit of weapons, munitions, and other military material and technology. In other regions, for instance, in Brazil, legislative changes are expected to follow informal discussions on a draft law regulating the import and export of war related material, which was submitted to Congress in February 1992 (53). The proposal is to regulate import/export operations for goods of direct bellicose employment, dual-use, and use in the nuclear area (Article 1, Sections I, II, and III respectively), as well as services directly linked to them (Article 2°) (54). The addition of Article 2°, commonly known as the *Piva Law*, aims at closing a legal gap, whereby Brazilian nationals and private companies cannot be legally restrained by the Government from exporting services related to goods under Article 1.

(50) One example is that of American regulations and procedures, which involve various intergovernmental agencies and departments — the Department of Commerce (DoC), the Department of State (DoS), Customs Service, DoD, Congress, and the Executive Branch of Government. For example, within the ambit of American non-proliferation policies, the Export Administration Regulation (EAR) of the DoC has established a number of rules which govern certain destinations which require a validated export license. These rules involve missile technology « ...when an exporter knows that the items will be used in the design, development, production or use of missiles », and are applicable to Brazil, China, India, Iran, countries in the Middle East, North Korea, Pakistan, and South Africa. « Expansion of Foreign Policy Controls : Missile Technology Destinations », *Rules and Regulations, Federal Register*, vol. 57, n° 118, 16 June 1992, p. 26774.

(51) For a lengthier discussion, see Espen Gullikstad, « Finland », in *Arms Export Regulations*, Anthony (ed.), *op. cit.*, p. 61.

(52) See Espen GULLIKSTAD, « Sweden », *Arms Export Regulations, op. cit.*, pp. 147-55.

(53) See « Dispõe Sobre as Operações Relativas à Importação e Exportação de Bens de Emprego Bélico, de Uso Duplo e de Uso na Area Nuclear e de Serviços Diretamente Vinculados », *Projecto de Lei N° 2.530, de 1992, Câmara dos Deputados*. Also see, *Diário Official*, 10 de Fevereiro de 1992.

(54) Paragraph 1 in Section III of Article 1° describes dual-use goods as being goods of general application which are relevant for any *bellicose* application ; in addition, *materials* and *equipments* are to be considered as goods for use in the nuclear area.

Israel and Russia have incorporated some restrictions in export control arrangements as part of their national legislation. On 11 and 27 January 1993, two decrees were passed in the Russian Federation aimed at the control of missiles and rocketry technologies exports. They mandate that a list be made of these materials and technologies, and call for the establishment of an export control mechanism for these technologies by the Russian Government (55). Russia has also taken concrete steps to strengthen national legislation, including the envisaging of « ...criminal persecution for violations of the rules governing the export of missile and equipment and technology (56). Explicitly, this Russian law reflects the desire of the Russian Government to create the legal means, on the national level, to implement a policy which it proclaims to pursue on the international level.

A comprehensive compilation of such policies and laws will probably emerge in the UN Secretary-General consolidated report to the General Assembly as a result an invitation made in the 1991 UN GA resolution which established the Register of Conventional Arms. Of course, the non-obligatory nature of this resolution indicates that its analytical capabilities will depend much on the ratio of reporting.

2. *International Level.*

Selective control regimes have existed, as in the case of the Coordinating Committee for Multilateral Export Control (COCOM), for decades (since 1949), but a number of other such international arrangements have appeared in the last 20 years : e.g., the London Club — 1975, the Missile Technology Control Regime (MTCR) — 1987, and the Australia Group — 1985. The real effectiveness of informal and non-binding controls is not certain. However, advocates of this type of control place emphasis on their ability to (a) raise the cost of acquiring certain weapons capabilities, in particular weapons of mass destruction, and (b) further complicating the acquisition of such weapons. Several changes are now under way in the composition and structure of these control regimes. This is mostly due to the changing nature of events in the international security agenda. These changes aim at introducing more coherence and consistence in the controlling the transfer of sensitive (dual-use) technologies.

