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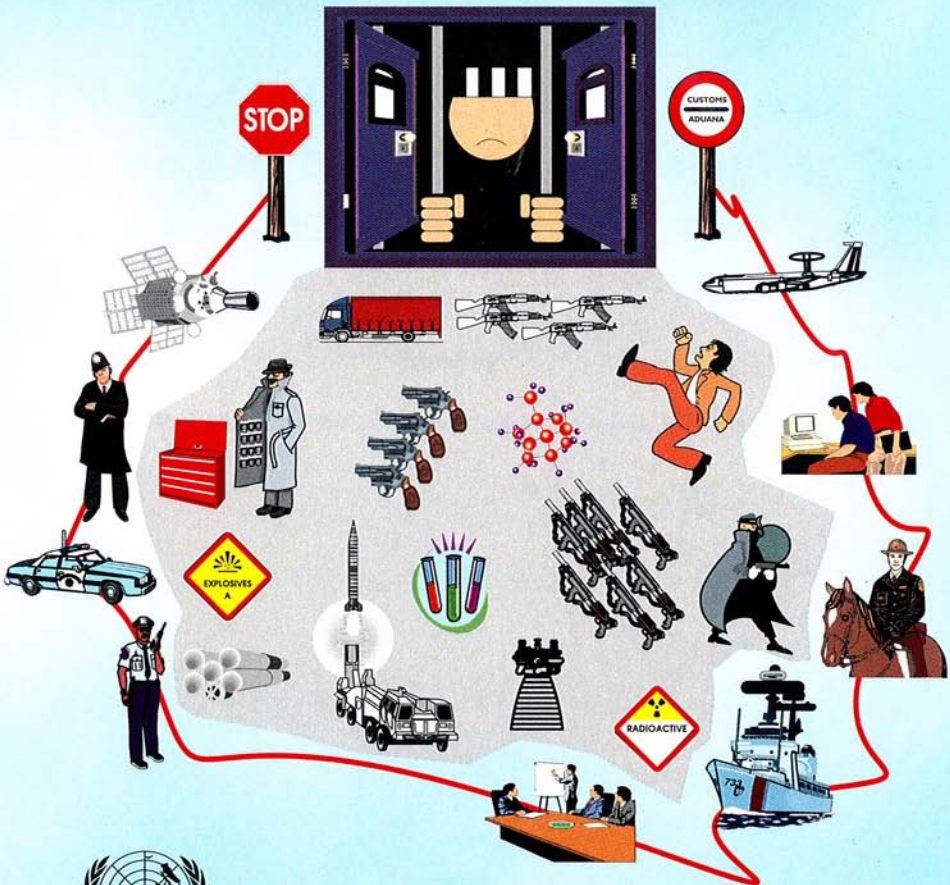
Curbing Illicit Trafficking in Small Arms and Sensitive Technologies:

An Action-Oriented Agenda

Edited by

Péricles GASPARINI ALVES and Daiana Belinda CIPOLLONE



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Curbing Illicit Trafficking in Small Arms and Sensitive Technologies: An Action-Oriented Agenda

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Péricles Gasparini Alves and *Daiana Belinda Cipollone*

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List of Acronyms

ABACC	Argentine-Brazilian Agency for Accounting and Control of Nuclear Materials
AHG	Ad Hoc Group
AIA	Advanced Informed Agreement
AMPC	Auxiliary Mission Planning Center
ASF	Automated Search Facilities
ATF	Alcohol, Tobacco and Firearms Agency
BASIC	British American Security Information Council
BTWC	Biological and Toxin Weapons Convention
BWC	Biological Weapons Convention
C^4I	Command, Control, Communications, Computer Intelligence
CIA	Central Intelligence Agency (USA)
CICAD	Inter-American Commission for the Control of Drug Abuse
CIR	Joint Regional Intelligence Organization
CISS	Conventional Information and Surveillance System
COCOM	Coordinating Committee for Multilateral Export Controls
CONAE	National Commission for Space Activities
CWC	Chemical Weapons Convention
DARPA	Defense Advanced Research Projects Agency (USA)
DGD	Decision Guidance Document
DGMN	Directorate General for National Mobilization
DNA	Designated National Authority
DRPADS	Data Receiving, Processing, Archiving and Distribution System
ECOSOC	Economic and Social Council
EEC	European Economic Community
EO	Earth Observation
EU	European Union
EURATOM	European Atomic Energy Community
FAO	Food and Agriculture Organization of the United Nations
FMLN	Farabundo Martí National Liberation Front
FPMR	Manuel Rodríguez Patriotic Front
GIA	Armed Islamic Group
GSS	Ground Surveillance System
IAEA	International Atomic Energy Agency

ICAO	International Civil Aviation Organization
IDSA	Institute for Defense Studies and Analyses (India)
IFCS	Intergovernmental Forum on Chemical Safety
IIS	Intelligence Information System
IMMS	Integrated Mission Management System
INTERPOL	International Criminal Police Organization
IPC	Image Processing Center
IRA	Irish Republican Army
IRPTC	International Register of Potentially Toxic Chemicals
IRS	Image Receiving Station
LEO	Low Earth Orbit
LTTE	Liberation Tigers Tamil Eelam
MIR	Revolutionary Left Movement
MMCC	Master Mission Control Center
MRTA	Tupac Amaru Revolutionary Movement
MSILS	Mission System Integrated Logistics Support
MTCR	Missile Technology Control Regime
NATO	North Atlantic Treaty Organization
NCB	National Central Bureaux (INTERPOL)
NORINCO	North Industries Corp. (China)
NPT	Non-Proliferation Treaty
NSG	Nuclear Suppliers Group
OAS	Organization of American States
OMS	Operations Management System
PIC	Prior Informed Consent
PICh	Investigatory Police
PKK	Kurdistan Party of Workers
SAR	Synthetic-Aperture Radar
SICS	Space-Based Information and Communications System
SIDE	Secretariat of State Intelligence (Argentina)
TISS	Totally Integrated Surveillance System
UNEP	United Nations Environment Programme
UNIDIR	United Nations Institute for Disarmament Research
UNSCOM	United Nations Special Commission
USSR	Union of Soviet Socialist Republics
WA	Wassenaar Arrangement
WCO	World Customs Organization
WHO	World Health Organization
WMD	Weapons of Mass Destruction

Foreword

Early in the 1990s the Argentine Republic launched an aggressive anti-proliferation policy, at both national and international level. By way of summary, it is worth noting that during the past few years, the country ratified the Treaty of Tlatelolco, the NPT (Non-Proliferation Treaty) and the Chemical Weapons Convention, and joined the MTCR (Missile Technology Control Regime), the Australia Group, the Nuclear Suppliers Group and more recently, the Wassenaer Group.

The Argentine position can be summarized by stating that from having been a country accused of contributing to the proliferation of weapons of mass destruction, we have become a reliable country, which has given us access to the expertise and importation of technology which was previously forbidden to us.

The political commitments which our country made at international level led to a rethink of the role played by Intelligence, faced with the phenomenon of the proliferation of weapons of mass destruction and the illegal sale of conventional weapons.

Currently, the Secretariat for which I am responsible, through the "Science, Technology and Proliferation" section of the Foreign Intelligence Directorate, is charged with monitoring all aspects of proliferation. This office provides support for the members of the "National Commission for Sensitive Exports and Military Equipment".

It should be noted that SIDE is not part of this Commission and under current Argentine legislation its task is to "warn" the Executive Power and the above-mentioned Commission about any person, entity, event and/or process which might actually or potentially violate the current legislative framework on anti-proliferation.

In this context, the Secretariat for which I am responsible takes the view that the systematic accumulation of data and its assessment according to Intelligence criteria is the best strategy for preventing proliferation.

Hence the importance of this seminar, jointly organized with the United Nations Institute for Disarmament Research (UNIDIR), a body which considers this problem to be of major importance and which organized a similar meeting last year in Rio de Janeiro, in conjunction with the Brazilian Intelligence Service, an occasion on which our Secretariat presented a paper on the "Role

of the Intelligence Services in the Enforcement of National Anti-Proliferation Legislation".

The Buenos Aires seminar proved fruitful for us all; all the participants came away from the meeting with a deeper understanding of the different aspects of the phenomenon of proliferation. They were also able to exchange views with colleagues working to counter this element of international instability which is undermining international security.

It is only by working together and exchanging information that it will be possible to combat the activities which threaten peace, such as the proliferation of weapons of mass destruction and conventional weapons. I am inviting you to join this fight. Our security and that of the entire international community is at stake.

Buenos Aires, April 1997

Dr Hugo Alfredo Anzorreguy
Secretary for State Intelligence (SIDE)

Preface

Illicit trafficking in small arms and sensitive technologies is not a new phenomenon in itself, but has acquired new dimensions and urgency with the end of the cold war.

Small arms, in many regions of the world, are the weapons which cause the largest numbers of casualties and human suffering. As factors of instability, they are also obstacles to development in its economic, social and political aspects. The widespread use of small arms has become a characteristic feature of the mostly internal wars waged in the 1990s. Stemming the illicit possession and traffic of such weapons is a particularly arduous task, especially in regions where international borders are difficult to control effectively. In such cases, the supply of relatively inexpensive small arms follows the ebb and flow of conflict and evades national control. Countries where wars are or have been fought are plagued by large amounts of uncontrolled weapons held by fighters, ex-combatants and civilians. Arms dealers operating in illicit markets to provide weapons to individuals, warring factions or criminal groups, constitute a key challenge for future controls. The role of intelligence services, border controls and other uniformed forces is crucial in this respect.

Weapons of mass destruction (WMD) and sensitive technologies have long been a focus of various international control regimes. But some of the technologies for nuclear weapons, chemical agents or ballistic missiles for example, have become “old technology” rather than “high technology”. As such, they are increasingly prone to illicit acquisition. In addition, the recent speed of the information revolution has resulted in more recent knowledge and its technological applications being much more accessible than in the past.

Since the 1990s, the acquisition of weapons of mass destruction and their associated technologies by non-State actors has become a growing source of concern. With the sarin attack on the Tokyo subway, the use of chemical warfare agents by a terrorist group against a civilian population has become reality rather than a nightmare scenario. Attempts to engage in the illicit traffic of nuclear materials have also increased spectacularly, and the small size of the equipment needed to produce and store biological warfare agents makes them a priority focus for future control arrangements.

The threat posed by the illicit possession and dissemination of both small arms and sensitive technologies is in essence a shared and global threat. No

State, no city, no population can consider itself immune to the consequences of a breach of control anywhere else in the world. As such, it is a problem which necessarily calls for the rigorous adaptation and implementation of national controls, as well as for close, purposeful and effective international cooperation.

It is in this spirit that the April 1997 Buenos Aires seminar on *Illicit Traffic in Small Arms and Sensitive Technologies* was designed to promote open and constructive debates on issues in which all participants had clear and common interests.

Geneva, April 1997

Dr Christophe Carle
Deputy Director
UNIDIR

Acknowledgements

Often the nature of the first contact between individuals and institutions sets the tone and speed in which their relationships will subsequently evolve. Human assets such as, the patience to listen, capacity to take fundamentally innovative decisions and, determination to act in a timely manner, are essential in order to *make certain things happen* in a world of new challenges and uncertainties.

We are pleased to acknowledge Dr. Rodrigo Toranzo, the Under-Secretary for Foreign Intelligence at the State Intelligence Secretariat (SIDE), Argentina, who has demonstrated such human qualities since his first encounter with a UNIDIR representative in October 1996, in Rio de Janeiro, Brazil, on the occasion of a conference jointly organized with the Brazilian Intelligence Service. We welcome this first initiative made towards the possibility of joining forces with UNIDIR. Our efforts to learn more about enhancing international security have been strengthened by working with this kind of agency. The joint SIDE/UNIDIR Seminar on *Illicit Traffic in Small Arms and Sensitive Technologies*, held from 23-25 April 1997, is a clear example of this.

UNIDIR is also pleased to thank Brig. (R.) Genaro M. Sciola, Director at the National Commission for Space Activities (CONAE), Argentina, for his cooperation and foresight in helping to formulate the original idea of this seminar. We sincerely appreciate Brig. Sciola's logistical support in the different preparatory missions UNIDIR conducted in Buenos Aires. Beyond the professional qualities of this civil servant, there is the warmth of the man who has introduced us progressively and eloquently to Argentinian culture. He has received us both as colleagues and as friends, thus making our work much more enjoyable. Our acknowledgements also go to Dr. Conrado Franco Varrotto, Executive Technical Director at CONAE, whose role was essential in ensuring that CONAE, along with Brig. Sciola and his staff, could cooperate with UNIDIR and SIDE.

Particular thanks should especially go to the staff of SIDE who helped organize this seminar, and who continued to play an important role in the book publication phase after the seminar. Lic. Silvia Cucovaz, Director of Foreign Intelligence, was the first to help establish the seminar's agenda and the list of potential participants. Her professionalism and conscientiousness were refreshing and made our work more intellectually stimulating. This attitude is

representative of the high level of professionalism at SIDE, and we are honoured to have been associated with this Argentinian agency. In addition, we would also like to thank SIDE for their financial contribution which ensured the appropriate conditions of this seminar.

Our thanks also go to the Argentinian diplomats both at the Ministry of Foreign Affairs and at the Permanent Mission on Disarmament in Geneva: Minister Pablo Tettamanti, Deputy Director of International Security, Nuclear and Space Affairs; Secretary Christina López Monra and Counsellor Alicia de Hoz; and Counsellor Carlos Alberto Hernandez and Second Secretary Sandra Moira Wilkinson. They were all very cooperative and always encouraged UNIDIR to pursue its goals. This type of attention is not only welcome, but also necessary since foreign ministries are our bridges in linking with national institutions.

All of those who have helped UNIDIR in its research endeavour have in essence helped the enhancement of international security. Indeed, they have, indirectly, helped to implement United Nations General Assembly resolutions which call for the international community, *inter alia*, to broaden and strengthen the bases for cooperation "... by providing information on customs, traffic and seizure of illicit weapons and by coordinating intelligence work where necessary and possible". (See for example, A/46/301 and A/RES/36H.)

Therefore, the growing importance of working with national institutions, such as the intelligence services, is evident in the role they play in strengthening international security. This is true in the quest to curb the illicit traffic in small arms, but also in the case of illicit trafficking in materials that can be used for the production of weapons of mass destruction, their access by terrorist groups, and a series of other activities that might fuel this traffic (such as drug dealing).

We especially thank the UNIDIR staff for their support, in particular Anita Blétry and Isabelle Roger for their patience and cooperation.

Geneva, April 1997

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The Need to Reinforce Efforts to Fight Against Illicit Trafficking: An Introduction

Péricles Gasparini Alves and *Daiana Belinda Cipollone*

There are strong reasons for arguing that the issues of illicit trafficking in small arms and sensitive technologies can be addressed as a single problem, even though, at first glance, both encompass a wide range of subjects with sharp differences. For example, while illegal trafficking in small arms covers mostly hand/shoulder-carried arms and a handful of other light weapons,[1] illegal trafficking in sensitive technologies involves a quite different category of products such as nuclear material, chemical and biological substances, their related technologies and delivery vehicles.

Both of these illegal trades, however, are often linked to drug smuggling, terrorist activities, guerrilla warfare and organized crime, as well as other types of low intensity conflict. In some cases, illicit trafficking in drugs and small arms is a precursor to trafficking in sensitive technologies, creating a spiral of corruption and other felonies of national and international proportions.

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[1] The Report of the United Nations Panel of Government Experts on Small Arms defines the terms small arms and light weapons as ranging "from clubs, knives and machetes to those weapons just below those covered by the United Nations Register of Conventional Arms ..." It broadly describes small arms as those weapons designed for personal use and light weapons as those designed for use by several persons serving as a crew. The Panel thus defined and addressed the following as small arms: revolvers and self-loading pistols; rifles and carbines; sub-machine-guns; assault rifles; and light machine guns. It dealt with the following as light weapons: heavy machine guns; hand-held under-barrel and mounted grenade launchers; portable anti-aircraft guns; portable anti-tank guns, recoilless rifles; portable launchers of anti-aircraft missile systems; mortars of calibres of less than 100 mm. (See pp. 24-26 of the Report, A/52/298, 27 August 1997.) Other sources do not distinguish these two categories of weapons but combine most of the items in their respective lists under the term firearms. See, for example, article 1, paragraph 3 in the OAS Inter-American Convention Against the Illicit Manufacturing of and Trafficking in Firearms, Ammunition, Explosives, and Other Related Materials, Organization of American States (OAS), GT/CIFTA-10/97, 4 September 1997, where firearms are defined as "[a]ny barrelled weapon which will or is designed to or may be readily converted to expel a bullet or projectile by the action of an explosive", excepting antique firearms, or "[a]ny other weapon or destructive device such as any explosive, incendiary or gas bomb, grenade, rocket, rocket launcher, missile, missile system, or mine".

Illicit trafficking therefore affects both the stability of States and the safety of their populations. There are no national or regional boundaries hindering this type of traffic: the problem is truly global with multifaceted ramifications. Curbing its development and proliferation requires a better assessment of the phenomenon and a new way of looking at problems and identifying solutions. In a world of growing interdependence, the greatest challenge today seems to be that of making bold decisions establishing new priorities and agreeing to start innovative cooperative ventures, while changing old ways of thinking and working.

This attitude constitutes a particular vision, which is an integral part of the quest for a new world order: seeking structural changes to the fabric of international security alone will not be enough to reach this goal; one must also dare to undertake profound transformations of fundamental values. Coping with the issue of illicit trafficking from a new perspective is therefore the *sine qua non* for success in this fight both on a national and an international level.

1. Understanding the Problem

There is a real need today to address the issue of illicit trafficking in small arms and sensitive technologies from a variety of angles, taking into consideration their interrelationship and implications for other areas of social and State security. It is important that an effort be made to assess the illicit trafficking problem in different regions of the world. This has been the challenge that the United Nations Institute for Disarmament Research (UNIDIR) has faced over the last several years. In an attempt to clarify the problem of illicit trafficking, it has organized different meetings and supported the publication of books describing, for example, what are small arms, what constitutes their illicit trafficking, and the kind of conflicts in which these weapons are being used.

In addition, though it is a fact that some manufacturers and dealers have been involved in illegal transactions, the role of manufacturers and dealers in illegal trafficking in small arms is rarely addressed. The debate promoted by UNIDIR helps to fill that gap.

There is also a need to understand illicit trafficking better because it is generally carried out in secret. What are the schemes used to transfer weapons, substances and technologies? What factors influence manufacturers and dealers to engage in illicit trafficking? What are the different interrelationships between arms manufacturers and traffickers? How and why is it so difficult to control illicit trafficking in a changing supply and demand environment?

Illegal trafficking in nuclear/radioactive substances has been a subject of growing concern since the late 1980s. In common with other problems involving the smuggling of illegal substances and equipment, curbing this type of trafficking is as much a problem of controlling national supplies of nuclear/radioactive material, as it is a matter of coordination of knowledge and information on an international level.

While law enforcement, intelligence services and related institutions constitute the first counter-trafficking obstacles within national boundaries, several organizations such as the International Criminal Police Organization (INTERPOL), the International Atomic Energy Agency (IAEA), the World Customs Organization (WCO), and others are also sensitive to the issue. As in the case of small arms and drugs, it is well known that efforts are being made to ferret out the specific sources of supply and the flow of demand of material related to the production of weapons of mass destruction. Efforts are also being made in many countries to improve the physical safety of installations which contain sensitive material and substances or where their transport takes place. Yet what other kinds of cooperative measures exist on the national and international levels? Are those cooperation efforts sufficient? Is there room for improving individual and/or collective actions?

Of all categories of weapons of mass destruction, biological agents are the only ones that do not have an internationally binding verification component that would monitor non-production and therefore make clandestine proliferation more difficult. This is even more important given the unfolding developments in biotechnology, where a variety of old and new agents can bring to light new means of, and access to, biological warfare in the future. Curbing access to those agents continues to be a formidable task with which the international community has yet to come to grips.

The discussion promoted by UNIDIR also addresses the role of terrorism in illicit trafficking. How and when did drug cartels start supporting terrorist groups? Are present trends in such support the same today as in the 1970s and 1980s? Are there similarities in such trends from country to country or region to region? How can national counter-terrorist measures cope with increasingly rich and heavily armed groups? How could human and material resources be better managed to respond more appropriately to the mounting requirements of law enforcement and to strengthen information-gathering institutions?

2. Combatting Illicit Trafficking: Looking Ahead

The UNIDIR initiative is also stimulating thoughts on how institutions and Governments can be better prepared to counter illicit trafficking. There is a quest to highlight perspectives for new and improved synergies and international cooperation. In the area of small arms, for example, intensive efforts are under way at global and regional levels to reach agreement on curbing illicit trafficking in certain categories of small arms, ammunitions, and explosives.[2] Yet, given the nature and status of the problem today, any such agreement would not have great practical effect if the responsible authorities are not given adequate means to enforce the law; not only on the national level, but also as regards region-wide strategies of surveillance, tracking and intervention.

Moreover, it is not easy to organize multilateral action; the motivations and the manner whereby cooperation could be fostered depend on whether one is dealing with small arms, drugs or sensitive technologies. For example, co-operative efforts in the field of sensitive technologies must be seen against the background of the growing difficulties in controlling the export of such technologies while not hampering present or future development opportunities.

An additional obstacle is that, at the national level, few countries have a coherent legal regime that can make provision for preventive deterrent initiatives, law enforcement and punitive actions in all areas of illegal trafficking.

At international level, the development of ad hoc arrangements and regimes prevails today over global agreements controlling the transfer of certain

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[2] See for example, "Report of the Panel of Governmental Experts on Small Arms", op. cit.; Inter-American Convention Against the Illicit Manufacturing of and Trafficking in Firearms, Ammunition, Explosives, and Other Related Materials, op. cit.; "Agenda Item 7-State Security-Measures to Stop the Trade and Illicit Transfer of Small Arms", First General Meeting between CARICOM and United Nations Secretariats and Related Agencies, CAR/UN 97/1/9, New York, 27-28 May 1997; "Ministerial Consultation on a Proposed Moratorium on Export, Import, and Manufacturing of Light Weapons in West Africa", Bamako, Mali, 26 March 1997; "Firearm Regulation for the Purpose of Crime Prevention and Public Health and Safety", Economic and Social Council (ECOSOC) resolution, 1997/98, 28 April-9 May 1997; "Model Regulations for the Control of the International Movement of Firearms, Their Arts, and Components and Ammunition," Interamerican Drug Abuse Control Commission, OAE/Ser.L/XIV.2.22, CICAD/doc.905/97 Separata, 5 November 1997, Lima, Peru; "Small Arms", General and Complete Disarmament, *Official Records of the United Nations General Assembly*, (A/52/38J), 9 December 1997; "EU Programme for Preventing and Combating Illicit Trafficking in Conventional Arms", annex, DG E-CFSP IV.

sensitive technologies and goods. It is true, though, in spite of the absence of a solid legal regime, that parties to those arrangements are undertaking joint efforts to coordinate national policies and to promote transparency in transfers of technologies and goods. However, none of these arrangements or regimes have multilateral verification systems. Nor do they provide for national control schemes.

Controls are expected to be carried out by regular national entities that are in charge of implementing national legislation. In some countries, these national entities have traditionally worked separately and do not necessarily share their work in great detail, e.g. police forces and intelligence services. In some instances, this state of affairs can create a gap in the relationship between institutions and ultimately this benefits those involved in illegal trafficking. Therefore:

> *the international community must agree on a new agenda to combat illicit trafficking.*

Having acknowledged this basic premise, one should question how the strengthening of international cooperation can contribute to the creation of a new agenda to combat illicit trafficking. Should there be a call for new tactical and strategic approaches? Is there a need to have more encompassing multilateral actions? The answer to both of these questions is “yes”. What is needed today is an increase in the level of cooperation between and among those institutions and communities that could together, more effectively than alone, take action to combat illicit trafficking, be it in small arms, substances related to the production of weapons of mass destruction, or terrorism.

There have been calls, for instance, to stimulate cooperation among intelligence services on a worldwide basis and between intelligence services and armed forces, organizations such as INTERPOL and the diplomatic community. It is evident that there is a need to structure the flow of information and action/reaction capabilities of legal authorities in a more fluent and comprehensive manner.

Strengthening the tools to combat illicit trafficking also requires improvement in the technical resources available to law enforcement agencies and information centres. Better telecommunications, integrated databases, and other systems which accelerate action/reaction capability must therefore be considered. These should include improved day/night, over-the-horizon tracking capabilities. New concepts of small satellites with sharper ground resolution on their radar, infrared and visible band levels are coming onto the

commercial market at affordable prices. Policy makers and scientists alike are increasingly exploring the extent to which satellite technologies can assist in the detection, identification and tracking of illicit trafficking, particularly through multilateral actions.

It is apparent from discussions in different quarters that any code of conduct or agreement aimed at the curbing of illicit trafficking in small arms will have to address present problems, but some thought will also have to be given to ways to cope with past transfers. There is a great need for cooperation in this area, especially to identify transportation routes, stockpiles and related activities. How can the collection of illicit small arms in many countries be stimulated? What new concept such as gun-buy-back can obtain consensus regionally, if not globally? In the area of sensitive technologies, there is much room for cooperation in terms of the transparency of transfers, which could lead to greater degrees of predictability of clandestine and other illicit events. How much transparency is necessary and what form cooperation could take are still not clear and much work needs to be done to reach a consensus.

In conclusion, there is a real need to put together those institutions that have practical experience in dealing with both the legal and the illicit traffic in weapons, substances and technologies, to draw up a plan of action and a forward-looking agenda for cooperation. This has been the fundamental reason for the joint effort undertaken by the State Intelligence Secretariat of the Republic of Argentina (SIDE) and UNIDIR in organizing the April 1997 Buenos Aires Conference on the Illicit Traffic in Small Arms and Sensitive Technologies. The final recommendations, which came out of the debate during that conference, provide what could be considered as the first step towards achieving that goal. In addition, this book also contains reports of the presentations and discussions in the different working groups of the conference. They are the evidence of lively discussions and provide additional colour to the arguments made in the written presentations that follow.

Part One

Prominent Issues in Illicit Arms Trafficking

Chapter 1

Illicit Trafficking in Small Arms: Some Issues and Aspects

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One of the most profound phenomena of the nuclear age has been to shift armed conflict progressively from the regular to the irregular, from the traditional military-to-military war to unconventional means and methods that include terrorism. In Clausewitzean terms, it is irregular war and non-traditional application of armed force that have now become an instrument of policy, with small arms as the tools for "extension of politics by other means". The very nature of the application of armed force has been changing, limited at one level by the risk of nuclear exchange, and near total and indiscriminate use of armed violence at another. Two centuries of doctrinal and operational concepts have led to legitimization of targeting non-combatants to the extent that society itself has become inclusive to war. This has reversed the classical ratio of dominant military to civil casualties in wars. At the same time, advances in technology have made light, man-portable "small arms" and weapons increasingly lethal and expanded their envelope of effective employment.

The issues impacting on international security have undergone profound changes although the accepted paradigm has yet to adjust to these changes. Traditional State monopoly of instruments of violence, for example, has eroded in recent decades, mostly due to actions of the State itself. The very framework of concepts has to be redefined so that peace, rather than only security, is treated as the goal. Only a comprehensive approach that focuses on peace in an integrated manner can meet the existing and emerging challenges where small arms play a crucial role. In the absence of an integrated approach that seeks peace at global, regional, national and societal levels, we will be forced to continue with only fire-fighting operations.

A. Illicit Transfer of Small Arms

There are two central and basic questions that must be addressed before an attempt is made to identify the prominent issues concerning illicit transfers of small arms: the first is a clear understanding of what would constitute "illicit" transfers; and the second is what weapons are to be included in the classification of "small arms".

1. Small Arms

There is no universally accepted definition of small arms. Even where some sort of understanding exists, we find that it has been undergoing changes throughout decades. Small arms were generally understood to include personal weapons of troops and limited to 12.7 mm and less calibre even during the Second World War. This traditionally covered man-portable weapons like rifles, pistols, light machine-guns, and, in some cases, grenades, etc. As weapons became lighter and more effective, the classification seems to have expanded to include an ever-increasing number and type of weapons. For example, it is believed that by 1983, NATO had enlarged the original Second World War definition to describe small arms as "all crew-portable direct fire weapons of a calibre less than 50 mm and will include a secondary capability to defeat light armour and helicopters".[1] Such a broad classification would include weapons such as automatic assault rifles (like the AK-series Kalashnikovs, the US M-16, the Israeli Uzi, etc.), rocket-propelled grenade launchers (like the Russian RPG), machine- and sub-machine-guns, shoulder-fired surface-to-air-missiles (SAMs, like the Stinger, Blowpipe, SAM-7 and its Chinese variant, etc.), and so on. Personal weapons like pistols and revolvers below .38 calibre, sporting rifles and guns (like the 12 bore) below the semi-automatic category would be included, although they represent a different dimension of capabilities.

Many other weapons, which are man-portable and capable of inflicting severe casualties and destruction, must also be taken into consideration; for example, land mines (especially the anti-personnel variety, of which over 110 million are estimated to have already been spread worldwide, and which have tremendous human costs on innocents and non-combatants). To this must be added a range of other light weapons including high explosives (like RDX),

[1] Preface to *Jane's Infantry Weapons 1992-93*, p. 182.

indigenous explosive devices, etc., which are increasingly used in irregular conflicts. It is necessary, therefore, to evolve a commonly accepted definition of light weapons (which should include small arms).

2. Illicit Transfers

For an objective study and analysis of the problem of illicit transfers, it is necessary that a universally accepted definition and classification of small arms and light weapons are adopted at an early date. It is also obvious that such weaponry is standard equipment of military (besides paramilitary, and in many cases, even of armed police) forces worldwide. Since the right to self-defence has been accepted and adopted even in the United Nations Charter, it is to be expected that States will continue to acquire and transfer small arms to other States, and this will continue to be considered a legitimate process and activity. State-to-State transfers, therefore, will continue to be considered legitimate, except where the recipient State is under an international (United Nations-sanctioned) embargo. As long as such transfers and acquisitions remain restricted to the use of military and other armed forces of the State, the risks emanating from them will remain limited to the traditional ones related to inter-State conflict and war.

B. Transmutation of Conflict

Because of the increasing costs and limitations of regular war, armed conflict has been sliding down the conflict ladder.[2] More and more armed conflict has been taking place at the lower end of the spectrum of war (outlined in Table 1.1). This is borne out by empirical evidence related to wars and armed conflict. By one account, there were 96 armed conflicts during 1989-1995.[3]

[2] War here is defined as a continuing armed conflict resulting in more than 1,000 deaths. The definition of war and armed conflict has been further refined by Peter Wallensteen and Margareta Sollenberg ("After the Cold War: Emerging Patterns of Conflict 1989-94", *Journal of Peace Research*, Vol. 32, No. 3, 1995, pp. 345-360) to classify armed conflict as a contested incompatibility which concerns government and/or territory, where the use of armed force between two parties results in (i) a *minor conflict* with at least 25 battle-related deaths during the year, but with 1,000 or less deaths overall; or (ii) a *medium armed conflict* which results in at least 25 battle-related deaths per year with over 1,000 cumulative total deaths; and (iii) a *war* is defined as an armed conflict with over 1,000 battle-related deaths per year.

[3] Peter Wallensteen and Margareta Sollenberg, "The End of International War? Armed Conflict 1989-95", *Journal of Peace Research*, Vol. 33, No. 3, 1996, pp. 353-370.

Practically all of them, especially since 1992, were intra-State conflicts and wars. In reality, an external factor has been almost invariably present in such conflicts; and this normally takes the form of transfers of small arms and light weapons.

Table 1.1: Spectrum of War, Armed Conflict and Use of Force

Level/Type of War	Nature of War
Nuclear war	Inter-State, highly organized, indiscriminate mass destruction with nuclear weapons, major high technology weapons as delivery systems.
Conventional (unlimited) war	Highly organized, inter-State, military-to-military, mostly fought with major weapons as well as small arms. Total in nature including targeting civil society.
Conventional (limited) war	Limited inter-State military-to-military, controlled engagement and escalation, minimal collateral civil targeting, fought with major conventional weapons and small arms.
Unconventional war	*Irregular war and armed conflict*: non-State vs.: State/sub-State/non-State. Dispersed, society as the battlefield; small arms as the primary instruments of war-fighting, limited military involvement, mostly in response to the war. Variations include: *Proxy wars* – *Civil wars*, indigenous as well as externally supported – *Insurgencies*, indigenous as well as externally supported *Militancy* – Terrorism—transnational and national; political/ideological, narcotics/crime related.
Force without war	Stand-off (long-range) use of destructive force.
Threat of use of force	Standing forces

All wars, except nuclear war, employ small arms extensively, although major weapons tend to dominate the conventional war scenario. This complicates the small arms landscape in that such weapons are standard equipment of national (legitimate) military (and even armed police) forces. Since wars at the lower end of the conflict spectrum employ mostly small arms

and light weapons, this shift also implies, among other things, that small arms and light weapons have been playing an increasing role in conflicts across the world. All wars/armed conflicts in the world during the past ten years, with the exception of the 1990-1991 Gulf War, have essentially been fought with small arms. While the risk of organized war has been perceptibly reduced overall, the threat of externally sponsored or supported armed conflict linked to societal dissent has increased.

It is important not to treat so-called intra-State conflict and civil wars as purely internal phenomena. In overwhelming cases, the weapons to fight such conflicts come from outside, either because of ideological or other reasons. In many cases, armed conflict has resulted from separatist movements and struggles. Conflicts in Sri Lanka, the former Yugoslavia, Chechnya, the Kurdish conflict, India (Punjab till 1992, and Jammu and Kashmir till 1996), Myanmar, etc., are examples of such conflicts. Like other conflicts, these have been prosecuted with small arms. In fact, political dissent rapidly assumes violent shape because of easy availability of lethal small arms. Arms have been transferred to the fighting groups (many trained abroad), by non-State as well as Governments in other countries. Such supplies invariably constitute illicit transfers even though they may seek to be justified on grounds of supporting political/ideological goals of ethnic and religious groups or separatist movements.

C. Transfer and Proliferation of Small Arms

There is a tendency to treat the transfer of small arms in a manner similar to the transfer of major weapon systems. While certain amounts of weapons are spread as a result of the profit motive and other considerations by sub-State actors, *the State is the supplier or facilitator in the spread of small arms in the overwhelming majority of cases across the world.* The primary incentive of States for promoting proliferation emanates from ideological and/or perceived national interests and goals. In some cases, of course, the supply of arms is perceived to be necessary to promote freedom struggles. This was a major reason for supply and acquisition of arms in many of the freedom movements leading to decolonization. But ideology has not operated only in support of freedom struggles. The export of revolution, for example, went beyond the question of mere political freedom to defining the nature of the political system. In other cases, ideology, especially the variety that is based on ethnicity and/or religion, has been the driving force of external support for separatist

movements. The supply of small arms in such cases has introduced armed violence in some situations. This in turn has fuelled more proliferation, if not quantitatively, certainly qualitatively. Ideology has also been employed in providing legitimacy to transnational criminal activities like narcotics trafficking.

There are a number of aspects to illicit transfers and the spread of small arms that deserve attention:

1. *Cold War Legacy*. The risk of armed conflict escalating into nuclear exchange-limited wars of the Cold War and proxy wars, became instruments of policy. The super-Powers (and their allies) supplied small arms and light weapons as a tool for supporting/pursuing armed conflict in search of their national strategic interests.[4] The bulk of the proliferation of small arms in the world at present has originated from the legacies and strategies of the Cold War. This debris of the Cold War has been further diffused as a result of regional Powers and sub-State and non-State actors pursuing their own political and ideological agendas. Attention to illicit transfers must, therefore, address not only transfers by States to non-State actors, but also those by sub-State and non-State actors and entities to non-State actors.

2. *Cascading.* While States have played a direct and indirect role in promoting the proliferation of small arms and light weapons, their further diffusion has also resulted significantly from the cascading phenomenon, both among other States as well as within the State itself. In most cases, the initial supplies have been controlled or funnelled through State (mostly intelligence) agencies. But since the primary goal of such supplies has been to arm non-State actors and groups, the process does not remain confined within the original framework, and thus a "boomerang" effect is witnessed. The diffusion of weapons in Pakistan's society following transfers to non-State actors by State agencies, is one of the many examples.

[4] For a detailed account of the arms supply pipeline, see M. Yousaf and M. Adkin, *The Bear Trap: Afghanistan's Untold Story*, Leo Cooper, London, 1992, ch. 6; and John G. Merriam, "Arms Shipment to the Afghan Resistance", in Grant M. Farr and John G. Merriam, *Afghan Resistance*, Westview Press, Boulder, 1987, pp. 71-102.

3. *Loose National Controls.* A large amount of illicit traffic and spread of small arms is made possible by loose national controls over such weapons.[5] In fact, there is gross variation in the legislation on the subject varying from the belief that no controls should apply (as in the United States) to Japan (where no weapon is allowed). Loose controls in the territories of the former Soviet Union are a special area of concern.

4. *Retrenchment of Military Power.* Availability, traffic, and proliferation of small arms have also received a boost from the effects of retrenchment of military power. A substantive draw down of military power has taken place since the Cold War started to wind down in the late 1980s, later coming to an end. Global military strength has been reduced by over 4 million during the past ten years rendering large quantities of small arms surplus. The processes of disarmament and demobilization, wherever they have taken place, have increased the potential for proliferation, especially where controls have been lax or incentives for proliferation been high.

5. *Transnational Ethnic and Ideological* (including religious) factors, in conjunction with the communications revolution in all its facets, providing support for internal conflicts, raise the demand for small arms, including by sub-State and non-State actors. This is particularly acute in some aspects.[6]

6. *Narcotics Linkage.* Drug trafficking is another aspect which is inevitably linked to the spread of small arms in the producing countries and transit territories.[7] Transnational criminal activity, especially narcotics trafficking, is a major factor sustaining illicit transfers of small arms

[5] For example, over 92,000 licences for arms were issued in Karachi alone (which reportedly had more than 100,000 Kalashnikovs outside State control) as part of the Pakistan Government's policy of "liberalizing" availability of small arms to the public. See *Dawn* (Karachi), 31 March 1996.

[6] For one view of religious motivation for armed violence see Bruce Hoffman, "Holy Terror: The Implications of Terrorism Motivated by a Religious Imperative", RAND Paper P-7834, RAND, Santa Monica, 1993.

[7] For a detailed account of the linkage, see Tara Kartha, "Southern Asia: Narcotics and Weapons Linkage", in Jasjit Singh (ed.), *Light Weapons and International Security*, Pugwash, IDSA and BASIC, New Delhi, 1995, pp. 63-86.

around the world.[8] The focus on drug trafficking so far has been confined to tackling it as a social problem because of the direct impact on society and its physical and psychological health. Attention has also been paid to the factor of drug money laundering. But the relationship between drug trafficking/money laundering with the illicit transfers and spread of small arms and their financing, needs greater attention.

7. *Commercial Motive.* The profit motive, especially since the linkage with narcotics trafficking provides very high dividends, is an important factor promoting illicit traffic in small arms. The manufacturing of such weapons outside State control has increased and will pose serious challenges in the future.

D. Controlling Illicit Transfers and Spread

Given the extent and nature of illicit transfers of small arms that have already taken place, and the diffusion of these arms to actors and entities outside State control and society in general, instituting controls to regulate such transfers and diffusions will be a Herculean task. On the other hand, the risk to civil society and to the stability of States, particularly democratic polities, is likely to keep increasing. Fortunately, the international community is increasingly conscious of the problem. But one of the greatest hurdles that it will have to face in controlling illicit transfers is to get States to accept a uniform code that will ensure that Governments and their agencies do not pursue such transfers in the future, and cooperate in relation to measures regarding past transfers. This, of course, is easier said than done. Measures will need to be instituted in an integrated manner at national, regional, and international (global) levels since they cannot be addressed piecemeal or at any single level. Broad possible measures have been examined and proposed by the author elsewhere, and are not intended to be duplicated here again.[9]

The key to control lies in enhancing transparency and accountability regarding such transfers and further diffusion. Production and supply of small arms need to be made completely transparent while strong norms like end-use

[8] For a regional case-study see Tara Kartha, op. cit., note 4.