(55) The said list, entitled « List of equipment, materials and technologies used for the creation of rocket-based weapons, the export of which is controlled and realized by means of licensing », refers, in its CATEGORY I, I.1 Equipment, I.1.1., to « finished rocket systems (ballistic rockets, rocket carriers and research rockets), capable of delivering a useful weight of no less than 500 kg to distances of 300 km or more. Refer to « On the Definition of the Law on the Control of the Export form the Russia Federation of Equipment, Materials, Technologies Used in the Development of Rocket-based Weapons. » Decree of the Consul of Minister-Government of the Russian Federation, 27 January, 1993 and *Decree of the President of the Russian Federation*, 11 January 1993, *Russian News, Rossiiskie Vesti*, n. 51 (220). Authors' translation.

(56) Official Records of the General Assembly, 6th Plenary Meeting, A/48/6, 28 September 1993, p. 17.

Regional institutions such as the European Community (now European Union) have for long also exercised some control of the arms trade and dual-use goods since the coming into force of the Treaty of Rome in the broad framework of Article 223. Other legal provisions are inscribed in the « The Council Regulation » no. 428/89 of 1989 which prohibits the export of certain chemicals used for the development or production of CWs (57). As of 1992, proposals for changes in export restrictions were tabled covering, *inter alia*, agreement on a common list of (a) nuclear goods and nuclear-related dual use goods and (b) destinations subject to control, and (c) better co-ordination and communication in the issuing of export licences. More recently, as of 1993, East European countries have engaged in the building of export controls of CW/BW-suitable agents (58). Other perhaps more fundamental changes are summarized below.

COCOM.

COCOM is the first of these informal arrangements that restrict the export of goods and technologies which could improve the military capabilities of certain countries. At present, COCOM is limited both by its 17 country membership (59) and its scope of application which covers countries in Eastern Europe, Asia, and the former Soviet Union. Besides the control of military equipment, COCOM reportedly maintains a list of items which includes potential dual-use equipment and technologies under the heading « The International Industrial List » (60). COCOM is therefore a country — and subject-specific control regime aimed primarily at limiting the flow of military and dual-use technologies from Western Europe, Canada and the United States to certain countries for which COCOM members wish to maintain a technological gap in the conception, design, and development of military materials.Recently, the decision has been taken to terminate this arrangement by March 31, 1994, at the latest. The termination of COCOM will not leave a gap in selective control regimes since it is expected to be replaced by another organization designed to have a specific set of concerns in line with the new international security environment. The organization should be based on the principles of (a) discouraging the proliferation of weapons of mass destruction, (b) retaining some sort of co-ordination and discipline over the trade of conventional weapons, and

(57) Refer to a discussion and references, see Agnès Courades Allebeck, « The European Community : From the EC to the European Union », Arms Industry Limited, *op. cit.*, pp. 191-213.

(58) Budapest has reportedly hosted an meeting on CW/BW proliferation on December 1993 for that purpose. See Thomas STOCK, « Chemical and Biological Weapons : Developments and Proliferation », SIPRI Yearbook : 1993, *op. cit.*, p. 269.

(59) Australia, Belgium, Canada, Denmark, France, Germany, Greece, Italy, Japan, Luxembourg, the Netherlands, Norway, Portugal, Spain, Turkey, the United States, and the United Kingdom.

(60) See a discussion in Ian ANTHONY, « The Co-ordinating Committee on Multilateral Export Controls », *Arms Export Regulations, op. cit.*, p. 209.

(c) paying attention to countries which buy dual-use technologies for civil-use and adapt them for military purposes (61). It is also expected that the present COCOM list of controlled dual-use technologies would be significantly reduced, although the transfer of sensitive technologies would also be controlled. The new organization would also be enlarged including the former COCOM members and about half a dozen other western countries. This new arrangement is also expected to include former COCOM-embargo-aimed countries such as China, Russia and possibly former Eastern block counties.

MTCR.

The MTCR is another informal arrangement which establishes control guidelines aimed at dual-use rocketry technologies for vehicles capable of carrying a payload of 500 kg or more to a distance of 300 km or greater. New guidelines have recently been agreed upon, largely triggered by the 1991 coalition forces war against Iraq. They now aim at the transfer of « ... any missiles, regardless of their payload or range which are judged to be intended to carry any weapon or mass destruction, not just nuclear weapons, ... » (62). This has been argued to be necessary to increase the range of vehicle technologies under control, but also to allow more flexibility for controls and to introduce the notion of controlling « intentions ». This modification should be coupled with further changes related to the list of goods under control in the MTCR Annex (63). Reportedly, the new changes would also cover Unmanned Air — Vehicles (UAV) with a range of 300 km and capable of carrying less than 500 kg weapons payload, as well as their major subsystems.

Additional issues undergoing change with respect to the MTCR are co-ordination in export controls and the scope of membership. In the first case, among the major questions is if transfer applications are considered under the same light, appreciated with the same security concerns, and treated in the same manner by the different potential suppliers. Political and technical issues related to misunderstanding and misinterpretation of MTCR provisions between member countries have been a serious problem in the past. China and Russia, which have made commitments to observe the regime's guidelines, are two cases in point. China has prompted the U.S. to call for negotiations between these two countries to reach the same

(61) « Western Nations Agree to Phase out COCOM », *Daily Bulletin*, United States Mission, Geneva, November 18, 1993, p. 8.

(62) Quoted in « MTCR Targets Biological, Chemical-Capable Missiles », *Daily Bulletin*, United States Mission, Geneva, January 8, 1993, pp. 6-7.

(63) « 23 Countries Move Further to Control Missile Exports », *Daily Bulletin*, United States Mission, Geneva, March 15, 1993, pp. 9-10.

level of understanding on the MTCR issue (64). This type of negotiation has led to a U.S./Russian agreements describing in precise terms what both countries intend to do with respect to the MTCR issue and, in particular, Russian exports of related technologies. In a first agreement, Russia understood to follow closely the MTCR as of November 1, 1993 (65). A second more comprehensive instrument, the U.S.-Russian Missile Export Controls Agreement or the Memorandum of Understanding on MTCR, was signed addressing mutual understanding of the arrangement's guidelines (66). Of course, given political/economic developments in Russia, the issue of enforcement is still delicate.

As for the question of full membership, attention is turned to Israel, China, Russia and North Korea which are major suppliers of these missiles or technologies (67). In December 1993, the now 25 MTCR members have decided to introduce a new element in their missile control arrangement which consists of approaching non-MTCR members in view of dissuading potential missile possessor States against possession, although this new approach has not been clearly defined and is expected to be fine-tuned in the forthcoming October 1994 meeting in Sweden (68).

The Australia Group.

The Australia Group is an additional informal arrangement of a non-biding character, controlling the export of 54 chemical agents (69) which could be used for the production of chemical weapons (70). In addition to chemical agent controls, the Group countries have also agreed in their December 1992 meeting to extend export control of CW precursors to organisms, toxins, as well as equipment which could be employed in the production of

(64) « MTCR-related Sanctions Against China, Pakistan », *Daily Bulletin*, Geneva, United States Mission, August 26, 1993, p. 2.

(65) « U.S. Russia Agree on MTCR Guidelines », *Daily Bulletin*, Geneva, United States Mission, July 19, 1993, pp. 6-7.

(66) « U.S.-Russian Talks on Cooperation in Space, Energy Open », *Daily Bulletin*, Geneva, United States Mission, September 2, 1993, p. 5 ; « U.S.-Russian Sign Agreements on Space and Energy », *Daily Bulletin*, Geneva, United States Mission, September 3, 1993, p. 5 ; « Agreement with Russia on MTCR, Space, Energy Discussed », *Daily Bulletin*, Geneva, United States Mission, September 7, 1993, pp. 3-4.

(67) At time of writing, MTCR member countries are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, The Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom and the United States. Argentina and Hungary have applied to become a member.

(68) « 25 Countries Agree on Direct Missile Proliferation Diplomacy », *Daily Bulletin*, United States Mission, Geneva, December 7, 1993, p. 5.

(69) « Agreement Reached on Biological Weapons Export Controls », *Daily Bulletin*, United States Mission, Geneva, December 17, 1992, p. 12.

(70) Australia, Austria, Belgium, Canada, Denmark, Finland, france, Germany, Greece, Ireland, Italy, Japan, Luxembourg, The Netherlands, New Zealand, Norway, Portugal, Spain Sweden, Switzerland, The United Kingdom and the United States, as well as the European Union. Argentina and Hungary have applied for membership of the Group in 1992, adhering to it in 1993.

biological weapons (71). There is an agreement not to sell such commodities to a country which has been denied such sales by another Group member for non-proliferation reasons.

Like the COCOM and MTCR, the Australia Group is expected to push changes further so as to improve the effectiveness of their expert control regime. Among such changes is the conception and agreement of rules preventing non-member reexports, as well as the bringing in of other new members, such as China, Easter European countries, India and the Russian Federation, to the Group.