[9] See Jasjit Singh, "Evolving Approaches to Control the Spread of Small, Light and Similar Weapons", paper presented at an international seminar on *Conventional Weapons Transfers after the Cold War*, organized by the Japan Institute for International Relations, Tokyo, 21-22 December 1995.

certification need to be established to ensure that diversion and diffusion are restricted. There is normally notable hesitance in enhancing transparency of military postures because of national security concerns. But such concerns regarding small arms should be minimal because the scale of equipment and increased transparency will not really affect national security adversely. A system of verification concerning end-use will also be necessary. Covert and illicit arms transfers pose special problems in this regard. While international cooperation and more responsible national policies are perhaps the only solution to ensure that States strictly observe elimination of illicit transfers, for the future it would be necessary to evolve identification systems (material signature etc.) of weapons manufactured so that when illicit arms are recovered, it should be possible to trace the manufacturers and, possibly, the suppliers.

Prioritization of which weapons to focus on first will be necessary so that the more destabilizing weapons are controlled earlier. For example, control of automatic weapons and sophisticated weapons like shoulder fired surface-to-air missiles, denotes the type of weaponry which requires institution of control earlier than, say, home-made shotguns. Shoulder fired surface-to-air missiles like the Stinger and SAM-7, etc. have been used by militant non-State actors to shoot down over 325 aircraft in the past 15 years. It is sobering to recall that there have been a large number of strikes on civil aircraft with shoulder fired surface-to-air missiles, while hundreds of such weapons are loose in society and moving around the world without governmental control. The process requires a universally accepted definition of small arms and light weapons. The United Nations Experts Panel is expected to come up with some agreed definitions. But this, at best, can only represent preliminary steps. More work will also have to be undertaken to institute universally acceptable norms of what constitutes illicit transfers.

National control measures will also need to be strengthened. These would include, (i) improved border surveillance and control, (ii) stricter gun control legislation and its effective implementation, and (iii) strong and effective measures against illegal possession and traffic in small arms (especially automatic and semi-automatic weapons). National measures will need an increasing degree of harmonization at the regional as well as global levels. Above all, the central driving factor to stop the already high risk of stability to States and civil society will have to be built on increasing awareness and consciousness of the problem and the possible solutions. This should logically lead to strong norms and inhibitions at the societal, national, and international levels against the spread of small arms and light weapons.

Chapter 2

Weapons of Mass Destruction: Problems of Illicit Trafficking

Alfredo Luzuriaga

In 1989, when taking part in a conference similar to the present one, I listened to a succession of speakers who without exception cited Argentina and Brazil as examples of Latin American countries sharing in weapons proliferation. The situation has radically changed today, as proved by the fact that we have met here to discuss how to contend with it.

So what has changed since then, apart from the part played by Argentina? In fact, there has been a series of very positive events and processes in this period, such as:

- The adoption of international, multilateral, regional and national measures which, in the shape of treaties, conventions, control systems and the setting-up of judicial and institutional structures, enable the trading in sensitive technologies to be controlled;
- As a result of these measures, international cooperation has been stepped up enormously; this has been translated into a lasting doctrinal approach conducive to creating an awareness of preventive action in the face of the problem of proliferation of weapons of mass destruction (WMD); and
- The exchange of information between specialized organizations in different countries, which has facilitated not only improvements in policies and legislation but also progress in the following-up and investigation of cases of illegal trading in controlled materials or technologies.

When these facts are put together and added to a very rapidly changing and untidy international situation, they have brought about a small decrease in the list of countries with a potential for weapons proliferation.

Nevertheless, and in spite of this positive balance, new realities and situations have arisen which in fact demonstrate that not only does the danger exist but new challenges and difficulties have to be confronted.

For example, at the time of the conference that I mentioned earlier, the optimism created by the breaking-up of the USSR and by the strategic arms limitation treaties that had been signed never called into question the Russian capability for controlling their inventories of nuclear weapons.

The dismantling of nuclear warheads in a sense brings out from their silos a large quantity of highly-enriched plutonium or uranium that represents a threat as long as it is not reprocessed. These materials are guarded by State organizations that lack a proper structure and that are staffed by very lowly paid personnel of low morale. This has led one expert to observe that the head of a missile is ironically one of the least dangerous places for the custody of plutonium.

Further evidence that the danger has not passed is the number of detected instances of attempts to trade illegally in special nuclear materials, which has shown a consistent increase. Up until 1991 all attempts at sale were fraudulent. Between then and 1994, real nuclear material in small quantities began to appear on the black market. Although most cases were still fraudulent, offers of around one kilogram were picked up after 1994.

The illegal trade in controlled materials not only creates a market-place but also establishes the pattern of the networks. As in any clandestine activity, it is generally carried out by fringe agents with a greater or lesser degree of organization. At the top of this ladder is what has come to be called organized crime. Those in possession of any radioactive material may, for example, try to carry out all manner of blackmail, extortion or attacks against Governments, companies or individuals. Here lies another danger that did not make itself known hitherto.

Perhaps even more dangerous is the area of proliferation of chemical and biological weapons. Their lower cost and the greater accessibility of the raw materials to manufacture them make them more tempting in the eyes of countries or groups that long to possess great destructive power at a low price. Their high lethality and diversity in use perhaps put them for now at the top of the list of these dreadful nightmares.

While there exist nations with ambitions to own weapons of mass destruction, the demand for the materials and technology needed to produce them will continue. This demand stimulates offers and thus the black market will go on. As it carries on in conditions of tight surveillance, so it will become

more sophisticated and this in turn will require the national and international controls to be improved.

I must mention here a new potential purchaser—international terrorism. Given the irrationality typical of its actions, this is even more dangerous than a sovereign State.

In the case of Latin America, which does not generally produce the essential ingredients for the manufacture of weapons of mass destruction, the risk lies in "triangulation", the process pertaining to acquisition by countries with a potential for weapons proliferation.

The know-how to facilitate the adoption of measures aimed at avoiding proliferation is available in a wide-ranging bibliography; the challenge is to bring it into practice by employing legal and administrative tools that enable the illegal trade in sensitive materials to be detected and interrupted.

Chapter 3

Illicit Trafficking in Delivery System Technologies and Components: An Assessment

Genaro Mario Sciola

A. Introduction

By way of introducing this subject, it is appropriate to present some of the conclusions of the UNIDIR meeting held in Río de Janeiro in October 1997, which dealt with aspects of dual-use technologies relating mainly to sensitive material used in launchers and missiles as well as in civil and military satellites.

As a corollary to the conclusions on this aspect, it was considered that, through the advances being made in technology, communications, remote sensing and computer science, the grey area in which the technologies for peaceful and military uses overlap was becoming increasingly narrower, and this assisted progress in identifying the materials, components, systems and subsystems used for one or the other purpose.

As the aim of the above-mentioned meeting was to endeavour to establish the missing link between security and development, many studies were presented whose conclusions attempted to provide the beginnings of a solution to the problem.

This presentation will refer to the main conclusions of the Río Conference, since they have much in common with the topic to be discussed and can therefore be taken as the basis of this report, which analyses the illicit traffic in delivery system technologies and components.

B. Legal Framework

On 16 April 1987, seven countries (Canada, France, Federal Republic of Germany, Italy, Japan, Great Britain and the United States) met for the purpose of establishing an agreement which would enable the export of sensitive technologies relating essentially to missile development and manufacture to be

controlled. From this meeting there emerged what was called the Missile Technology Control Regime (MTCR), an agreement by virtue of which the seven signatories undertook not to export this technology to third countries. The document contained an annex listing the systems, subsystems and components that were the subject of the regime and over which the signatories were required to establish export controls.

At present the MTCR has twenty-eight members, and to join the Regime, the applicant nations are required to undertake to comply with the norms established in the Regime and its annex prior to becoming members.

This commitment that countries wishing to join the system must make is fulfilled through laws or decrees by which they are required to impose their own restrictions on the export of sensitive technologies by limiting them to those specified in the Regime and its annex, or by abiding by any other condition that the MTCR members might specially establish for a particular country.

The problem that each member faces once having joined the control system is *how* to establish internal control over its exports, that is, how to implement a system with sufficient capability to detect the export of these technologies, or, put another way, which body or bodies should be the implementing authorities.

C. Legal Dilemma

One of the proposals made by the Río Conference was that international standards originating within the framework of the United Nations should be implemented which would legislate on traffic in sensitive material.

It should be borne in mind that, although General Assembly resolutions are theoretically binding on member countries, in practice compliance with their provisions is relative because national interest predominates over international interests, and even resolutions adopted by the Security Council, which command greater adherence, have been violated on numerous occasions; it must be concluded, therefore, that legislation of this kind would not be sufficiently effective to be taken as a standard of international legislation.

Given these prevailing features within the United Nations context, and in order to control nuclear energy, the Tlatelolco Treaty emerged. Whilst devised according to United Nations' principles, the Treaty was signed originally by only one group of nations, but to which practically all countries

possessing this technology have been acceding gradually, thereby achieving, all in all, effective control of nuclear energy.

Modelled on the experience gained through the Tlatelolco Treaty, the MTCR has provided us with a form of draft international legislation, provided that the principles on which it was originally based are respected.

Using the MTCR as a basis, member countries depend on their national legislation in the matter, which always refers to the provisions laid down by the Regime and its corresponding annex. It is here that the *first difficulty* arises, because the legislation is not homogeneous: some countries have acceded to it through laws, others through decrees, the texts are not open to the same interpretation and, as will be seen later, as a means of exploiting this aspect, *three-way* traffic in technology has emerged.

Moreover, it is precisely over these various national legislations that controversies have occurred, arising from the different interpretations given to them. This leads to one nation exporting a technology which, in the opinion of another nation, is sensitive, on the basis of its own legislation. This lack of uniformity between the national legislations, which are based on the MTCR annex, is a problem which the Regime itself should overcome by providing, together with the basic criteria, a recommended specimen document, and by having a group of specialists who would resolve any discrepancies or controversies arising between the various member countries.

D. Practical Application

Having become a member of the MTCR and promulgated national legislation, the country concerned must establish in this legislation which body or bodies will be the implementing authorities. In this aspect lies the second problem, because although all countries have set up groups of specialists to establish and describe the component elements of sensitive technologies, the ultimate responsibility for authorizing their export rests with the duty customs official.

With regard to the first aspect, specialist personnel are required to be trained to enable them to detect sensitive technologies with absolute certainty, for which purpose courses and seminars, etc. are delivered, both at the national and the international level.

In relation to the second aspect, customs officials have to be provided with the latest technology as regards communications and computer science, so that they have rapid access to data banks or can be in direct communication

with specialists for the purpose of authorizing exports that might be of a questionable nature because of certain features.

Within the framework of the MTCR, training courses were held at the international level. Although some of them were delivered fairly frequently, there was no regular pattern of courses, nor any master training programme, and, because of their special nature, it proved to be very expensive for the countries concerned to send a large number of participants.

This situation has been partly overcome by delivering courses in countries that are not members of the MTCR but which have an interest in the issue. These courses are organized and delivered by specialists from member States of the Regime, and are paid for by the host country.

These courses should be delivered regularly, should be part of a master programme, should be delivered alternately in different countries or regions and should be financed through endowment contributions and through international organizations and private bodies that have an interest in the Regime.

It would also be advisable for the MTCR to have at its disposal a group of inspectors who would periodically inspect personnel training operations, the means by which the corresponding legislation is being implemented and the performance of officials who have the ultimate responsibility for authorizing technology exports.

E. Evaluation Schemes

In the technological world of today, the transfer of technology from developed countries to developing ones has become customary. Traffickers in technology turn this transfer to their advantage by disguising sensitive or dual-technology material, or material with a specific military application. This practice leads to another dilemma, which is knowing exactly where technology transfer ends and where trafficking in technologies begins. If the traffic is too strictly controlled, we may make the mistake of hindering technology transfer and vice versa. For these reasons, it is very difficult to achieve a balance in control measures, but we must continue our attempts to define clearly this grey area of technology transfer.

There are numerous examples of traffic in sensitive material used exclusively for military purposes, carried out completely openly and in compliance with local laws applying both to the exporter and to the importer. This is basically due to the lack of uniformity between local legislations which results in these operations being undertaken. Here we face another dilemma in

promulgating national legislation. If this legislation lists specifically all the components or systems banned from export, we run the risk, given that legislation always lags behind technological development and assuming the legal principle that whatever is not prohibited may be practised, of allowing the latest technology to be legally exported. On the other hand, if the legislation is of a very general nature, it is open to various interpretations by those who have to implement it. For these reasons, the MTCR should recommend specimen legislation in which a balance is sought between these two aspects.

Bearing in mind what I have explained above, the lack of uniformity between the various national legislations and the different ways in which they have been interpreted by the various countries have paved the way for the emergence of three-way traffic in delivery systems, subsystems and components, using third countries whose legislation in the matter is more flexible, with the result that control has been considerably hampered.

This problem has been overcome in large part through information exchange between the main international traffic and mass export centres (ports, airports, etc.) with regard to exports considered to be in transit or with the country described as the intermediate point of an export consignment, the final destination of which is required to be clearly established.

F. Dilemma: International Security *vs.* Development

If we hope to attain absolute certainty that sensitive material is not being exported, national legislation should be so specific and detailed that, in any case of doubt, it includes components that are distant relatives of the materials specified in detail in the MTCR annex. This would mean, however, that the export and transfer of technologies for other uses would be hindered.

The idea of partial certainty also entails problems, because any legislation that facilitates technology export would run the risk of being open to misinterpretation and, in technology transfers, of letting components slip through which are specifically prohibited by the MTCR annex.

Here another dilemma arises, which is that of international security *vs.* development. To what point can security be increased without affecting development, or to what point can development be increased without affecting security? The reply to this question is a balanced, flexible and at the same time specific national legislation which, above all, is not open to misinterpretation. The need must again be stressed for the MTCR to supply a recommended specimen document to which national legislations should be adapted.

G. Compulsory Measures

In the international context, sanctions are applied, whether unilaterally or multilaterally, to those involved in technology trafficking; there are a series of compulsory measures that can be adopted, the most common ones being a partial or total embargo on exports and retaliatory measures.

The embargo can relate specifically to sensitive technologies, cover all technologies in the course of transfer, and can even apply to all exports from one or several countries to the country or countries involved in the illegal traffic. The application of this measure has been very effective provided that it is not for an unlimited period.

Retaliatory measures include any other type of sanction and, in another arrangement, they can also be applied as a compulsory measure to traffickers in sensitive technologies. This action, however, might give rise to problems in other areas which were previously functioning adequately and might significantly affect foreign trade between the countries involved.

These measures, especially embargoes, hinder development, to a greater extent for the embargoed country and to a lesser extent for the country declaring the embargo, because, for the former country, technology transfers are restricted or cancelled and, for the latter country or countries, exports are restricted and they therefore need either to look for new markets or reduce production.

Furthermore, and above all, the embargo can be turned to advantage by third countries that had not previously operated in the market because their products lacked competitiveness, and which now see an opportunity to fill the vacuum left by the country declaring the embargo.

H. Conclusions

To summarize all the points raised, the following conclusions can be established:

First: Dual technology applies to both civil and military projects alike, but owing to technological advances in communications, computer science and detection, this grey area is growing increasingly narrower, since these dual-use technologies can generally now be identified.

Second: The most suitable legislation for controlling the export of sensitive material is national legislation, provided that it is based on the norms laid down by the MTCR, and for their promulgation it has been suggested that the MTCR should recommend specimen local legislation that is not open to misinterpretation.

Third: The authorities responsible for implementing national legislation should undergo training by attending regional and international courses. The MTCR should also have at its disposal a group of inspectors responsible for inspecting both the operational methods of implementing control mechanisms and the operation of training courses, on the basis of a proposed master plan.

Fourth: As to the dilemma of international security *vs.* development, the former should be increased to a level that does not affect the latter. The developed nations should also be prevented from restricting the development of developing nations by citing international security criteria.

Fifth: The best way to improve control over these technologies is by publicizing at the political, economic and financial levels, both national and international, the kinds of technologies that we are managing and the disastrous effects that these technologies could have, with a view to raising *awareness* of the consequences of trafficking in them.

By way of conclusion, let me present an evaluation of the situation. The MTCR is exactly ten years old and its seven founder members have increased to twenty-eight. Although it does not function perfectly, it has come a long way and has met with considerable success, especially in its efforts to prevent trafficking in sensitive technologies, which leads us to conclude: “It has been satisfactorily implemented, that it requires some adjustments to be made, but that essentially it constitutes a very satisfactory solution as a control system.”

Part Two

Small Arms

I. The Situation in Latin America

Chapter 1

Interrelationship between Illicit Trafficking in Small Arms, Drug Trafficking, and Terrorist Groups in South America

Silvia Cucovaz

A. Introduction

The alliance between drug traffickers and guerrillas arose during the 1970s in response to the reciprocal needs of such groups due to the great pressure exerted on them by the regional security forces.

In the initial agreements, the role of the guerrillas was to protect crops, laboratories and access roads, with a view to diverting the operations of the security forces. Drug traffickers, in turn, committed themselves to funding the former and supporting them logistically, especially through weapons supply. In this context, the Colombian 19 April Movement (M-19) was the first guerrilla organization to agree with drug trafficking groups on the development of joint strategies in order to secure the funding which was essential to enable them to operate locally.

The globalization which started with the fall of the Berlin Wall resulted in an increase in interaction between criminal groups at international level. This gave rise to new forms of trafficking, whose volume and diversity of supply channels and/or markets developed in parallel with the links between regional drug trafficking organizations and the big international criminal conglomerates and various South American terrorist and/or guerrilla groups.

Within this context, the 1990s can thus be especially characterized by the following circumstances:

- New links between international criminal organizations; and
- The need for terrorist organizations to maintain their operational levels, by resorting to self-funding of their activities.

Both circumstances gave rise to:

(*a*) the strengthening of regional drug trafficking groups, due to the expansion of their areas of influence;
(*b*) the strengthening and updating of the alliances of these groups with terrorist organizations which received logistical and economic support in return for their guaranteeing the security of illegal crops.

Here it is worthwhile mentioning the agreement in force during the 1992-1995 period between the Peruvian drug trafficker Abelardo Cachique Rivera and the Shining Path Regional Committee of Huallaga, which provided for the updating of joint agreements previously existing in the region. In this agreement, the rights and obligations of each party were established in relation to cocaine trading at local and international level and joint operations were agreed upon to block crop substitution plans.

The above-mentioned agreement represents an example of the kind of link established between drug traffickers and guerrillas, in which the former regularly supply the subversives with weapons or at least provide the means necessary for obtaining them.

In this way, the periodic supply of arms among illegal organizations speeded up the structuring of arms-trafficking networks, which are supplied by companies from all parts of the world.

B. Factors which Facilitate Trafficking in Small Arms in the Region: the Involvement of Drug Traffickers and Terrorist Groups

1. Extent and Permeability of National Borders

The length of the borders of Latin American countries and the low population density along them hinder effective control of the traffic across them.

The areas where intense arms trafficking has been detected and where guerrilla groups and drug traffickers are operating—either separately or jointly—are shown in the following Map I.1.1:

- Border between Brazil and Paraguay, in the area between the cities of Pedro Juan Caballero and Ponta Pora;
- Border between Colombia and Venezuela, in the area of Tachira;
- Border between Ecuador and Colombia, in the area of Putumayo;
- Border between Brazil and Colombia, in the north of Amazonas;
- Border between Peru and Ecuador, especially in the area of Tambogrande and La Tina; and
- Puerto Iguazu, Argentina.

Map I.1.1: South America

2. Low Cost of Small Arms

Due to their low cost, small arms are perfectly suited to the Latin American market. As an example, Table I.1.1 illustrates the prices of different types of small arms in Paraguay, Argentina and Brazil.

Table I.1.1: Select Small Arms and Prices

In the legal market	Argentina	Paraguay	Brazil
Revolvers	***Prices in US$***		
38 Taurus (Brazil), ordinary steel and stainless steel	400/450	290	170/220
38 Rossi (Brazil), 6 shots, stainless steel, 3 inch barrel	400/450	260	259
38 Smith & Wesson (USA)	650	550	250
357 Magnum Taurus (Brazil), ordinary steel and stainless steel	500/550	400	355/417

3. Difficulty of Detection

Small arms are difficult to detect; this fact together with the geographical characteristics of Latin America mean that State and regional efforts within the framework of cooperative security agreements constitute a daunting challenge.

4. Increasing Activity of Suppliers in Eastern Europe and Asia

a. *Asia*

In the 1995-1997 period, several cases of arms smuggling from China were detected in various countries of the region. The recipients of these arms were presumably different types of criminal organizations and Colombian drug trafficking and guerrilla groups.

The smuggled items consisted mainly of AR-15 rifles, whose price is highly competitive in comparison with those of American origin.

b. ***Eastern Europe***

There is considerable evidence to show the existence of efficient channels used for the supply of arms from Eastern Europe to the region:

- The activity of criminal groups of Russian origin in the area, mainly linked to Colombian drug trafficking cartels;
- The fact that former members of the Intelligence and Security Services of Eastern Europe have joined criminal groups, which are clearly expanding internationally.

In this context, the entry of a batch of weapons into Uruguay was detected in December 1995. These weapons were probably stolen from military facilities in Poland and their possible destination (given their large amount) could have been for use in a major operation by criminal organizations and/or terrorist groups.

5. The Disarming of Several Central American Guerrilla Organizations and the Lack of Control over the Final Destination of the Equipment

The end of several conflicts in Central America, notably in Nicaragua and El Salvador, led to the dispersion of a large amount of arms, which had previously been in the hands of civilians. Various investigations recently carried out as a result of the occupation of the Japanese Ambassador's residence in Lima by the Tupac Amaru Revolutionary Movement (MRTA) indicated that on several occasions the Farabundo Marti Front for National Liberation (FMLN), from El Salvador, could have traded weapons with Colombian drug traffickers/guerrillas and provided the necessary equipment to the Peruvian organization for the occupation in question.

It should be noted that the end of certain conflicts in Central America has meant that almost one million weapons will be left completely outside official control, creating the possibility of a considerable increase in arms trafficking from this area, given the demand from drug trafficking and terrorist groups operating in South America.

6. Increase in Arms Imports, through Fictitious Operators, Based Mainly in Ciudad del Este (Paraguay): Weapons Purchased by Drug Trafficking and/or Terrorist Organizations

The investigations carried out throughout 1996 by Brazilian and Paraguayan authorities, with a view to eliminating arms trafficking between the two countries, led to the discovery of a considerable number of fictitious operators based in Ciudad del Este, who had organized several triangular shipments from the USA. These operations consisted of the purchase of arms in the USA, with legal export certificates based on the fact that Paraguay allowed free importation of arms, including semi-automatic weapons. Then:

(*a*) The weapons were left in São Paulo from where they were sent to the "favelas" (slums), without entering Paraguayan territory;
(*b*) The weapons were smuggled from Paraguayan territory, the town of Pedro Juan Caballero being the place preferred by the traffickers to carry out their operations;

Bearing in mind that Pedro Juan Caballero (Paraguay) has approximately 30,000 inhabitants and that there are records of annual purchases of almost 22,000 weapons, of which 5,000 are from the USA, it is clear that this town is gradually turning into one of the main regional markets for arms supplying and trafficking.

The signing of the agreement between Brazil and Paraguay in October 1996 to fight against arms trafficking was to some extent a recognition of the serious situation at the frontier, and led to the stricter measures established the same month by the Paraguayan Government to control the arms trade.

These regulations laid down that each importer could purchase only 500 weapons and 1.5 million rounds of ammunition annually (according to Dimabel, in the period January-October 1996, 47,031 weapons and 41,900,000 rounds of ammunition were imported).

7. Increased Settlement of Arab Communities in South America with Close Links to Terrorist Organizations in the Middle East

The increasing settlement of Arabs in Ciudad Del Este (Paraguay), with likely links with terrorist groups from the Middle East and drug trafficking organizations operating in the area, is making possible the setting up of joint networks, whose territorial control and scale of operations are leading to a

considerable growth in demand and possible changes in the structure of arms trafficking in the region. As a result of such changes, the Ciudad Del Este-Pedro Juan Caballero axis, in the short term, may turn into one of the main arms supply markets at regional level for meeting the needs of criminal organizations, drug traffickers, terrorists and guerrillas.

8. The Gradual Growth in the Activities of Certain Criminal Groups and/or Drug Traffickers, mainly African and Chinese

Various African groups—associated together in the so-called "Nigerian Connection"—and Chinese groups with close links to different "Triad" organizations—notably the "14-K"—are still carrying out intense activity in the area, although with differing methods. For instance, in Tres Fronteras there are some 6,000 people of Chinese origin, who own 50 per cent of the businesses in Ciudad del Este. Some of them are linked to the Chinese mafia.

There are different levels of participation of such organizations in arms trafficking. While the Nigerians purchase their weapons locally so as to be preventively armed just like any other criminal group, the Chinese organizations—in addition to expanding their activities such as business extortion of shopkeepers, illegal immigration and forgery of personal documents—participate in arms smuggling from several places, especially Hong Kong.

It is thought that the transfer of Hong Kong to China will lead to a significant amount of Chinese mafia members moving to several other countries, notably the USA, Canada, Australia and some South American States such as Argentina, Peru and Paraguay. In this context, their activities might increase and become diversified, so they may have to be considered as an important factor in the regional criminal map, and consequently they could play a major role in arms trafficking.

9. Corruption at Certain Levels of the Security Services and Armed Forces in the Region, Facilitating the Traffic and Marketing of their Own or Smuggled Weapons

According to United Nations estimates, illegal trade at world level in conventional weapons could attain values in the region of US$ 25 billion a year. This figure includes all types of illegal trafficking operations. Regardless of this, the different modes of operation are worth mentioning. The cases detected in Latin America present the following characteristics:

- The operations are of triangular structure;
- The end-use certificates are falsified;
- Use is made of enterprises legally established at local level or abroad, which are closely related to a certain government area or to certain sectors of the armed forces and/or security services;
- Companies from different countries participate in the various stages of the process, especially in the transportation of equipment and the laundering of the money resulting from the operation.

It is thought that, due to the complexity and magnitude of the preparatory steps of a major operation, traffickers need different covers, some of which are necessarily among certain sectors of the regional armed forces, specifically in the areas of production and marketing of defence equipment.

10. Bilateral and Multilateral Instruments Designed to Prevent Arms Trafficking in the Region are Inadequate for Current Needs

The lack of bilateral and multilateral instruments for controlling illegal arms trafficking has without doubt, been one of the factors which has favoured the development of such activity within the region.

On this matter it is obvious that legislation at regional level is lagging behind compared to the process of expansion in the activities of criminal and guerrilla organizations. This expansion, based on common interests, naturally started at local level, but soon acquired regional, continental and worldwide importance, which hindered the efforts of the countries of the region, which were lacking the necessary support of a legal framework to regulate effectively the systems of bilateral and multinational control.

This obvious comparative disadvantage is now being gradually overcome thanks to the general consensus regarding the seriousness of the problem in question and the launching of various initiatives by certain countries, whose situation had become highly dangerous.

Standing out among the bilateral initiatives is that of Brazil and Paraguay, which on 17 October 1996, signed an agreement aimed at combating illegal arms trafficking, under which each country must provide the other monthly with a detailed list of arms acquisitions by their own citizens, foreign residents and legal entities.

Likewise, on 25 October 1996, the USA, through its representative in Asuncion, announced that the State Department had suspended the export licences of almost all firearms, munitions and components to Paraguay. The

American Ambassador stated in Asuncion that this measure was aimed at preventing arms smuggling from Paraguay to other Latin American countries, particularly to Brazil. Noteworthy at multinational level, is the initiative of the regional heads of State, gathered at the Interamerican Summit in Chile of November 1996, aimed at limiting conventional weapons. From this initiative there emerged the "Agreement Against Illegal Manufacturing, Trafficking, Selling and Transferring of Weapons, Munitions, Explosives and other Materials" drafted during the Second Expert Meeting of the "Rio Group", held in March 1997, in Cancun (Mexico).

The above-mentioned Agreement is due to be approved by the 27th Ordinary General Assembly of OAS to be held in Lima (Peru) between 2 June and 6 June 1997. In early April 1997, OAS officials reported that, since arms trafficking with its links with drug trafficking and terrorism had become a very great threat, a working group had been set up to study the problem and to draft a bill of regional legislation to be submitted to the June Interamerican Assembly, in Lima.

C. Some Examples from the Area

Two "cases" have been selected, as examples, in which we can observe the interrelation between arms trafficking groups and other international criminal organizations.

1. The EPICON Case (Bolivia)

The EPICON case—detected in Bolivia in 1993—clearly shows the link between a group made up of Bolivian citizens, that forged documents, and an international arms trafficking group, most of whose members were European citizens, and which in December 1991 opened a branch office of the London firm of EPICON in Bolivia.

The smuggled weapons mostly came from Portugal, Russia, Bulgaria and former Czechoslovakia. They were sold to States that were under a United Nations embargo, and also to irregular groups, terrorist groups, drug trafficking groups, mercenaries and common criminals.

The weapons smuggling group was headed by Gunter Pausch, a German citizen married to Tania Isele Torrico Zuazo. Taking advantage of his wife's contacts, Gunter Pausch and his group obtained forged Bolivian passports, courtesy visas and even faked end-use certificates with seals of the Bolivian

Ministry of Defence and Ministry of the Interior. These documents were offered in Europe not only through the EPICON company, but also through KINTEX (Bulgaria) and ETEM (Portugal).

The group that operated in Bolivia and supplied fake documents was made up mainly of members of the chancellery of the neighbouring country.

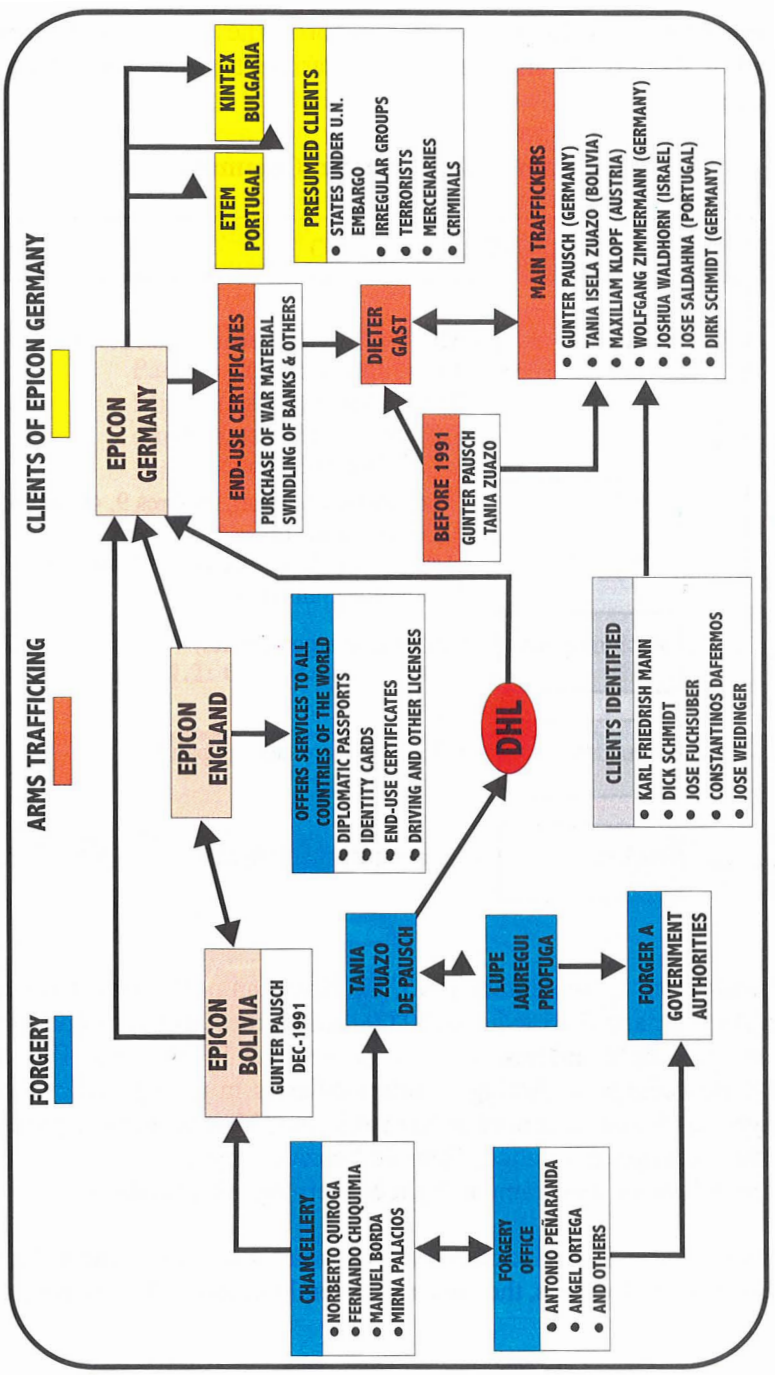
How the group's activities were detected

Early in 1993, the German police warned the Bolivian authorities about the activities of an international arms trafficking group which was operating from La Paz and which intended to deliver arms to Croatia and Iraq. The Bolivian authorities began a thorough investigation with the help not only of the German authorities but also that of INTERPOL. The investigation led to the discovery of the members of the network, its *modus operandi* (see Diagram I.1.1) and finally, to the arrest of the main persons involved.

2. The Brazilian Case. The Vermelho Commando and Arms Trafficking

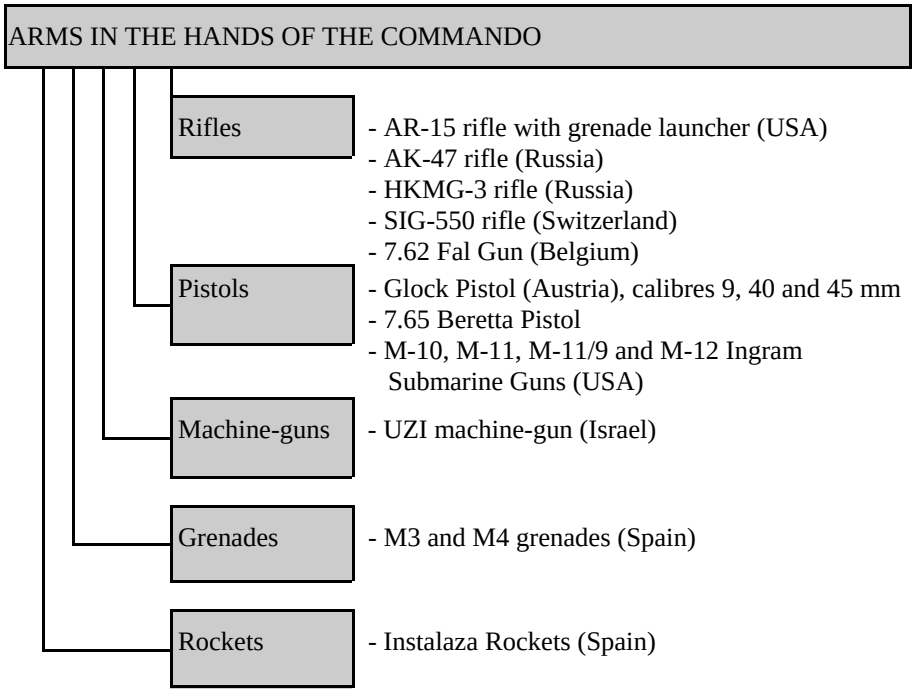
Around August 1995, the Brazilian authorities discovered that the Vermelho Commando had engaged in a combination of arms smuggling and drug trafficking. The deliveries were made from Bolivia and Paraguay to São Paulo and from there to Rio de Janeiro. Within two months, the São Paulo police intercepted two combined cargoes of drugs and AR-15 rifles and 223 mm Ruger guns (USA) for military use. The weapons were transported together with cocaine or basic paste in small planes that landed in clandestine strips near towns of the interior of São Paulo State, such as Piracicaba, Catanduva and Marilia, and were then distributed locally or sent to Rio de Janeiro.

Diagram I.1.1: Multinational Arms Trafficking



According to official Brazilian reports, the Vermelho Commando consisted of about 6,500 armed men, with various types of weapons, among these being:

Diagram I.1.2: Vermelho Commando



In addition, in September 1995, the Brazilian police reported that the Vermelho Commando had acquired 10,000 bulletproof vests and Glock pistols, with telescopic sight and laser rays, from “Frontier International Florida”, a United States company. Acting as intermediaries in the operation were an Uruguayan car dealer identified as Renato Ramos Villela, and a former agent of the Brazilian military police, Tenir de Souza Comitra.

The following also came to light concerning the operation:

(a) It was ascertained that one of the main arms suppliers was a Brazilian citizen called Vargas, the owner of several ranches in Mato Grosso who,

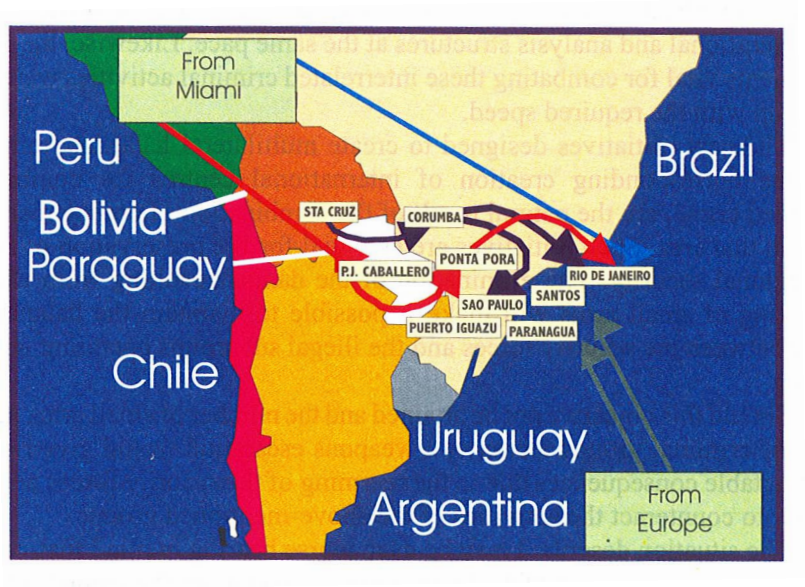
on noticing the activities of the security forces, was believed to have sought refuge in the San Matias region, Bolivia;

(b) Various groups of "bicheiros" (jogo do bicho: a type of lottery) are thought to have been involved in the financing of the acquisition of arms for Rio de Janeiro's drug trafficking groups;

(c) A more thorough investigation showed that the routes most frequently used for arms trafficking by the Vermelho Commando were not only those already mentioned but also the following (see Map I.1.2):

- Santa Cruz de la Sierra (Bolivia), Corumba (Brazil), São Paulo or Rio de Janeiro (Brazil);
- Miami (USA), Pedro Juan Caballero (Paraguay), Ponta Pora (Brazil), Rio de Janeiro (Brazil);
- Miami (USA), Rio de Janeiro (Brazil) through Galeao Airport;
- From Europe to the ports of Santos and Paranagua;
- Puerto Iguazu (Argentina), Rio de Janeiro, Santos, etc.

Map I.1.2: Common Routes for Arms Trafficking



D. Conclusions

As we can see from the above, arms trafficking does not constitute an isolated process within the context of international organized crime. The breaking down of the analysis of the issues regarding the distinct activities of the various illegal groups, carried out by intelligence agencies and specialized bodies, has perhaps led to the creation of valuable databases, but has failed to give the necessary informative and operative cohesion to the struggle against organized crime and international terrorism.

Terrorist and drug trafficking organizations have started a process of intelligence and operational integration, bringing to an end a period characterized by the strict division of markets and constant disputes for control of the various segments of organized crime. Arms trafficking, as an accessory activity to drug trafficking and terrorism, also constituted a criminal activity which developed successfully, accompanying the general process. There must have been many summits and bilateral meetings between different organizations in order to reach these cooperative agreements, thanks to which the range of their activities has been considerably broadened.

In this way, these organizations rapidly adapted the mechanisms helping them to fit effectively into an international structure marked by economic and political globalization. Intelligence agencies and security forces did not adapt their operational and analysis structures at the same pace. Likewise, the legal instruments vital for combating these interrelated criminal activities were not drawn up with the required speed.

The new initiatives designed to create multilateral legal instruments, with the corresponding creation of international centres for combating organized crime, are the natural result of the combination of complementary needs in this area. Such initiatives are essential for the preservation of State and regional security. The elimination of the danger resulting from illegal trafficking of small arms will make it possible to maintain the balance of power between the security forces and the illegal subgroups operating within the area.

Should this objective not be attained and the number of small arms in the hands of criminal groups increase, a weapons escalation would give rise to unpredictable consequences due to the rearming of the security forces needed in order to counteract the activities of the above-mentioned groups.

The situation described may be even worse bearing in mind that, in the present economic situation of the Latin American countries, the security forces are unlikely to be able to count on weapons in comparable quantities to those

of the irregular groups, so that the incidence of such groups as an element of instability will increase exponentially.