London Club.

The London Club, or NSG [Nuclear Suppliers Group] (72), is yet another informal arrangement whereby guidelines have been agreed in the mid-1970s to limit the export of certain nuclear material which could assist in the acquisition of nuclear weapons. Additional constraints have been agreed in 1992 which include guidelines for the transfer of nuclear-related dual-use equipment, material, and related technology (73). An agreement has also been reached to prohibit the export of nuclear material, components and equipment to any non-nuclear weapon country, provided that the recipient country has full-scope safeguards agreement with the IAEA (74). An important goal of the NSG is to persuade that guidelines are integrated in the member's national body of law, but also adopted as national laws of emerging suppliers of material under control (75). This concern re-opens the issue of an increase in the NSG's membership.

Financial Institutions.

The World Bank and the International Monetary Fund (IMF) are two organizations on which much has been said about their possible role in con-

(71) « Agreement Reached on Biological Weapons Export Controls », *Daily Bulletin*, United States Mission, Geneva, December 17, 1992, pp. 11-12 ; « Biological Weapons Export Control Lists Agreed », *Daily Bulletin*, United States Mission, Geneva, June 14, 1993, pp. 10-11.

(72) NSG members are Australia, Austria, Belgium, Bulgaria, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Luxembourg, The Netherlands, Norway, Poland, Portugal, Rumania, Russia Federation, Slovak Republic, Spain, Sweden, Switzerland, The United Kingdom, and the United States. Argentina and the European Union have attended NSG meetings in the capacity of observers.

(73) See a list of these goods published in Dunbar Lockwood and Jon Brook Wolfsthal, « Nuclear Weapon Development and Proliferation, SIPRI Yearbook 1993, *op. cit.*, pp. 242-43.

(74) « 28 Countries Further Restrict Exports of Nuclear Goods », *Daily Bulletin*, United States Mission, Geneva, April 2, 1993, p. 9.

(75) This has been reportedly the case with Argentina, Brazil and South Korea. See a discussion in « The Nuclear Non-Proliferation Regime Beyond the Persian Gulf War and the Dissolution of the Soviet Union », by Harald MÜLLER, SIPRI Yearbook 1992, *op. cit.*, p. 94.

trol regimes (76). One central idea is that these organizations could exercise some pressure on arms transfer by refusing loans in the event military expenditures are considered to be « too high » or directed towards the acquisition of weapons of mass destruction. While these two organizations have clear interest in a shift of arms trade expenses towards other more productive industrial and social investments (77), they appear to have no in-house expertise to adequately define what « low levels » of military expenditures for each individual country could be. Such appreciation would depend on a number of variables taking into consideration, *inter alia*, complex medium and long term security concerns, regional geopolitics, economic, technological and other issues in different aspects of a State's relations.

That being said, it seems that sizeable military expenditures (sometimes referred to as over 3 to 4 per cent of the GNP) by certain countries may be indicative of overspending, not necessarily in relation to military posture needs, but in as much as such trade may be incommensurate to expenses in other non-military areas, as well as incompatible with the pursuit of development strategies. To date, neither the World Band nor the INF have claimed to have adopted official policies in the direction of loan constraints due to arms trade or military expenditures. However, some reference on views to avoid the financing on « easy terms » of an international trade in armaments which would be « ...far beyond the justified needs for defence ... » has been made by the IMF : « [o]ne very practical first step would be to tighten the rules for granting export credits for arms sales ... » (78). In the same vein, the need has been expressed « ...to collect full and accurate information, and analyze the economic implications » of the arms trade as a matter of immediate priority (79).

(76) For instance, see R. S. McNamara, « Post Cold-War World : Implications for Military expenditure in the Developing Counties », *Annual Conference on Development Economics*, Washington, D.C., World Bank, 1991, pp. 95-140. Quoted in *Economic Aspects of Disarmament : Disarmament as an Investment Process, op. cit.* Another form of affecting the financing of the arms trade which is not discussed here is via the control of national insurance companies — both private and public.

(77) See for example consecutive speeches given by representatives of the IMF in « Address by Mr Michel Camdessus, Managing Director of the International Monetary Fund », *Provisional Record*, International Labour Conference, Seventy-eighth Session, Geneva, June 10, 1991, pp. 8/1-8/6 ; « Statement by the Chairman of the Executive Board and Managing Director of the International Monetary Fund », Annual Meeting Closing Remarks, *Summary of Proceedings*, Bangkok, October 17, 1991, p. 215 ; « Address by Mr Michel Camdessus, Managing Director of the International Monetary Fund, to the Indian International Centre », New Delhi, October 24, 1991 ; « Address by Mr Michel Camdessus, Managing Director of the International Monetary Fund, to the Economic Commission for Latin America of the United Nations », Santiago, Chile, November 29, 1991 ; and « Address by Mr Michel Camdessus, Managing Director of the International Monetary Fund, to the UNCTAD VIII, Cartagena, Colombia, February 11, 1992.

(78) « Statement by the Chairman of the Executive Board and Managing Director of the International Monetary Fund », *op. cit.*

(79) *Ibid.*, p. 215.

C. *Rethinking the Relationship between Disarmament and the Arms Trade*

The interrelations between and among the different aspects of disarmament and the arms trade are not fully appreciated. This seems to be true as far as *arms trade* in the narrow sense of term is concerned (weapons and equipment systems transactions), but also in a more broad sense of the term : that of the arms trade which includes transactions involving dual-use equipment, technologies, and services. The time to rethink how to approach these issues in a more comprehensive manner is over due. It is evident today that disarmament cannot come without due attention to security perceptions *de part et d'autre*. So it becomes ever more clear that a myriad of other problems are due to appear during and beyond disarmament *stricto senso*, and much has to be done in terms of better understanding their separate and collective implications. Financial, environmental, recycling or conversion, and social aspects of disarmament measures are not isolated issues. They are closely interwoven in the disarmament fabric, and the manner in which they are treated may deeply affect the arms trade : by exerting further pressure on States to take their own course in the sales of weapons, and any type of weapons to any States — without restraint. Rather sooner than latter, these issues will have to be addressed as different parts of a whole.

If the international community desires to catch-up with the arms trade, innovative and daring actions will have to be taken in view of disarmament agreement follow-ups. This principle has been clearly defined when the IMF and the ILO are cited as being in a position to contribute to solving social and economic questions stemming from disarmament (80). Disarmament measures alone are inefficient. In this context, some action motivated by this concern has been taken by the United States in the form of important steps related to its disarmament treaties with the former Soviet States. This is notable via the passing of the « Soviet Nuclear Threat Reduction Act » in 1991 and the « Former Soviet Union Demilitarization Act » in 1992 which ensured some degree of assistance in follow-on disarmament measures. Such measures were not unrelated to the creation of the now Safety, Security, and Disarmament (SSD) talks (81). The question here is no longer that of principle, but rather of scope and degree. *Ad hoc* measures are necessary and welcomed, but not sufficient in themselves.

The international community is at an important junction in terms of the international security agenda. There is an opportunity to reach further with respect to nuclear and biological weapons disarmament, and the

(80) « Address by Mr Michel Camdessus, Managing Director of the International Monetary Fund », *op. cit.*, p. 8/6.

(81) For a discussion of these talks, see, for instance, CD/1161, *op. cit.* ; Lockwood, « Nuclear Arms Control », *SIPRI Yearbook 1993, op. cit.*, pp. 566-570.

boosting of the arms trade issue to the forefront of discussions is in the making. One must then question what has been done, individually if not collectively, in the case of European conventional disarmament. Policy makers should not only look at the implications of the 1990 CFE on arms trade, for that will become history sooner then expected. The real challenge is coupling disarmament with a host of other measures which may positively affect CFE-II, CFE-III, and CFE- ... The ultimate question is therefore the following : how can the present concept of disarmament adapt itself to the realities of the post-disarmament phase, ensure reductions in armaments, maintain an adequate sense of security — which includes some degree of arms trade — while fostering alternative solutions to large scale and dangerous arms build-up, be they in Europe or elsewhere ? Unfortunately, this question will remain unanswered in this paper, but it is hoped that its mere mentioning has stimulated the reader's desire to answer it.