Hence the only viable alternative is to join efforts in the fight against these criminal activities, with agreement on policies, strategies and even tactics among the States involved. Only then will effective results be obtained.

Chapter 2

Interrelationship between Drug Trafficking and the Illicit Arms Trade in Central America and Northern South America

Daniel Ávila Camacho

A. Introduction

The problems of drug trafficking and the illicit arms trade are phenomena that exhibit their own specific features and their own particular set of dynamics; they are, however, essentially related, and it is practically impossible to deal with each issue separately.

Both of these issues have a very important place on the current international agenda, yet, paradoxically, the information and knowledge concerning them are highly inadequate given the complexity and extent of the problems they create.

Drugs and arms are inoffensive phenomena in themselves, but, depending on the context in which they are used, they can be either beneficial or harmful to societies and individuals.

In some areas, access both to drugs and arms is considerably restricted or prohibited; and in other areas it is commonly accepted and even encouraged. In both cases, it is generally considered that certain drugs and arms (heroin and assault weapons) are more lethal than others and that they should therefore not be available; the less lethal ones are, however, more tolerated and their distribution is extensive and widespread.

As legitimate trades, drugs and arms generate considerable profits, and they are generally protected and encouraged by Governments.

As illicit trades, they account for the largest sectors of the black market. They generally use the same routes, although arms production and the demand for illicit drugs are found in industrialized countries, whereas illicit drugs production and the demand for weapons are found in the so-called developing countries.

Both drugs and arms give rise to passionate debates on personal freedom, social control, national security, morality, culture and religion. Public opinion in many countries tends to associate drugs and arms with violence and street crime. As a subject of public debate, it arouses passions, ideologies and stereotypes that usually outweigh reason, public interest and scientific research. The communications media frequently tend to be superficial and sensationalist when dealing with these issues.

Colombia serves as a point of reference for various reasons. Although geographically it is not situated in Central America, the influence and proximity of this region result in Columbia's sharing the above-mentioned problems. Colombia has been active at the international level on issues relating to illicit arms trafficking and the drugs problem. We therefore support cooperation at the regional and international levels with the aim of confronting these problems to the greatest possible extent.

B. The Complex Chain of the Drugs Trafficking Trade

The illicit drugs trade is frequently represented as a highly sophisticated organization comparable to a multinational company, with clearly defined interests, strategies and aims, and as a unified power structure with control over the whole process.

In fact, the so-called cartels sometimes work in a similar way to large trading companies; the illegal drugs industry operates like a complex chain of small businesses. The various activities are carried out by many individuals, independent and intermediate traders, who interact in a highly conflicting and sometimes chaotic and violent manner. This international drugs trafficking trade can roughly be divided into the following stages:

1. Primary Production

Small-scale farmers grow the coca leaves and, by using a particular process, convert it into a base using petrol, a binding agent and other elements that can be easily acquired.

2. Secondary Production

The process by which the base is transformed is more complicated, and constitutes the second stage of production. Intermediaries, generally known as

"chichipatos", purchase the base directly from the farmers. The "chichipatos" normally work for the so-called "propios" ["couriers"], underworld individuals with the necessary infrastructure and contacts and the know-how required to convert the base into cocaine. The chemical precursors such as ether, acetone and ammonia are obtained through the so-called "traquetos", who have become specialized in supplying these substances even in the depths of the jungle.

These first two stages take place in remote areas of Colombia, where guerrilla groups operate and exert some degree of control; they therefore play an important role in law and order in the region, protecting the crops and production equipment; they control coca prices to protect the farmers and guarantee distribution of the drug. In this process, guerrillas collect taxes from the "chichipatos", "propios" and "traquetos" which are worth millions of dollars, and this is one of the main sources of income. This income enables guerrilla groups to finance their operations against the State.

This activity by guerrilla groups enables the drugs trafficking trade to operate and impairs the State's ability to combat this problem. It does, on the other hand, have negative repercussions for members of guerrilla groups in the form of corruption and discipline problems.

3. Transport

The transport stage begins from the moment the cocaine is purchased from the "couriers" and ends once it has been delivered to the consumer countries, mainly in North America and Europe. The so-called cartels have the appropriate infrastructure to facilitate transport and distribution of the drug. This infrastructure consists of a network which includes transit areas such as Central America and Mexico, including planes, boats and secret landing-strips.

4. Distribution

This stage takes place mainly in the consumer countries. The volume of cocaine can be increased by mixing it with various substances which lower its grade of purity. This increase in volume is also a consequence of the high number of intermediaries that the distribution stage requires.

This is also the stage in which the highest profits from the trade are made. A kilo of base produced by a farmer is sold for US$ 1,000; once it has been converted into cocaine and distributed through the drugs trafficking trade chain, it can reach a value of US$ 2,800,000 in the United States and US$ 4,000,000 in Europe.

5. Consumption

At this stage, in which the drug reaches its final destination, it is generally used by addicts and occasional consumers.

C. Interrelationship between Drugs and Arms Trafficking

Through this multifaceted network of various illegal activities, many of the agents involved acquire arms, although each one for different reasons, depending on the particular stage in the drugs trafficking chain in which they operate.

In the *primary production* stage, most of the coca-leaf farmers and growers possess small arms. This is not due to their involvement in producing the base but due to cultural reasons, inasmuch as peasants in Colombia have always carried arms in the fields for self-defence. The same can be said of the local dealers in petrol and binding agents—the above-mentioned materials used in the first production stage.

In the *secondary production* stage, more sophisticated weapons are obtained and they are intended more specifically for use in the drug trafficking trade. “Chichipatos” and “traquetos” generally carry high-calibre pistols for self-defence, and the couriers are accompanied by bodyguards armed with similar weapons as well as with automatic and semi-automatic weapons.

The cartels, which in their turn dominate the *transport* aspect of the trade, also seek small and sophisticated arms to enable their bodyguards to move around the large cities in which they carry out their operations with the necessary discretion. Although some light and automatic weapons are used, the arms requirements of the drug barons are not of such a military nature as the communications media sometimes portray them as being. For small-scale drugs traffickers, and these are the majority, weapons are often undesirable, because they attract unwanted attention on the part of the authorities.

At one stage, the Medellín cartel set up an elaborate terrorist organization, under the command of Pablo Escobar, using dynamite in car bombs and groups of men hired to engage in violent combat against the Colombian State at the end of the 1980s and the beginning of the 1990s.

With the death of Pablo Escobar and the dismantling of his organization, the use of high explosives by drugs traffickers and the scourge of terrorism have diminished.

In the *distribution* stage, the possession and use of weapons, as well as their size and power, tend to diminish all the way down to the street traders.

Finally, in the *consumption* stage, whilst occasional consumers rarely possess a weapon as a result of drugs use, some studies have shown that there is a high correlation between drug addiction, street crime and the use of firearms.

All this demonstrates that the arms requirements for each of the agents involved vary according to the stage in which they operate and the different types of activities in which they are engaged. These requirements therefore largely determine the interrelationship established with the weapons market.

D. The Legal and the Illegal Arms Market

In analysing the weapons market and the Colombian market, it is first necessary to distinguish between two opposing but related factors: the licit and the illicit weapons markets.

There are at present in Colombia approximately 1,250,000 firearms in the hands of civilians holding some type of licence, without including those held by the State's security forces.

Authorized firearms in the hands of civilians are legally purchased from INDUMIL, the small State-owned firearms industry, which is the sole legal producer and importer of firearms in the country. Firearms acquired by civilians are also illegally imported or purchased on the domestic black market and later legalized and registered with INDUMIL, which is also responsible for maintaining lists in the firearms register.

In Colombia, because of the lack of strict regulations, there has, over the years, been an extensive proliferation in firearms, in legally registered weapons and in automatic and semi-automatic weapons, which are supposedly for the exclusive use of the State's security forces.

In 1993, a new measure on firearms control entered into force which established two distinct categories of firearms licences: the first, possession of a firearm, limits the possession of a firearm to the house or the workplace; and the second, licence to carry firearms, allows a person to load the firearm. The former licence is valid for up to ten years and may be issued for one or two firearms. The latter must be renewed annually, allows only one firearm per person and requires proof that the firearm is essential for self-defence.

This firearms control measure includes an amnesty and a period of grace for the registration and legalization of previously acquired firearms. At present,

there are approximately 919,759 registered firearms with licences to carry firearms and 334,152 with licences to possess firearms.

This new measure has in some degree enabled the Government to begin to collate its own information and to gain a clearer idea of the extent of the problem.

Despite controls, however, many civilians, including some of the agents mentioned as being involved in the five stages of the drugs trafficking chain, obtain their arms from the legal market and end up using them for illegal purposes.

It is estimated that the number of illegal firearms has reached five million, although most experts calculate the number to be roughly three million. Moreover, the illegal arms market in Colombia has grown considerably in the last ten years, and this increase is largely related to the needs generated by irregular groups involved in the internal arms conflict.

In contrast to other leftist insurgent groups in Latin America, the Colombian guerrillas have received little support from outside the country, especially in the way of weapons. Certain Central American countries have served as training grounds during the 1980s for Colombian guerrillas; and, although the former Soviet Union and its allies maintained close political links with armed insurgents, Colombia was never a priority for the Communist bloc. For this reason, and for many years, the guerrillas' weaponry was rudimentary and was acquired through combat and not as part of an elaborate strategy connected with the international arms trade.

With the end of the cold war, countless weapons and munitions, brought to Central America over the past ten years, are now part of a huge black market—Nicaragua, El Salvador and Panama—which has been infiltrated by Colombian guerrillas.

The various international arms supply sources for guerrillas are reflected in the various types of arms that its members use in combat—from G-3s, Galils and Uzis to AK-47s and M-16s. Another possible source are the drugs cartels which, due to the structure that they possess for importing various weapons, do not hesitate to do business with guerrillas. The growth and power of these drugs cartels have turned them into large arms importers. Although their needs are different, as mentioned earlier, these weapons, usually small arms, are acquired in various parts of the world through intermediaries. In this way, the drugs trade is protected and a demand is created for small arms.

An apparently common method of obtaining these arms is the exchange of drugs for weapons, in which process the same secret air routes are used to

bring the drugs and take away the weapons. And, just as drugs money is laundered, illegal weapons are easily transferred and sold at a price.

As the drugs cartels seek other markets, mainly in Europe, the supply bosses will probably switch to arms buying.

If these small and light arms continue to be easily obtained on the black market and to be routinely used by drug traffickers, guerrillas and paramilitary groups, they will also be used by common criminals and civilians who will feel threatened by being surrounded by so many arms.

E. Concluding Remarks

All the above-mentioned weapons can be classified as small arms, which demonstrates that whilst unflagging efforts are being made with regard to nuclear and strategic weapons, very little has been done in the field of small arms.

It is evident that the so-called drugs industry is much more complex than has been described here and that the illicit drugs trade has infiltrated local economies. It is also clear that the interrelationships between drugs and arms are numerous and diversified and that they reflect the very complex nature of these issues.

Chapter 3

The Role of Manufacturers and Dealers

Carlos Fernández

I would like to take a few moments to express my thanks, on behalf of the Dirección de Seguridad Pública e Informaciones de Chile [Chilean Directorate of State Security and Information], an organization which is part of the Ministry of the Interior, for the invitation to participate in this important seminar, which we are sure will make a significant contribution to increasing our knowledge of the subjects involved and strengthening the links between the institutions represented here today.

Without further ado, I would like to begin this lecture by examining this subject on the basis of Chile's experience with regard to illegal trafficking in arms and its relationship with terrorism and drugs. I must, however, include other national situations in the analysis, as well as the process of integration which our continent is experiencing in several domains, and to which the subject which brings us here today is beginning to have a widely acknowledged relevance.

The illegal arms trade is not new to the region; nonetheless, during recent decades it has experienced considerable growth, a phenomenon which has enabled various groups to threaten the political stability of some countries, while in others it has led to the development of law and order policies. We can identify three major variables which influence its demand: terrorism, drug trafficking and ordinary crime, variables which, although demonstrating different levels of importance depending on the situation in each country, are clearly interrelated and explain a large percentage of this demand.

In addition to specific considerations, it is undeniable that the extensive climate of political stability to be seen in the region, its high level of demilitarization—compared with other areas—and the major processes of integration which are overtaking the old hypotheses of conflict are factors which put a brake on the illegal weapons trade. However, some grey areas are looming up on this promising scene: the persistence of terrorist movements, the ability of drug traffickers to take on the State, the articulation of both of these

and gaps in terms of security left by the undeniable process of integration and globalization.

A. Terrorism

In this context, it is not possible to discuss the relationship between terrorism and the illegal trafficking in weapons without taking as a central point the discovery in 1986 of the stockpiling operation for weapons and explosives carried out by the Frente Patriótico Manuel Rodríguez (FPMR) [Manuel Rodríguez Patriotic Front], with the collaboration of national and foreign interests. This find, commonly known as the "Arsenals Affair", resulted in the seizure, in various parts of our country, of some 50 tonnes of weapons, munitions, explosives and various types of support equipment (Table I.3.1). The operation cost over US$ 35 million.

Table I.3.1: The "Arsenals Affair": Seizure of Weapons, Munitions, Explosives and Various Types of Support Equipment

WEAPONS	Provenance	Quantity	Weight (kg)
M-16 rifle	USA	3 383	7 764.8
RPG-7 rocket launchers	USSR	123	759.0
FAL rifle	Belgium	148	621.6
LAW rockets	USA	180	417.7
M-60 machine-guns	USA	6	69.6
M-16 magazines	USA	5 518	769.2
Cartridges Cal. 5.56 (for M-16)	USA	2 293 508	26 622.1
Cartridges Cal. 7.62	USSR/Czechoslov.	6,705	-
Projectiles for rocket launchers	USSR	1 946	4 464.0
Hand-grenades, cluster type with fuse	USSR	1 959	1 188.6
Launch charges for the RPG-7	USSR	2 234	857.2
Fuses for grenades	USSR	1 979	98.6
FAL magazines	Belgium	1 029	165.0
Ammunition for M-60 machine-gun	USA	5 600	40.5
Ammunition for AKA rifle	USSR	965	289.0
M-70 grenade launchers	-	5	-

40 mm ricochet grenades [rockets]	-	65	-
EXPLOSIVES			
TNT	USSR	-	2 203
T-4	Czechoslovakia	-	796
Hand-grenades	-	-	1 987
Detonators	USSR	-	4 834
Fuses	USSR	-	80
Detonating cord	Czechoslovakia	-	18
Coiled slow fuse	Argentina	-	134
TELECOMMUNICATIONS			
HF radio-receiver transmitter	-	3	-
Portable radio-receiver transmitter	-	3	-
Navigation receiver	-	2	-
Tuner with automatic aerial	-	2	-
Vehicle adapter	-	4	-
Battery chargers	-	3	-
Morse transmitter	-	1	-
Marine aerials	-	2	-
High frequency aerials	-	3	-

This incident represented a reversal of the traditional way in which Chilean terrorist groups had obtained supplies of weapons and explosives. They used to obtain their weapons through their own actions and on the black market, a situation which could be categorized as of low-level importance. The same applied to the fire-power of the seized arms and explosives, which showed a substantial difference in comparison with previous experience. Various examples of this can be given.

The subsequent investigation enabled a comprehensive overview to be obtained of the operation in terms of preparation and execution; nonetheless, it has not been possible to determine with certainty the quantity of weapons and explosives which still remain in the hands of terrorist groups. With regard to this, police operations have enabled the recovery of some of these weapons held by criminals and drug traffickers. This turn of events, although on a small scale, is indicative of various trends which fall within the context of the links which some members (or ex-members) of terrorist groups have with drug traffickers and criminals, which will be analysed later.

1. Expressions of Terrorist Violence

The most active group in Chile from a statistical point of view was MAPU Lautaro, with 128 actions during 1990 and 161 in 1991. However, its activities dropped to 8 actions in 1995. These account for 43.7 per cent of the overall total (1,192) recorded between 1990 and 31 March 1996.

The second most active group is the Frente Patriótico Manuel Rodríguez (FPMR), responsible for 32 per cent of recorded actions. Its operations decreased from 90 actions in 1990 and 107 in 1991, to 35 in 1995. However, it must be stressed that this group has a large military section, is capable of actions of considerable magnitude and can rely on international support in the training of its members. It is this group which currently retains the major part of the relevant authorities' attention in the fight against terrorism, given the antecedents described earlier.

Finally, the Movimiento de Izquierda Revolucionaria (MIR) [Revolutionary Left Movement], which in previous periods played an important role in terms of stockpiling of weapons and number of actions, has seen its political and military sections completely broken up, thanks to the work of the security authorities.

The most dangerous types of action, such as the use of explosives, have also decreased. From 350 explosions detonated in 1990, this figure has fallen to 37 actual explosions detonated in 1995. In contrast, false alarms of explosions increased from 27 in 1990 to 299 in 1995, which demonstrates that the operating capacity of the groups has been substantially reduced.

This indicates that terrorist groups in Chile lack the capability to alter the course of the political process or to destabilize the economic system. This is due to the use of the powers which the law grants the authorities and the proper enforcement of the principles of security and the constitutional State.

2. Drug Trafficking

As indicated above, another factor influencing the demand for weapons comes from drug trafficking. Although in our country gangs of drug traffickers are of relatively minor importance compared with other countries on the continent, their activity still requires them to have access to weapons and explosives—with increasing fire-power—to ensure their own security and to overcome both the State's efforts at suppression and other similar groups. Drug trafficking in Chile essentially involves using our territory as a transit station to other areas of greater demand. Nonetheless, internal distribution and robbery

between gangs constitute worrying phenomena due to their increasing impact on criminal violence.

B. Crime

Over recent years, crime has shown a trend towards an increasing level of violence, expressed in the predominance of robbery over theft. The weapons, generally handguns, essentially originate from four sources: stealing from victims, home manufacture, the illegal internal trade and the illegal traffic from neighbouring countries as part of an historic interchange between the criminal classes.

The increase in the public perception of a growing decline in law and order, shown in various surveys, has brought with it, to the advantage of local gun dealers, a large increase in their sales in recent times. However, this situation is a source of concern in view of the serious problem it is causing, namely, that these weapons are often stolen by criminals in the course of a robbery. Likewise, this public feeling leads to recourse to the black market for weapons to meet a variety of purposes. This process of "rearmament" of the civilian population is also sufficient motivation for criminals to procure weapons with greater fire-power.

The decline in law and order is an important subject of public debate in Chile. The increase in crime, which can be quantified by means of the criminal statistics, enables the conclusion that between 1980 and 1994 the number of crimes increased significantly. The most frequent crimes are against property (58%), domestic (22%) and against the person (19%).

It was reports of robbery which showed the most sustained increase during the period 1980-1994, reaching a peak in 1986 and then falling, only to increase again into 1991, since when it has fallen steadily, maintaining levels similar to 1987. Overall, it can be shown that robbery with violence against the person and with force against property fell between 1991 and 1994. This point needs emphasizing because it shows that the civilian perception of a decline in law and order is not directly associated with what police statistics are indicating.

The quantitative increase in criminal activity seems to correspond to an increase similar to that which can be observed in some industrialized countries: principally a greater increase in certain types of crime is observed (for example, drugs, burglary and crimes against property). Undoubtedly, the process of social change which the country has experienced in recent years is associated

with distinct forms of criminality, characterized by the increased level of danger in urban areas, expressed by a more violent type of crime against property.

To summarize, criminality has shown a significant increase since the 1970s, especially in urban areas, and each time with more frequent participation by minors and with greater violence used in the execution of the crime.

1. Links Between Transnational Organized Crime and Terrorist Crime

From 1990 onwards and during the early years of the democratic Government, terrorist activity continued in Chile. However, thanks to the action of the Carabineros de Chile, the Policía de Investigaciones [Investigatory Police] and the Dirección de Seguridad Pública e Informaciones [Directorate of State Security and Information], political/terrorist violence has not just been controlled, but has also been reduced.

Government action has always been subject to full compliance with the freedom and rights of citizens, seeking a precise equilibrium in this matter through a proper balance in the use of punitive powers. The bodies responsible for controlling and suppressing terrorism have worked in three domains: the suppression of terrorist activity, prevention and rehabilitation, and the implementation of measures intended to control this activity.

The investigation of this type of crime is delegated to the forces of Order and Public Safety, the Carabineros de Chile and the Investigatory Police. In addition to increased allocation of resources, police and intelligence work has made possible the detention of most of the leaders of the main terrorist groups. To achieve this, coordination, and a willingness on the part of institutions to accept a joint response to this challenge, have been essential. In this context, it is the role of the Dirección de Seguridad Pública e Informaciones, a body which is part of the Ministry of the Interior, to carry out the analysis and evaluation of intelligence and to formulate proposals and action plans to deal with the terrorist groups.

Since 1993, a marked reduction in terrorist actions has been observed in our country, which is due on one hand to the continuing social and political isolation of violent action owing to the return of democracy, a factor which once more channelled political struggle into the realms of respect for democratic institutions and the constitutional State, and on the other hand to the substantial advances which the police forces have made in their investigations, which has led to the almost total disintegration of the terrorist organizations.

With regard to a specific connection between terrorism and drug trafficking, it is possible to state that according to recent intelligence reports, cooperation between some former members of terrorist groups with groups of drug traffickers and common criminals has been observed, providing them with protection, clandestine communication methods, manufacture of camouflaged casings and containers for the transport of drugs and international communication.

2. Firearms Control

The Law on Firearms Control has as its objective the establishment of a register and a system of firearms control in the country, setting requirements for their importation, sale, registration, possession and use. It prohibits private individuals from holding or possessing a range of weapons, such as sawn-off shotguns, machine-guns, sub-machine-guns and devices using gases or corrosive substances, etc.; it also establishes a strict and rigorous control and registration system for those weapons whose possession is permitted, under the supervision of the Ministry of Defence, the Garrison Commanders of the Chilean Armed Forces and the Carabineros de Chile.

The Dirección General de Movilización Nacional (DGMN) [Directorate General for National Mobilization] is responsible for firearms control in Chile. The figures produced by it on the registration of weapons in the country indicate that a large increase occurred between 1984 and 1994 (Table I.3.2), when the number of registered weapons in the country rose from 14,822 to 38,990 respectively (an increase of 162.3 per cent). This increase was mostly recorded between 1990 and 1994, with the figure doubling during that time (an increase of 107 per cent). In spite of this, the statistics for 1995 show a significant reduction, with the number of registrations (16,483) returning to the levels observed in the previous decade.

With regard to the number of weapons sold in the country, the figures available indicate a relatively stable picture between 1992 and 1995, with a slight increase in 1993. However, the increase observed in the number of weapons sold in the provinces between 1994 and 1995 stands out (Table I.3.3).

According to the figures, a significant increase has occurred over the last ten years in the registration of weapons at national level. Most of the weapons registered were for personal protection and revolvers and pistols predominate (63 per cent). However, the figures on the sale of weapons show a relatively stable tendency in recent years. This difference between registration and sale

would indicate a not inconsiderable incidence of arms smuggling by private individuals.

There is a significant number of weapons in the country which have been mislaid, and which, in most cases, are used by criminals for committing crimes which have a public implication. This phenomenon acquires even greater seriousness when one considers that on many occasions the victims of armed robbery do not report the crime to the police. For this reason, the possibility cannot be ruled out that the actual figures for missing weapons are much higher than the available statistics, a situation which becomes even more complicated when account is taken of the fact that there is a significant percentage of weapons which have not been registered. The Law on the Control of Weapons is only effective for those which are registered and not for the others.

Table I.3.2: Total Registrations of Weapons (1984-1995)

Year	Other types*	% difference	Handguns	% difference	Total
1984	5 415		9 407		14 822
1985	5 897	8.90	10 173	8.14	16 070
1986	4 816	-18.33	8 858	-12.93	13 674
1987	5 111	6.13	10 383	17.22	15 494
1988	6 265	22.58	9 590	-7.64	15 855
1989	7 112	13.52	8 481	-11.56	15 593
1990	6 853	-3.64	11 942	40.81	18 795
1991	9 384	36.93	14 062	17.75	23 446
1992	9 861	5.08	14 237	1.24	24 098
1993	13 055	32.39	14 264	0.19	27 319
1994	19 998	53.18	18 892	32.45	38 890
1995[a]	7 287 (8 720[b])	-63.56	6 487 (7 763[b])	-65.66	13 774 (6 483[b])

* Carbines, shotguns, rifles, sporting guns, industrial rifles, flare pistols and small hunting pistols.
[a] 31/10/95; [b] estimated figure at 31/12/95.

According to the statistics produced by the Policía de Investigaciones (PICh) [Investigatory Police], there was a significant increase in weapons seized between 1985 and 1995 (the data for the latter year were estimated at 31 December). The increase between 1994 and 1995 stands out in particular, going from 262 weapons seized to 591. This sequence indicates that during the first five years (1985-1989) an annual average of 210 weapons was captured, while during the period 1990-1995 this figure increased to 257, and to 272 if the number estimated at 31 December 1995 is taken into account. This rise implies an increase of about 30 per cent in weapons seized by the PICh.

Table I.3.3: Statistics on Arms Sales (1990-1995)

Year	Arms imported	Arms reg.	Sold metropolitan areas	Sold in the Provinces	Total (national)
1990	n/k	18 795	n/k	n/k	n/k
1991	n/k	23 446	n/k	n/k	n/k
1992	13 695	24 098	17 297	4 663	21 960
1993	15 545	27 319	22 437	2 692	25 129
1994	14 933	38 890	19 589	2 580	22 169
1995	11 602	7 627(*)	13 589 (**)	4 834 (**)	18.445

Source: DGMN.
n/k: not known; (*) January-July 1995; (**) January-October 1995.

It is worth noting that, in the data provided by both the Carabineros and the PICh, revolvers, pistols and rifles constitute the vast majority (a little over 90 per cent) of the decommissioned weapons. At the same time, if the figures for both police forces for this type of weapon (Table I.3.4) between 1994 and 1995 are considered, a significant increase in the number of seizures can be observed (37.6 per cent).

Finally, it must be remembered that the police statistics indicate that between January 1996 and 15 April of this year, some 1,158 million pesos (nearly US$ 3 million) were stolen in the financial domain, loot which represents, for both the criminal groups and for the terrorists, a considerable sum with which to obtain firearms.

To conclude, I would like, conscious of the importance which this subject has for every country and for the region as a whole, to salute the initiatives which our countries are developing, based on the mandate from the Xth Summit of Heads of State and Governments, held in Cochabamba, to establish a draft convention against the manufacture of and illicit trafficking in firearms, munitions, explosives and other related equipment, with a view to concluding the negotiations with a treaty covering the whole hemisphere, proceedings which will enable it to be ready for signature in the short term.

Table I.3.4: Total Weapons Seized (Carabineros and PICh)

Type/Year	1994	1995 (*)
Revolver	843	862 (1 115)
Pistol	353	468 (602)
Rifle	385	351 (458)
Total	**1 581**	**1 681** **(2 175)**

(*) The figure in parentheses is estimated to 31/12/95.

Chapter 4

National and International Initiatives against Illicit Arms Trafficking

Wilfrido Robledo Madrid

The demand for arms, mainly light and small weapons, which has resulted from regional conflicts, the increase in organized crime and drug trafficking and, in some countries from the growing need for the civil population to own a weapon due to a perceived breakdown in law and order, has considerably increased commercial transactions and above all illicit trafficking on the black market.

The accumulation of light weapons and small arms in a country, and especially in the hands of the civilian population, will always be a common denominator in the causes of violence and can also succeed in converting the everyday issues of public safety into issues of national security, given that this type of weapon will not just be in the hands of ordinary criminals but of gangs of drug traffickers and of organized crime and, even more importantly, of terrorist and/or subversive groups, who would be the main users. In this respect, it is worth putting forward some thoughts on the subject:

- The accumulation of small arms will always be an important factor in armed violence and in the increase in homicides, violent assault, organized crime, drug trafficking and above all in the sustaining of terrorist and subversive groups operating at domestic and international level;
- In the majority of cases, those responsible for enforcing the law do not have the programmes or the capability to enforce the laws which would enable them to disarm the population. In many of these cases the failure of the very authorities responsible for enforcing the law is the fundamental factor in the accumulation of small arms in the hands of the civilian population;
- Due to lack of knowledge and the low level of international cooperation on the subject we are discussing, some countries have not received

appropriate advice on improving the monitoring of imports and exports, the registration and control of arms and the training of the police force;
- There is currently a lack of effective channels of communication and there are no procedures for the exchange of information and intelligence, with the exception of a few cases at bilateral level;
- To date no consensus has been obtained for the proscription of some small and light weapons which have been the cause of a great many deaths, nor for the destruction of old equipment, left over from demobilization and which in the majority of cases was used as a support for nations in conflict.

This situation makes it essential for there to be international coordination for the development of an integrated strategy aimed at eradicating this phenomenon through the application of legislation and of administrative procedures, compatible at regional and international level, to include sanctions against those responsible for this illicit activity.

In this respect, it must be remembered that the international community is constantly calling for States to give high priority to the eradication of the illicit trafficking in all types of weapons, munitions and explosives, due to its links with the illicit traffic in drugs, with terrorism, organized crime, and mercenary and other destabilizing activities.

On the other hand, it is important that account be taken of the role played by the processes of pacification and the agreements on arms reduction and disarmament in achieving greater control of this type of equipment, thereby preventing its entry onto the black market supply chain.

For this reason there is an urgent need for the development of mechanisms for the exchange of information at a subregional, regional and global level, which would assist the institutions responsible for the control, detection and confiscation of arms to carry out large-scale initiatives to eliminate these illicit activities.

Strategy and efforts need to be oriented principally at the following two levels:

- Internal control;
- International cooperation.

The most relevant actions in terms of internal control which we, the member countries, must undertake in a well-managed and coordinated fashion, relate in the first instance to the appointment of a central authority which will

be responsible for linking all national and local initiatives to counter illicit trafficking through the black market, legal commercial transactions and those which appear to be legal, in addition to the collection of information and the production of related intelligence.

Furthermore, consideration must be given to the existence of internal legislation and the training of those responsible for enforcing the law.

In this respect, internal controls should be based on the following premises:

- The establishment of a central authority to coordinate the national efforts of all the departments and bodies with jurisdiction in this area;
- The existence of a central authority responsible for licensing imports and exports;
- The existence of a central authority responsible for licensing the bearing and use of arms and for the functions of registration and control;
- The existence of a central authority which inspects imports;
- National legislation to regulate registration, use and control;
- The creation of a special body to coordinate investigative operations related to the illicit traffic in arms;
- In matters of intelligence, a section dedicated to the production of intelligence related to the black market for the illicit trafficking in arms and its links to criminal organizations;
- A central department responsible for administrating the database of all decommissioned weapons and all those which have been lost by police forces. This should be the department responsible for conducting the corresponding tracing operations.

In the case of Mexico, the problem of illicit trafficking in small arms has become a problem of national security, for which reason we have set up an inter-institutional group to examine it with the authorities mentioned above and which involves all Mexican Government organizations which are responsible for law enforcement, including the armed forces. This group is coordinated by the Secretaría de Gobernación (Ministry of the Interior) and meets weekly to evaluate the progress of the programme.

I am now going to give a brief description and the objectives of the inter-institutional group which is examining the illicit trafficking in arms, munitions and explosives in the national context, and which was set up in March 1995.

This group is structured on two levels: firstly, Coordination, responsible for establishing the group's operational courses of action, and, secondly a

Technical Subcommittee, which is responsible for carrying out the tactical analysis leading to the presentation of concrete proposals to deal with these issues.

The group was set up as an inter-institutional body. It is coordinated by central Government and all the authorities mentioned above participate in it.

General Objective:

- To detect, anticipate and neutralize the illegal trafficking in firearms, munitions and explosives in the national territory through coordination of the institutions which belong to it and the expansion of intelligence gathering.

Specific Objectives:

- To carry out the tactical analysis of information captured by the Sistema Nacional de Información [National Information System], to determine the geographical areas which demonstrate the highest level of occurrence;
- To designate ports of entry and exit for shipments of arms, munitions and explosives and to liaise with the inspecting authority;
- To determine the ports of entry and the main routes for illicit trafficking;
- To produce intelligence on the black market for the illicit trafficking in arms, munitions and explosives;
- To strengthen operations aimed at the break-up of organizations involved in this illicit activity and connected crimes such as drug trafficking, subversion and kidnapping, among others.

To fulfil its objectives, in the two years it has been working, it has carried out the following actions:

The document which contains the Programa Nacional para la Prevención y Control de Tráfico de Armas de Fuego y Explosivos [National Programme for the Prevention and Control of Traffic in Firearms and Explosives] was produced, which covers the functions and powers of all the participating bodies.

The Guía para la Identificación de Armas de Fuego, Municiones y Explosivos [Guide to the Identification of Firearms, Munitions and Explosives] was produced.

The organization has formats for the collection and storage of data on firearms, munitions and explosives, which are used to standardize the collection

of information relating to decommissioned weapons, munitions and explosives so that tracing initiatives are effective.

The National Information System participated in the project.

Likewise, a special module was created for the incorporation of information on firearms mislaid by the armed forces and police bodies.

The work carried out by the inter-institutional group in the two years of its existence has resulted in a register of 25,100 decommissioned weapons of which 15,932 are handguns and 9,168 rifles, shotguns or machine-guns; of these, 8,560 are linked to drug trafficking and 16,540 to other crimes.

As regards the international context, initiatives must pay particular attention to international movements of shipments of weapons, munitions and explosives, whether these operations are legal or illegal. In this respect, international cooperation, whether subregional, regional, hemispherical or global, must always aim for the standardization of procedures and strengthen initiatives for the exchange of information and intelligence and for the training of the personnel responsible for enforcing the law.

The acceptance of model regulations, standardization of administrative procedures and the exchange of information at a hemispheric and global level in the short term could form the basis for the control of international movements of light weapons and small arms. In the medium and long term, consideration could be given to the harmonization of the corresponding legislation; for the moment the respect in which current internal legislation is held may assist in making progress on the other proposals.

The bilateral relationship and the establishment of binational groups of experts could help considerably in eradicating the problem of illicit trafficking once the routes by which illegal arms are brought into a country have been detected.

Due to the fact that most small arms imported into Mexico originate from the black market and the main flow is from north to south, a binational committee formed with the United States was also included in the group. This committee has produced magnificent results, because initiatives were set up at an operational level for the exchange of information and intelligence and the training of personnel responsible for dealing with the problem, namely: the customs service, the Procuraduría General de la República [Attorney General of the Republic], the police, intelligence personnel, and the armed forces. This has enabled the tracing of arms which had been decommissioned by the various authorities to organized crime, drug trafficking and the subversive groups which are operating within our national territory. For this reason, I am now

going to examine the most important aspects of the binational group with the United States.

As tracing is the most important investigation work it undertakes in relation to decommissioned weapons linked to organized crime, drug trafficking, terrorism and subversion, the establishment of similar binational groups might be apposite once the entry routes and the *modus operandi* of the black market traffickers have been discovered. The final objective must be to identify the country of origin and the exporters and importers of this type of cargo.

In May 1996 the Grupo de Coordinación [Coordinating Group] which is dealing with this illicit activity in our country, proposed the setting up of a bilateral technical group which would look into the matter jointly.

In October 1996, the first Binational Meeting between the United States and Mexico was held, the main subject of which was the traffic in firearms. In attendance, on behalf of Mexico, were representatives from the Coordinating Group which was working on this subject and from the Ministry of the Exterior, and on behalf of the United States, specialists from the Alcohol, Tobacco and Firearms Agency (ATF) and the US Customs Service.

At this first, formal gathering, the United States and Mexico agreed to establish a programme of exchange of information, with our country obtaining, in the first exchange, information relating to US citizens detained in Mexico due to their participation in arms trafficking, and an undertaking to support the tracing of decommissioned arms in Mexican territory.

Under the aegis of this collaboration scheme, another binational meeting was held in November 1996 at which the following was agreed:

- The formalization of the creation of the Binational Group on Firearms and Explosives;
- The establishment of a single directorate for tactical liaison;
- The follow-up of specific cases related to arms trafficking;
- The exchange of information related to this illicit activity;
- The United States Government approved access to the Database at the National Tracing Centre through the ATF representatives in Mexico;
- The United States Government also agreed to provide training courses for operational personnel and at a third meeting the agenda was established for the above-mentioned courses, with the first to be held in January 1997.

A. Initiatives at Regional Level

1. Coordination with Central American Countries

The main flow of the illicit trafficking in arms into Mexico runs from north to south which means that the United States, in addition to being our country's main supplier of legal arms, is also the main source for the black market; however, this does not mean that there is not some south-north flow of arms principally originating from the demobilization which has taken place in countries such as Nicaragua, Guatemala and El Salvador. In view of this, and other problems common to the region, Mexico participates in a programme of cooperation with Central America.

Since 1994, Mexico has kept in constant communication with the Central American countries on the subject of the illicit traffic in arms and has set up with them the Comunidad de Inteligencia Regional (CIR) [Joint Regional Intelligence Organization].

The exchange of information takes place weekly by fax and secure telephones. Also, relevant information is sent immediately when its content so dictates.

To date, Mexico has sent 142 information reports which presented a general overview of the zone.

2. Participation in the Comisión Interamericana para el Control del Abuso de Drogas (CICAD) [Inter-American Commission for the Control of Drug Abuse]

Mexico has played an active role in the CICAD group of experts, which met most recently in early April at the headquarters of the organization with the aim of preparing a set of model regulations to control the smuggling of weapons and explosives and its links with drug trafficking in the Americas.

The group of experts worked for three days, at the end of which a first draft of certificates of export and import had been produced which could be used for the transfer of firearms at international level, with the aim, above all, of complying with the internal legislation of the member countries, principally standardizing administrative procedures and attempting to unify criteria for the classification and identification of weapons.

At future meetings of the group of experts, attention will be turned to model regulations for international transfers relating to munitions and explosives.

3. Participation in the Grupo de Río [Rio Group]

At the instigation of the Presidents and Heads of State belonging to the Mecanismo Permanente de Diálogo y Concertación Política (Grupo de Río) [Standing Organization for Political Dialogue and Consensus (Rio Group)], it was agreed at their Xth Summit, held in Cochabamba, Bolivia, on 3 and 4 September 1996, that consultations would be started with a view to developing a draft convention to halt the illegal traffic in arms in the region.

On the basis of this agreement, on 14 and 15 November 1996, in Cancún, Quintana Roo, Mexico, the first Meeting of Experts under the aegis of this organization was held. At this meeting the first draft of a convention was prepared and it was agreed that it would be placed before the respective Governments; the holding of a second meeting was suggested, which took place on 6 and 7 of March in the same city in Mexico.

At the second meeting a draft convention, opposing the manufacture of and illegal trafficking in firearms, munitions, explosives and other related equipment was prepared.

The proposal emerged from this meeting that, subject to approval from the Permanent Council of OAS, a working party be established with the purpose of concluding the negotiation of a treaty covering the whole hemisphere, which could be open to signature and ratification on the occasion of the holding of the XXVIIth General Assembly of the regional body, to be held in Lima, Peru from 2 to 6 June 1997.

Mexico supports the efforts which the Organization of American States (OAS) is making at a regional and international level to drive forward the development of model regulations intended to harmonize and periodically review, when appropriate, laws, regulations, administrative procedures and their methods of application with the aim of eliminating the manufacture of and illicit trafficking in firearms, munitions, explosives and other related equipment.

Furthermore, to draw up a convention which, while respecting the principle of the sovereignty of individual States, has as its purpose to prevent, combat and eradicate the manufacture of and illicit trafficking in firearms, munitions, explosives and other related equipment, due to their links with terrorism, the illicit traffic in drugs, organized crime and other criminal activity, based on the following plan:

Each State is to adopt any legislative or other measures which are required to achieve the following objectives:

- To prevent, combat and eradicate these illicit activities in its territory;
- To establish a national system to centralize the information which enables their identification and control, from manufacture to acquisition by the distributor and the end-user, including the creation or maintenance of registers of producers, dealers, importers and exporters;
- To appoint a national body which would act as a link with the other signatory States, and which would coordinate the various agencies and national bodies with jurisdiction, whilst strictly observing the duty of confidentiality of information;
- To cooperate at regional and international level to harmonize and revise periodically, when appropriate, laws, regulations, administrative procedures and their measures of application, with the aim of eliminating the illicit manufacture of and trafficking in firearms, munitions, explosives and other related equipment;
- To adopt a standardized and effective system for the licensing of exports and imports for their transfer;
- Not to permit the export and transfer of this equipment to the territory of another State which is party to this convention until the corresponding body in the recipient State has issued the relevant authorization;
- To ensure effective control of its borders and ports in order to eliminate the illicit trafficking in this equipment;
- To guarantee that information supplied by other signatory States is used solely for the purposes of this convention;
- To class as a crime the illicit manufacture of and trafficking in firearms, munitions, explosives and other related equipment, punishable as far as possible in accordance with its destructive power;
- To increase knowledge of the firearms, munitions and explosives used in illicit trafficking, the criminal activities in which they have been involved, the detonation systems and the design of explosive devices and to increase the exchange of information on methods used to elude detection;
- To promote the conducting of coordinated investigations on the illicit trafficking in firearms, munitions, explosives and other related equipment in particular in border areas, stimulating the exchange of information on possible criminals or groups of criminals involved in this activity;
- To promote training, technical assistance and the exchange of knowledge and experience among the signatory States regarding the fight against this illicit activity;

- To develop systems of communication with other States so as to receive and supply information on the production of and illicit trafficking in firearms, munitions, explosives and other related equipment and to co-ordinate with these States the cooperation needed to achieve the aims of this convention;
- To ensure that the information supplied by the signatory States is used solely for the purposes of this convention, taking account of the requirements of each State with respect to its confidentiality.

I would like to conclude by reiterating my country's gratitude to the United Nations Institute for Disarmament Research for having included Mexico in this discussion and more specifically our service; the subject is highly relevant to all those of us who are seeking political and social stability for our countries, and, as has been stated above and in other places, light and small arms have played an important role in the regional conflicts of the last two decades. It is for this reason that all the work and initiatives which are currently developing at a local, regional and hemispheric level must be studied and utilized by the United Nations until a consensus of all mankind has been achieved.

II. Other Regions in Perspective

Chapter 5

Interrelationship between Illicit Trafficking in Small Arms, Drug Trafficking, and Terrorist Groups: African and European Issues

Stefano Dragani

A. Introduction

Illicit trafficking in small arms can be considered as a deviation from or as an almost stable fraction of the official arms trade, that is to say in the broadest sense, the trade accepted and regulated by nearly all modern States. Illicit trafficking therefore consists of a parallel market, also called a black market, which has developed clandestinely and which violates both international and national regulations on arms trading, and is thus difficult to quantify.

In essence, illicit trafficking ensures the availability of arms to whoever is already carrying out, or intends to carry out, illicit activities with political and/or lucrative ends. In fact, besides being a direct source of remarkable profits, it is also a way of obtaining other desirable goods, such as drugs, or specific support and encouragement; sometimes, even involving terrorism-related actions.

Those involved in this kind of traffic are mainly transnational criminal organizations, drug traffickers, terrorist groups and national liberation movements for independence, autonomists or separatists.

Some of them are both administrators and direct users, some are just administrators, and others are simply users or clients, which comes down to the same thing. Whatever the case may be, they all operate in a sort of tight interconnection, as discussed below, with specific reference to the European and African clandestine market.

B. Transnational Organized Crime and Illicit Trafficking in Small Arms

Illicit trafficking in arms, especially small arms, together with drug trafficking, is one of the primary activities of the great and powerful criminal factions, such as the Chinese Triad, the Japanese Yakuza, the American Cosa Nostra, the Russian mafia, the Turkish mafia, and last but not least, Italian organized crime, known as the Sicilian Cosa Nostra (more simply Mafia), the Neapolitan Camorra, the N'drangheta from Calabria and the Sacra Corona Unita from Puglia.

The interest shown by these organizations in arms trafficking is due not only to the great profits it provides, but also to other causes, some of which are of great importance. Organized crime, in particular the Mafia, has in fact primarily a need to have its own arms, so as to:

- make sure it has control of the territory wherein it operates;
- oppose the Government;
- exert some kind of supremacy or deterrence over other competitive or rival groups, or at least instil fear; and
- demonstrate for the same purpose its power through various types of military operative capacities.

This is confirmed by several seizures and discoveries carried out by the police (in hiding places of criminal groups in Italy) of remarkably large quantities of arms and munitions, some having a highly offensive capacity which was obviously much greater than the groups' operational needs.

This is also confirmed by the fact that several different weapons are used, with modern technical characteristics and a far better ballistic performance than necessary, in many criminal acts, sometimes of great impact such as attacks on safe-deposit vans or deadly traps for State authorities.

The logic behind this behaviour is:

- that the criminal force potential of a group is directly proportional to the fire-power it possesses; and
- that to impose itself, and to instil fear, respect and be dissuasive, it must be able to display this force.

For example, in the summer of 1993 in a town near Salerno, in southern Italy, the police discovered four rocket launcher tubes equipped with self-propelled ammunition. Subsequent investigations found two members of the Neapolitan Camorra to be responsible for introducing these arms into Italian territory.

Another example emerged in October 1993 during a seizure of arms carried out by the police in a town near Modena. Some individuals linked to the Calabrian N'drangheta, who had moved to northern Italy, were found in possession of an arsenal made up of RPG missile launchers, offensive-type hand-grenades, explosives and automatic weapons with ammunition.

But the interest of transnational organized crime in small arms is also linked to other aspects and characteristics of its clandestine trade. One of these aspects is the great ease with which these arms are purchased. This is partly due to:

- the ease with which these arms can be legally purchased in some countries; and
- the widespread availability on the clandestine market of arms originating by theft or removal from the military depots or barracks of former Soviet countries including those of the Balkan region, generally poorly supervised or in unscrupulous hands, or even worse, abandoned.

Another aspect is the heavy demand for this kind of weapon which has recently been created by the long-standing and new ethnic conflicts which have erupted in various parts of the world, in particular after the collapse of the Soviet Union, the end of the cold war and also due to the contrast between the Western bloc and the Eastern countries.

But there are other special features of trafficking and the clandestine arms market which must not be underestimated. One of these is that the clandestine market often develops within the legitimate trade, at times due to the absence of or insufficient controls by Governments or authorities, or even due to their indulgence, connivance, or corruption.

Besides being a source of remarkable profits, another characteristic of illicit trafficking in small arms is that arms are also valuable goods in exchange for drugs; a traffic which can lead to far greater profits and be used for laundering, which enriches individual fortunes. Arms trafficking can also be used for supporting complex organized structures, carrying out effective control over the territory by corruptive means and investing in other legitimate and illicit activities.

Moreover, such profits are obtained with better guarantees of impunity compared to other kinds of profits, particularly compared to those obtainable from drug trafficking. The organizers, middlemen and financiers of arms trafficking on an international scale can often, either explicitly or covertly, count on the formal support (including logistical and organizational) from the institutional bodies of the countries which gain profits from these illicit activities.

C. Interrelation with Drug Trafficking

The interrelations between illicit trafficking in arms and drug trafficking are of different kinds. The various intelligence and investigative activities, both preventive and repressive, carried out in Italy and in other countries, have shown that the same criminal organizations carry out both these illicit activities, using the same operational arrangements as well as the same operators, middlemen, carriers and routes. They have also shown that the traffickers in arms and drugs are often the same.

The ongoing criminal trial in Italy concerning the HERYGERS brothers, Jean-Luc and Jacques, confirms this trend. They have both been involved in previous offences related to large-scale cocaine traffic from Brazil and have also been linked to criminal groups in Belgium, where members of the Russian mafia flourish. The Herygers brothers have also turned out to be involved in counterfeit money, as well as in trafficking in guns, bulletproof jackets and electric clubs with African countries. Wire-tapping and other operations revealed that they spoke about various African political figures whom they knew personally and, with their intervention, could facilitate their trafficking in arms.

Furthermore, there is another close connection between small arms trafficking and drug trafficking, namely the relation between arms traffickers and the organizations or cartels specializing in drug trafficking, in particular those in the producing countries of the “Golden Half Moon” (Afghanistan, Pakistan, Iran), of the Golden Triangle (Burma, Laos, Thailand) and of Latin America (Colombia, Mexico).

The arms-drugs link fulfils two different requirements. One is that of the drug traffickers, to have large quantities of weapons to arm the forces which ensure the control and defence of vast plantation areas and of refining laboratories, even against armed interventions by the regular forces. The other

requirement is that of the arms trafficker, who uses arms in exchange for purchasing large quantities of drugs without any other costly go-between.

D. Interrelationship with Terrorism

The interrelationship between illicit arms trafficking, in small arms in particular, and terrorist groups, are essentially of two kinds:

- the terrorist group is only a user or a client of the clandestine market; and
- the terrorist group is also a trafficker, both for its own needs and as a middleman or salesman for other groups, to make money or to exchange goods, or even because of political and ideological affinities.

Naturally the same goes for national liberation movements fighting either for independence or autonomy and for guerilla and/or mercenary groups. In the first case, which is the prevailing one, these groups or movements pay in cash which originates from various funds, or else they offer in exchange amounts of drugs which they have received for having supplied military protection to plantation areas and/or refining factories, or even for offering various kinds of services, including terrorist activities.

An example is the case of the Lebanese Hizbulla and of the Kurdistan Workers Party (PKK), located in the Beqaa Valley in Lebanon with detachments and armies operating in the Middle East, Europe and North Africa; of the Liberation Tigers Tamil Eelam (LTTE) operating in Sri Lanka, but also in India, Pakistan and European countries; of the Basque ETA in Spain and France; of the Irish Republican Army (IRA) in Great Britain; of the Corsican National Liberation Front in France and Italy; and of the Algerian Armed Islamic Group (GIA), the latter mainly for arms procurement in Europe and their transfer to Algeria.

In the second case, illicit trafficking in arms and access to the clandestine market are both carried out by terrorist groups and movements and guerilla groups, with the profits made through other illicit activities, among which is drug trafficking, which they deal in themselves.

This is particularly evident with regard to the PKK, in Turkey and Lebanon, and to the Hizbulla in the Lebanese valley of Beqaa. This takes place mostly with terrorist groups, movements and fronts, which lately have not had at their disposal the financial resources and arms they used to enjoy. Changed political situations which we are all aware of, especially those arising in the

nineties, have decreased these funds, obliging the terrorist groups to form alliances with drug traffickers, or even to undertake drug trafficking themselves, to raise enough money to enter the clandestine market and to survive.

In this regard, recently acquired information—which is still being verified and examined, reveals that leaders of European terrorist groups have turned to eastern European countries to find particularly sophisticated small arms.

Also of importance to intelligence circles is information regarding the involvement of the PKK in heroin trafficking and in controlling chemical laboratories in eastern Turkey, that have recently enabled it to make profits of up to US$ 500 million per year.

At the moment a lot of attention is being paid to Albanian terrorist groups and to arms and drug trafficking carried out either by themselves or with other transnational criminal organizations, Italian ones in particular. This is mainly the result of their involvement in heroin trafficking, originating from Turkey and directed towards European countries on the Turkey-Bulgaria-Macedonia-Albania-Italy route, and most of all following the recent robberies of small arms and munitions, which have taken place in Albania at military barracks and depots.

In this context, particular attention is being paid by intelligence services to two Albanian terrorist groups: Albanian Revenge and Justice, made up of members of the former communist nomenclature and of the former Sigurimi; and the Kosovo Liberation Army, in contact with criminal organizations in Italy (Puglia-Sacra Corona Unita) and Switzerland, and dedicated to the trafficking in arms, drugs and clandestine immigrants.

E. Conclusion

The interrelationship between illicit trafficking in arms, drugs and terrorist groups described above constitutes a threat to the security of States and to their economies and to peace which cannot be underestimated.

Each single threat, within these areas, is increased by the mutual support they establish, consequently developing into a dangerous spiral. In view of these contrasting activities, it should be pointed out that, whereas for terrorism and drug trafficking, both greatly condemned by most Governments and their peoples, the former being considered an unacceptable instrument of war and the latter a mechanism of death, there are appropriate juridical defence mechanisms

and special bodies of investigation; on the other hand, in many countries the same has not been done for illicit arms trafficking.

This lesser sensitivity towards offences connected to arms trafficking actually helps the traffickers' task. Therefore, States should on the contrary coordinate their actions at all levels.

In other words, when investigating illicit trafficking in small arms, each State should:

- establish effective operational coordination;
- adopt modern methods to detect the phenomenon and analyse its evolution in a detailed and thorough manner; and
- facilitate initiatives regarding the promulgation (or amendment) of laws that would be better suited regarding search and investigation.

States should also act at an international level, to harmonize their laws regarding various activities and concentrate better on collaboration and co-operation, both as regards informing one another and operating jointly, in the same way as has been done in the past as regards terrorism and drug trafficking.

Chapter 6

Interrelationship between Small Arms Trafficking, Drug Trafficking and Terrorism

Antonio García Revilla

A. New Threats to Security

During the cold war, disarmament and arms control efforts within the framework of the United Nations were, generally speaking, centred on nuclear disarmament.

These efforts were correspondingly given a specific, coherent and practical focus that responded adequately to what were perceived to be threats to security at that time and to the central and exclusive role played by States and the military apparatus under their command.

However, during that period in which military tension predominated and which lasted for almost fifty years, other problems accumulated which today have emerged as new threats to international security. Today, Gulags no longer exist, the military dictatorships of Latin America have ceased to exist, and, in general, democracy continues to expand throughout the world, offering enhanced prospects for the development of mankind.

In that context, attempts to change national development models exacerbated the underlying tensions. The result was the emergence of a whole set of conflicting phenomena that are becoming more widespread as the traditional State becomes more obsolete:

- Firstly, the upsurge in informal economies which affect all existing criteria and, secondly, the emergence of drug trafficking, terrorism and organized crime; and
- These phenomena all have in common the exploitation of the irrepressible human urge to attain individualism and the human striving to gain mastery over one's own fate. They also have within their sights a common enemy: the State. This explains the relative ease with which

these variables establish temporary alliances with each other that are flexible and functional, in contrast with States, whose activities have become more slow-moving and bureaucratic due to various circumstances.

1. International Context

At the same time, at the international level, this new situation has meant that attempts to safeguard world security and the future of the planet have been directed towards finding solutions to the underlying problems of the former approach to security issues. The myopic view that the threat was solely military has disappeared. In the present international context, following the end of the cold war, States are facing a new agenda of priorities, new problems to solve, especially in the multilateral sphere: poverty, human rights, the deterioration of the environment, the rights of indigenous populations, the rights of minorities, etc.—all problems that are centred around the issue of development.

This change in priorities is also reflected in the disarmament sphere. Thus, the emphasis is slowly beginning to shift to conventional disarmament issues and, within this sphere, to regional and subregional dimensions of the problem. As a counterpart, the nuclear issue still exists, but it has ceased to be the only priority.

2. Arms Control

In accordance with this order of ideas, more specifically in the 1980s, some American continent countries began to raise specific issues, such as the primary need to examine and then find solutions to phenomena such as illicit arms trafficking. Some of the countries responsible for promoting these initiatives experience similar problems, such as terrorism and guerrilla warfare, which are also linked to drug trafficking. These two variables always occur together, being closely interrelated. However, it should be pointed out here that it is inappropriate to speak of drugs-related terrorism because we are dealing with two quite separate phenomena, which form alliances only in the short term against a common enemy: the State.

In this extremely complex overall picture of short-term alliances, it should be noted that arms traffic control, although a very important aim, has proved merely to be a support measure which only partially solves a multifaceted problem.

We are now seeing, however, that the need to control illicit arms trafficking is becoming increasingly urgent, in view of the fact that during the Cold War period, "guerrillas" obtained combat weapons by means of "spectacular" action in which weapons were taken away from the enemy. Today, drug trafficking and organized crime in general obtain their supplies from the international black market, which has enabled those involved to attain a more sophisticated capability than that normally possessed by the State.

3. United Nations Framework

At the United Nations level, towards the end of the 1980s, the Secretary-General warned of the serious threat which he called the "militarization of civilian society" and its effects on the stability of national political systems. More recently, the Secretary-General alerted the international community to the urgent need to initiate a micro-disarmament process. He recalled that small arms are in fact the only weapons that at the present stage are the cause of deaths in current conflicts, mainly within our societies: conflicts that vary in degree such as in Somalia, through transition economies, to cases in a region such as Latin America, which is intermittently democratic and which is now finally building the foundations for a culture of peace, democracy and development.

4. Diagnosis

The control of illicit arms trafficking requires an indispensable element, which is the will on the part of States to combat this traffic effectively and support on the part of the producer countries, and cooperation on the part of the international community. On the face of it, the measures that should be adopted are simple. The basic requirements are the exchange of information between national authorities and the complementary harmonization of internal legislation.

5. Difficulties in Implementation

These two steps are difficult ones to take, however, owing to the complexity of the problems with which developing countries are nowadays faced, and which require them to focus their attention on problems associated with their security and, consequently, their survival: the new threats to their security. The State must, simultaneously, engage in efforts to improve the

economy as well as to raise standards of human development, to safeguard and promote human rights, to ensure press freedom, etc., in the country concerned.

The State is required to undertake all these efforts with insufficient financial and human resources, often with diminishing and inadequate international cooperation and at the same time under international spotlights, so to speak, which pry into and assess a State's behaviour according to new criteria: democracy, human rights, market economy, and so on.

In other words, all States that are undergoing structural change now have to confront new global non-military threats to their security, with internal and multilateral structures that were created for other purposes and whose functioning is therefore far from efficient.

Vital instruments such as the United Nations Charter, for instance, were drawn up to solve pressing problems between States, but not intra-State problems that can threaten neighbouring areas.

B. The Case of Peru

As in the rest of the region, the above-mentioned tensions and dysfunctions are present in Peru. Seven years ago, the country went through a phase of very rapid structural change. Peru has succeeded in eradicating hyperinflation and in stabilizing and deregulating the economy, and it has now initiated a second phase of structural reforms.

Peru has normalized its relations with international financial institutions and with its private creditors. It has succeeded in defeating the internal violence that was exerted for more than twenty years by the most violent terrorist group in the Western hemisphere.

The country has also achieved significant success and progress in the efforts that it has simultaneously deployed to combat drug trafficking. And it has increased bilateral cooperation with various countries, in this and other spheres, to unprecedented levels.

1. Terrorism and Drug Trafficking

As regards the connection between drug trafficking and terrorism in Peru, we have seen, as has been previously mentioned, that a strategic alliance has been formed between the two phenomena, which has led almost without exception to the identification of a phenomenon that has become known as "drug-related terrorism".

In geographical areas where the presence of drug-traffickers and terrorists coincided, a convergence of interests occurred for the purpose of confronting a common enemy, which was the State. Coincidentally, the geographical area which became the nucleus for this alliance was the region where the Andes and Amazonia converge, in other words, two of the main ecological systems in the region and in the world. I should also point out that Amazonia and the Andes account for almost 90 per cent of Peruvian territory. This alliance was based on the control of certain remote areas in those regions that harboured terrorist groups, which proved to be very convenient for the activities of drug-traffickers. In exchange for this convenience and for protection, the latter supplied weapons to terrorist groups.

Despite this alliance, which—and this should be stressed—is a temporary one: terrorism and drug trafficking are two separate phenomena.

2. New Situation

The present situation is completely different. The terrorist groups have been almost totally defused, the area has become peaceful and efforts to combat drug trafficking are improving and becoming more effective.

However, the effects of that war are still with us and will continue to be with us for a long time: coinciding with the massive internal population movements, resulting from terrorist violence, there remains another equally worrying problem, which is the militarization of our society and the concomitant phenomenon of illicit arms traffic.

At the multilateral level, efforts made by the United Nations to tackle the phenomenon are still at the embryonic stage. A working group of independent experts has been established which is—shortly—to submit its report. Peru considers that in the last few years it has become evident that if we wish this illicit traffic to be controlled, adequate international cooperation together with a more global approach to the problem are needed, as we indicated in the preceding point. For this, it is essential that internal legislations are harmonized and that effective and very flexible mechanisms are established for information exchange.

We have followed and we support the efforts being undertaken regionally in this regard.

C. Inter-American Efforts to Control the Illicit Traffic in Small Arms

In November 1996, on the initiative of President Zedillo (Mexico), the State members of the Río Group assumed a dual commitment:

1. The drafting of a convention against illicit arms traffic in the region;
2. An initiative for the self-limitation of arms in accordance with which States members would abstain— unilaterally—from acquiring arms which fell within categories that currently did not exist in the region.

We shall refer here only to the draft convention from the point of view of substance and not of form, as copies of this draft convention may be obtained. We detect that at the Latin American level, a series of general agreements on the methods of dealing with the issue have emerged.

The first point to underline is the speed with which this initiative has so far been developed. The initiative was first proposed in November 1996; in December of that year and in March 1997, two meetings of the Río Group approved the draft convention *ad referendum*. A few days later the States members of the Group adopted the draft and submitted it to OAS [Organization of American States], where a working group had already been created which would endeavour to approve the draft text, so that it could be opened for signature during the subsequent General Assembly of OAS, to be held in June, although this does not appear likely to happen in view of the difficulties that remain, precisely because of the existing incompatibilities between national legislations.

I have stressed the speed with which this initiative has so far proceeded because it demonstrates the political will and the climate of opinion which prevail in our region, which I would say are formed of a mixture of a sense of urgency and impatience. This is even more evident if it is borne in mind that, until now, the Río Group, as such, had avoided introducing into its agenda issues relating specifically to this subject and issues relating to disarmament in general. This sense of urgency has spread to OAS, which is a significant fact.

1. Working Group

One of the features of the draft convention is that, basically, we must try to improve the exchange of information between the parties and guide them

towards harmonizing their respective national policies. However, it contains no time-scales or mechanisms for inspection, nor does it provide for the establishment of permanent structures. In terms of its content, it could be considered an embryonic agreement.

The strength of the convention will in the future derive from its link with the joint draft regulation submitted by Brazil in CICAD [Inter-American Commission for the Control of Drug Abuse], which is referred to in the preamble of the draft convention, and which notes the willingness of the States parties to expedite approval of this regulation so that it may become an annex of the convention.

2. Basic Security

To summarize, the illicit traffic in arms in our region is—apparently—an urgent problem for all countries. It is related to a new and wider concept of security, although it is specifically an issue affecting the "security of the civilian population", and it has been expressed for the first time in these terms in a draft convention which, because it represents a starting-point rather than the attainment of an objective, still does not have any mandatory powers, although it could acquire these powers in the future.

In the case of Peru, its internal legislation is perfectly consistent with the legal meaning and purpose of the draft convention. Furthermore, the legislation currently in force is almost identical to the specimen regulation submitted by Brazil.

D. Future Perspectives

1. Regional Efforts

The experience of Latin America in this field corroborates the fact that practical regional efforts are at the moment the driving force behind international efforts in this field.

2. Progressive Measures

The best way forward, therefore, is through the adoption of progressive and specific measures which can doubtless be examined concurrently and in coordination with other aspects of security.

3. Temporary Alliances

The experience of Latin America demonstrates that although terrorism and drug trafficking are separate phenomena, they have a great capacity for forming alliances for the purpose of confronting the common enemy: the State, and that these strategic alliances frequently reveal themselves through illicit arms traffic.

We believe that, in principle, the measures to be taken must include the exchange of information and experience, so that these measures can then be aimed at harmonizing and coordinating policies.

Chapter 7

The Role of Arms Manufacturers and Traffickers

Rubén José Lorenzo

A. Characteristics of the Probable Participation of Arms Producers in Illegal Trafficking

Several cases related to illegal arms trafficking in different regions of the world have probably involved specific manufacturers. In that sense, these companies would have employed several courses of action alternatively, above all the recurring method of triangulation, the use of front companies and the direct sale of arms to traffickers under the cover of legally established intermediary companies to place them on the market afterwards.

Likewise, such methods require the integration of several collateral networks, whose main task would be to facilitate the different phases of marketing, transportation and introduction of the equipment.

Obviously, the need to resort to the above-mentioned courses of action is usually related to the limitations of intermediaries' access to the legal circuits of supply of the said equipment and the manufacturers' interest in obtaining niches in the market, in which there is significant demand for this kind of weapon.

Such interest increases due to the fact that the arms buyers are involved in conflicts characterized by the impossibility of acquiring arms from third countries, because of the bans in force. In this way, it would be easy to determine that, in commercial terms, the conflicts mentioned above prepare the ground for the most important markets with the aim of increasing the manufacturing companies' profits.

If we note that, between 1990 and 1996, about 40 armed conflicts took place worldwide—including the former Yugoslavia—and considering that they had the same characteristics in relation to the arms embargo, we can conclude that trade opportunities for manufacturing industries and arms traffickers

undoubtedly exist. In this sense, and notwithstanding that the volumes required are not always significant, there are different characteristics that make these conflicts become specially attractive markets, due to the following reasons:

- duration of the conflict;
- sustained weapons demand;
- periodic need for equipment replacement.

On the other hand, budget reductions in defence expenditure, observed in various countries, added to the widespread trend towards the formation of highly skilled forces, which are limited in strength and equipped with highly sophisticated weapons, pose a problem for the manufacturers of weapons—traditionally used by the armed forces and security forces—and make it increasingly difficult to place large amounts of weapons in legal channels.

However, the producer mainly supplies new weapons, while the trafficker has other alternatives. This is worth mentioning as such characteristics imply an obvious comparative advantage as regards the former, in view of the fact that the operators of illegal arms channels have:

- greater commercial facility;
- their supply adjusts to any budget;
- a wide variety of markets and potential clients (regular armed forces and security forces, drug trafficking cartels and guerrilla groups, etc.).

In this way, the probable connection between manufacturers and traffickers in order to sell their products in illegal markets, results in the following drawbacks, among others, for the manufacturers:

- the need to grant concessions to the trafficker;
- little room for manoeuvre to impose their trading conditions;
- implementation of traffickers' *modus operandi*.

For this reason, the number of firms choosing the "manufacturer-trafficker" dualism may gradually increase, because this method could possibly improve the financial equation (due to the savings of the corresponding commissions) and obviate the need to submit to the traffickers' operating conditions. There are some cases in which there is little difference in the roles,

because nothing can prevent the manufacturers from maximizing their profits and setting up their own arms-distribution channels themselves.

This is also due to the fact that the payment of large amounts of money as commission is only justified either if this eases access to new markets, or by the magnitude of the order involved.

However, it should be noted that profitability is not the exclusive aim of a manufacturer when operating jointly with traffickers or acting as of one of them. When establishing trading strategies, there are certain conditions implied in the necessity to satisfy different political interests of countries involved in the supply of arms in areas of conflict, in terms of either the continuation or resolution of the conflict in favour of one of the parties involved.

In this way, the manufacturer assumes an almost political secondary role which, as the conflict advances, makes it possible for him to become one of its main components, according to the interests of the protagonists.

B. Different Cases of Operational Confluence Between Producers and Traffickers

As mentioned above, it is worth pointing out some cases in which, it can be presumed, that arms manufacturers and traffickers are operating jointly, or the manufacturers are acting directly as traffickers, supplying different equipment to countries in conflict or to illegal groups.

1. The NORINCO Case

On 18 March 1996, at a local harbour, customs service agents from the Alcohol, Tobacco and Firearms office of the San Francisco District Attorney's Office, seized a delivery of about 2,000 AK-47 type weapons, sent from China, presumably destined for mafia groups in Los Angeles.

Under those circumstances, eight United States and several Chinese citizens were arrested. Two Chinese citizens were probably representatives from two of China's State arms manufacturing companies: "North Industries Corp." (NORINCO) and "Polytechnology", which belong to the Popular Army.

Those companies which are the largest Chinese arms exporters, had been under surveillance by American investigators, because in the past, they had been involved in the illegal introduction of their products to the local market.

It should be remembered that China had been the most important foreign supplier of rifles and handguns to the United States until May 1994, when the

Clinton Administration issued a decree banning Chinese weapons imports. Between 1991 and 1993, "NORINCO", "Polytechnology" and "Jinganco", which belongs to the State Police, sold about two million handguns on the United States market.

"Poly Group", which is a direct branch of the Chinese Army's Department of General Affairs, recorded a spectacular trade boom during the 1980s, under the rule of He Ping (Deng Xiao Ping's son-in-law) and Wang Jun (son of the former Vice-President Wang Zhen).

2. Eastern European Producers

After the collapse of communism, the Eastern countries' armaments industry has been trying to overcome the crisis caused by the loss of traditional markets.

The Polish arms industry was one of the most important in the country until the end of the Warsaw Pact. In Hungary too, where nearly 75 per cent of the production was intended for the Pact allies in 1988, almost 40 firms specialized in weapons production.

The breaking up of the military alliance caused great damage to the armaments industry, because it suddenly cut the supplies to markets such as Iraq and the former Yugoslavia. On the other hand, the tight control by the United Nations on armament sales, unheeded by communist countries in the past, is another reason for the reduction of sales suffered by Polish, Hungarian, Czech and Slovak companies.

Likewise, another aspect which contributed to the lack of trade development of those enterprises, was the strict specialization those companies were forced to have under the Warsaw Pact, under which Polish, Hungarian and Czech industries produced only light weapons such as pistols, sub-machine-guns, rifles and other guns.

This was the situation of the Mielec and Videoton companies from Hungary and Lucznik from Poland among others, which in order to facilitate their activities, used the manufacturing of civilian products as a cover, under the Singer sewing-machine licence.

The discovery of an increasing quantity of arms coming from the above-mentioned countries, in the hands of different criminal organizations, could have resulted from the need of some Eastern European firms to prevent the total deactivation of their lines of business.

In that sense, an operation that would describe the above-mentioned situation would be the investigation of Euro-Union Gibraltar Limited

company's activities, located in Marbella. This company has reportedly participated in the illegal trafficking of 5,000 pistols, 26,800 sub-machine-guns and 22 million Czech-made bullets, destined for the former Yugoslavia.

Another example would be the charge laid on 3 July against the Bulgarian State company, Kintex, regarding the activities being investigated due to the alleged setting up of arms-trafficking networks, developed by former members of the KDC (the Bulgarian version of the Russian KGB). This investigation brought to light certain elements pointing to a Portuguese firm that could have acted as a front company for arms-trafficking, and that end-use certificates from Bolivia, the Philippines and Mali could have been used.

3. Companies from Thailand

An investigation carried out by several American drug law enforcement agencies discovered the alleged involvement of the Thai firm "Patumthani Sawmill Co. Ltd." in illegal arms-trafficking.

This company belongs to the suspected drug trafficker Choon Tangkakarn, who allegedly has close contacts with the Thai military and with the main secret service of Myanmar (formerly Burma), the Military Intelligence Services Directorate. Those contacts helped him supply weapons to Burmese troops near the border with Thailand.

This operation involved the transport of arms from the border with Cambodia up to the "Three Pagodas" pass, according to the steps taken by the representative of the firm, Sia Huk, supposedly a known criminal who helped the Burmese army capture strategic positions previously in the hands of the Mon rebels.

4. The "Explo Case"

The above-mentioned company, a subsidiary of "Ici Exploser" of England, was the subject of an investigation regarding the final destination of a purchase order for one million M-4 hand-grenades, requested by the Brazilian army in the 1980s.

It would seem that these explosives were manufactured in 1983 and started to be exported that same year. In spite of that, the Brazilian military authorities were only able to prove the final destination of one hundred thousand grenades, without being able to determine the route followed by those explosives.

A close examination of the whole case revealed that several deliveries were carried out as follows:

- 50,000 to Sri Lanka;
- 20,000 to Zimbabwe;
- 30,000 to Libya.

Later on, the main part of the above-mentioned quantities ended up in the hands of the "contra" guerrillas who at that time were fighting against the Sandinista Government in Nicaragua.

Other grenades were found in Honduras and in the hands of several Latin American drug trafficking organizations.

As to the rest of the nine hundred thousand grenades, all of them of the M-4 type, their final destination remains unknown. Although a secret investigation was carried out by the Brazilian army lasting almost one year, it revealed no existence of any kind of Brazilian military responsibility for the disappearance or theft of those grenades.

C. Conclusions

There is a relationship of common economic and political interests between manufacturers and traffickers. After the end of the Cold War, the major threat to the security of nations comes from organized crime, which needs its own weaponry to achieve its aims. Small arms meet this need. Transnational mafia groups, ethnic, political and religious conflicts are among those elements which fuel the channels of distribution.

Many manufacturers also play the role of traffickers in order to have more room to manoeuvre in relation to the profits to be made despite the risks involved.

The control systems for small arms are meeting with little success because of the following reasons; among them:

- Most of the transfers are not carried out from Government to Government;
- Continuous use and obsolescence of such arms increase the trade in them, which in turn, increases the number of suppliers;
- The same type of weapon is manufactured either under licence or not, in several countries or regions, which lessens the degree of responsibility:

the AK-47 assault rifle, of Soviet origin, has been produced by China, Finland, the former German Democratic Republic, Hungary, North Korea, Poland, Romania and the former Yugoslavia. The G-3 (Heckler and Koch) of German origin has been manufactured under licence in twelve countries. The Belgian FAL was also manufactured in twelve other countries.

At the craftsman level, there is some home manufacturing carried out using standard machine tools, the arms so produced being of lower quality and quantity than with volume production, which is also another source of supply.

On the other hand, we should bear in mind that regulations, by themselves, will not solve the problems of those engaged in illegal manufacturing and trafficking. It will not help either if some institutions, such as intelligence services, operate outside the control of the appropriate political authorities. Those regulations will also not succeed either if foreign Governments support certain factions in a country or region.

We should also bear in mind that criminal organizations combine arms trafficking with other illicit actions such as drug trafficking, a course of action that helps them above all to increase their power.

The manufacturer/trafficker relationship is encouraged by the fact that on the illegal market the threat of punishment is merely regarded as an additional cost. As a consequence, prices rise and the quantities traded decrease. Thus, producers and dealers increase their profits for a specific quantity of goods produced and traded, which are inferior to those prevailing in the open and legal market.

III. Strengthening International Cooperation: A New Agenda for Control Regimes?

Chapter 8

Developing New Links with International Policing

Donald Manross

A. Introduction

INTERPOL is an intergovernmental organization with 177 member countries. In terms of membership, it is second only to the United Nations. Each country has a National Central Bureau, usually located in the country's capital city, which centralizes all information of international interest. Approximately 90 police officers from about 40 countries representing all the regions of the world are working in the Liaison and Criminal Intelligence Division of the INTERPOL General Secretariat which is located in Lyon, France. The composition of the staff ensures a sound knowledge and wide experience of both the regional situations and the problems of international crime. The purpose of this organization is:

1. To ensure and promote the widest possible mutual assistance between all criminal police authorities, within the limits of the laws existing in the different countries and in the spirit of the Universal Declaration of Human Rights;
2. To establish and develop all institutions likely to contribute effectively to the prevention and suppression of ordinary law crimes. It is strictly forbidden for the organization to undertake any intervention or activities of a political, military, religious or racial character.

Contrary to popular belief, INTERPOL is not made up of international brigades of investigators. INTERPOL police officers do not carry out investigations in the member countries. Instead, international investigations are carried out by the national police forces of the member countries.

Experience shows that three major obstacles impede efficient international cooperation:

- Different structures of national law enforcement often make it very difficult, from the outside, to determine the competent service to deal with a particular matter or to provide information;
- Language barriers;
- Differences between the legal systems of member countries.

That is why, in each INTERPOL member country, the task of cooperation is assigned to these National Central Bureaux.

INTERPOL's Telecommunications Network

One of the basic objectives of INTERPOL is to ensure the exchange of information between member countries and the General Secretariat in a continuous, rapid, reliable and secure way. The first three criteria depend on the telecommunications network and the last one on encryption facilities.

Computerizing the General Secretariat has put INTERPOL in a position to provide the necessary technical and professional assistance for the creation of the Automated Search Facilities (ASF) which are indispensable for the efficient fight against international crime.

The extension of the database of crime-related documentation with a view to improving the methods of collecting and searching for information concerning crimes, reducing as far as possible the response time and better conserving this documentation, is an example of the use of the most modern technology.

Police forces all over the world are subject to constant pressure from public opinion and their Governments to combat the ever-increasing volume of crime.

The number of criminal acts involving firearms has continued to escalate at an alarming rate all over the world. Such crimes are the direct result of an increasingly wider availability of guns within both legal and illegal markets. In financial terms, the international trade in arms is estimated to be in excess of US$ 500 billion. But how can one measure the cost to human life?

The dangerous proliferation of light weapons from areas of conflict to the criminal sector, continues to contribute to the destabilization of public security. Several major factors driving this proliferation include: the overstocking of military depots, unsafe storage, weak border control measures, lack of departmental coordination, mismanagement of weapons in post-conflict areas and ineffective import/export controls. In parts of eastern Europe, recently manufactured automatic weapons continue to flow from military arsenals to criminal organizations. Today, unless checked, weapons confined to conflict areas such as Albania and Zaire, will be found, tomorrow, in the hands of criminal organizations and violent offenders in western Europe.

We are all aware of the horrific shooting massacres which have recently fuelled the gun debate. The Port Arthur tragedy which caused 35 deaths in April 1996 in Tasmania was the nineteenth time, since 1984, that a single individual has used a firearm to commit multiple killings. More recently, in the United States, a foreign national, within weeks of his arrival, was able to acquire a pistol which he used to kill and maim.

These incidents hit home and draw attention to some of the problems with existing laws. As a direct result, we have seen a wave of significant administrative and legislative changes in countries such as Australia, Canada, Estonia, the Czech Republic, South Africa, the United Kingdom, and the United States. For the most part, these changes have served to increase the regulation of civilian ownership and/or possession of firearms. It is interesting to note that the political response to these events is just as common in countries which have not experienced major firearm-related incidents as in those which have. Such incidents are extremely powerful in producing consequences well beyond the borders within which they occur.

Yet it would seem that, while there is an awareness on national levels, an effective, global response has been slow in coming. Countries commonly have treaties to deal with weapons of mass destruction. Unfortunately, very few countries have formal agreements on the regulation of small arms. These are usually covered by larger trade and/or customs controls, which are not always adequate. We believe this is partly due to a lack of information regarding the extent and scope of the firearms problem and tools available to combat it.

There exists today an opportunity for two very important groups to come together in this fight: law enforcement and the intelligence community. Intelligence agencies have tremendous resources for gathering information and analysing it in a timely manner. The law enforcement community often does not have the resources or personnel to do analytical work, but their sources of information are usually quite good. With the cold war disappearing the time for

a genuine cooperative effort between police and intelligence agencies is before us. The small arms problem is a global issue in need of a coordinated effort.

B. United Nations International Study on Firearms Regulation

As you may be aware, the United Nations recently published a study on firearms regulation. It is the first and most comprehensive study of its kind and its results will help in clarifying the nature of this most important problem. The INTERPOL General Secretariat fully supported this study and recognizes its potential value. It points to the ever-growing need to assist member countries in obtaining an accurate picture of trends in firearm-related incidents, so that they may make meaningful comparisons and draw accurate conclusions. This will, in turn, provide the basis for sound decision-making and policy development.

Any informed discussion leading to enforcement policies and firearm regulations requires accurate statistical data, which continues to be an area of weakness. Last year, nearly 30 per cent of European member countries responding to the INTERPOL Firearms Survey were unable to provide the number of firearm theft incidents for 1994 and 1995. Only when informational sources of this kind are improved will it be possible to develop and identify appropriate law enforcement responses. Allow me to share with you some initial findings of the United Nations report. Please bear in mind that the study sample was rather limited in number. Nevertheless, it provides a reasonable, international cross-section of countries and available data.

One of the common themes presented in the report is the widespread availability of firearms throughout the world. Most countries surveyed reported problems with illicit sales and distribution. Many also reported some level of illegal importation. Weapons, either stolen from military sources or surpluses from regional military conflicts, are often illegally imported to support criminal activities of various kinds. The problem of firearms illegally transiting one or more countries, between the time of their manufacture and recovery by police, is a real one. It is commonly accepted that illegal firearms, whether stolen, illegally imported, or manufactured, are acquired by criminals or organized crime groups. Throughout the world, there are numerous proven links between illegal sales of firearms and serious crimes, including homicides, armed robbery, the illegal drug trade and a host of activities related to organized criminal networks.

C. Significant Case Summaries

The results of these findings were no surprise to INTERPOL. Cases of illicit trafficking and criminal misuse are reported regularly.

The 64th ICPO-INTERPOL General Assembly Meeting in Beijing adopted AGN/64/RES/13, "Firearms Regulation", in an attempt to meet some of the needs for ensuring proper regulation of firearms.