There is a need for more clear policies with respect to the arms trade. This implies that the issues of transparency and selective control regimes need to be addressed more thoroughly. Granted there has been, from the discussions in the 1988 Third UN Special Session on Disarmament to the 1992 creation of the United Nations Register, what one may consider a quantum jump in dealing with openness in the arms trade. Judging from present discussions, conditions for major changes are not ripe and caution should be observed in an effort to proceed in a step-by-step and secure, manner. The gains of the Register is not yet fully understood and there seems to be a need for consolidation of the Register both in its principle and in practice before tackling more ambitious and far-reaching measures. The expression of these concerns, however, does not mean that the Register should not be improved. On the contrary, some improvement to the Register may just provide this instrument with the necessary boost for more active participation in arms trade reports. The question may then be asked if any lessons can be learned from CSCE transparency-regime which could serve the purpose of a universal instrument such as the UN Register, either on the basis of regional zones or without any area boundaries. In particular, it may also be asked with respect to notifications of advance planning of weapon and equipment systems acquisitions and forthcoming military budgets.

In spite of precautions, an important issue seems to be somewhat neglected in this step-by-step approach : that of the utility the international community would make of a viable arms trade register. In other words, is the Register meant to be essentially a political rather than military relevant instrument, and how ? Time to answer this question is pressing. The line defining what *is* and what *is not* legitimate levels of self-defence is quite thin. The potential for different political and military appreciations of weapons arsenals exist both within and outside of geopolitical circumstan-

ces. There is still a chance to prevent any incident which may affect the development of the Register and cause undesirable results such as a regional arms race. Basic guidelines should be agreed upon, if not on how to use the data in the Register, on how not to use it. Coping with the former is not too difficult in the long-run. The crux of the matter is addressing the issue of what to do in the near future for the latter case. In this connection, the group of governmental experts to be convened in 1994 may be forced to address this concern in one manner or another.

Beyond coping with the issue of transparency is the task of facing the problems associated with selectively controlling the arms trade in its broad sense. Increase in the membership of control regimes may in the final analysis serve the purpose of a more coherent restraint in the area of conventional arms transfers, even if such regimes are not aimed at, directly or indirectly, conventional arms trade proper. What is important here is that these countries are forging a new relationship, bringing together today yesterday's rivals. In so doing, they are developing a sense of common interest, a practice of co-operation through repeated diplomatic meetings, and instituting a vehicle through which differences related to controlled goods can be discussed. This experience may prove useful when the time comes to reenforce ways and means to cope with specific aspects of the arms trade. In particular, this experience may ease the introduction/creation of similar measures of restraint.

Nevertheless, there are serious drawbacks with selective control regimes. Most of them have already been discussed in various publications, but two are relatively new and should therefore be addressed here. While selective control regimes probably had a meaning in the past, the recent changes they are undergoing call for some reflection. Advertently or inadvertently, these regimes, as shown in Table VIII, are evolving towards redundancy in

TABLE VIII
Selective Control Regimes Field of Application

Weapons Field	*Existing and Potential Control Regimes*						
	COCOM	*COCOM II*	*MTCR*	*NSG*	*AG*	*EU*	*FI*
- Biological/Toxins	■		■, ◆		●	●	
- Chemical	■		■, ◆		●	●	▼
- Conventional	■, ○	○	■, ◆			●	
- Nuclear	■, ◆	●	■, ◆	●, ◆		●	

AG = Australia Group; EU = European Union; FI = Financial Institutions; ■ = Delivery vehicle and related components; ◆ = Technology, including dual-use; ● = Payload material/precursor, other goods which may or may not include dual-use capabilities; ○ = Co-ordination and discipline in the arms trade; ▼ = Tightening of the terms for loans related to the arms trade.

their field of application. Hence, more than one control regime may be directed to one and the same task. The question which comes to one's mind is that of knowing how complementary a selective control regime is *vis-à-vis* its counterpart. They certainly fail to cover all possibilities of restraint in their own specific field. Nor do they have adequate means of reinforcement. Duplication becomes a more relevant issue when one considers that many members of one regime are also members of another one also covering the same field of application. Is it not time to conceive a more universal type of means to address the arms trade both in its narrow and more broad sense ? Can these different regimes give room for an international agreement on the arms trade ? Providing transparency of the arms trade may not suffice and the development of agreed norms between suppliers and recipients alike in view of avoiding massive military build-ups or the spread of weapons of mass destruction could be a viable solution. Many observers are ready to neglect such an approach, for this has been the way of thinking for decades. Few, however, dare to have an intimate conviction that only a universal agreement, and not a handful of selective arrangements, would adequately manage to deal with such a task.