In spite of these efforts, several significant incidents have occurred since the 64th General Assembly:

1. On 17 December 1995, huge quantities of firearms and ammunition were air-dropped by parachute into Purulia, West Bengal, India from an AN-26 Russian-made aircraft. An estimated two to three hundred AK47 assault rifles, 17,000 rounds of ammunition, 8 rocket launchers, 80 anti-tank grenades, seven 9 mm pistols and various combat accessories were among the weapons delivered. Reports maintain that in addition to this shipment two other consignments were dropped in Pakistan, and another in the sea of Thailand. While conjecture regarding the destination of the arms continues (from insurgent groups to radical religious sects), two of the main operatives in the scheme remain at large and red notices have been issued on behalf of IP New Delhi. The plane, purchased in Latvia and carrying arms loaded in Bulgaria, was manned by a crew of Latvian, Dutch, Danish and British nationals. Before it was stopped by Indian authorities in Bombay, the plane transited in Pakistan, Thailand and attempted a landing in Bangladesh. The operation was financed by a Hong Kong-based Chinese with connections to a Romanian arms trafficker as well as British, Chinese and Indian shipping companies. The crew of the aircraft has been arrested and is being detained by Indian authorities. The primary suspect of this investigation, one Davy f/n Kim Palgrave, eluded arrest at the time of the others. Davy is the subject of an INTERPOL red notice.

2. In June 1996 a United States Federal Grand Jury returned an indictment charging 14 people from the United States and China with smuggling of automatic weapons. Approximately 2,000 fully automatic AK47 weapons were seized following a 16 month investigation. The weapons, with a street value of approximately US$ 4 million, were the largest seizure of automatic weapons ever made by United States Law Enforcement. The

movement of the weapons and/or the money to purchase the firearms transited through China, Hong Kong, Japan and the United States.

3. Less than two months ago, in an operation carried out in El Valle, Colombia, police seized weapons ranging from ground-to-air missiles, grenades and sub-machine-guns fitted with silencers, to exclusive collectors' guns. The weapons—together with 488 kg of cocaine—were found in a container hidden in a property on the road between Calí and Puerto Tejada. According to local police officials, the quantity and type of the weapons seized were further proof of the links between the drug traffickers and the guerrillas. The weapons are currently being examined to determine the countries of manufacture, so that the Governments concerned may be approached and urged to take control of deals concerning arms and explosives.

These are just recent examples of a growing international criminal trade and misuse of firearms. They further demonstrate the need for an international, cooperative effort in the area of firearms regulation if we are to decrease the number of deadly weapons falling into the hands of criminals.

Techniques of *illegal importation* can range from simple smuggling (i.e. through customs at airports or concealment in motor vehicles crossing land borders), to highly sophisticated methods involving falsification of import/export documentation.

The most frequently seen types of illegally imported weapons are: revolvers and semi-automatic pistols (i.e. Tokarev pistols, Tec 9), military assault rifles (i.e. AK47 type, Colt), Arminius revolvers, .22 rifles, Browning sporting rifles and shotguns, Taurus revolvers, 9 mm pistols (i.e. Glock), Uzi sub-machine-guns, military bazookas and hand-grenades. Moreover, reported seizures indicate an increase in the number of more sophisticated weaponry including plastic explosives, electric detonators, remote control devices, night vision equipment, etc.

Information on illegal exports is for obvious reasons more difficult to obtain. However, the following types of weapons are commonly reported as illegal exports: Zastava, Rossi, Taurus, Glock, Skorpion sub-machine-guns, Lorcin and Raven Arms pistols.

Small arms or their components are favoured because, when concealed in parcels, car parts, electric water-heaters, luggage, air freight, personal effects, food, clothing, wheelchairs or other contraband, they can easily be transported by commercial plane, fishing boats, tour buses, motor vehicles, etc.

Virtually no region is untouched by the phenomenon of the illegal import/export of firearms.

Some common destinations in the export of illegal arms are: the United States, Commonwealth of Independent States countries, Colombia, Mexico, Canada, the Netherlands, Germany, Japan, Turkey and Algeria.

At the regional level, the review of the United Nations firearms report combined with INTERPOL case data reflect major sources of illegal distribution in four regions. They are Europe, the Americas, Africa, and South-East Asia.

These findings show us that the need for broadening and intensifying international cooperation has never been greater. Efforts to suppress illegal traffic in firearms must be strengthened and treated with the same importance as that of drug offences, financial crime, extortion, car theft, and crimes involving arts and antiques. There is a serious *need* for routine reporting and standardized methods of tracing and tracking of weapons.

Let us consider for a moment the wide range of firearm controls throughout the world. In Japan the civilian ownership of firearms is prohibited. In Australia, possession of a firearm is considered "not a right but a conditional privilege". In the United States, the right to bear arms is expressly decreed in its Constitution's Second Amendment. Where one stands on this issue is not really a factor here. As law enforcement officers, one must accept to enforce the controls imposed by legislative bodies. In doing so, one must be cognizant of the fact that one's actions (or inactions) may have a global impact. It is indisputable that the criminal misuse of firearms jeopardizes the safety of communities and nations. It is a widespread problem with international ramifications and one that demands a concerted, proactive response from the law enforcement community. That is why it is imperative that information on criminal offences and offenders be shared. INTERPOL provides the necessary tools in this endeavour.

D. INTERPOL Tools and How They Work

For years, INTERPOL has been a forerunner in promoting international exchange of information. This is made possible by a state-of-the-art, worldwide telecommunications network including an X.400 message-handling system and an Automated Search Facility (ASF). International broadcasts and notices are circulated at the request of member countries about criminals who are wanted

or liable to operate at international level and about missing persons, unidentified bodies, stolen property, methods used by criminals, etc.

INTERPOL promotes the sharing of techniques and *modus operandi* among law enforcement entities through the distribution of notices, studies, conferences, working groups, project groups, etc.

Also, in the area of firearms, INTERPOL compiles statistics and current firearms legislation for member countries willing to contribute this information.

1. Interform Electronic Reporting of Firearms Incidents and the IWETS Database

One of INTERPOL's most important projects during the past year in the Firearms Group was the development of an X.400 message format for the purpose of exchanging firearms information electronically through INTERPOL channels. In August of 1990, ICPO-INTERPOL initiated a computerized database for the purpose of collecting, collating, analysing and disseminating intelligence on criminal activity involving firearms and explosives crimes and their perpetrators. This initiative came as a result of two INTERPOL General Assembly resolutions. The database is called the INTERPOL Weapons and Explosives Tracking System or IWETS. The IWETS database is currently the only international analytical database designed to collect information on illegal firearms trafficking. It provides up-to-date indexes of firearms and explosives manufacturers, models, calibres and other information to assist in the identification of weapons. It is also the only completely international database for stolen and recovered weapons. With the proper support, INTERPOL possesses the facilities necessary to be an important focal point for the reporting of firearms-related crime.

Data entry into this system is made under the direction of the Specialized Officer and is based on specific criteria [Read Entry Guidelines from Graphs].

However, resolutions and reporting systems are only as effective as their users, in this case, the INTERPOL National Central Bureaux (NCBs).

INTERPOL continues to struggle with a low participation rate. In tackling this problem, programmers in the Research and Development Department at the General Secretariat have been asked to transform the cumbersome IWETS reporting form into a standardized electronic message format.

The Interform program is expected to improve the quality of firearms reporting from member countries.

This format is designed to simplify reporting by member countries by providing standardized terminology and automatic translation into the four INTERPOL languages. It will also allow for direct downloading to the IWETS database and the Automatic Search Facility (ASF).

2. Tracing Initiatives

The majority of countries responding to the United Nations firearms study reported having legal businesses in their countries which manufacture firearms, components, ammunition, etc. Furthermore, most responding countries stated that there was some illegal importation of firearms and ammunition with a number of them stating that it was a frequent occurrence.

One of the main ways of identifying and impeding the illegal traffic of firearms is through a firearm tracing system. By definition this means, "the systematic tracking of firearms from manufacturer to purchaser (and/or possessor) … for the purpose of identifying suspects involved in criminal violations, establishing stolen status, and proving ownership".

By collecting data on firearms trace results, the IPSG is in a unique position to provide information concerning trends in firearm traffic throughout the world. INTERPOL's success in doing so depends heavily on each member country's ability to trace locally-manufactured weapons and to report that information to this organization. This is problematic when countries are unable to provide timely and accurate trace information. For example, types of firearms commonly seized following illegal distribution (such as the Colt M16, FN910, Mauser 12, AK47, and various CZ models) are very difficult, if not impossible, to trace. The establishment of a standardized tracing protocol within each manufacturing country is vital. The IPSG can assist in initiating and following trace efforts in the various member countries.

Many countries rely on manufacturers' assistance to trace recovered firearms. One major weakness preventing the successful tracing of a recovered gun is when manufacturers and/or dealers go out of business and records of sale are destroyed or lost. The duplication of serial numbers can also present difficulties in tracing firearms. Both points illustrate the need for appropriate legislation to ensure the timely and successful tracing of firearms and to improve record-keeping practices.

Additionally, methods for tracking import/export licences and shipments are necessary to prevent firearms from ending up in the hands of criminals. The exchange of information for verification of licensed shipments is important and should be practise not only at regional but international levels as well. The

exchange of example import/export licence forms, government stamps, and signatures between nations would be a step in the right direction. Such an initiative has already been discussed by the Organization of American States (OAS) for its region and should be extended worldwide. This task could be accomplished through INTERPOL channels and coordinated by an international working group.

E. Conclusion

All countries are urged to consider the recommendations made last year by the P8 Group on Illicit Traffic in Firearms:

- To recognize the operational support of ICPO-INTERPOL;
- To actively exchange information where necessary and appropriate;
- To respond promptly to requests from member States for assistance in tracing firearms and to conduct follow-up investigations where appropriate; and
- To encourage the development and harmonization of export and import documentation in relation to the description of firearms.

It is safe to assume that crimes involving the use of illegal weapons will continue to pose a threat to the safety of communities. In looking towards the future, one might consider joining efforts in:

(*a*) Developing a CD-ROM program for firearms identification;
(*b*) Developing standards for Firearm Tracing Centres with a view to developing accreditation;
(*c*) The standardization of export/import forms/regulations; and
(*d*) Supporting the use of the United Nations firearms study as a basis for regular statistical collection and dissemination.

The proliferation of life-threatening small arms has become all too common and is one of the most important security concerns of our time. The General Secretariat calls upon all member countries to make the fight against firearms crime a top priority through effective, responsible firearms legislation and cooperative law enforcement efforts. The future success of any national or international firearms control depends on the support of the entire international community.

INTERPOL's collaboration with bodies such as UNIDIR helps to ensure that existing structures are promoted and maximized internationally. In these times of restricted budgets one must focus on making the best use of what is already at our disposal. Unfortunately this is not always the case. The creation of a joint register of stolen weapons for Finland, Norway, Sweden and Denmark has been recently reported. While such initiatives in the area of firearms crime are applauded, it would be a shame to duplicate a system already in place and easily accessible to all member countries.

The INTERPOL General Secretariat is dedicated to the fight against firearms-related crime and welcomes suggestions to improve efforts in assisting others in this fight.

Chapter 9

Border Patrols and Other Monitoring Systems

Julio César Saborío A.

The control of small arms and conventional weapons has become relevant in recent years, in the same way that the subject of nuclear and biological weapons has been a concern for some time. As we all know, they are a reality and they cause injury and death. I mention this because small arms are a concern in Central America and the mechanisms for control are regional initiatives, which involve inter-institutional activities at internal level in each State.

Before discussing the control system which is being set up in our region, I would like to turn briefly to the problems which the Central American isthmus has experienced. As everyone knows, the eighties were a time of enormous disturbance in the region, in three countries in particular: Guatemala, El Salvador and Nicaragua. There were common phases shared by all three, which can be categorized as follows:

1. A phase of militarization: during which the armies grew to an exaggerated size. For example, it is thought that the Ejército Popular Sandinista [Sandinista Popular Army] had in excess of one hundred thousand members;
2. A phase of civil war, with the presence of militant groups; and
3. A third period with the implementation of peace processes, which is still continuing. As a recent example, at the end of 1996 we witnessed the signing of peace agreements in Guatemala, presidential elections in Nicaragua and elections for deputies and municipal authorities in El Salvador.

One of the new aspects of the implementation of peace processes was the establishment of consultation mechanisms at Presidential level in the region, which was provided for in the document signed by the Central American Presidents on 7 August 1987, entitled “Procedimiento para el Establecimiento

de una Paz Firme y Duradera en Centroamérica" [Procedure for the Establishment of a Firm and Lasting Peace in Central America]. Without doubt, this was the most important sign that the region was beginning a process of pacification.

Future initiatives had to be harmonized. Pacification could not be achieved without demilitarization, disarmament and other measures of an economic, social and legal nature. It is in this context that the reduction of armed forces and the disarming of militant groups began. Turning once again to the case of Nicaragua, by 1992 the Army had been reduced to 20,000 members and more than 22,000 members of the Nicaraguan resistance forces laid down their arms in 1990. At this stage we should highlight and acknowledge the contribution made by international organizations such as the United Nations and the Organisation of American States.

These steps led, on the one hand, to the state resources which had been intended for military activities, such as the acquisition of arms and military equipment, being allocated to items of social importance, and on the other hand to the incalculable and uncontrollable presence of small arms in the hands of the civilian population. Many of these penetrated across national borders.

With the aim of controlling the illicit trafficking in small arms, the Central American Presidents have been working towards fulfilment of the undertakings on security established within the framework of Esquipulas II. It was through this that the so-called Security Commission was set up. Through the agreement of the Presidents, the "Mecanismo Preliminar de Asistencia, Cooperación y Coordinación para la Eliminación del Tráfico Ilegal de Armas en Centroamérica" [Preliminary Mechanism for Assistance, Co-operation and Co-ordination in the Elimination of the Illegal Arms Trade in Central America] was also established, which covers weapons, munitions, explosives and military equipment in the hands of persons, groups or organizations, irregular forces or armed gangs in the region. The measures agreed can be summarized as follows:

- Each country is to strengthen its mechanisms for control and monitoring at airports, landing strips, terminals, border crossings, land, air, sea and river routes and at any other point liable to be used for the illegal trafficking of arms;
- The fluid exchange of information through the establishment of liaison officials in border areas;
- Initiation of legal proceedings against any persons or groups discovered in the illegal trafficking of weapons, as well as political and judicial cooperation in the provision of any information and evidence required;

- Consultation mechanisms to be used when an affected country considers that the problem has not been resolved to its satisfaction. This will be done through the temporary Secretariat.

Last January, based on the fact that law and order, political stability and economic and social development in the area were being put at risk by the considerable number of weapons illegally held by civilians, a result of the armed conflicts which had taken place in the region and which also constituted a threat to the life of the civilian population, the Central American Presidents signed the "Declaración sobre Recolección de Armas Ilícitas en Manos de Civiles" [Declaration on the Collection of Illegal Weapons in Civilian Hands] in Nicaragua. This document was also signed by the Prime Minister of Belize, in which they decided to continue with national plans for the collection of weapons until illegal possession was eradicated, and to entrust to the Security Commission the carrying out of initiatives with the support of the corresponding national authorities to drive forward a regional plan which would eradicate the trafficking in and illegal possession of weapons. The Central American Presidents also asked in the same document for the contribution and support of friendly countries and multilateral organizations such as the Organisation of American States and the United Nations.

Chapter 10

The Role of State

Swadesh Rana

The search for new control systems with the aim of strengthening international cooperation should be made in an optimistic frame of mind. This might seem to be a rather inappropriate and simplistic statement against the background of a discussion on the difficulties and complexity of illicit trafficking. In fact, one of the best ways of doing nothing when faced with a problem is to say that the problem is too complex. The other way is to simplify it. Between these two approaches, there is another approach, which is to look for solutions based on common sense rather than on ideology.

The optimism referred to here is based on three tendencies observed lately. One of these is that the response at global level to fight against illicit trafficking has been very slow; much slower than the responses at national level. This should actually be considered to be a very positive tendency, because frequently Member States of the United Nations wish to put themselves in the role of recipients of benefits and hope to receive from the Organization rather than provide any benefits, or make any commitment to the United Nations. It is a very positive sign that in the context of fighting illicit trafficking, the response at the national level is much more clear-cut and that the global reaction is, in fact, a reaction to the national response.

Secondly, there is a need to be optimistic because, although the problem clearly has repercussions globally, the severity of the problem is limited to a few of the world's subregions. The third tendency that should be noted here is a consequence of the efforts made by Japan as regards the supply of small arms. One important aspect of this, and one that has not been emphasized in the agreements between the various communities around the world that are attempting to do something about the illicit trafficking problem in Liberia, Somalia, Haiti, Rwanda, Burundi, Nicaragua, Guatemala and El Salvador, is that there are people, private businesses, and educators, who have offered to commit themselves to the search for a solution to the problem, and this is a very positive sign.

Let us consider these three positive signs and reflect on some observations on the role to be played by States and the responsibility they should have in curbing illicit trafficking. For the United Nations, this is of fundamental importance, because the Organization deals with sovereign States, and everything that happens at the level of international cooperation has to have States as a starting point and as a basis. Illicit trafficking in small arms affects various States to different degrees and has certain international repercussions especially in areas that are geographically contiguous, have long borders, or have cultural and ethnic affinities. Illicit trafficking also affects some countries that do not fall into any of these categories, and these are the transit countries where trafficking takes place.

The role of the State is very important. One of the oldest professions is that of a housewife. When a housewife goes into a very untidy house, she does not know whether to start with the kitchen, the cleaning, the washing or the ironing. There are two methods of approach: one is to start with the most difficult task only to abandon it later, and the other is to start with the most feasible task and then begin to make some progress. The discussion in this chapter is structured according to the second method: it examines the problem in its various aspects and attempts to show the reasons for believing that this is a feasible approach. It examines what role the State plays when faced with illicit trafficking in small arms, what sort of activities are considered and what sort of measures could be contemplated for adoption. The argument is made that curbing illicit trafficking becomes much more manageable if the problem is broken down into its various components rather than trying to solve it in its entirety, on every occasion and in every aspect.

I. Types of Weapons

There are four types of weapons that need to be considered here. First, there are weapons manufactured according to military specifications: pistols, revolvers, automatic firearms, non-automatic firearms, machine-guns and hand grenades, that are manufactured for State use or with the State's cognizance according to military specifications and that are part of the internal security and defence apparatus that every State in the world possesses. This is a legitimate aspect. A second type of weapons comprises those arms that serve no military purpose but that are lethal and that are used, for instance, for hunting: rifles, firearms, handguns. The third category is composed of home-made weapons that can be produced in the backyards of small communities in, for example, the

north-east frontier of countries in Asia, in some parts of southern Africa, and perhaps in a few regions of Latin America. These are home-made weapons produced by small family industries. And there is a fourth category of weapons, which are not weapons until the moment they are used, such as machetes, spears and knives.

In considering control systems, one should remember that there are four types of light weapons and small arms whose production, distribution and use are subject to varying degrees of control. Thus, if the intent is to establish an issue on which international cooperation should be a priority, the international community needs to decide which of the four types of weapons is the easiest one to tackle, and should not begin by tackling all four.

Secondly, the question must be asked as to what precisely are the activities with which these weapons are linked and in which the State should be concerned. One activity, for example, violence, is of obvious concern; another is crime; a third is illicit traffic; and in fourth place are the weapons used to threaten the very existence of a State. This last consideration may not be relevant in some parts of the world, but it may be so in others, such as Somalia, Rwanda or Burundi. These weapons have been used to attack the very existence of the State, and the State, as an entity, has therefore more than one reason to be concerned in activities that result from the possession, accumulation, proliferation and use of these weapons.

Let us return to the four categories of weapons mentioned above because it is very difficult to establish a correlation between the perilousness of the activity in which the State should be concerned and the sophistication or/and cost of the weapon being used for the purpose of these activities.

II. Violence

History cannot provide us with many parallels to match the intensity of violence seen in Rwanda and Burundi. There, the level of sophistication of the weapons was not a relevant factor. Those weapons could have been home-made firearms, and could have been spears and machetes. Quite frankly, considering the type of violence that occurred there, even if it were known that there could have been some control over the weapons used, there would still have been people acting with the same violence with their own hands and stones. There should therefore have existed some control measures to stop that violence, and those weapons, over which the State could exercise immediate control. In considering the issue of an international control system, one should examine

these types of weapons, in spite of the fact that the weapons that cause the greatest violence may not necessarily be of the same type in every part of the world.

III. Crime

Crime is not related to the degree of sophistication of weapons. Hence, what approach is the international community likely to adopt? That is to say, which direction is the international community likely to follow if it takes advantage of what has been achieved at the national level, instead of creating new structures and rather than introducing a whole new set of bureaucratic procedures, and makes use of what has already been established? As regards the discussion on crime, however, one is in fact dealing more with the question of whether or not a particular State exercises a monopoly over the weapons used in violent crimes. It is more a question of what type of licensing policies States have, how easy it is to obtain a licence, what type of certification is required of the proprietor, how many checks the State makes to ensure that weapons do not disappear from weapons? stores belonging to the police or the armed forces. Once again, we are dealing here with control at the national level.

IV. The Use of Small Arms and Light Weapons for Violent Purposes

It is useful to recall the time when the nuclear threat was suspended like the Sword of Damocles over the head of the United Nations, and when, during the second special session of the United Nations on disarmament, there were thousands of people in the streets of New York protesting against nuclear weapons. This creation of public feeling against violence is necessary because violence is not conditioned by weapons; violence is conditioned by society. It is therefore important to be careful not to use the wrong tool in addressing the issue of weapons and violence. If the goal is to halt the use of weapons for the type of large-scale violence that occurred in Rwanda or Burundi, and which could occur in Zaire and that has happened in Liberia, and that was seen during the years of lengthy conflict in Central America, it is necessary to heighten the awareness of the general public and explain just how cheap these weapons are, how easy they are to use, how rapidly they can be loaded and unloaded, and how a particular part can be changed for the price of a rifle, so that the public

will lend its support to this course of action. This is an area in which the United Nations is very effective in generating public awareness and support.

In addition, when illicit trafficking is discussed, one is basically dealing with the internationalization of crime and border controls, police and customs inspections, and equally important are extradition treaties, which enable criminals from one country to be arrested in others. These are the sort of measures being implemented as a result of the initiatives that have started to be taken internationally. Southern Africa is a case in point, where several countries in the region are pooling their information sources for arresting criminals. Other issues are weapons monitoring procedures, prohibition and capture. These are the types of measures that need to be considered and that are now being introduced when discussing illicit trade.

However, when discussing violence aimed at the existence of the State, it is a very difficult subject on which there is a wide range of political opinions. Regardless of whether the State is good or bad, whether it is ideologically acceptable to everyone or not, at present it is the best institution we have to confront the use of weapons as instruments of crime or violence or for illicit trafficking. One of the tools a State possesses to fight against crime is intelligence services. Yet, how does one view the nature of the role played by the intelligence community? It must be said that in the past, the word "intelligence" was equated with the Matahari or the James Bond syndrome: intelligence meant spying. Nowadays, when the number of States within the United Nations has doubled and many of the new States are experts in intelligence activities, or simply have no experience at all in the intelligence field, intelligence is required for investigation, monitoring, capture and control of weapons.

If, for the sake of argument, a worldwide campaign against the use of weapons of violence were to be launched on behalf of the United Nations, the intelligence community would be able to provide us with information on the characteristics and technical operation of the types of weapons sold illicitly and the number of criminal gangs using them: in other words, any class of information that can be classified. In addition, there is a very high level of awareness within the intelligence community of the need to combine forces and not to compete when it comes to illicit trafficking. In the case of crime, prevention is essential and the provision of this type of information can be put to good use. The United States is active in this field, and it should be said that this is the part of the world where you can obtain information; and, when we consider the role of the State, I would suggest that this is the best institution we have. Whether or not one likes the State, without the institution of the State one

would be unable to function within societies that are split geographically by frontiers.

In conclusion, an appeal could be made to the intelligence community. Imagine that we believe that this community forms part of a rescue mission, that what is at stake are the lives of many innocent people, and the safety of ordinary people in the street, and that what is basically at stake is a situation similar to one in which two planes flying in a given air space are in danger of colliding, it is now time to cast all political and ideological differences aside so as to embark on the rescue mission.

Part Three

Weapons of Mass Destruction

I. Nuclear Issues

Chapter 1

Illicit Trafficking in Nuclear Materials and Vector Components

Olivier Mahler

A. Introduction

Complementary action by the French police, customs and information-gathering services has enabled France to acquire experience which is probably not fully comprehensive, but is certainly representative, of the phenomenon of the "trafficking in nuclear materials and vector components".

The current intertwining of a "traditional African trafficking", active since 1960, with the "anarchic sources of supply from the East", first observed in early 1990, is contributing to the creation of an apparently complex situation. Media treatment of the trafficking, often superficial or sensational, has tended to give a confused and exaggerated view of the threat.

B. The Experience in France and Abroad

Few cases of illegal trafficking were detected within the national territory. France seems to have been relatively better protected than other nations directly affected by the phenomenon. This is probably not due to the existence of especially effective legislation, to the preventive methods adopted or to a high level of public awareness, but rather the result of chance and France's geographical location.

A great deal of data has been obtained outside France. This has enabled an overview to be established, which is obviously not fully comprehensive, but is sufficiently representative of the situation. This enables the avoidance, in

particular, of the emotional reaction encouraged and often increased by the mass media, so that an objective view of the threat can be presented.

The experience France has acquired since the sixties enables rejection of the notion, commonly expressed, that this type of trafficking is a new and recent phenomenon. In effect, the "anarchic sources of supply from the East" are merely a new facet of an older situation which has its origins in the myth which surrounds the atom and its military applications.

Regular contact with the relevant foreign services does not contradict the French assessment. However, it must be noted that the frequency of cases of trafficking, higher in certain countries, results in a combination of popular political phenomena in these countries which are unknown in France.

C. Traffic in Nuclear Materials and Vector Components

A simple categorization of the different types of items for sale shows that the trafficking in nuclear materials is more extensive than that in vector components. This is probably the result of the greater level of attention paid to nuclear technology than to vector technology.

The French work has enabled the following conclusions to be drawn:

- None of the substances offered for sale came from military stocks of fissionable material or nuclear weapons. No case of trafficking was based on vector components or technology. In other words, this demonstrates the innocuous nature of this traffic in terms of proliferation. Some of these substances, however, due to their radioactivity, do present a risk to public health;

- The above point clarifies the illusion surrounding the claims made by the intermediaries and vendors, because according to these people, the substances on offer are used in the manufacture of nuclear weapons or vectors. These individuals regularly associate the radioactive nature of a substance with military nuclear materials. In this way americium, a large quantity of which is in circulation, is frequently presented as plutonium. This lack of knowledge indicates that the vendors, in most cases, are not specialists in the field of nuclear and ballistics technology;

- The direct result of this lack of technical knowledge leads the traffickers to offer for sale a great variety of materials, such as radioactive materials of different kinds (unenriched uranium, nuclear fuel waste, industrial or medical radio-elements) and various non-radioactive metals (especially those which end in "ium", such as scandium or osmium) and also red mercury;

- The French initiative did not demonstrate the existence of organized networks in this type of case. Although the press regularly mentions Mafia networks, the search for potential purchasers and the transport of the material is done at random. This last point is supported by many seizures carried out by the police forces;

- The origin of the main sources for this trafficking derives from the scientific and technological myths associated with the atom which are induced by erroneous views on the part of the general public regarding the use of nuclear materials. The search for sensationalism and the lack of rigour in journalism share the responsibility. In effect, the alarmism of certain articles in the newspapers has been interpreted by the traffickers as an indication of a military use and a probable order on a possible black market.

D. Note

The cases observed in Germany and the Czech Republic in 1994 imply a notable change in the situation described above. These are more a matter of some specific opportunities which are liable to occur again.

In spite of the fact that these materials approximated to military specifications, the quantities involved were relatively modest and did not reach the volume required for the manufacture of weapons. Furthermore, these materials did not originate from military nuclear installations.

E. Conclusion

Bearing in mind the socio-cultural context and that there are stocks of various materials in circulation, traffic of the "African" variety and the "anarchic sources of supply from the East" have a good future.

Furthermore it should be noted that since 1995, Asia has also been affected by this phenomenon. This new market demonstrates the same characteristics as those described above and while the actual nature of the products on offer is rather different, the danger it poses is nonetheless very slight.

The dissemination of large quantities of fissionable material of military quality or which approximated to military specifications would have important consequences for current world equilibrium. According to the information collected in France, there is currently no opportunity for clandestine access to these materials.

Nonetheless, the risk of irradiation and/or contamination through contact with sources of radioactivity is real and this type of substance poses a problem for public health, especially when used in hostile acts.

Chapter 2

Illicit Trafficking in Nuclear/Radioactive Substances

Hiroaki Takizawa

A. Introduction

The problem of illegal traffic in nuclear/radioactive substances is a fairly new phenomenon to law enforcement agencies. The problem was hardly known to police services several years ago even though a certain number of countries had already started their fight against illegal transborder movement of hazardous industrial waste which contained radioactive substances.

It was in the early 1990s, particularly since the East-West border began to open, that we saw a dramatic increase in the case of illegal traffic in nuclear/radioactive substances. Certain audiences may remember the series of seizures of nuclear substances in 1994 which drew so much public attention that the problem was treated in an agenda of top political priority.

While the situation has calmed down since then and the sensational press coverage has died out, the problem still needs to be closely monitored from the viewpoint of law enforcement given that the smuggled substances can be used for criminal purposes or may cause serious damage to public health and security if handled with ignorance.

The International Criminal Police Organization—INTERPOL—has paid attention to this problem since the early 1990s and has made efforts to enhance the exchange of information among member States and strengthen cooperation with the international organizations concerned. In this presentation, we would like to mention the following:

1. The structure of INTERPOL;
2. INTERPOL's activities in this area;
3. An analytical study in Europe.

B. Structure of INTERPOL

INTERPOL is the only global police organization, with 177 members. The purpose of the organization is to:

1. Ensure and promote the widest possible mutual assistance between all criminal police authorities, *within the limits of the laws existing in the different countries*;
2. Establish and develop all institutions likely to contribute effectively to the prevention and suppression of *ordinary law crimes*.

It is strictly forbidden for the organization to undertake any intervention or activities of a political, military, religious or racial character, as is clearly stated in the constitution of the organization.

Respect for our principles in day-to-day cooperation obviously means that INTERPOL cannot have teams of detectives with supranational powers who travel all over investigating cases in different countries. International police cooperation has to depend on coordinated action on the part of the member States' police forces, all of which may supply or request information or services on different occasions.

Each member State designates an office, normally a part of the national police force, as a National Central Bureau (NCB). The exchange of information is conducted through the NCBs which monitor the flow of messages.

The General Secretariat is the permanent administrative and technical body through which INTERPOL speaks. It implements the decisions taken by the General Assembly, the Executive Committee and other deliberative organs. In order to coordinate and facilitate various actions for combating transnational organized crime, the General Secretariat provides the following services to the member States:

1. A criminal intelligence service, which assists member States in identifying, arresting and prosecuting international criminals. The General Secretariat maintains its own criminal database which contains nominal data of known criminals as well as case summaries and properties used in criminal cases. The content of the database is reliant on the information provided by the member States. Analytical study of certain criminal cases conducted by a team of experts is an integral part of the above-mentioned service;

2. A liaison function, which facilitates the exchange of information between member States. This occurs either through the numerous meetings/conferences which the General Secretariat hosts or attends, or through the efforts of its well-informed liaison officers, both with respect to their subject-matter as well as the regions they represent;

3. A number of training courses, both at regional and international level, designed to assist member States at improving their infrastructures regarding communication and criminal investigation;

4. A technical support service which has not only developed an independent and secure telecommunications network, but is currently in the process of upgrading the systems in member States, enabling them to send/receive information as quickly and securely as possible.

The General Secretariat has also developed cooperative relations and collaborated with a number of intergovernmental or non-governmental international organizations. INTERPOL is always ready to take the advice of other organizations to enhance international cooperation among law enforcement agencies.

C. INTERPOL's Activities

While the first case of illicit trafficking was reported in 1989, the General Secretariat recognized a rapid increase in 1991. Since most of these cases were reported as coming from European member States, the situation in the region was closely monitored. It seemed that real nuclear/radioactive substances were transported illicitly mainly from the former USSR countries to Central/Eastern European countries. Also reported were a number of fraud cases where offenders pretended to possess nuclear/radioactive substances in order to defraud potential buyers.

In January 1993, at the request of Germany, the General Secretariat organized a European working meeting on the subject, the first meeting to discuss law enforcement measures against this type of offence. Delegates from 23 European countries, the United States and Canada actively exchanged information. As the agencies dealing with the subject varied from country to country, the General Secretariat was requested to compile and maintain a list

of contact points in member States. The list is kept and regularly updated at the General Secretariat and contains the following information:

1. Name of the agency or the department in charge;
2. Name of the point of contact;
3. Alternative point of contact;
4. Language preference;
5. Communication methods (telephone or fax number, e-mail address, etc.);
6. 24-hour number in case of emergency.

Further to the meeting, the subject was taken over by the INTERPOL Working Party on Environmental Crime, which was set up in 1992, having had no other permanent forum to discuss the subject. The Working Party was expected to discuss the problem of transborder movement of radioactive waste.

The first meeting of the Working Party held in September 1993 considered it necessary to subdivide the group in order to discuss various subjects of environmental crime effectively. It was agreed that the Working Party meetings be comprised of a plenary session, a forum to discuss common approaches to environmental crime, and sub-group meetings to discuss specific subjects. One of the sub-groups was assigned the subject of illegal traffic in real or purported radioactive or nuclear substances. The Working Party members have met three times thus far and issued a number of recommendations.

One of the results of these meetings is the preparation of a brief message format that law enforcement officers can fill out easily when handling this type of offence. The Working Party members recognized that law enforcement officers in general did not have the expertise or specific knowledge of these substances and considered it necessary to find the easiest way to report the case they handled. In this context, they developed a “quick reference guide” on nuclear/radioactive materials which can be consulted by police officers when the materials are offered for sale or seized. They also selected and sent to the General Secretariat photographs of packaging and containers used by the culprits who transported materials and documents relating to these cases. The photographs can be used for the purpose of training law enforcement officers who may be able to seize the substances directly.

The Working Party members also recommended that the General Secretariat develop cooperative relations with other international organizations concerned, such as the International Atomic Energy Agency (IAEA). IAEA has organized inter-agency meetings on several occasions to bring the parties concerned together. INTERPOL has been an active member of the inter-agency

meetings together with other organizations concerned, such as the World Customs Organization, European Atomic Energy Community (EURATOM) and International Civil Aviation Organisation (ICAO). The inter-agency meetings offered us excellent opportunities to consult their expertise on specific information we needed.

Other work which has been conducted based on the recommendations is an analytical study on the subject in Europe. The study was conducted by a crime analysis specialist at the General Secretariat and was aimed at giving insight into trafficking and fraud involving nuclear/radioactive substances. The outline and result of the study will be mentioned later on.

The results of our activities were reported to other member States at the International Conference on Environmental Crime, a broadened forum organized by the General Secretariat in September 1996. The participants in the conference endorsed the results and encouraged us to continue our work on the subject, although they concluded that the situation has fairly diminished from the viewpoint of law enforcement.

D. Analytical Study in Europe

An analytical study was conducted in 1995 covering mainly the period from 1992 to 1994. In terms of geographical area, it covers Europe in principle. The INTERPOL in-house database was used to obtain basic information which was completed by additional data provided by the member States in Europe, the United States and Canada. Open source information from books, reports and press articles was referred to as well.

Although the member States in the region were cooperative in general, we found it difficult, from time to time, to obtain detailed information on offenders or potential buyers, due to the sensitive nature of the cases. It was also extremely difficult to obtain any information related to military forces, due to the non-military nature of our organization. We therefore admit that despite the efforts made by the analyst, the study is not at all exhaustive.

The study covers real seizures, proposals for sale and fraud cases, though the distinction between them has not been easily defined. The cases concerning the substance called “Red Mercury” were considered fraud, since we were not able to identify the substance itself.

A distinction is established between the “illegal traffic in nuclear/radioactive substances”—in which the substances themselves have a market value—and the “illegal traffic in radioactive waste”—in which the cost

of disposal of the substances accounts for the market value. The cases of "radioactive waste" were not taken into consideration in the study.

The summary of the results of our study is shown below:

1. So far as the number of cases is concerned, a rapid increase has been recognized from 1992 to 1994. Before 1991, only a few scattered cases were reported;

2. The smuggled substances seem to originate from the former USSR countries, in particular, the Russian Federation, Ukraine and Belarus, whereas in some cases the origin was unknown. The substances seem to have come from nuclear power stations, other nuclear plants, military units, factories or coal mines, even though it was rather difficult to identify the real origin of the substances. One case reported that the origin of the substance seemed to come from outside Europe;

3. Central/Eastern European countries appeared to be the main transit countries. We identified three types of routes in general: the Northern Route, the Southern Route and the Central Route. In the case of the Northern Route, the substances were smuggled through Baltic States (Estonia, Lithuania and Latvia), Scandinavian countries (Denmark and Sweden) or Finland. In the case of the Southern Route, the substances were transited through Azerbaijan or Armenia to Turkey, then to central Europe. The Central Route goes through the former Eastern bloc countries, such as the Czech Republic, Slovakia, Poland, Hungary or Bulgaria. Among these three routes, the Central Route seemed to be used most frequently, whereas the Southern Route appeared in only a few cases;

4. The destination seemed to be Western Europe, such as Austria, Germany and Switzerland. Other Western European countries such as France, Belgium, Spain, the Netherlands, or the United Kingdom were rarely, if at all, affected. It seemed that the countries affected, in particular Germany, were seen as countries where potential buyers could be found. The final destination, if any, remained unclear. No established market for buyers has been identified either;

5. While uranium, either natural or lightly enriched, was the commonly smuggled and/or seized substance, plutonium and highly enriched

uranium, which can be used in nuclear weapons, were also found and/or seized. It should be noted that a case was reported where nearly 3 kg of highly-enriched uranium (87.7 per cent in U-235) was seized on one occasion. Although the quantity and the level of enrichment did not satisfy the production of nuclear weapons, this indicates nonetheless the dangerous nature of this type of crime. The substances found and/or seized were: Plutonium-239, Uranium (natural, lightly-enriched or highly-enriched), Beryllium, Caesium-134, Caesium-137, Cobalt-57, Cobalt-60, Iridium-192, Radium-226, Strontium Californium-249, Californium-252, Caesium-133, Rubidium-85, Lithium-6;

6. Special attention was paid to packaging, since the type of packaging and handling of the substances determine the degree of danger they represent for human beings and the environment. Information from member States indicates that the packaging was insufficient, although no accident or damage by radiation was reported. Examples include a seizure in which the offender transported enriched uranium in his bag for several days where its only protection was a thin lead cover. Some offenders were not aware of the danger of the substances they were transporting and therefore could have irradiated themselves or their surroundings unknowingly;

7. The offenders were mainly from Eastern Europe including the former USSR countries. The suppliers, when identified, were mainly of Russian origin, while offenders of other nationalities acted as buyers or intermediaries. The real buyers or the end-users were not identified. It was possible to recognize one or two organized crime groups although there was no evidence of the existence of large criminal organizations behind the trafficking;

8. The study also covered prevention policy and legislation in the countries concerned. Most of the countries took the problem seriously and were trying to take certain measures such as adopting special legislation or establishing a special unit. Nevertheless, the Eastern European countries seemed to have encountered difficulties due to the shortage of human or financial resources in law enforcement agencies. The situation may have improved since the study was conducted in 1995.

Although the study did not make it clear, the analysis of financial records might be useful in order to identify the networks and interrelations of criminals. If the financial records of the criminals or potential suspects are available, this approach may bring us a volume of information on the day-to-day activities of the targets.

E. Conclusion

Traffic in nuclear/radioactive substances causes a real danger to people and the environment. A potential threat in terms of criminal use, e.g. terrorism, cannot be denied. Sensational reaction combined with the complexity and scientific nature of this problem makes it difficult for the public to discern the real threat and to remain objective. It is therefore of great importance to collect as precise information as possible in order to analyse the actual situation and conduct an objective risk assessment.

Our activities in this area have concentrated mainly on the European region. We therefore find it particularly interesting to learn more about the situation in other regions. INTERPOL is fully aware that law enforcement agencies cannot achieve this goal alone. In this regard, this seminar offers us an excellent opportunity to exchange our views with other parties concerned.

Criminals follow no rules. We should take a coordinated approach to use our human and financial resources as effectively as possible.

Chapter 3

National and International Initiatives Relating to the Illicit Trafficking in Nuclear Material

Pedro Villagra Delgado

In recent years news reports published in the information media of cases of illicit trafficking in nuclear material have perturbed public opinion. Public opinion is at the moment particularly sensitive to the way in which nuclear issues are dealt with: we need only cite as examples the transport and final disposal of radioactive waste, the consequences of the accident at Chernobyl more than ten years after its occurrence, and so on.

It is clear that the cases of illicit traffic represent a risk of nuclear arms proliferation.