Conclusions

The world is at an important turning point with respect to international security, and disarmament is one of the major issues in this matter. Yet, today's focus is not only turned to what disarmament measures could be agreed-upon, but also on what lays beyond certain disarmament initiatives and, equally important, how to cope with new situations. Different new dimensions of disarmament related to financial, social, and conversion problems have been identified. While all of these issues are relevant, central to the reassessment of priorities in the international security agenda is the issue of the arms trade, as a separate problem or as a derivative of disarmament measures. In either case, special attention is given to avoid the unfolding of massive military build-ups and/or regional arms races.

In the past, an important aspect of the arms transfer flowing both from the East and the West, as well as within these regions, was political-ideological rivalries. The arms transfer to Iran and Iraq, Afghanistan and other conflicts being, among others, clear and eloquent examples. While some of this reasoning may continue in some parts of the world, more purely economic-related rationales are likely to become the basis for decision-making, especially since some countries, as in the case of NATO and the former Warsaw Pact members, have re-accessed their defence spending in the direction of substantial cuts for the immediate future — granted that in some countries spending on military equipment is to increase in

contrast to expenditures on human resources. Therefore, among major arms trade concerns in the years to come are :

— The appearance of ever higher technology level weapons in the arms trade market ;

— The transfer of arms and dual-use technologies and services, especially in view of a lack of viable transparency and/or restraint measures ;

— The emergence of new weapons and equipment systems, technology and service suppliers in the international arms trade market, in particular when such suppliers do not adhere to measures of restraint in the arms trade ;

— The development of a sense of insecurity by some countries which may instigate them, as it has already done for a few States, to acquire ever more conventional weapons (or even weapons of mass destruction) in the absence of security guaranties from their traditional guarantors.

Measures designed to address these concerns are largely based on the building of confidence among States and also, in the worst case scenario, on means to provide some indication or evidence of military build-ups. As part of the global security agenda, transparency in armaments — and not only in the arms trade — stands a chance to become one of the few pillars of a new world order, of course, control regimes being another one. Coming to grips with huge volumes of conventional arms trade and with materials susceptible to assist in the acquisition of weapons of mass destruction is therefore *the* priority of the 1990s.

The arms trade has always existed. It would be naive to pretend that such transfers could be abolished and it should be clear that this is not the objective of this paper. However, the issue of the arms trade should not escape scrutiny and has to be considered within the framework of a more comprehensive non-proliferation strategy by the international community at large. Yet such a strategy cannot be conceived and agreed on without an appropriate negotiating atmosphere. Although consensus cannot be invented, it can certainly be stimulated and a few conceptual and practical measures could provide the grounds to pursue such a goal. First, on the conceptual level, the international community should address, *inter alia*, major fundamental issues by :

— Furthering the concept of greater openness and transparency in the arms trade ;

— Defining the political role that greater openness and transparency should play in international security matters : e.g., how can predictability assist regional measures of preventive diplomacy ? ;

— Stimulating the development of national laws and policies aimed at a common practice of restraint in the arms trade. In particular with respect to transfers which could lead to destabilizing situations, but also

with regards to measures aimed at coping better with illicit arms transfers ;

— Broadening the scope of security-related issues in disarmament agreements, especially with regards to weapons and equipment destruction, conversion, and manufacturing capabilities.

Second, on a more practical level, efforts should be directed at the above-mentioned objectives by :

— Building on regional initiatives of transparency in armaments and related matters such as the CSCE information exchange system. Examining ways and means that such experiences could be useful elsewhere ;

— Solidifying more universal initiatives on transparency such as the UN Register ;

— Ensuring that new arms and other military-related equipment, technology and services suppliers adhere to internationally agreed norms on arms trade ;

— Establishing a viable, legally binding and durable regime on the arms trade by launching negotiations on a full-fledged agreement aimed at the development of rules and regulations in the transfer of arms.

While there has been some indication of international consensus on some of the above mentioned measures, a few of them have thus far been neglected. This may be natural, since their adherence calls for responsible action of constraint on the part of suppliers and recipients alike and it is often difficult to harmonize view points and policies. However, a new world order also calls for innovative and challenging initiatives. Progress will certainly be slow and one has to accept that improvement would come by increments. In spite of that, given the importance of the issue, the sum of the parts is surely worth more than the whole.