Within the context of the International Atomic Energy Agency (IAEA), the General Conference has adopted resolutions on the issue every year since 1994.[1]

The general position taken in the debate within the IAEA is that the main responsibility in the area of prevention lies with the internal control system of States. The resolutions adopted have emphasized the importance of close cooperation between States, both in the bilateral and the multilateral fields.

During the years 1995 and 1996, the IAEA Secretariat proposed various activities in support of States' efforts to prevent the illicit traffic in nuclear material: physical protection, national accounting and control systems, a radiological security infrastructure relating to the physical security of radioactive sources and a database operated by the international organization which records incidents that have occurred, and other details.

The IAEA database is essentially supplied with press information and communications from States.

Likewise, the Security Council, in a statement made by its president on 19 July 1995, indicated that the members of that body fully supported the IAEA in the work that it was undertaking in this field.

[1] GC (XXXVIII)/Res./15, GC(39)/Res./18, and GC (40)/Res./17.

The importance of this issue was recognized in the so-called Moscow Summit held on 19 and 20 April 1996, which adopted a declaration on functional and physical security in the nuclear sphere.

The declaration stated that the physical security of all nuclear material was an essential element in the responsible and peaceful use of nuclear energy. In particular, safe management of fissile material, including material resulting from the dismantling of nuclear weapons, was an essential requirement, especially as a safeguard against the risks of illicit traffic in nuclear material.

International organizations, in this case, the IAEA, have an important role to play in recommending measures aimed at preventing this illicit traffic, but it is the responsibility of national governments to establish a control system covering all radioactive sources.

National governments should endeavour to coordinate action in the field of intelligence, customs and policing, in close association with governments of other countries concerned.

An example of the interaction mentioned in the previous paragraph is the Seminar on the Investigation of Nuclear Crime, Physical Protection of Nuclear Material and Prevention of its Illicit Traffic, which was held in Buenos Aires from 24 March to 2 April 1997. Among the participants of the Seminar were the National Nuclear Regulatory Body (ENREN), the International Criminal Police Organization (INTERPOL) and the Argentine Federal Police.

In the area of prevention, I should mention the Convention on the Physical Protection of Nuclear Material of 1980, which was negotiated within the framework of IAEA and to which Argentina acceded in 1989.

The objective of physical protection measures is to prevent international action being taken with the aim of causing damage to nuclear installations or of removing nuclear material.

In the case of Argentina, the functions of physical protection of nuclear material and radiological and nuclear security fall within the terms of reference of ENREN.

In this context, the efforts to strengthen IAEA's system of safeguards, known as Programme 93+2, should be borne in mind. Among the new measures contemplated is that of providing this international body with the capability of detecting undeclared nuclear activities. It is hoped that these measures will also be instrumental in preventing the illicit traffic in nuclear material.

Although accounting and control measures concerning nuclear material have been developed in relation to the application of safeguards, they also assist in preventing the removal or improper withdrawal of such material.

In this regard, the work undertaken by the Brazil-Argentine Agency for Accounting and Control of Nuclear Material (ABACC), which is responsible for applying a common system for the accounting and control of nuclear material (SCCC)[2], should be emphasized.

In this context, the importance of maintaining an effective national system of export control for this type of material should also be borne in mind.

These controls on transfers of nuclear material are an obligation on States under the national and international non-proliferation agreements which aim to ensure the peaceful use of nuclear energy (e.g. NPT, Tlatelolco Treaty).

In Argentina, control over the transfer of material, equipment and nuclear and missile technology, as well as chemical substances that can be used in the production of missiles and nuclear, chemical or bacteriological weapons, is regulated by Decree No. 602/92.

This Decree established the National Commission on the Control of Sensitive Exports and Military Material, which is composed of representatives of the Ministries of Defence, Foreign Affairs, Economic Affairs and Public Works and Services.

The regulations referred to above bring together the international standards of the MTCR (Missile Technology Control Regime), the Australia Group and the Nuclear Suppliers Group (NSG).

Argentina attended NSG meetings as an observer in 1993, and in 1994 it became a full member. In April 1996, the plenary session of the Group took place in Buenos Aires, marking the first time that a plenary session had been held in the southern hemisphere.

The NSG is an informal agreement between 34 supplier countries of nuclear material and forms an integral part of the international non-proliferation arrangement. Its directives are published as an IAEA[3] document.

Within the framework of Decree No. 603/92, it is compulsory to obtain prior authorization for exports covered by the Decree. Applications are considered case by case and, in deciding on applications, account is taken of the agreements adopted in the field of non-proliferation.

With regard to nuclear material and equipment, export is subjected to prior licensing if it relates to reactors and enriched uranium or plant, equipment and components for uranium conversion and enrichment, for nuclear fuel reprocessing, heavy water production or for nuclear fuel manufacture.

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[2] ABACC was created by the 1991 Agreement between Argentina and Brazil for the exclusively peaceful use of Nuclear Energy, known as “Bilateral Agreements”.

[3] INFCIRC/254.

As a general rule, the export of material, equipment, technology, technical assistance and/or services associated with uranium conversion and enrichment, fuel reprocessing, heavy water production and plutonium[4] manufacture will not be authorized.

The export of reactors and enriched uranium or of the technology associated with these is only possible in cases where a bilateral nuclear cooperation agreement is currently in force with the country involved. Furthermore, this country is required to be a party to an agreement on wide-ranging safeguards with the IAEA, and is required expressly to undertake not to use the material exported by Argentina for purposes related to nuclear explosives, to adopt physical protection standards for the exported material (which the IAEA verifies), and to undertake to request the consent of the Argentine Government prior to transferring the exported material.

Decree No. 603/92 also establishes that the exporter of any material, equipment, technology, technical assistance and/or services for which there is no specific provision in the Decree, will be required to obtain an export licence when there is any suspicion that the goods or services exported might be used in projects or activities related to weapons of mass destruction.

With regard to the mechanism for applying the Decree, exporters are required to submit the application for export of sensitive material to the Executive Secretariat of the Commission, which is under the authority of the Directorate-General for Business Coordination and International Relations of the Ministry of Defense.

On receipt of the application for export of sensitive material, the Executive Secretariat forwards it to the corresponding technical body for its report. Once the technical report has been received, the Commission, which is composed of directors representing the three ministries, examines the request.

If export of the sensitive material is approved, the Commission endorses the corresponding prior export licence and forwards it to the exporter so that it can then be presented to the national customs administration, to which body the Commission also forwards a copy of the licence granted.

The Commission holds periodic meetings with the national customs administration for the purpose of coordinating customs nomenclatures and harmonizing the information required in order to expedite export procedures, without neglecting to supervise the application of current regulations.

The legislation is revised periodically in order to make the necessary adjustments to ensure that the control system is functioning efficiently.

[4] Article 6 of Decree 603/92.

To summarize, controlling licit traffic in nuclear material is instrumental in reducing illicit traffic. These measures, in addition to improvements in accounting and control systems for this type of material, personnel training and the promotion of cooperation between States, are all instruments that can be used in controlling this problem.

Although the illicit traffic in nuclear material has not up to now assumed major proportions, it is cause for concern, and for this reason it is necessary to continue to search for a harmonized international response.

II. Chemical and Biological Agents

Chapter 4

Illicit Trafficking in Chemical Agents

Masashi Matsuo

A. Introduction

The production and traffic of chemical weapons has been banned by the Chemical Weapons Convention (CWC). In order to fully implement this Convention, Member States are adapting their respective domestic laws to strictly control the illegal production and traffic of the chemical substances proscribed by this agreement. However, some chemical agents banned by the Convention may still be produced and trafficked. One such circumstance would be the case where chemical agents proscribed by the Convention are produced and transported through non-Member States, which of course, would run against the objective and purpose of the Convention.

It is therefore important to have an accurate grasp of such situations with some means of detection and inspection, which would then allow Member States to exercise international influence to prevent the production and traffic of these chemicals.

It is under this particular type of circumstances that this chapter considers the problem of illicit traffic of chemical agents. The chapter also describes specific means of detection to find signs of such production and traffic, and possibilities of inspections.

B. Dual Use of Chemical Agents

In countries where the chemical industry is highly developed, various phases of chemical agents are produced using various raw materials, and such chemical agents are dealt as products for sale. In an initial phase, crude oil and coal are refined and it is difficult to assert that such process is linked to the production of chemical weapons. As chemical processing reaches the second and third phases, some of the products contain chemical substances of which further processing may lead to the chemical agents or precursors clearly mentioned in the CWC. In addition, there are other chemical substances that are not prescribed by the convention but approximate to the chemical agents or precursors prescribed by the Convention, which one could consider to be "chemical substances available for dual use". Such chemical substances available for dual use are not restricted at all by the CWC, and therefore the illicit traffic of these chemical agents does not apply to them.

One way of producing chemical weapons is by obtaining dual-use chemical substances which are extremely close to the chemical agents or precursors mentioned in the Convention. One would only have to carry out the last part of the chemical process in order to easily produce lethal agents. In addition, it should also be noted that in reality, once a country obtains chemical substances available for dual use, it does not need to make huge investments in equipment and chemical engineers in order to build facilities to produce the chemical agents or precursors mentioned in the CWC.

Detection of such activities becomes a problem, since the chemical agents of various phases handled in countries where the chemical industry is highly developed, cannot necessarily be detected and inspected as the chemical substances which have a risk of being used in illicit traffic of chemical agents.

C. Internationalization of the Chemical Industry

The internationalization of the chemical industry makes detection even more complicated. The chemical industry has increasingly been internationalized based on the classification of the countries of origin of raw materials, the countries of chemical processing and producers of chemical products, and the countries consuming chemical products. It is also conceivable that several countries are simultaneously involved in the second and third phases of chemical processing, and the production of chemical products. As a large amount of various semi-finished products move around internationally,

it seems to be impossible to follow and investigate the international traffic of all chemical agents.

In discussing the theme of "Illicit Traffic of Chemical Agents", developing countries are expected to establish their domestic laws on the same level as those of developed countries.

As regards the international traffic of chemical substances available for dual use, it should be recognized that the commercial chemical industry can hardly know by intuition any risk of application for chemical weapons, and raise internationally a question of such a risk. As for international deals of chemical plant construction materials, if experts of a country build a route by way of a third country aiming at concealing its real intention, it is very difficult for the commercial chemical industry to see through the reality.

Detection of misuse of equipment and substances can hardly be made by private businesses. Instead, only an international organization with a competent staff should be expected to detect and identify international traffic of chemical substances or chemical plant construction materials, internationally raise a question of suspicious traffic, and detect and inspect such traffic.

D. Illicit Traffic

The illicit trafficking of chemical agents could be considered from two points of view. First, as regards controlling the traffic of chemical agents or precursors mentioned in the CWC, the targets are individuals or industries. How to control industries to implement the CWC is based in principle on examinations of reports. As for international traffic of chemical agents, the convention is expected to be implemented by the process of restriction, report, examination and approval. A similar idea may be applied to chemical plant construction materials.

Each member of the CWC is expected to be able to resolve the issue of such traffic by its own domestic law. In addition, when any doubt occurs, Member States are required to accept international surprise inspections.

If the production and traffic of the chemical agents or precursors mentioned in the CWC is promoted on an international scale under official or unofficial support by governments, it is probable that such traffics are not controlled by domestic laws. The concept of "illicit traffic" is not directly applied to international traffic of chemical substances available for dual-use and related construction materials of chemical plants. But, it cannot be denied that cases where results of traffic are extremely suspicious, from the viewpoint of

production of the chemical agents or precursors mentioned in the CWC, may take place. In such cases, some measures have to be taken for detection and inspection.

However, it appears that detection and inspection technology which is necessary and adequate to prevent illicit trafficking of the chemical agents or precursors, not subject to reports and examinations, has not been developed and established yet. Even if there are travellers who go around several countries carrying a very small amount of the chemical agents or precursors mentioned in the CWC, any technological means to detect and inspect them in a similar manner to X-ray inspection of guns and knives at customs, has not been established yet. In consequence, it is not easy at all to detect and inspect traffickers at customs who attempt to smuggle chemical agents or precursors by concealing them in other commodities, materials and equipment.

E. Detection and Inspection

The most promising means to detect and inspect illicit trafficking is probably that each country's intelligence service makes full use of various intelligence means to collect information about such traffics and find clues of these illegal activities. It is also conceivable to establish an agency similar to a narcotic investigating agency to investigate illicit trafficking of chemical agents in each country. Such a national agency can demonstrate great power through international cooperation.

To prevent the production and possession of chemical weapons, it is necessary to build a system under which each country's illicit trafficking investigating agency can internationally cooperate with each other. Under such a system, each country's illicit trafficking investigating agency gathers to exchange data information, and take further steps to conduct international detection and inspection.

If the ultimate purpose of international traffic of dual-use chemical agents and relative chemical plant construction materials is production and possession of chemical weapons, it will be necessary to internationally detect and inspect production storage and deployment of chemical weapons.

If such doubts occur within the Member States of the CWC, on-site inspection will be conducted. In non-Member States, on the other hand, investigators cannot be sent for on-site inspection even if they are suspicious. Therefore, it is necessary to build a system to remotely conduct international detection and inspection. At present, the most promising means of remote

detection and inspection, which can be conducted without any problem associated with international law, is the use of images obtained by satellites, collecting detailed satellite images of suspicious facilities where chemical weapons may be produced, stored or deployed, based on data and information gathered by each country's illicit trafficking investigating agency under international cooperation.

F. Cooperation in Detection/Inspection Illicit Trafficking: A Proposal

A promising means to detect and inspect “illicit traffic” is the combination of data information gathered by each country's “illicit traffic” investigating agency and image information obtained by satellites. Such a combined information system is effective, however not only for detection and inspection of illicit trafficking of chemical substances. It should be noted that such a combined system has many points in common with an information system which should be built to obtain information required for arms limitation or armament control of nuclear, chemical, biological and conventional weapons. Moreover, such a system would also have similarities with a system to collect information about disasters, forest fires, earth resources, and light firearms or drugs associated with international terrorism.

It is therefore proposed that a combined information system be established under which international cooperation of each country's intelligence service and an internationally available detection/inspection satellite system are linked together.

Chapter 5

Combating Illicit Trafficking in Chemical Agents: Prospects and Strategies

Louise Hand

This Chapter examines the role of the Australia Group, particularly in the light of the entry into force of the Convention on Chemical Weapons (CWC). In its work on this subject, the Group has played a specific role in the international strategies adopted to combat the illicit traffic in chemical agents.

In 1984, in response to investigations and the request made to Iran by the United Nations Secretary-General, and in response to the use of chemical weapons in the Iran-Iraq war, regulations were established on the manufacture and export of chemical weapons. In the absence of a multilateral agreement on the production and control of chemical weapons, negotiations on the CWC had been conducted at the Conference on Disarmament in Geneva. This step was taken in order to meet the political requirements of the following three factors.

The first of these factors was the violation of the 1925 Geneva Protocol by the Iran-Iraq war. There was also very clear evidence that Iran, and in particular Libya, had obtained a considerable amount of material for their chemical weapons programmes through the international community and the chemical industry, and that in many cases the industry itself was unaware that the material it had sold was to be used and of how it was to be used. There was also the expectation at that time that the conclusion of negotiations on a convention prohibiting chemical weapons over time would be postponed for some years.

In 1995, negotiations on the CWC in Geneva had evolved to the point where our consultations and discussions could begin, Australia saw the need to deal with the issue of chemical weapons and to try to dissuade other countries from acquiring this type of weapon in violation of international regulations. Similarly, in 1990, Australia's concern was focused on attempts to curb the increase in chemical weapons.

It had been known since 1985 that countries were already introducing export licences, that the licences they were supplying would need to be

analysed on an individual basis, and that cooperation on this issue between the countries concerned would be required.

The first meeting of what was to be known as the Australia Group was held in Brussels ten years ago. All participating countries agreed that it would be beneficial to continue this process, and the members of the Australia Group now meet in Paris every year. The number of participating countries increased from 15 in 1985 to 30 in 1997, in addition, the European Commission. Romania and the Republic of Korea are the two most recent countries to have become members of the Group. Australia will be holding the office of Chairman in the forthcoming meetings, and there are plans to include 60 further countries.

The Australia Group is a group of countries committed to combatting the proliferation of biological and chemical weapons. The countries participating in the Group also play an important role in the prohibition of equipment or material used in chemical weapons programmes.

The aim of the Group is twofold. On the one hand, the members of the Group seek to thwart and prevent the process of proliferation of chemical weapons as far as possible throughout the world. On the other hand, the members seek to put forward to industries the view that they should not allow chemical weapons to be exported. The members have no legal obligation. The effectiveness of cooperation among members depends solely on their commitment to the objectives of non-proliferation and on the effectiveness of the measures that they adopt at a national level to prevent the spread of chemical and biological weapons. The idea is to explore the range of measures that can be adopted to make the initiatives taken by the participating countries as effective as possible. This includes the harmonization of existing measures and, where necessary, discussing the introduction of new measures.

Export licences are an essential part of the agreements drawn up by the participating countries. Countries in the Australia Group have introduced licensing regulations for certain exports and the export of certain chemical and biological agents, as well as for installations and equipment.

The Group operates by providing a list of 45 chemical agents that have been agreed upon by its members. The Group also has a list of chemical weapons that are subject to export restrictions.

Some of the considerations are that the measures are sufficiently effective to prevent the proliferation and export of chemical weapons and that they are practical and can be implemented;, that they will not hinder legitimate trade in this type of material; that licences will be granted for exports and that they are control instruments for export. Exports should be refused only if there is concern over the intended use or misuse of the chemical agents. All agree that

these measures would be much more effective if they were adopted by all exporters in relation to chemical and biological agents.

The term "export control" can elicit a negative reaction. However, export licences are not being prohibited; it is simply a question of monitoring trade in these important materials and of giving the authorities the power of blocking a sale when the export of a particular material could contribute to the spread of chemical weapons. They also provide a means of enabling Governments to ensure that they are meeting their obligations.

Licences serve the purpose of enabling traders to ensure that they are not contributing to dissemination programmes of chemical and biological weapons in high-risk countries.

In Australia, procedures have been developed which ensure that positive responses can be given within 24 to 48 hours. Licences can block a sales plan only where there is cause for concern. Licensing measures also reinforce the resolve of participating countries to avoid becoming not only directly but indirectly involved in proliferation. The system also stimulates private institutions to carry out investigations to ensure that they are not supplying biological or chemical equipment to persons or to institutions that will misuse such equipment.

These measures apply to all countries, including those countries that are members of the Australia Group. For example, all exports from Australia are controlled and require a licence, whatever their country of destination. Trade has been blocked in very few cases. The proportion of exports of chemicals from Australia and from other member countries of the Australia Group refused has, I know, been less than 0.03 per cent, that is to say, 99.9 per cent of exports have been permitted without being curbed in any way.

The Group attaches great importance to links with other countries which are not members of the Group and also aims to secure as wide a membership as possible.

Over the past ten years, discussions on exports have taken place, particularly with suppliers and trans-shipment countries. Many countries have reacted by instituting similar controls to those of the Australia Group countries. The Republic of Korea, a new member of the Group, is a clear example of this practice. Further, in 1992, the participating countries of the Group decided to expand the programme.

The practical experience that members of the Australia Group have gained in operating the export licensing system has been valuable in preparing for the implementation of the key requirements under the CWC.

Licensing measures not only support the aims of the CWC but ensure that Member States comply with its requirements. Export licensing measures are also in keeping with Article 11 of the Convention. In this context, I would recall the declaration made at the Conference on Disarmament in 1997, which has been reaffirmed by the member States of the Australia Group, which resulted in a revisiting of the measures to be taken in implementation of the CWC calling for all countries to comply wholly with the CWC's requirements. In this context, it is appropriate to mention that if any State Party to the CWC considers that the measures taken by another State are not consistent with the requirements of the Convention, it may enter into bilateral consultations under the procedures established in Article 9 .

In conclusion, and in relation to the future of these strategies, it is useful to reflect on the value of the activities undertaken by the Australia Group. The Group's consultation activities and licensing measures have served to prevent the acquisition of materials used in the production of biological and chemical weapons, thus blocking potential misuse. Barriers have also been erected against those countries which seek to buy chemical and biological weapons, re-directing them towards conventional weapons. In some cases the price of chemical weapons has increased to the point where a purchase has not been concluded because the cost is too great. Similar results are expected with regard to biological weapons.

At the same time, it has been suggested that the existence of the Group has encouraged alternative sources of supply, possibly in Asia and Latin America. What we can say in response is that the Group has raised the awareness of member states of the risks of becoming involved with biological and chemical weapons. Since the Gulf War in 1991, many countries consider export licences to be an essential assurance that products have not contributed to the spread of chemical and biological weapons.

Chapter 6

Awareness and Access to Biological Weapons: Future Implications

Malcolm Dando

A. Introduction

There is clearly widespread official concern over the proliferation of biological weapons.[1] One official United States estimate has been that the number of States having, or suspected of having, offensive biological weapons programmes has increased to ten from only four in the early 1970s. The precise meaning of such statements can be difficult for the public to assess, despite the fact that some clearer official statements have recently been made. The United States Central Intelligence Agency (CIA), for example, in a written reply to questions last year noted that:[2]

> Iran has had a biological-warfare programme since the early 1980s. Currently, the programme is mostly in the research and development stages, but we believe Iran holds some stocks of BW agents and weapons . . . Tehran most likely has investigated both toxins and live organisms as BW agents . . .

However, in one particular example we have gained a much fuller picture of the extent of the proliferation of an offensive biological weapons programme.

[1] M. Leitenberg, "Biological Weapons Arms Control", *Contemporary Security Policy*, Vol. 17, No. 1, 1996, pp. 1-79.

[2] Select Committee on Intelligence (1996), *Current and Projected National Security Threats to the United States and its Interests Abroad*, United States Senate, 104th Congress, Second Session, Written Answers, 10 May, S. Hrg 104-510.

B. Iraq's Offensive Biological Weapons Programme

In late 1995, the United Nations was able, for the first time, to give a relatively complete description of the Iraqi biological weapons that might have been used against coalition forces in the 1991 Gulf War. The potential threat included a wide range of agents:[3]

> . . . *lethal agents*, e.g. anthrax, botulinum toxin and ricin, and *incapacitating agents*, e.g. aflatoxin, mycotoxins, haemorrhagic conjunctivitis virus and rotavirus. The scope of biological warfare agents worked on by Iraq encompassed both *anti-personnel* and *anti-plant* weapons . . . [my emphases]

These agents had been used to fill a wide range of munitions:

> . . . from *tactical weapons* (e.g. 122 mm rockets and artillery shells), to *strategic weapons* (e.g. aerial bombs and Al Hussein warheads filled with anthrax, botulinum toxin and aflatoxin) and *"economic" weapons*, e.g. wheat cover smut . . . [my emphases]

Moreover, the production quantities were large:

> . . . at least *19,000 litres of concentrated botulinum toxin* (nearly 10,000 litres were filled into munitions), *8,500 litres of concentrated anthrax* (some 6,500 litres were filled into munitions) and *2,200 litres of concentrated aflatoxin* (1,580 litres were filled into munitions). [my emphases]

There were significant numbers of delivery systems:

> . . . the *R400 bombs* were selected as the appropriate munition for aerial delivery and 100 were filled with botulinum toxin, 50 with anthrax and 16 with aflatoxin. In addition *25 Al Hussein warheads* . . . were filled with botulinum toxin (13), anthrax (10) and aflatoxin (2) . . . [my emphases]

The United Nations report stated: "Given the Iraqi claim that only five years had elapsed since its declared inception in 1985, the achievements of Iraq's biological weapons programme were remarkable."

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[3] United Nations, *Report of the Secretary-General on the status of the implementation of the Special Commission's plan for the ongoing monitoring and verification of Iraq's compliance with relevant parts of section C of Security Council resolution 687 (1991)*, 11 October 1995, S/1995/864.

C. Biological Warfare

Biological weapons might be used in many different ways and in a variety of scenarios: for example, ricin is a potent toxin that could be used for assassinations; insects could be used to spread deadly diseases; food or water supplies could be contaminated.[4] However, rapid, large-scale anti-personnel use of biological agents requires their dissemination through the air and inhalation into the lungs.

When used effectively in this way, biological weapons have an area coverage which makes them equivalent to nuclear weapons as weapons of mass destruction. There are many estimates in the open literature that confirm this conclusion. For example, the Office of Technology Assessment of the United States Congress has calculated that a mere 100 kg of anthrax spores, spread as a line source and allowed to drift through the wind on a clear, calm night over Washington D.C., could kill between one and three million people.[5] The difference between nuclear and biological weapons of mass destruction, as the Iraqi example clearly demonstrates, is that it is much easier and cheaper to produce a biological weapons arsenal. The ease with which such agents can be produced means that they could also be available to rogue States or even sub-State terrorist groups. It is known that the Japanese sect which used Sarin nerve gas against commuters on the Tokyo underground, was also interested in the use of anthrax.

Anthrax is one of a group of so-called "classical" biological warfare agents. It was chosen as a weapon in the United States offensive biological weapons programme which ran from 1942 to 1969. Anthrax is an obvious agent of choice because it forms a spore which is resistant to environmental damage. Also, as the Joint CB Technical Data Source Book pointed out:[6]

> . . . The mortality rate for respiratory anthrax is essentially 100 per cent. Since early diagnosis of inhalation anthrax is unlikely, treatment with antibiotics is ineffective . . .

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[4] US Army Medical Research Institute of Infectious Diseases, *Biological Weapons Proliferation: Technical Report*, DNA-MIPR-90-715, Alexandria, VA: Defense Nuclear Agency, 1994.

[5] Office of Technology Assessment, *Proliferation of Weapons of Mass Destruction: Assessing the Risks*, OTA-ISC-559, Washington, D.C.: Congress of the United States, 1993.

[6] Deseret Test Center, *Joint CB Technical Data Source Book, Volume VII, Bacterial Diseases, Part II: Anthrax*, DTC 73-27, Fort Douglas, Utah, 1973.

Nevertheless, there was doubt about the utility of biological weapons during the Cold War period when biological weapons were often seen as unpredictable and uncontrollable. Yet a senior United Kingdom official specifically rejected this view in an article in the *Journal of the Royal United Services Institute* in 1992. He argued that by 1969:[7]

> . . . the utility of BW had been demonstrated by all means, short of use in war, and the established feasibility could clearly not become disestablished with time . . .

Moreover, the threat from biological weapons has continued to develop since 1969.

Infectious diseases caused by microbial agents—bubonic plague, cholera, influenza, leprosy, measles, smallpox, tuberculosis, typhoid fever, typhus, yellow fever, etc.—have long created misery for human populations in both peace and war. And sporadic attempts have been made in the past to deliberately use disease as a weapon of war: the British, for example, gave native American Indians blankets contaminated with smallpox. Yet it was only towards the end of the last century that scientific understanding of these diseases and their agents began to develop. Inevitably, perhaps, this precise new knowledge was applied in warfare, an example being the attempts by both sides in the First World War to infect vital stocks of horses with the disease glanders. The large-scale Japanese, British and American offensive biological weapons programmes then followed in the 1930s, 1940s, 1950s and 1960s. Knowledge of bacteria developed faster than that of viruses and it seems probable that the Soviet/Russian programme, which was only officially terminated in the 1990s, would have benefited from the growing knowledge of viral agents and diseases.

D. Recent Scientific and Technological Developments

Only in the early 1970s did genetic engineering—the effective transfer of functional genes across species—become possible and the growth of modern biotechnology begin. It is well recognized that genetic engineering allows the easier production of militarily significant quantities of toxins. Essentially, it has become possible to produce strategic weapons, using very limited physical and financial resources, with a relatively small number of trained personnel. It also allows the possibility of enhancing the characteristics of biological warfare

[7] G. B. Carter, "Biological Warfare and Biological Defence in the United Kingdom 1940-1979", *Royal United Services Institute Journal*, December 1992, pp. 67-74.

agents in order to improve their environmental stability, their infectiveness and their resistance to antibiotics. Humans have long been involved in modifying other species by deliberate, selective breeding, for example by producing the vast range of modern dog varieties. But the difference between this traditional activity and modern capabilities like making a human gene function in a bacterium, can hardly be overstated. The dangers are clearly set out in the background scientific papers produced for the Fourth Review Conference of the Biological Weapons Convention in 1996.[8]

It was also recognized at the Review Conference that the Human Genome Project, which will deliver a complete account of the structure of our genetic material by the early years of the next century, could pose new dangers. A number of analysts have argued that knowledge of the human genome at this level, combined with the obvious diversity of human groups, and the current advances in gene therapy, could perhaps allow the development of "ethnic" biological weapons targeted at specific groups.[9] There is, additionally, an obvious danger that our growing knowledge of bioregulatory peptides will allow the development of a new range of anti-personnel agents.

E. Responding to the Threat

Such misuse of biological knowledge could happen if the international community is unable to enforce the disarmament norm embodied in the Biological Weapons Convention. Also, our overconfidence (as a species) that we have beaten microbial pathogens, has been severely dented. The phenomenon of drug-resistant tuberculosis epitomizes the threat that could confront any of us, even in the developed world. Microbial pathogens can evolve very quickly to evade the defences we erect. Alongside this renewed threat from "old" diseases, there are new threats from previously unknown diseases with frightening characteristics, such as Ebola, as the human population expands and moves in large numbers into different ecosystems.

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[8] United Nations, *Background paper on new scientific and technological developments relevant to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction*, BWC/CONF.IV/4, 1996.

[9] M. R. Dando, " 'Discriminating' Bio-Weapons Could Target Ethnic Groups", *International Defense Review* (Special Issue: Chemical and Biological Warfare), Vol. 30, No. 3, 1997, pp. 77-78.

The analysis of the threats we face today is much more complex than a decade ago, and potential errors that could lead to worst-case analyses abound. But as two naval analysts recently pointed out:[10]

> Functional distortion in intelligence analysis amounts to de-emphasis of security threats that may be acknowledged and real, but which existing forces can do little about, or that cannot be countered without significant investment in capabilities that differ from those in hand . . .

Ignoring the very real dangers of the evolving threat from biological agents would appear to fit into this precise category of distortion, and the consequences of that mistake could be extremely dangerous.[11] Yet, if the problem is recognized and properly prioritized, a great deal can be done to reinforce the norm of international behaviour embodied in the Biological and Toxin Weapons Convention. At a scientific level, for example, our ability to detect and identify agents and toxins has increased considerably in recent years. Alongside rapid increases in specific knowledge about individual disease agents, broader generalizations about the mechanisms of pathogenicity are becoming possible. This should increasingly allow a more generic approach to be taken in dealing with emerging threats.[12] An interesting example of what might become possible is the Unconventional Pathogens Countermeasures Program in the Defense Systems Office of the US Defense Advanced Research Projects Agency (DARPA). This is seeking novel and unconventional methods of providing protection against pathogens such as defeating their ability to enter the body, or to traverse the bloodstream or lymphatic system.[13]

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[10] T. Hirschfeld and W. S. Carus, "We Need to Understand", *Proceedings of the US Naval Institute*, February 1997, pp. 65-68.

[11] R. Danzig, "Biological Warfare: A Nation at Risk—A Time to Act", *Strategic Forum*, No. 58, 1996, pp. 1-4.

[12] M. R. Dando, "New Developments in Biotechnology and Their Impact on Biological Warfare", in O. Thränert (ed.), *Enhancing the Biological Weapons Convention*, Bonn: J. H. W. Dietz Verlag, 1996.

[13] DARPA is one of the principal research and development organizations of the United States Department of Defense. It manages and directs basic and applied research and development projects where risks of failure are high but success could provide dramatic advances. The agency, for example, created ARPNET, the antecedent of the Internet. The Unconventional Pathogens Countermeasures Program is run by Dr. Shaun Jones and Dr. Steven Morse. The original draft of this paper was written at their invitation for the programme's Internet information site, under the title, "The Threat from Biological Agents".

F. Conclusion

In conclusion, it must be said that with the recent indefinite extension of the Nuclear Non-Proliferation Treaty and the approaching entry into force of the tough Chemical Weapons Convention, biological weapons of mass destruction could become the weapon of choice for potential proliferants. Additionally, the basic problem of the ease with which agents can be produced will be compounded by rapid scientific and technological developments in biotechnology around the world. Whether this threat to international security can be contained will depend on the willingness of the international community to take rapid and determined action.

Chapter 7

Strengthening the Convention on Biological and Toxic Weapons

Louise Hand

A. Understanding the Problem

The international community has an irreplaceable opportunity to strengthen the Biological and Toxin Weapons Convention (BWC) through concluding negotiations taking place in Geneva in what is known as the BWC Ad Hoc Group. Negotiations in the Ad Hoc Group are aimed at winning the agreement of the international community to a protocol which would provide a verification regime for the BWC. What the negotiation requires now is demonstration of decisive political will and commitment on the part of participating delegations. I would like to thank UNIDIR for providing us with this opportunity to consider the issue.

My own involvement in the negotiation is a political one. The Australian delegation, of which I am a member, holds the position of Friend of the Chair for Legal Issues and chairs the caucus of Western Group delegations. Australia was also a contributor to the detailed technical work which established the basis for the current phase of the negotiations.

The BWC entered into force in 1975. It prohibits the production and proliferation of biological and toxin weapons and as such is one of the pillars in the range of international regimes intended to counter weapons of mass destruction. However, as I have mentioned, the BWC has a major flaw. Unlike other agreements of this kind, for example the CWC, it has no provision for verification. States Parties cannot be reassured that obligations under the BWC are being met by its member countries. This is a cause for considerable concern particularly in the light of increasing evidence that a number of countries, or even groups within countries have acquired or are interested in acquiring such weapons.

As well, advances in biotechnology are making the production of biological and toxic weapons much easier. It is the view of Australia—a view

shared by many others—that a strong case can be made for a verification regime which would include a combination of national "declarations" relating to production and plant facilities and a system of inspections or "visits" of an escalating degree of intrusiveness. While most participating delegations can see the value of such a system, their considerations tend to take place against the background of valid and competing national security or commercial interests, each of which can readily be defended. However, in our view, there is a very real danger in failing to take full account of the dangers of an ongoing absence of a strong verification regime.

My comments today underline the reasons behind the agreement to strengthen the BWC. I also draw attention to issues of relevance to policy makers aiming to strike a balance between competing strategic and commercial interests in developing national positions on the vital inspection regime. I would also like to take this opportunity to bring you up to date on the ongoing negotiations in Geneva. In the view of Australia, they have reached a critical point at which those who wish to see the negotiations reach a successful and timely conclusion will need to develop sound, common policies backed by strong political effort in order to realize that goal.

B. The Importance of Verifying the Biological Weapons Convention

Scientists speculate that with the use of current technology and available biological agents it would take little more than a small quantity—as little as ten kilos—of an effective agent spread around a city to quickly kill the same number of people as a medium-sized nuclear weapon would. Advances in biotechnology can only make this possibility cheaper and easier.

Unlike a first nuclear strike, a country attacked by biological weapons might not be aware of the fact for several days thus providing a convenient incubation period for the agent used. There could therefore be huge casualties in the country's largest population centres, before anyone was aware of the nature of threat. In these circumstances, the capacity of civil authorities to provide a population with even the most basic medical treatment would be severely limited. Likewise, assistance to victims would be ineffectual if antibiotic-resistant genetic weapons had been used. The psychological impact of the realization on the part of victims that biological weapons had been used, probably in circumstances where the identity of the attacker was unknown, would be devastating.

In such a scenario. decision makers would be placed under enormous pressure to take drastic action. Decisions would be fuelled by suspicion. The sense of crisis, as the international community was faced with circumstances in which possibly tens of thousands and even hundreds of thousands of people could suffer successively from dreadful deaths under the watchful eye of CNN, would be unimaginable. For these reasons, biological weapons need to be recognized as a potential strategic threat belonging to the same category as nuclear weapons.

In considering the potential of biological agents for use as weapons, policy makers should be wary of the assumption that just because biological weapons have not yet been used in human history for strategic purposes on a large scale, they cannot or will not be so used in the future. We have reason to believe that some countries, around ten, are at this moment developing programmes to improve their offensive capability .

On a positive note, the proliferation of biological weapons is likely to be slow or susceptible to being curbed so long as the general climate of international security is benign. However, if the international security climate were to deteriorate, the motivation for some countries to develop an offensive capability will increase. Under such circumstances, our present international agreements to contain or to halt this proliferation would be inadequate.

One approach to curbing the proliferation of biological weapons is through a system of export licensing arrangements applied by countries which export dual-use equipment and other products. Permission to export may be refused if there are reasonable grounds to suspect that such exports are going to be diverted to third countries. However, such systems have their limits. As biotechnology continues to advance and to become increasingly widespread—the inevitable result of a global economic system—the number of countries crossing the threshold of civil use into large-scale development of biological weapons could easily increase. Under these circumstances, export restrictions would not have much point.

The inevitable legitimate development of dual-use technologies by various countries could result in confused political attitudes towards an industry which could find itself engaged in the production of a new type of strategic weapon. This reflects a crucial difference between nuclear and biological weapons. Nuclear weapons are based on technologies with no legitimate civil use and which take a very long time to be developed. The international community is, moreover, particularly sensitized to the danger of nuclear proliferation and is strongly focused on its control. By contrast, the technology needed for the development of biological weapons does not require a long lead-

time or any special or discernible effort. In the future, when many countries are likely to have the technical means to create biological weapons secretly, the international community will need international agreements with strong deterrence effects and verification capacity if it is to deal with emerging threats. We do not have them now.

C. A Verification Mechanism for the Biological Weapons Convention?

The BWC is the best means we have of minimizing the potential demand for biological weapons, since it is the only instrument which aims to achieve total prohibition and it forms the basis for global regulations against acquisition. However, in order to maintain its credibility the Convention needs to be strengthened by the development of a system whereby compliance can be verified.

Of course, any system which effectively monitors how States comply with the requirements of the Convention would have implications for the biotechnology industry. Production plants, both State-owned and private, would probably need to make annual declarations of their main activities and would then be subject to infrequent inspections. Balancing the need for an effective inspection regime against the need to avoid an unnecessary burden on the biotechnology industry, is an important aim of the negotiations. The question of whether or not it is feasible to verify the BWC to anyone's satisfaction remained open for many years. For that reason States Parties established a group of experts—VEREX—to explore whether inspections to establish compliance with the Convention were feasible from a technical and scientific point of view. VEREX was able to confirms that this was, indeed, the case. However, the greatest value of the VEREX report resides in its work toward the establishment and identification of levels of technological capacity on which judgements about the intentions of production can be made. This analysis has provided the basis of the current negotiations toward a strengthened Protocol and Australia is strongly hopeful that it will be possible to get the agreement of the international community to an inspection regime legally binding on Parties to the Convention.

The questions for policy makers remain related to balances. How to establish an inspection regime which would strike an appropriate balance between advantages and the disadvantages, in a situation where the disadvantages stem from the potential cost of developing and implementing an

inspection regime against the possibility of potentially sensitive information being lost.

Practically all analysists conclude that the addition of an inspection element to the existing Convention is desirable in principle. The negative side of the debate on the measures and agreements needed to achieve the aim of effective verification is dominated by two approaches: some say that it is impossible to achieve and further, that it would actually be dangerous in that an inadequate inspection regime could create false confidence and mask emerging dangers. Other groups say that national security and trade would be threatened by an intrusive regime. VEREX has shown that an inspection regime is technically feasible and, given that the negotiation operates by consensus, negotiations between States Parties will ultimately determine the acceptable level of intrusion. Nonetheless, many participants in the negotiation remain determined to address the practical detail of the anti-inspection group believing that any regime which does not include provision for a range of inspections, including challenge inspections cannot be effective either within Governments or outside them.

It is not surprising to see that the tendency to concentrate on the disadvantages relating to inspection arrangements is more evident when the analysts derive their views from the national security perspective and strongly identify with the priorities that these installations represent. But they are much less knowledgeable and vocal about the potential that exists for the proliferation of biological weapons and its appalling consequences.

Interestingly, special interest groups supporting trade objectives and opposing the pro-inspection lobby often appear to do little in the way of lobbying, either within or independently of Governments, to secure an effective strengthening of the BWC . This is markedly different to what happens in the context of nuclear weapons control, where non-governmental organizations exert pressure on Governments to increase control measures. Any hypersensitivity in relation to national security information and commercial interests should not detract from efforts to seek appropriate means to protect this information. These means have been demonstrated in the inspection arrangements for the CWC.

D. The Geneva Negotiations

The negotiations currently taking place in Geneva are the result of a broadly-based international understanding that the BWC, as it stands, is flawed.

The 1996 Review Conference reached agreement, with great difficulty, to speed up negotiations to reach a protocol intended to address the deficiencies of the Convention by 2001. Once this agreement had been reached, progressive forces within the Ad Hoc Negotiating Group confronted the task of convincing all members that the time was right to shift the basis of the negotiation to what is known as a "rolling text", that is, language which could form the basis of a protocol. This would represent a significant advance toward our goal.

If delegations are prepared to cooperate, and many have given an assurance that they are, this will probably be achieved in mid-1997. Naturally, different delegations express different degrees of urgency and commitment to a concluded protocol and this forms part of the political landscape of the negotiation. One thing is clear, however: without strong and coordinated support, the negotiations aimed at strengthening the Convention will be compromised.

E. Conclusion

Without the effective verification regime Australia and others in this room would like to see, we have to conclude that the Convention on Biological Weapons will remain a weakened link in the international regimes governing the proliferation of weapons of mass destruction. There are plenty of contemporary alarm signals and in our view, now is the time to act.

I would urge policy makers in reflecting on the balances to ensure that they are able to evaluate fully the costs that might be involved in non-compliance with the BWC and the potential consequences. The specter of unprecedented levels of suffering and loss of life must surely be taken into account when weighing up strategic and commercial interests. In our view, there is a plausible middle path, one which takes account of national security concerns and important commercial interests, but equally, aims to give us the BWC we need in managing the threat of a modern weapon of mass destruction.

III. Strengthening International Cooperation: A New Agenda for Control Regimes?

Chapter 8

The Role of Intelligence Services

José Athos Irigaray dos Santos

A. Introduction

The development of weapons of mass destruction has reached such an advanced state that mankind is faced with the problem of either limiting it or facing the risk of self-destruction. Roughly fifty years ago, paradoxically, it was exactly the application of one of those technologies that brought about the end of the Second World War. During the following period, that of the Cold War, the West set up new institutions and procedures designed to prevent its adversaries from obtaining access to modern techniques. The now defunct "Coordinating Committee on Multilateral Export Controls" (COCOM) is an example of that strategy, which was primarily aimed at controlling exports of dual-use (civilian as well as military) technology, keeping it out of reach of the former members of the Warsaw Pact. It did not prove successful, as the Soviet intelligence services were able to get hold of thermonuclear and atomic weapons' plans, to give one example.

The States directly involved in the East/West confrontation, however, were not the only ones to have tried to boost their military capacity through research and development and other means, thereby improving their relative position within the international political arena. There are well-known cases of countries that developed or somehow tried to implement their own nuclear weapons' programmes.

After the end of the Cold War, the establishment of economic blocs and the increase in commercial competition, even between former allies, brought about significant changes. International ideological borderlines were blurred. Information technology proved fundamental for the maintenance of the dynamism of the national economies.

Thus, the guidelines adopted by the leading countries point to the protection of intellectual property and to the establishment of barriers against the diffusion of technological know-how, through sensitive technologies' proliferation control regimes, which include the technologies of weapons of mass destruction (WMD).

Legitimate attempts are made to establish internationally agreed regimes and treaties or conventions designed to limit or altogether banish WMD; whereas, on the other hand, it has also been reported that advanced technology has been transferred to less developed countries by means of discriminatory arrangements made by a restricted group of advanced countries. There should have been more concern about the balance between security and welfare among the member States of the international community.

B. Brazil within the Context of Non-Proliferation

For Brazil, the maintenance of peace is one of the constitutional principles presiding over its foreign relations. For this reason, one of the country's main external policy guidelines has been directed towards the total banning of WMD and the scrapping of the existing WMD arsenals, which requires a process of disarmament to be carried out on a multilaterally agreed basis. Within this context, the Brazilian State has been party to major international conventions (the Chemical Weapons Convention (CW), the Tlatelolco Treaty on the Prohibition of Nuclear Weapons in Latin America and the Caribbean, and the Convention on Biological and Toxic Weapons), having also adhered to some of the dual-use technology control regimes, such as the Missile Technology Control Regime (MTCR) and the Nuclear Suppliers Group (NSG). In this field, Brazil has devised and perfected its legislation, administrative structure and its relevant institutions, in order to exert effective control over its exports of sensitive goods, including the illegal trade in small arms. These efforts exemplify the earnestness of Brazil's contribution to limit insecurity on an international scale.

These facts demonstrate Brazil's commitment to the purposes of non-proliferation and the advancement of peace. Nevertheless, this country is

concerned about maintaining its freedom to develop scientific and technological research, thereby safeguarding, on the basis of free trade in this field, the foundations of future growth.

Brazil's approval of the control measures in the area of WMD is not tantamount to an uncritical endorsement of possible attempts at the creation of monitoring systems, which can be extremely intrusive, based on the argument that it is necessary to reveal potential capacities for the illegitimate military deployment of that material. Such initiatives might be likely to create unnecessary hindrances to the growth of the competitive capacity of developing countries, like Brazil, which would distort the objectives of the instruments for the defence of peace, turning them into means of economic aggression.

C. The Role of Intelligence

According to this rationale, the process of change which the Brazilian intelligence service is undergoing deserves attention as archaic structures have been transformed and the organization and mechanisms of planning are taking on a new and modern shape. Through democratic debates and ordinary legislative processes, a new legal landmark has been pursued for matters such as jurisdiction over, execution and control of intelligence activities. Thus, the monitoring of the developments of the control regimes and the international mechanisms for non-proliferation and containment of violence are, as well as other specific areas of national relevance, issues of interest for Brazilian intelligence.

Internationally, common interests in the field of non-proliferation and the possibility of information being exchanged between the intelligence services of countries interested in forestalling the acquisition of sensitive technology and goods by ill-intentioned nations or groups, can be a determining factor in the reduction of illegal transfers, made under the most varied forms and means.

D. Conclusion

A spirit of cooperation between intelligence services is instrumental in the success of this kind of work, making possible the interchange of experiences, and consequently, professional improvements of the persons involved in these issues. Besides, the suspicions concerning illicit activities and connections in other countries can be more easily checked, which provides more dynamism and efficiency to the actions of the intelligence service,

specifically devoted to non-proliferation. For this reason it is essential to cooperate with other State agencies linked with the armed forces and diplomacy.

To these considerations of a general nature must be added the idea of the complexity of that phenomenon, taking into account the commercial facilities which are the consequence of economic globalization and which provide greater opportunities for criminal organizations to enter the market of worldwide trade in sensitive technology and goods. In this case, there are a large number of dissimulation devices and schemes, among which the development of complex trade networks designed to circumvent national and international export controls stands out.

Labouring against the proliferation of WMD will be effective if it is carried out against a background of cooperation between the States concerned and with the effective participation of international organizations. As the latter do not make direct use either of intelligence services of their own, or of traditional methods of verification inspections, it is clear that the intelligence services can play a complementary role in the control regimes of sensitive technology. This means pooling the data underpinning the process of decision and policy-making related to that area, thus working together to achieve international security.

Chapter 9

The Role of Export Controls in Addressing Proliferation Concerns

Sergei Zamyatin

With the end of the Cold War, the serious threat to peace posed by the confrontation between East and West has been replaced by a much less defined set of transnational challenges.

Among the most important threats we now face are the spread of weapons of mass destruction and the proliferation of sophisticated conventional arms and sensitive dual-use technologies. Smuggling of nuclear and other dangerous materials as well as illicit trafficking in arms are definitely parts of the new security challenge.

The demand for such weapons and "know-how" remains high. At the same time, they became more accessible after the removal of the Cold War barriers and restrictions. The explosion of trade and technology exchange that followed has produced a new global economy in which people, ideas and capital come together more quickly and more easily than before.

That is why concerns regarding the proliferation of weapons of mass destruction and sensitive technologies have emerged at the top of the international political agenda in recent years.

Great attention has been paid to improving already existing networks of treaties, transparency measures and export control systems, and to introducing additional multilateral efforts to prevent proliferation.

Today, several broad-based international regimes seek to limit the expansion of various military capabilities. I would like to mention among them:

- The nuclear, biological and chemical weapons non-proliferation regimes, in particular Nuclear Suppliers Group, Zangger Committee, Australia Group;
- Missile Technology Control Regime (MTCR).

Let us focus on a recently established regime: the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies (WA). As transpires from the very name of this arrangement, it is designed to respond to new threats through vigilant export control efforts.

Vigilance through export controls is necessary because many of the materials and technologies that have legitimate, peaceful applications, are also used in the manufacturing of weapons of mass destruction or advanced conventional weapons.

Any nation with a modestly well developed pharmaceutical industry can produce biological weapons if it so chooses. The chemicals required to produce plastics and fertilizer or to process foodstuffs, can also make nerve agents. The technology used in weapons of mass destruction need not be advanced.

Export controls could help ensure that exported commodities and technology do not assist in the development or manufacture of weapons of mass destruction, or do not contribute to regional destabilizing military capabilities in critical situations.

The WA was intended to replace COCOM which prevailed during the Cold War. At the close of that era, the 17 nations participating in COCOM decided that its East-West focus was no longer an appropriate basis for maintaining controls on exports. However, concerns with the risk of arms proliferation prompted the COCOM members to recognize the need to expand multilateral cooperation in this area.

Therefore, it was agreed that COCOM should cease to exist as of 31 March 1994, and that it should be replaced by a new arrangement open to Russia and other significant suppliers of arms and dual-use items.

The new arrangement was launched in December 1995 and was named after the site at the outskirts of the Dutch capital where it was negotiated and where its founding declaration was issued. Then it took the member countries another half a year to finalize the basic principles for their cooperation, the so-called Initial Elements. The Arrangement was formally inaugurated in July 1996 when the representatives of the 33 founding States met in Vienna and approved this document.

As was emphasized in the Initial Elements, the Wassenaar Arrangement was established "in order to contribute to regional and international security and stability, by promoting transparency and greater responsibility in transfers of conventional arms and dual-use goods and technologies".

Participating States agreed to work together by coordinating their national transfer policies for "preventing destabilizing accumulations" of military capabilities in the areas where the risks would be judged greatest.

They also decided to address threats to international and regional peace and security which might arise from transfers of armaments and sensitive dual-use goods and technologies.

According to the Initial Elements, the Arrangement is also intended to enhance cooperation to prevent the acquisition of armaments and sensitive dual-use items for military end-uses, if the situation in a region or the behaviour of a State is, or becomes, a cause for serious concern to the participating States.

At the same time the participating States made it clear from the very beginning that the new Arrangement would not be directed against any State or group of States and would not impede bona fide civil transactions. Neither would it interfere with the rights of States to acquire legitimate means with which to defend themselves pursuant to Article 51 of the Charter of the United Nations.

The key element of the Arrangement is a commitment of all member countries to control the items on the lists that were agreed upon by their experts.

The structure of the current—meaning "first edition" lists—is to a certain extent similar to the old COCOM lists.

For instance, a new Dual-Use Goods and Technology List incorporated many elements of the former Industrial List. It covers nine categories of items such as advanced materials, machine tools, electronics, computers, telecommunications, sensors, avionics, marine systems and propulsion systems.

Wassenaar participants are supposed to notify each other about denials of items on this basic list of dual-use goods to non-participating States. They are also to report about the transfers of the most sensitive items.

With regard to conventional arms, most of the WA countries decided to adhere to the modified COCOM Munitions List. At the same time, several participants have chosen to continue to apply their national lists for arms transfer controls.

Nevertheless, all members agreed to exchange information on their deliveries of conventional arms to third countries. Initially, this is to be done according to the United Nations Register (seven categories: tanks, armoured vehicles, artillery, combat aircraft, helicopters, warships, missiles). This information is to be provided more frequently (twice a year) and should include more details than previously available.

The lists will be reviewed regularly to reflect technological developments.

In addition to the denial/transfer notifications, the WA countries exchange general information on risks associated with transfers of arms and

dual-use items. Clandestine projects, dubious acquisition trends and illegal transfers could be a subject for such an information exchange.

Member countries meet regularly and on the basis of this information assess the scope for coordinating national control policies in order to combat the risks. They have also agreed to exercise extreme vigilance in trade with a number of very sensitive dual-use goods and technologies.

A small secretariat has been established in Vienna to provide necessary support for WA activities.

Despite the fact that the new regime inherited certain features of the old COCOM, it is a fundamentally different arrangement.

Unlike COCOM, which was a clear-cut Cold War product and whose rationale was to counter the former Soviet Union and its allies, the new Arrangement is not ideologically motivated.

The WA does not have a proscribed countries' list and is aimed globally at preventing the development of arms production and sales of arms to regions and countries that at a certain moment are judged to be of concern and that creates flexibility. When the threats change, the system has to change as well.

The main characteristic of COCOM, the exception request, that is the consensus basis for approval of licence application by all members or, actually, a veto possibility, is not applied in the Wassenaar Arrangement. All export decisions remain at the discretion of each country. The new system relies on the interpretation by the participating countries of the risk assessments made in the multilateral meetings and upon their voluntary implementation of that interpretation.

The new regime is to provide for greater transparency in the transfer of sensitive items. Transparency is supposed to enhance responsibility for transfers because countries are encouraged to go forward only with those transfers which they are also prepared to defend in the arrangement.

As was not the case with the former COCOM, membership in the Wassenaar Arrangement is open on a global and non-discriminatory basis to all countries meeting the agreed membership criteria. If any State applies for participation, the following factors will be taken into consideration as an index of its ability to contribute to the purposes of the new arrangement:

- whether it is a producer/exporter of arms or industrial equipment respectively;
- its non-proliferation policies and its adherence to relevant non-proliferation regimes and applicable arms control treaties;
- its adherence to fully effective export controls.

The above procedures show that the new export control arrangement is not a copy of COCOM and should not even be seen as a successor to COCOM. Politically, it is a totally different arrangement though a part of its functions might seem quite familiar to COCOM.

The Wassenaar Arrangement is not supposed to duplicate the other non-proliferation regimes although most of them are based on export controls as well. It is rather intended to complement and, where necessary, to reinforce them.

Since it is the first global forum for addressing the problems of transfers of conventional armaments, it could help close a critical gap in international non-proliferation mechanisms which until now have focused mainly on preventing the proliferation of weapons of mass destruction and their delivery systems.

Although the new arrangement has just entered the initial stage of its practical implementation and it is too early to evaluate its effectiveness, there are already certain positive implications of its existence. One of them is that, due to the expanded membership of the new regime, there are now more countries than before which adopt vigilant transfer policies and effective harmonized export controls.

This could also be considered as an important input into the efforts to curb illicit trafficking in arms and sensitive technologies since a great number of unauthorized transfers of such items are possible because of inadequate export controls in the countries of their originating or initial destination.

Chapter 10

Control Regimes for Toxic Chemicals and Pathogens to Curb Illicit Trafficking

Malcolm Dando and *Graham S. Pearson*

A. Introduction

In recent decades we have gained considerable insights into how particular control regimes arise in the international system. In 1990, for example, Nadelmann argued that there was good reason to expect effective global prohibition regimes for preventing the proliferation of weapons of mass destruction to be agreed in the near future because:[1]

> . . . As the technology to create such weapons becomes increasingly diffused, governments will increasingly be obliged to coordinate their efforts to keep these weapons out of the hands of criminals, lunatics, and political terrorists . . .

The main point of this paper, however, is to argue that in regard to both toxic chemicals and pathogens, we are beginning to see a synergy between arms control regimes and regimes brought about for different reasons—environmental and human health, for example. Moreover, we argue that this synergy should be encouraged and developed, and perhaps eventually coordinated in a systematic manner.

The paper is divided into four sections, two dealing with current environmental and arms control regimes for toxic chemicals and two with health and arms control regimes for pathogens, along with the driving forces behind these regimes, which are briefly considered in the conclusion.

[1] Nadelmann, E. A., Global Prohibition Regimes: The Evolution of Norms in International Society, *International Organization*, vol. 44, No. 4 (1990), pp. 479-526.

B. Multilateral Export-Import Control of Toxic Chemicals

Following the growth in world trade in the 1960s and 1970s, the Governing Council of the United Nations Environment Programme (UNEP) in 1977 urged Governments to ensure that potentially harmful chemicals which were unacceptable domestically were not exported without the knowledge and consent of the authorities in the importing countries.[2] Five years later, in 1982, the United Nations General Assembly requested[3] that the Secretary-General prepare and regularly update "a consolidated list of products whose consumption and/or sale have been banned, withdrawn, severely restricted or not approved by Governments".

The list is now prepared and updated by the United Nations, the World Health Organization and the United Nations Environment Programme/International Register of Potentially Toxic Chemicals (UNEP/IRPTC). It provides information on restrictive regulatory decisions taken by governments on pharmaceutical, agricultural and industrial chemicals, and consumer products.[4] The criteria used for inclusion of products in the list were developed in 1985 and are set out in an annex to the consolidated list. The Fourth Edition covers regulatory actions taken by 92 governments on over 600 products.

In 1987, UNEP adopted the London Guidelines for the Exchange of Information on Chemicals in International Trade[5] which were aimed at enhancing the sound management of chemicals through the exchange of scientific, technical, economic and legal information. Specific provisions included:

> . . . the exchange of information on banned and severely restricted chemicals in international trade, which call for cooperation between exporting and importing countries, in the light of their joint responsibility for the protection of human health and the environment at the global level.

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[2] United Nations Environment Programme, Governing Council decision 85 (v), 25 May 1977.

[3] United Nations General Assembly, *Protection against Products Harmful to Health and the Environment*, Resolution 37/137, 109th Plenary Meeting, 17 December 1982.

[4] United Nations Department of International Economic and Social Affairs, *Consolidated List of Products whose Consumption and/or Sale Have Been Banned, Withdrawn, Severely Restricted or not Approved by Governments*. Fourth Edition, New York: United Nations, 1991.

[5] United Nations Environment Programme, Programme Matters, UNEP/GC. 14/17, 2 April 1987, Annex IV: *London Guidelines for the Exchange of Information on Chemicals in International Trade*.

UNEP also recognized that additional measures were required to enable importing countries to give or withhold their consent to particular imports following receipt of adequate information from exporting countries, and that such measures, based on *prior informed consent*, should be incorporated as quickly as possible into the London Guidelines.

The principle of Prior Informed Consent (PIC) was incorporated into the amended London Guidelines in 1989.[6] These guidelines provide a means for importing countries to record and disseminate their decisions regarding the future importation of chemicals which have been banned or severely restricted in the exporting countries and indicate the shared responsibilities of both in ensuring that these decisions are heeded. Significantly, the introduction to the guidelines notes that:

> Although these Guidelines have not been prepared specifically to address the situation of developing countries, they nevertheless provide a framework for the establishment of procedures for the effective use of chemicals in these countries. Implementation of the Guidelines should thus help them to avoid serious and costly health and environmental problems due to ignorance about the risks associated with the use of chemicals, particularly those that have been banned or severely restricted in other States.

The PIC procedure is now being implemented by the Food and Agriculture Organization of the United Nations (FAO) which leads for pesticides, and the UNEP through the IRPTC which leads for chemicals. By 30 June 1996, there were 148 participating countries, each of which has a Designated National Authority (DNA) to serve as a focal point for the operation of the PIC procedure. In the United Kingdom, for example, the DNA is the Chemicals and Biotechnology Division of the Department of the Environment.[7]

The DNA has functions in regard to both the import and export of banned or severely restricted chemicals. Regarding imports, for example, the DNA is responsible for receiving information from exporting States and for assisting and advising import control authorities. In regard to exports, it has, for instance, to respond to requests for information from other States, especially precautionary information on safe use and handling of chemicals. It also has to communicate PIC decisions to exporting industries and to implement

[6] United Nations Environment Programme, *London Guidelines for the Exchange of Information on Chemicals in International Trade*. Amended, 1989.

[7] UNEP/FAO, *Register of Designated National Authorities for the Implementation of the Information Exchange and PIC Procedures of the London Guidelines and the International Code of Conduct*, Geneva and Rome, August 1996.

procedures designed to ensure that exports do not occur contrary to PIC decisions of participating importing countries.

Participating countries provide information on control actions they have taken to ban or severely restrict chemicals by completing a Notification of Control Action form which, minimally, gives the chemical identification/specification of the chemical, a summary of the control action taken, the reason for the action, and whether additional information is available. Any chemical banned or severely restricted by at least one country after 1 January 1992, can be included in the PIC procedure as can any chemical banned or severely restricted by more than five countries before that date.

Once a chemical has been identified for inclusion in the PIC procedure, a Decision Guidance Document (DGD) is prepared by FAO/UNEP and sent to the DNA in every participating country along with an Importing Country Response form. The DGD summarizes data on the chemical while the response form allows importers to indicate whether to accept, refuse or conditionally accept the chemical. The response form is sent to the FAO/UNEP secretariat which summarizes import decisions and circulates these to DNAs every six months.[8] Governments of exporting countries are then responsible for transmitting this information to their industries and the information is also included in the regular updates of the list of products whose consumption and/or sale have been banned, withdrawn or severely restricted.

The aim of the PIC procedure is to ensure that a banned or severely restricted chemical is not exported without the prior informed consent of the importing country. The guidelines require that the *exporting* State should ensure that the DNA of the importing State is provided with relevant information to remind it of the original notification by the exporting State of the control action and to alert it to the fact that an export is planned. The specified minimum information has also to be supplied by the exporting State to UNEP/IRPTC.

Some 17 groups of banned or severely restricted chemicals had been subject to the PIC procedure by 30 June 1996, and a further 17 were having DGDs prepared for them. Both pesticides and industrial chemicals were included.[9]

[8] FAO/UNEP Joint Programme for the Operation of Prior Informed Consent (PIC), *Import Decisions from Participating Countries as of 30 June 1996*, PL 32/23, 31 July 1996.

[9] FAO/UNEP Joint Programme for the Operation of Prior Informed Consent (PIC), *Update on Implementation as of 30 June 1996.*

The FAO/UNEP PIC scheme became legally binding within the European Union by a Council Resolution in 1992.[10] Consequently, it is a legal requirement for an exporter to provide the Designated National Authority of its member State with information about the export from the community to a third country no later than 30 days before the export of a chemical for the first time. The DNA then has to ensure that the appropriate authorities in the importing country receive notification at least 15 days before export. Copies of the notification have also to be sent to the commission for forwarding to the other European Union member States, and to UNEP/IRPTC. The exporter is required to comply with decisions of the country of destination if that country is participating in the PIC procedure.

The United Nations Conference on Environment and Development in Rio de Janeiro in June 1992 (Earth Summit), proclaimed a set of principles, several of which related to the protection of the environment.[11] These principles were amplified in a series of chapters and programme areas. Of particular interest, here is Chapter 19 on "Prevention of illegal international traffic in toxic and dangerous products". Section C of Chapter 19 has the objective of promoting intensified exchange of information on chemical safety, use and emissions among all involved Parties and achieving:

> . . . by the year 2000, as feasible, full participation in and implementation of the PIC procedure, including possible mandatory applications through legally binding instruments.

Section F noted that there were currently no global international agreements on traffic in toxic and dangerous products, but that there was international concern that illegal traffic in these products was detrimental to public health and the environment, particularly in developing countries.[12] The section went on to say that further strengthening of international and regional agreements to prevent illegal transboundary movement of toxic and dangerous products was needed.

The UNEP Governing Council in May 1991, adopted a resolution on toxic chemicals requesting further urgent action to strengthen the legal basis of

[10] Council Regulation (EEC) No. 2455/92 of July 1992 concerning the import and export of certain dangerous chemicals, *Official Journal of the European Communities*, L251, vol. 35, No. 29 (August 1992), pp. 13-22.

[11] *United Nations Conference on Environment and Development*, A/CONF. 151/26, 12 August 1992.

[12] United Nations General Assembly, *Traffic in and Disposal, Control and Transboundary Movements of Toxic and Dangerous Products and Wastes*, Resolution 44/226, 85th Plenary Meeting, 22 December 1989.

the amended London Guidelines. At the UNEP meeting in May 1995, resolution 18/12 was adopted—to develop an internationally legally binding instrument for the application of the PIC procedure.[13] The resolution authorized UNEP, in conjunction with FAO, to convene:

> . . . an intergovernmental negotiating committee with a mandate to prepare a legally binding instrument for the application of the prior informed consent procedure for certain hazardous chemicals in international trade.

The resolution also called for the convening of:

> . . . a diplomatic conference for the purpose of adopting and signing an internationally legally binding instrument for the application of the prior informed consent procedure for certain hazardous chemicals in international trade, preferably not later than early 1997.

The first meeting of the international negotiating committee was held in Brussels in March 1996 under the chairmanship of Ms Rodriguez of Brazil.[14] A second meeting in September 1996 produced 24 pages of a draft Convention text, with most of the articles having been extensively discussed and the negotiations expected to conclude with the diplomatic conference to be held in Rotterdam during 1997.

The UNEP Governing Council decision 18/12[15] also required the convening of a government-designated Group of Experts to consider what further measures were required to reduce the risks from a limited number of hazardous chemicals. This expert group met in April 1996 in Copenhagen and identified a number of health and environmental problems that might require further action.[16] These problems included, for example, risks of persistent organic pollutants, dumping of hazardous chemicals and stocks of obsolete pesticides, including those received in the form of aid.

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[13] United Nations Environment Programme, *Proceedings of the Governing Council at its Eighteenth Session*, UNEP/GC. 18/40, 13 June 1995, Decision 18/12 of 26 May 1995.

[14] UNEP/FAO, *Report of the Intergovernmental Negotiating Committee for an Internationally Legally Binding Instrument for the Application of the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade on the Work of its First Session*. UNEP/FAO/PIC/INC. 1/10, 21 March 1996.

[15] United Nations Environment Programme, *Proceedings of the Governing Council at its Eighteenth Session*, UNEP/GC. 18/40, 13 June 1995, Decision 18/12 of 26 May 1995.

[16] UNEP, *Report of the Government-Designated Group of Experts on Further Measures to reduce the Risks from a Limited Number of Hazardous Chemicals on its Work*, UNEP/PIC/EG/1/3, 8 July 1996.

At the Group of Experts meeting a proposal was made by Belgium and the Netherlands, which received broad support, concerning benefits from a framework convention on chemicals which would provide an integrated international legal mechanism governing the management of hazardous chemicals. The work of this Group of Experts is also linked to that of the Intergovernmental Forum on Chemical Safety (IFCS) which is pursuing the achievement of the objectives of Chapter 19 (Agenda 21 of the Rio Summit, 1992).[17] It seems possible that the United Nations General Assembly Special Session in June 1997, which is to consider developments five years on from the Earth Summit, will see movement towards a framework convention on chemicals.

C. The Chemical Weapons Convention

State Parties to the Chemical Weapons Convention undertake in Article 1 to never in any circumstance, "transfer, directly or indirectly, chemical weapons to anyone", while this undertaking is amplified in Article V which requires State Parties to "adopt the necessary measures to ensure that toxic chemicals and their precursors are only developed, produced, otherwise acquired, retained, transferred or used . . . for purposes not prohibited under this Convention". Specific requirements for transfer of scheduled chemicals are detailed in Parts VI, VII and VIII of the Verification Annex of the Convention. Currently some 30 States participate in the Australia Group which was founded in 1985 to coordinate measures taken by these States to constrain trade in the chemicals and technologies that might be misused for chemical weapons purposes. The Australia Group has, however, undertaken to review its procedures with the aim of removing such measures in respect of those States that comply fully with the Chemical Weapons Convention.

It would seem sensible to consider how the obligations of the Chemical Weapons Convention are to be met in the context of the legally binding instruments that are likely to be agreed soon in addressing the export and import of banned or severely restricted chemicals. Certainly, the UNEP/IRPTC Legal File, which has become a repository for regular information related to banned and severely restricted chemicals, has included in its 1994 publication the Chemical Weapons Convention as one of the global conventions concerning

[17] The IFCS secretariat, c/o WHO, 20 Avenue Appia, CH-1211 Geneva 27, Switzerland.

chemical substances.[18] As the chemicals which might be misused for chemical warfare agents are both banned and potentially hazardous, there would appear to be a logic in considering the extent to which Prior Informed Consent procedures might be utilized to meet the obligations under the Chemical Weapons Convention.

It will be recalled that hazardous chemicals which have been banned or severely restricted in five or more countries may be eligible for inclusion in the PIC procedure. This procedure involves the Designated National Authorities in the participating countries and thereby provides considerable transparency both in exporting and importing countries as well as internationally through the UNEP/IRPTC Secretariat. Chemical warfare agents and their precursors will be banned by the Chemical Weapons Convention. The agents themselves are certainly chemicals that present dangers to human health and the environment, as it was recognized by the UNEP Governing Council when it considered a report on the effects of chemical weapons in 1991.[19]

There would certainly appear to be no difficulty in providing a summary of the toxicological and environmental characteristics and other information required to generate a Decision Guidance Document under the PIC procedure. Indeed, one of the pesticides for which a DGD was being prepared recently—parathion—is chemically closely similar to the G nerve agents. However, hazardous chemicals for which Designated National Authorities have indicated no current use or manufacture, are not given high priority for inclusion in the PIC procedure. A list of chemicals is included in the regular updates for which DGDs will not, for the time being, be prepared. It might be appropriate therefore to include chemical warfare agents, for which there is no commercial use or production**,** in this list of chemicals. Other chemical warfare agents and precursors for which there is commercial use and production, could be considered for inclusion in the PIC procedure.

In general, at this stage in the development of international regimes related to hazardous chemicals there is merit for serious consideration to be given to a framework convention on chemicals which would embrace all the current and future conventions and legally binding instruments, and to the concept of single national authorities responsible for the implementation of all such agreements within individual States.

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[18] UNEP/IRPTC, *IRPTC Legal File 1994, International Environmental Guidelines and Global Conventions concerning Chemical Substances,* United Nations, 1995.

[19] UNEP, *Effects of Chemical Weapons on Human Health and the Environment,* UNEP/GC.16/6, 10 January 1991.

D. Biological Regimes

Diseases have, of course, caused more casualties in war than have the actual weapons of war.[20] Moreover, as the world population continues to grow and new areas of land are occupied, new and frightening diseases are likely to be encountered and, with urban concentrations and rapid transport systems, spread rapidly.[21] There is also a growing realization that microbial pathogens have capabilities for rapid change which allow them to evade our medical measures in ways we had not envisaged.[22] This leads, for example, to the problem of drug-resistant tuberculosis today when we had thought TB to be a disease of the past.

In such circumstances, it is not surprising that the Director-General of the World Health Organization (WHO) stated in the World Health Report in 1996*: Fighting Disease, Fostering Development*:

> . . . we also stand on the brink of a global crisis in infectious diseases. No country is safe from them. No country can any longer afford to ignore their threat.

It is also not surprising that the international community has been mobilizing to meet the threat.

The United Nations Conference on Environment and Development in 1992, as already noted, proclaimed a set of principles and adopted Agenda 21, as well as opening for signature the Convention on Biological Diversity and the Convention on Climate Change.[23] Chapter 16 of Agenda 21, on "Environmentally sound management of biotechnology", includes Section D on "Enhancing safety and developing international mechanisms for cooperation". This section states that:

> . . . there is a need for further development of internationally agreed principles of risk assessment and management of all aspects of biotechnology, which should build upon those developed at the national level. Only when *adequate and transparent safety and border-control procedures are in place* will the community

[20] Swedish National Defence Research Establishment, *A Briefing Book on Biological Weapons*, ISBN 91-7056-096-X, 1995.

[21] Laurie Garrett, *The Coming Plague: Newly Emerging Diseases in a World Out of Balance*, New York: Farrar, Strauss and Giroux, 1994.

[22] Denise Grady, Quick-Change Pathogens Gain an Evolutionary Edge, *Science*, Vol. 274, 15 November 1996, p. 1081.

[23] *United Nations Conference on Environment and Development*, A/CONF. 151/26, 12 August 1992.

> at large be able to derive maximum benefit from, and be in a much better position to accept the potential benefits and risks of biotechnology. [our emphasis]

A specific activity identified was to:

> Compile, update and develop compatible safety procedures into a framework of internationally agreed principles as a basis for guidelines to be applied on *safety in biotechnology* including consideration of the *need for and feasibility* of an *international agreement* and promote information exchange as a basis for further development, drawing on work already undertaken by international or other expert bodies. [our emphasis]

A joint initiative by the United Kingdom and the Netherlands following the Rio Summit, was the development of guidelines on safety in biotechnology. These have now been taken forward by UNEP as their "International Technical Guidelines on Safety on Biotechnology" which were adopted by the Global Consultation of Government-designated Experts in Cairo in December 1995.[24]

The Convention on Biological Diversity came into force in December 1993. Article 1 sets out the objectives of the Convention as:[25]

> . . . the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding.

Article 19, on "Handling of Biotechnology and Distribution of its Benefits", included paragraph 3 which states that:

> The Parties shall consider the need for and modalities of a protocol setting out appropriate procedures, including, *in particular, advanced informed agreement*, in the field of the safe transfer, handling and use of any living modified organism resulting from biotechnology that may have adverse effect on the conservation and sustainable use of biological diversity. [our emphasis]

This would appear to mirror the concept of Prior Informed Consent discussed in relation to hazardous chemicals.

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[24] UNEP, *UNEP International Technical Guidelines for Safety in Biotechnology*, UNEP/CBD/COP/3/28, 15 September 1996.

[25] *Convention on Biological Diversity*, opened for signature at Rio de Janeiro, 5 June 1992. HMSO, CMND 2127, January 1993.

An open-ended Ad Hoc Working Group was established at the Second Annual Conference of Parties held in Djakarta in November 1995 to negotiate in:

> . . . the field of the safe transfer, handling and use of living organisms, *a protocol on biosafety, specifically focusing on transboundary movement*, of any living modified organism resulting from modern biotechnology that may have adverse effect on the conservation and sustainable use of biological diversity . . . [our emphasis]

The decision also noted that the UNEP International Technical Guidelines on Safety in Biotechnology could be used as an interim measure during the development of the protocol and to complement it after its completion.

At the first meeting of the Ad Hoc Working Group on Biosafety, in Denmark in July 1996, an Advanced Informed Agreement (AIA) procedure was identified as a key component of the protocol to be developed.[26] The Third Conference of Parties to the Convention on Biological Diversity, held in Buenos Aires in November 1996, urged the Ad Hoc Working Group on Biosafety to complete its work on developing a protocol by 1998 as a matter of urgency. Clearly, a protocol to ensure that biosafety practices are improved worldwide, with the aim of ensuring that pathogens and living modified organisms are handled safely, used and transferred without damage to human health or to the environment, is likely to be agreed before the turn of the century.

E. The Biological and Toxin Weapons Convention

The Geneva Protocol of 1925 prohibits the use of biological (bacteriological) weapons in war and the Biological and Toxin Weapons Convention (BTWC), which was opened for signature in 1972 and entered into force in 1975, prohibits the development, production, acquisition and stockpiling of biological weapons. However, the BTWC has no provisions for verification of compliance.

[26] UNEP, *Report of the First Meeting of the Open-ended Ad Hoc Working Group on Biosafety*, UNEP/CBD/COP/3/26, 15 September 1996.

This shortcoming has been recognized by States Parties who, at the Second Review Conference in 1986,[27] agreed four politically-binding confidence-building measures. These were strengthened and extended at the Third Review Conference[28] in 1991. However, after ten years, just over half of the States Parties had made only one or more annual declarations and only eleven had made all of the required annual declarations. There has also been much variation in the quality of the information declared.

At the Third Review Conference an Ad Hoc Group of Government Experts (VEREX) potential verification measures from a scientific and technical viewpoint were mandated to be examined. VEREX met twice, in 1992 and in 1993, and the final report of VEREX was considered by a Special Conference in 1994 which mandated a further Ad Hoc Group (AHG) to consider possible measures for a legally-binding instrument to strengthen the BTWC.[29] This AHG has had five substantive meetings: two in 1995 and two in 1996, each of two weeks' duration, and one in 1997 of three weeks' duration. Two further meetings, each of three weeks, are to take place in the period up to September 1997.

The Fourth Review Conference of the BTWC in November and December 1996, in its Final Declaration,[30] encouraged the AHG to review its method of work and to move to a negotiating format (which is due to happen in July 1997). Although there was support from many States for setting a deadline or target date to mid-1998 for completion of the work of the AHG, this did not achieve consensus at the Fourth Review Conference. Even if the AHG did complete its work in 1998, a Special Conference would still be needed to consider its report, and assuming adoption of the legally-binding instrument, it

[27] United Nations, *The Second Review Conference of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction*, Geneva, 8-26 September 1986, BWC/CONF.II/13, Geneva 1986.

[28] United Nations, *The Third Review Conference of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction*, Geneva, 9-27 September 1991, BWC/CONF. III/23, Geneva 1992.

[29] United Nations, *Special Conference of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction*, 19-30 September 1994, Final Report, BWC/SPCONF/I.

[30] United Nations, *The Fourth Review Conference of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction*, Geneva, 25 November-6 December 1996, BWC/CONF.IV/9, Geneva 1996.

will then be a matter of individual States Parties acceding to the instrument. Consequently, it will be some time before the majority of States Parties to the BTWC have acceded to the legally-binding instrument.

Comparisons on the effects of biological, chemical and nuclear weapons have long been made.[31] All demonstrate that the effects from a biological warfare attack are much greater than those from a chemical warfare attack and also that they can be as great if not greater than those resulting from a nuclear attack. With the indefinite extension of the Nuclear Non-Proliferation Treaty in 1995 and the imminent entry into force of the Chemical Weapons Convention with its intrusive verification regime, there is an urgent need to strengthen the BTWC to further restrict the possible proliferation of these biological weapons of mass destruction. This need is reinforced by the possibility of terrorist use of biological weapons as evidenced by the Aum Shinrikyo sect's interest in the use of botulinum toxin and anthrax.[32]

One counter to such possibilities is the enactment of national legislation to make the misuse of chemical and biological materials a criminal act as, for example, in the United Kingdom and the United States. At the Fourth Review Conference of the BTWC, the Final Declaration included language in which States Parties recognized:[33]

> . . . the need to ensure, through the review and/or adoption of national measures, the effective fulfilment of their obligations under the Convention in order, *inter alia*, to exclude use of biological and toxin weapons in terrorist or criminal activities.

Language was also included with respect to transfers. This stated that "State Parties should also consider ways and means to ensure that individuals and sub-national groups are effectively prevented from acquiring, through transfers, biological agents and toxins for other than peaceful purposes".

State Parties to the BTWC are obliged to fulfil the undertaking in Article 3 that:

> Each State Party to this Convention undertakes not to transfer to any recipient whatsoever, directly or indirectly, and not in any way to assist, encourage, or induce

[31] Malcolm R. Dando, *Biological Warfare in the 21st Century: Biotechnology and the Proliferation of Biological Weapons*, 1994, London: Brassey's.

[32] David E. Kaplan and Andrew Marshall, *The Cult at the End of the World: The Incredible Story of Aum*, 1996, London: Hutchinson.

[33] United Nations, *The Fourth Review Conference of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction*, *op. cit.*

> any State, group of States or international organization to manufacture or otherwise acquire any of the agents, toxins, weapons, equipment or means of delivery specified in Article I of the Convention.

Thus far, controls on transfers have been implemented through national measures which have been coordinated between like-minded States by groups such as the Australia Group.

Although the regime relating to Iraq is a special one arising from United Nations Security Council resolution 687 of April 1991,[34] it is nevertheless relevant in considering what biological regimes might arise in the future. The resolution required *inter alia* that a plan be developed for the future ongoing monitoring and verification to ensure that Iraq does not develop, construct or acquire any of the items specified in the proscribed weapons of mass destruction programmes. In March 1996, the Security Council adopted resolution 1051[35] which approved an export/import monitoring mechanism to monitor Iraq's exports and imports of dual-purpose capabilities. The mechanism[36] requires the timely notification by all States of any items identified in the plans for ongoing monitoring and verification. Both Iraq and the governments of suppliers are required to provide these notifications in advance of shipment. Security Council resolution 1051 called upon States to adopt national measures to implement the mechanism as soon as possible. The regime complements the ongoing monitoring and verification system required under Security Council resolution 715 of 1991.

The key point to note here is that all States have agreed to implement a system in which notifications are made, to a monitoring unit located in the United Nations Headquarters, of any planned exports to Iraq and of any items identified in comprehensive lists of materials and equipment much of which is dual-purpose. The scheme, significantly, as stated in resolution 1051, is designed so that it:

[34] United Nations, *Security Council Resolution 687 (1991)*, S/RES/687 (1991), 3 April 1991.

[35] United Nations, *Security Council Resolution 1051 (1996)*, S/RES/1051 (1996), 27 March 1996.

[36] United Nations Security Council, *Letter from the Chairman of the Sanctions Committee to the President of the Security Council forwarding a proposal for a mechanism to monitor Iraq's exports and imports of dual-use capabilities*, S/1995/1017, 7 December 1995.

> . . . will not impede Iraq's legitimate right to import or export for non-proscribed purposes, items and technology necessary for the promotion of its economic and social development.[37]

What the regime does is to provide transparency concerning the items covered. Interestingly, the Executive Chairman of UNSCOM has noted that the observation has been made that because of the export-import mechanism and the associated ongoing monitoring and verification regime, it is actually easier to trade with Iraq in potentially sensitive materials as there is confidence that these will not be diverted to prohibited purposes.

Looking to the future, it is clear that security and environmental (including public health) considerations will be important while their respective control requirements should be considered together and not, as hitherto has too often been the case, regarded as separate and distinct activities. The central requirement for environmental controls is (quoting from Agenda 21), for "adequate and transparent safety and trans-border procedures". This is rather similar to the requirement for security controls which also depend on building confidence between States through transparency.

It is already clear that the current AHG negotiations to strengthen the BTWC will devote attention to measures to strengthen the undertaking in Article 3 not to transfer to any recipient whatsoever, directly or indirectly, and not in any way to assist, encourage, or induce any State, group of States or international organizations to produce or acquire biological weapons whilst not impeding the undertaking in Article 10 to promote the peaceful uses of microbiology and biotechnology. As the representative of Brazil noted at the Fourth Review Conference:[38]

> There can be no doubt that export licensing and controls is a difficult and controversial issue, but one that should be squarely confronted, particularly in the context of devising ways and means to strengthen the Convention. We consider that the idea of incorporating export control procedures as part of a future compliance regime merits objective discussion in order to adequately assess its pros and cons, particularly with regard to the practical operation of such procedures under a multilateral legally binding framework.

[37] United Nations, *Security Council Resolution 1051 (1996)*, S/RES/1051 (1996), 27 March 1996.

[38] Ambassador Gilberto Vergne Saboia, Head of the Delegation of Brazil, *Statement*, Biological Weapons Convention Fourth Review Conference, 25 November 1996.

Indeed, there appears to be a widespread readiness to accept that Article 3 does require States Parties to implement a system of monitoring and control of transfers of materials and equipment relevant to the BTWC. The requirement expressed by the non-aligned States is for a system multilaterally agreed between the States Parties to the Convention. When both the requirements of the objectives of Agenda 21 for adequate and transparent safety and trans-border procedures and the agreed export-import mechanism for notification of exports to Iraq are taken into account, it would appear that the basic ingredients for a system of materials and equipment relevant to the BTWC are already available and that there is a valuable potential synergy between the objectives of the environmental and security regimes. Indeed, it is becoming evident that the combined effect of such regimes provides transparency and confidence that materials are not being misused—thus encouraging and enabling trade.

F. Conclusion

It is apparent that environmental and public health concerns about the dangers from hazardous chemicals and living modified organisms are leading rapidly to the establishment of legally-binding instruments that will require Prior Informed Consent (PIC)/Advance Informed Agreement (AIA) before an export of such material will be permitted. These legally-binding instruments are for transparent and multilaterally-agreed processes that would appear to have much to contribute to enhancing confidence between States that exports and imports of hazardous chemicals and biological materials are indeed made for permitted purposes. Both the Chemical Weapons Convention and the BTWC forbid transfers of chemical and biological materials respectively for other than permitted purposes, and that there is a need for multilaterally-agreed regimes to ensure this is generally recognized. There is, therefore, a potential synergy between the security and environmental regimes currently being developed that should be utilized for the greater benefit of the world community.

Such a proposition might seem far-fetched in an arms control community whose thinking is still dominated by the recent experience of the long East-West Cold War. But a more sophisticated historical analysis demonstrates that the international community has developed an increasing variety of international arms control mechanisms to deal with the problems it has faced in different historical periods.[39] Today, as Kellman has argued convincingly,

[39] Stuart Croft, *Strategies of Arms Control: A History and Typology*, 1996, Manchester: Manchester University Press.

much of arms control will necessarily be concerned with the regulation of dual-purpose industry and much can be learned from the study of other industrial regulatory systems.[40] This follows from the fact that the major driving force producing environmental problems and dual-purpose arms control problems today is industrial development based on new science and technology. In this way, the recent achievement of the rigorous Chemical Weapons Convention can be seen as the end result of a century-long effort[41] to constrain the results of developments in chemistry which got under way late in the last century. Likewise, the present need to strengthen the BTWC stems from the growing acknowledgement of the potential consequences of the rise of modern biotechnology.[42]

[40] Barry Kellman, Bridling the International Trade of Catastrophic Weapons, *The American University Law Review*, No. 43, (1994), pp. 755-847.

[41] R. Price, A Genealogy of the Chemical Weapons Taboo, *International Organization*, vol. 49, No. 1, (1995), pp. 73-103.

[42] Malcolm R. Dando, Article I: Scope, in Graham S. Pearson and Malcolm R. Dando, *Strengthening the Biological Weapons Convention: Key Points for the Fourth Review Conference*, 1996, pp 7-31. QUNO, Geneva, ISBN 1 85143 152 7.

Chapter 11

Using Small Satellite Constellations to Track and Monitor the Illicit Trafficking in Weapons and Sensitive Technologies

Panaiotios Xefteris and *Maurizio Fargnoli*[1]

A. Introduction

This chapter examines key issues regarding the problem of illicit traffic of weaponry and sensitive technologies, the early detection of illegal operations, and the tracking and monitoring of these activities, as well as intervention for law enforcement purposes. The chapter's intent is to explore the potential use of small Earth observation (EO) satellite constellations within a Totally Integrated Operations System as an affordable solution for a United Nations-led international cooperative effort for curbing the illegal arms traffic.

In this context, it is worth noting that illicit manufacturing and trafficking of mass destruction and conventional weapons, as well as their related technologies, is generally encouraged, promoted and performed by countries which are not part of international treaties and/or by organized crime or individuals. They are stimulated by lucrative potentials of the market and/or by the possibility to create regional/international instability; the latter meant to satisfy their wider political or military ambitions. Often, such illicit traffic is aimed at countries under conflict/arms embargo or criminal organizations and terrorist groups.

Weapons and their related technologies illegally diffused, are often stolen or illegally produced to satisfy such market. Traffic of such weapons and related technologies go through means of land, water and air and composes a very complex and random scenario of operations which is quite challenging to handle. Therefore, it is important to understand the different parameters

[1] Paper presented by Mr Pier Giorgio Rabino, Technical and Operational Manager, NahuelSAt, Argentina.

involving such traffic in order to achieve an acceptable degree of success in curbing and/or preventing illicit traffic. The success of such a mission depends on the identification of feasible and cost-effective operational requirements in the characterizing of cooperative international actions. The mission must be bound by realistically obtainable objectives (or mission objectives) in order to handle existing and future operations data. The main mission objectives therefore include the safeguarding and management of international/regional safety issues related primarily to environment and health, but also to security issues. Both the main mission objectives can be obtained by handling the following basic problems: (*a*) detection and monitoring of the illicit traffic; and (*b*) identification of the vendor, transporter (if other than the vendor), and recipient party for law enforcement purposes.

In the first case, detection and monitoring can be mainly performed through surveillance activities of known or most critical routing zones, which includes the departure, destination and arrival points—empirical data, or probable alternative routing zones—statistical or probabilistic analysis data. The zoning can be done based on the logic of high, medium, and low probabilities routing assumptions. These assumptions are dictated by limitations and constraints during transit, related to illegal traffic experiences due to:

- cost;
- transportation effectiveness/means;
- routing envelope;
- delivery time;
- integrity of deliverables; and
- handling problems and law enforcement capabilities.

Detection and monitoring effort should also be directed to surveying and assessing the potential reception areas, storage facilities and/or alterations of operational sites due to weapon storage or installation. Other monitoring activities must be directed towards the collection, processing and assessment of data relative to disasters, accidents and damage provoked due to transportation mishaps, mishandling, incorrect installation or storage of the items in question with grave effect primarily to the environment and/or to human life and health.

In the second case, the identification effort must obtain and provide solid evidence of the illicit weapon trafficker's and recipient's identity for eventual prosecution or for law enforcement purposes.

B. Proposed Concept of a Totally Integrated Mission System for Detecting, Monitoring and Identifying Illicit Trafficking in Arms and Sensitive Technologies

The detection, monitoring and identification of illicit traffic of any type of weapons and sensitive technologies requires the introduction of an UN-managed and -operated Totally Integrated Surveillance System (TISS) to perform the mission in a cost-effective manner. The proposed TISS concept (see Diagram III.11.1), introduces the use of complete systems (existing or to be developed) in an operationally integrated fashion with all-weather, day/night, continuous operation and interoperable characteristics. A TISS should be composed of three main functional systems, namely:

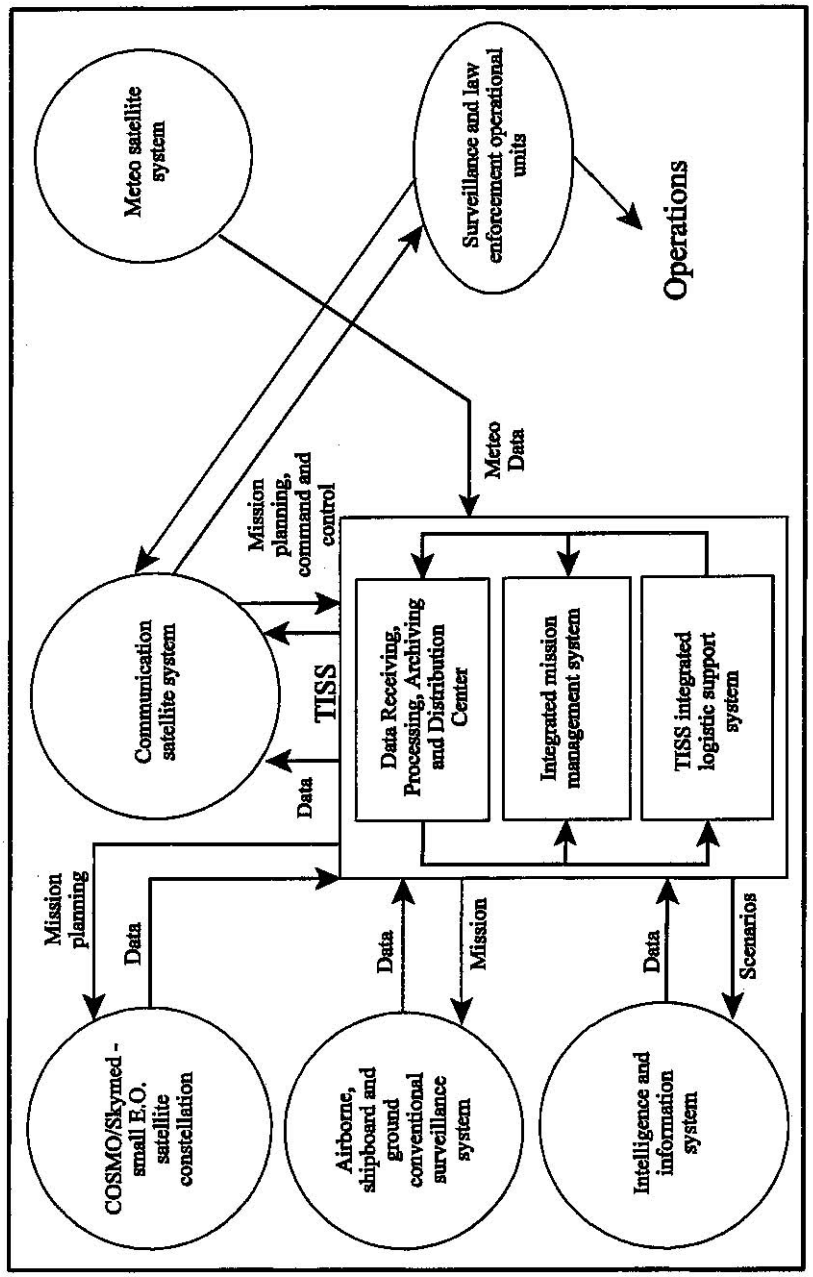
1. ***Space-Based Information and Communications System (SICS)***, which should comprise:

- *Small Satellite Earth Observation Constellation* providing the appropriate imagery information for detection, monitoring and identification purposes;
- *Communications Satellite System* providing telecommunications (data, voice, broadcasting) for Command, Control and Communication services between the TISS and cooperating States and/or operating field units;
- *Meteo Satellite System* providing environmental data services to the operations.

2. ***Conventional Information and Surveillance System (CISS)***, which should comprise:

- *Airborne Surveillance System(s)*, which should be complementary to satellite services and provide operational support to field groups;
- *Ground Surveillance System (GSS)* (i.e. radars), providing continuous traffic information to operations;
- *Intelligence Information System (IIS)*, providing confidential and intelligence information to operations.

Diagram III.11.1: Totally Integrated Surveillance System (TISS) Concept for Curbing Illicit Weapons and Sensitive Technologies Traffic—Main Functions Block Diagram



3. ***Illicit Arms Traffic Surveillance Integrated Mission Management System (IMMS)***, which should comprise:

    - *Data Receiving, Processing, Archiving and Distribution System (DRPADS)*, providing totally integrated information for intervention (operations), monitoring and operations control;
    - *Operations Management System (OMS)*, providing for specific operations planning, command and control services to the field units in the area of their operational jurisdiction;
    - *Mission System Integrated Logistics Support (MSILS)*, providing total ground support for targeted Mission Readiness and Availability together with the appropriate training services in order to develop operational efficacy, continuous update expertise and interoperability standards.

It is important to note that the proposed system in its essence is similar to a Defense C^4I (Command, Control, Communication and Computer Intelligence) type system. The TISS concept may be implemented at the regional, continental and/or global level in a hierarchical sense in terms of its functions.

C. Small Earth Observation Satellite Constellations as Part of the TISS Concept—Summary of The COSMO System: Configuration and Operational Capabilities

TISS mission operations would require an earth observation satellite system that would provide imagery data of any site within hours. This configuration requires a high revisit frequency capability which a single satellite system will not be adequate to satisfy. This is especially true when performance requirements are related to *Mission Reliability* and *Availability*, since a single system total failure will prevent mission continuity and success until a spare satellite is launched to substitute the failed one. In this context, the use of satellite constellations is the best solution.

The combination of SAR [Synthetic-Aperture Radar] and optical payloads, carried respectively by small buses in Low Earth Orbit (LEO), introduces the possibility to obtain the required performance in a cost-effective and quite affordable manner. To this end, ALENIA Aerospazio has started the

design[2] of a multisatellite, multifunctional, remote sensing system that was later named COSMO/Skymed [Constellation of Small satellites for the Mediterranean basin Observation].[3] Although COSMO/Skymed was conceived to service countries around the Mediterranean, it is inherently capable of providing imagery information to other interested regions or continents as well due to its global coverage capabilities.

COSMO/Skymed consists of two constellations of small satellites of launch weight less than 600 kg, carrying sensors tailored to serve the earth observation market niche characterized by high revisit frequency and ground resolution. The best revisit frequency performance can be only obtained using SAR satellites; optical satellites shall complement and support the observations performed by the radar bands, besides targeting the medium-high ground resolution observation market demanding less frequent revisits but hyperspectral capabilities. Optical and SAR payloads are carried by the LEO satellites operating in different sun-synchronous orbital planes, thus forming two independent but cooperating constellations.

1. COSMO Architecture—The Optical Constellation

The optical constellation comprises three 120˚ spaced-apart satellites orbiting in the same near-noon sun-synchronous orbit (approximately 98˚ inclination, Polar orbit with 80˚ N to 80˚ S coverage) at about 500 km altitude. This choice was taken as a compromise between ground resolution and life-cycle, considering a maximum propellant mass limit for drag compensation. The proposed orbital parameters lead to a repeat cycle of five days, during which the satellites complete 76 orbits around the earth. The near-noon orbit ensures that the satellites circle the earth under good sun illumination conditions (cloud-cover permitting) for imaging task. The baseline

[2] G. Perrotta, "SAR Sensors on Board Small Satellites: Problems and Prospectives", *CIE International Conference on Radar*, Peking, China, October 1991; G. Perrotta, "SAR Sensors on TACSATs: A Feasibility Assessment", *AGARD Conference on Tacsats for Surveillance, Verification and C3I*, Brussels, Belgium, October 1992; G. Perrotta, "Prospectives for Advanced Satellite Remote Sensing in Developed and Developing Countries", *4th South African Aerospace Engineering Conference*, Pretoria, South Africa, August 1993.

[3] G. Perrotta and R. Somma, "Small Satellite Contribution to Remote Sensing: The COSMO Project", *2nd Euro-Latin-American Space Days*, Buenos Aires, Argentina, May 1994; G. Perrotta, "COSMO System Technical Description", *Symposium on the Development of National Hellenic Strategy in the Field of Remote Sensing Applications and Earth Observation*, Athens, Greece, January 1995.

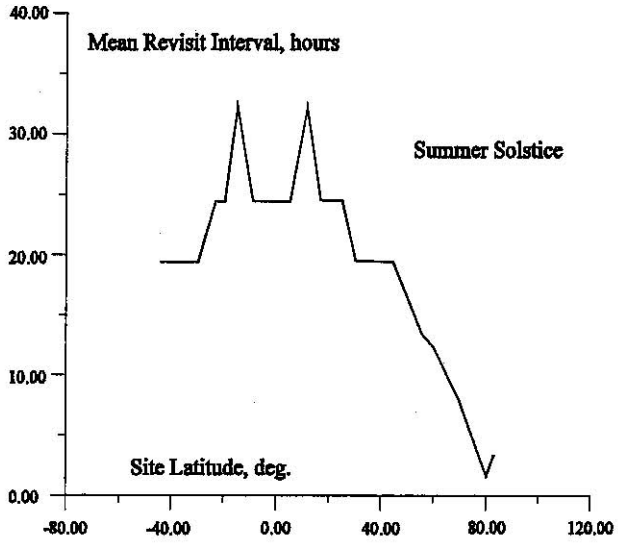
configuration of this type of satellites consists of sensors operating in the visible and near-infrared bands with a steerable f.o.v. of ± 40˚ across track.

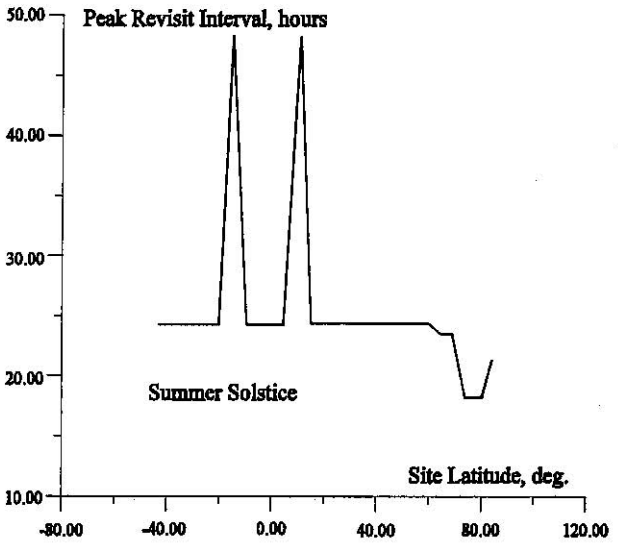
Graph III.11.1 shows the mean and peak revisit interval performance, at the solstices, of the full optical constellation, averaged over the 5-day repeat cycle, for a sun-grazing angle greater than 15˚. In good observation conditions the peak revisit interval is around 24 hours everywhere, while the mean revisit interval decreases from the equator toward the high latitudes. It is important to note in Graph III.11.1 that the low incidence of the sun rays limits the observability of the earth's sites over the northern latitudes in the winter time and the southern latitudes in the summer time. Although the entire constellation can provide a daily earth coverage, each satellite can still access any site on the earth, without gaps, during the 5-day repeat cycle. The mean and peak revisit interval increases considerably with respect to that achievable with the full constellation, but it appears to be more than adequate for remote sensing tasks requiring routine observation of phenomena characterized by not-too-short time constants.

The payload high resolution characteristics are provided by a panchromatic camera (< 2m ground resolution from about 500 km altitude, at nadir), operating in a quasi-staring mode, capable of providing images of about 10 km x 10 km wide. A steerable lightweight mirror, at 45˚ to the telescope axis, provides the required along-track and cross-track f.o.v. scanning. The staring mode of operation pushes the sensor sensitivity and reduces the sensor output data rate. The steerable mirror allows taking along-track stereo pairs. Cross-track stereo pairs can be obtained either through the usage of satellite pairs of the constellation or from subsequent passes of the same satellite in different days of the repeat cycle.

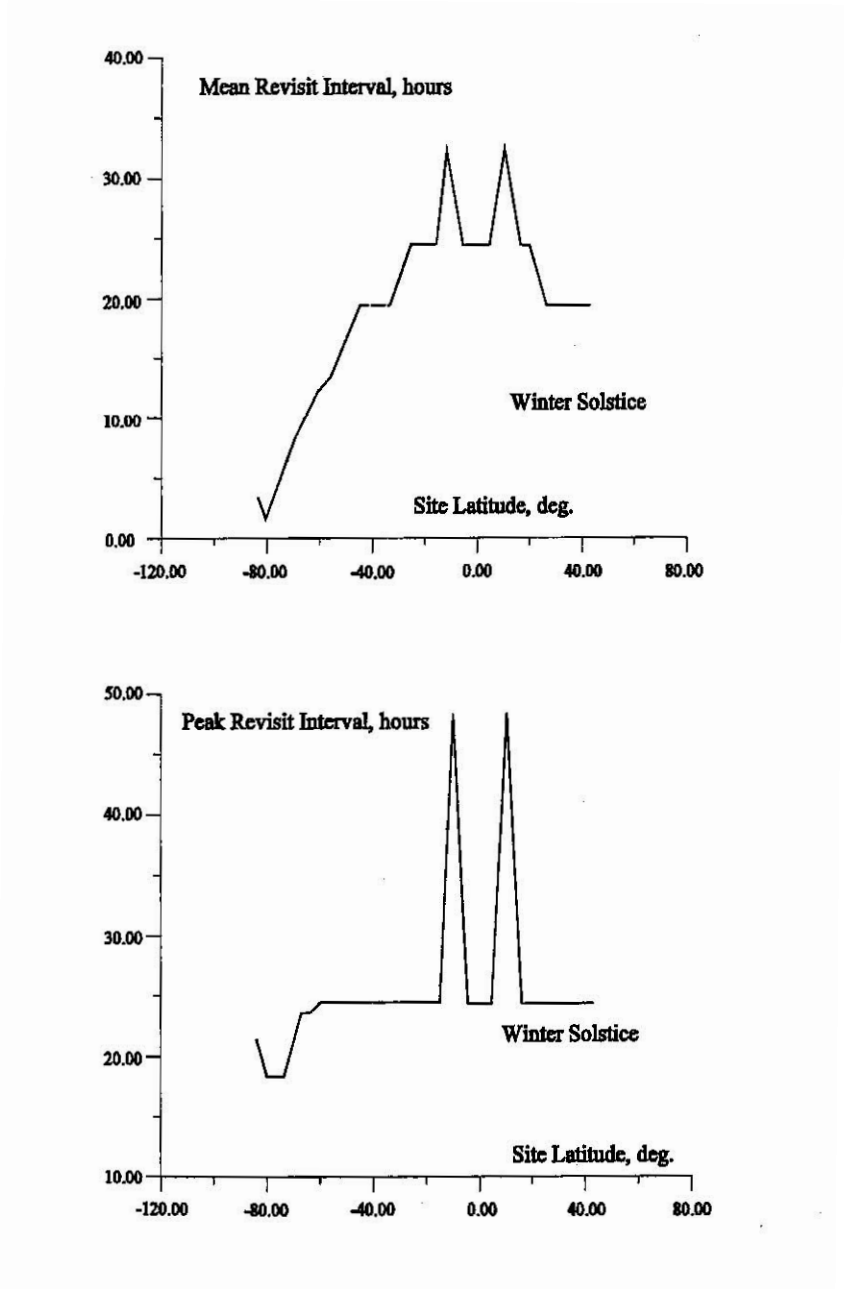
The medium resolution optical imaging requirements are met by a multi-spectral (two to four bands in the visible and near-infrared) 16m resolution, wide f.o.v. camera, capable of imaging continuous strips up to 140 km wide. In the baseline configuration the multispectral camera will be operated in the pushbroom mode. There is a possibility to substitute the multispectral camera with a wide f.o.v. hyperspectral one to satisfy requirements of users needing hyperspectral imaging performance. To this end, the Officine Galileo VIMS-V optical instrument (6kg mass, 5W of DC power, and with an output data rate of 3.5 Mbit/s) has been developed to satisfy such requirements. The instrument of Galileo is an imaging spectrometer based on a holographic diffraction lattice spreading the 300-1,050 nm spectrum along the 512 columns of a CCD matrix.

Graph III.11.1: Peak and Mean Revisit Interval Performance of the Optical Constellation at Solstices VS. Latitude-Sun Vector Grazing Angle > 15˚





Graph III.11.1: (continued)



It provides 96 to 240 simultaneous spectral bands over a f.o.v. of 0.01 x 2.5 deg. corresponding, from 500 km altitude, to a 100m ground resolution over an instantaneous swath of 20 km. To increase the footprint up to 60 km, a set of three such sensors could be installed on each satellite; the sensor f.o.v. can be dynamically reoriented adding a small steerable mirror, resulting in a compact, highly performant instrument. In addition, extending the frequency band up to 2 micron is also under consideration.

2. COSMO Architecture—The SAR Constellation

The SAR constellation of COSMO/Skymed comprises 4x90˚-spaced-apart satellites launched in the same dawn-dusk (in an inclination of 97.3˚) of sun synchronous orbit and at about 480 km altitude. The choice of a dawn-dusk orbit is motivated by the better sun illumination (9.5 months in a year) conditions of the satellites, which enhances the energy extraction capability by the solar arrays, matching the higher power demands of the SAR payload. The operating duty cycle of the SAR is up to 15 per cent of the orbit period. The orbit chosen is also attendable since the SAR imaging does not depend on the Earth's illumination conditions. This, combined also with the SAR's all-weather capabilities, reduces significantly the mean revisit interval and complements the optical sensors' limitations in observing high-latitude sites during the periods of the year when the sun-grazing angle is less than 15˚. The SAR instrument has a one-sided access angle extending from 20˚ to 55˚ off-nadir. A feature of the SAR satellite is that it can be steered in roll to double the access area. The roll steering is facilitated by the small mass and inertia of the satellite allowing fast manoeuvring at an angular velocity rate of about 2˚/s. The fast repointing capability allows the observation at the same target area with different and opposite incidence angles on subsequent overpasses of the constellation satellites with a delay ranging from one quarter to one half orbital period (depending on the site's latitude).

The COSMO/Skymed SAR is a multimode instrument targeting the all-weather, high resolution, imagery market where continuous data update is a primary requirement as in the case application explored in the present paper. The proposed SAR operates in X-band with vertical polarization and it is designed to operate within a 20˚ to 55˚ off-nadir range. The antenna is 6m long and 1.2m wide as dictated by the launcher's shroud envelope constraints and dynamic requirements during launch. The SAR will mainly operate in a STRIPMAP mode, achieving a 3m ground resolution in a single look, over a swath width varying between 50 and 40 km. The other mode of operation will

be the SCANSAR, for wide areas of surveillance, taking images up to 120 km wide and with 9-12m geometric resolution. The instrument, without electronic beam steering, will have a mass of about 120 kg and its DC power consumption will range between 600 W to 1,800 W (incl. the off-nadir angle). The instrument's output data rate, after a BAQ (Binary Adaptive Quantizer),[4] will be of the order of 180 Mbit/sec.

3. The Proposed COSMO/Skymed Communication System

The initial COSMO constellation design will primarily rely on direct transmission to the ground. Data generated by the high resolution optical and/or SAR payloads shall be transmitted in real time to Image Receiving/Processing Ground Stations (IR/PGS) in the view range of the satellites. While simplifying the satellite configuration (see Table III.11.1), this feature constraint image-taking less than 2,500 km radius around each IR/PGS present in the network. Since it is very desirable to acquire data even outside the visibility cone of the IR/PGS, a solid state recorder with a 2 Gbit capability and a read/write speed of up to 16 Mbit/sec have been added. Such a capacity is sufficient to store a fair amount of low resolution images, acquired by wide f.o.v. sensors, and also images acquired by the quasi-staring optical panchromatic sensor.

Table III.11.1: COSMO/Skymed System Performance Summary

1. TOTAL SYSTEM MAIN CHARACTERISTICS	
1.1 Coverage	80˚ N to 80˚ S
1.2 Orbital altitude	Approx. 500 km
1.3 Revisit time	< 12 Hrs
1.4 Operational capability	Multi-mission, day/night all-weather
1.5 Operational life-cycle	5 yrs (min.)
1.6 N˚ of satellites	7 (initial system)
1.7 Type of constellations	Optical and SAR
1.8 Probability of success	0.845 after 5 years
1.9 System unavailability	2 months/SAT in 5 years

[4] Impagniatiello, Bertoni, Di Paolo, "Digital Data Reduction Unit Based on BAQ Algorithm: Development Design and Results", *45th IAF Congress*, Jerusalem, Israel, October 1994.

Table III.11.1: continued

2. OPTICAL CONSTELLATION MAIN CHARACTERISTICS	
2.1 Inclination	Approx. 98˚, polar orbit (sunsynchronous, near-noon)
2.2 N˚ of satellites	3, spaced 120˚ apart
2.3 Revisit frequency	24 Hrs any site
2.4 Launch weight	550 kg
2.5 Payload characteristics	
2.5.1 Type	High resolution camera (VIS)
– Ground resolution	< 3 m
– Swath	11 km
– Image size	11x11 km
– Spectral resolution	Panchromatic
2.5.2 Type	SWIR and TIR camera (Pushbroom)
– Ground resolution	35 m
– Swath	40 km
– Image size	40x40 km
– Spectral resolution	3-5 µ and 8-12 µ
2.5.3 Type	Imaging spectrometer (VIMS)
– Ground resolution	100 m
– Swath	77 km
– Spectral resolution	0.4-1.1 µ
– N˚ of bands	256 selectable bands
3. SAR CONSTELLATION MAIN CHARACTERISTICS	
3.1 Inclination	97.3˚ dawn-dusk, sunsynchronous
3.2 N˚ of satellites	4 spaced 90˚ apart
3.3 Revisit frequency	12 Hrs any site
3.4 Launch weight	550 kg
3.5 Payload characteristics	
3.5.1 Type	X-band SAR (9.6 GHz)
3.5.2 Mode	Stripmap
3.5.3 Peak RF power	3.2 kW
3.5.4 Mean RF power	80-300 W
3.5.5 Antenna size	6 x 1.2 m
3.5.6 Ground resolution	3 m single look
3.5.7 Swath	40 km
3.5.8 Access angle	20˚ to 55˚ off-nadir via beam switching
3.5.9 Satellite roll tilting	35˚ to increase the coverage (450 km total stripping)

Note: All instruments are provided with steerable mirror for f.o.v. repointing.

SAR images are still transmitted to ground in real time, as a baseline configurational capability. A variable speed communications subsystem, capable of handling data rates in the 16 to 180 Mbit/sec range, will operate at X-band through two independent, mechanically steerable, directive antennas to establish downlinks with up to two IR/PGS simultaneously in view of each satellite. The use of directive satellite antennas greatly reduces the ground receiving antenna size and the on-board transmitted power, while ensuring a better protection against data eavesdropping of sensitive information. The system parameters allow the establishment of downlinks at 180 Mbit/sec with less than 3m antenna diameter ground terminals, which can be offered to a transportable or shipboard configuration. The X-band high speed communication system can be also accessed by processing stations for relaying processed images via temporary on-board storage.

To this end the processing station can uplink the satellite at, typically, 16 Mbit/sec and stored data can be dumped to selected destination stations at a rate between 2 to 16 Mbit/sec. A typical application of this bulk capacity storage and forward system could be the selective distribution of compressed high resolution images via satellite, when not disposing of wide band terrestrial networks.

The communication system includes also an S-band transceiver equipped with a wide-beam antenna and linked to the solid state recorder, to implement a mailbox function. The transceiver will have a multi-rate capability in the 256 Kbit/sec to 2 Mbit/sec range, to cope with a variety of users already equipped with receiving equipment tuned to different data rates, and it is fully interconnected to the X-band communication system, via the solid state recorder, allowing full X to S and S to X message and data routing. It will be used for the following functions:

1. Transmission of satellite sensor data, stored on board, to remote users equipped with small S-band VSATs;
2. Establishment of up and down links between small VSATs for exchanging data (could be compressed video or other) using a storage and forward access system.

Advanced image compression techniques are considered to further enhance the COSMO capabilities. Very low loss compression gains in excess of 40 have been recently demonstrated using advanced algorithms [9], and video compression of 0.1 bit/pixel (a gain of 80) might even been used. Typical data volumes per image, after compression, are shown in Table III.11.2 along

with the number of compressed images that can be stored in a 2 Gbit memory. Since the duration of a satellite pass is between 200 and 600 seconds, the Table also shows that the links at both S- and X-band can be used to upload/download all kinds of compressed images, their number/pass depending on the transmission speed used.

Table III.11.2: Compressed Data Storage Capacity and Transmission Speeds (Compression Gains of 32 Assumed)

Image Type	Data Volume (Mbits)	Upload/Download Time at:			N° of Storeable Images in 2 Gbits
		16 Mbit/s	2 Mbit/s	256 Kbit/s	
HI-RES Panchromatic (10x10 km at 2 m resolution)	< 8	0.5 s	4 s	32 s	250
SAR Image (40x40 km, 3 m resolution)	56	< 4s	28 s	224 s	35
Multi Spectral (140x140 km, 20 m resolution)	62	4 s	31 s	248 s	32

4. The Proposed COSMO/Skymed Satellite Bus Configuration

The COSMO/Skymed bus has been conceived to be compatible with most of the present and under development small launch vehicle. This shall mainly permit an extremely good mission availability, launch cost reduction and in a certain way lower programme risks. The satellite design permits also low drag force profile and reduction of torques at LEO, impacting the propellant consumption and the satellite's stability. A conceptual layout configuration of the optical and SAR satellites is proposed in Figure III.11.1 (a) and (b) respectively. The satellites weigh: (1) SAR 550 kg and (2) Optical 350 kg at launch. They are a three-axis non-momentum bias type and based on chemical (Hydrazine) propulsion system (the second generation will use an ion propulsion system which is now under development) for orbital maintenance.

A satellite's life cycle is 5 years with a goal to reach 7 years of operation (with a reliability of 0.845 after 7 years of operation). Fine orbit control, to keep the orbit altitude within a 1 km range around the nominal value, shall require a manoeuvre every 2-3 days. Each satellite carries approximately 80 kg of fuel

and consumes 28 kg in total for orbit-keeping for 5 years of life. The COSMO power budgets depend on the payloads' operating duty, mission profile, and subsystems operating mode. Typical subsystem consumption values, referred to an average orbital operating duty of 7 per cent for the optical satellite and a 15 per cent for the SAR, are presented in Table III.11.3 along with the resulting mean orbit energy requirements.

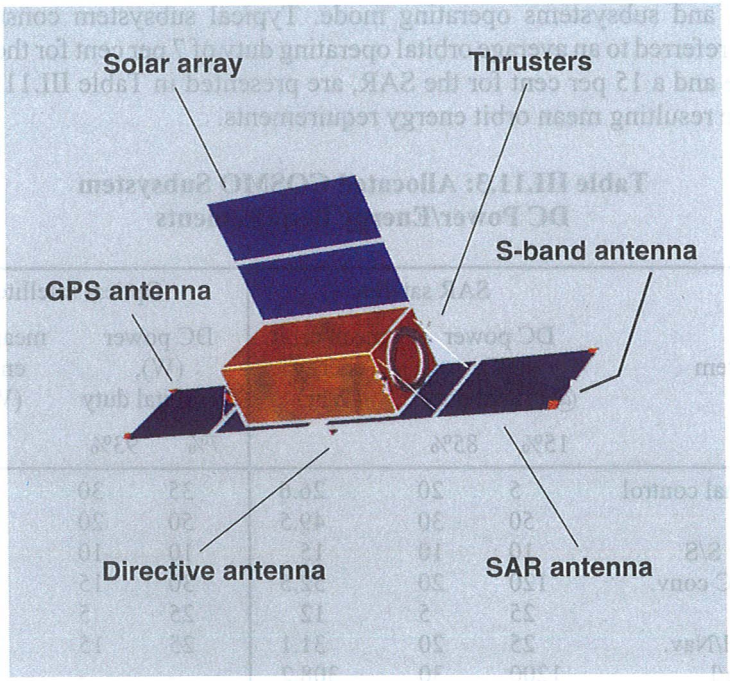
Table III.11.3: Allocated COSMO Subsystem DC Power/Energy Requirements

Subsystem	SAR satellite			Optical satellite		
	DC power (W), @ orbital duty		mean orbit energy (Whr)	DC power (W), @ orbital duty		mean orbit energy (Whr)
	15%	85%		7%	93%	
- Thermal control	5	20	26.6	35	30	45.5
- AOC	50	30	49.5	50	20	33.1
- Power S/S	10	10	15	10	10	15
- DC/DC conv.	120	20	52.5	30	15	24
- TTC	25	5	12	25	5	9.6
- OBDH/Nav.	25	20	31.1	25	15	23.5
- SAR p/l	1200	30	308.2	-	-	-
- Optical p/l:						
* allocated	-	-	-	100	10	24.5
* (unallocated)	-	-	-	(30)	(15)	(24)
- High speed com.	80	5	24.3	80	5	15.3
- Med. Speed com.	20	40	55.5	20	20	30
Total			**574.7**			**244.5**

5. COSMO/Skymed Ground Segment Overview

The COSMO Ground Segment architecture exhibits several innovative and challenging features, especially for what it concerns the Mission Planning and Control of the constellations. At present the Ground Segment comprises the Master Mission Control Centre (MMCC), the Auxiliary Mission Planning Centres (AMPC), TTC stations linked to both the MMCC and the AMPCs, Image Receiving Stations (IRS) linked to Image Processing Centres (IPCs), and small VSAT terminal networks.

Figure III.11.1(a): Artist's View of the SAR Satellite

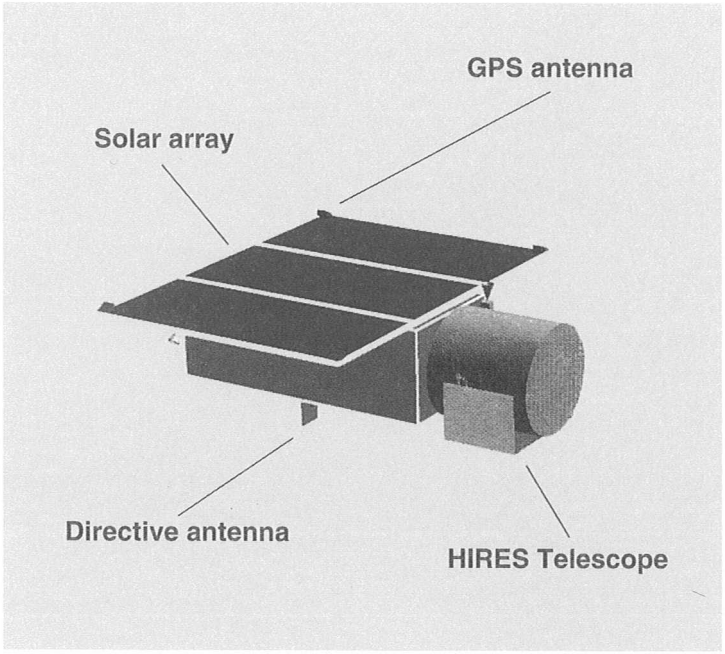


The MMCC is in charge of the constellation integrity and global mission planning reserving dedicated time slots to the interoperable countries. Each country (if it owns a satellite in the constellation) will plan its own emergency observing needs through its AMPC, by transmitting this information to the MMCC for coordination. The MMCC will also handle the mission planning in case of conflictual utilization of the satellites' resources and unused capacity.

D. Conclusions

COSMO/Skymed exhibits several innovative features which can considerably support the fast reaction, day/night, all-weather, high and medium resolutions and quasi-real time performance requirements of missions related to the tracking, monitoring and identification of weapon and sensitive technologies

Figure III.11.1(b): Artist's View of the Optical Satellite



illicit traffic. COSMO/Skymed could play an effective role in acquiring information data of illegal traffic worldwide, as part of a Totally Integrated Mission Management System, in particular due to the system's radar and optical instrumentation, interoperable fashion, and standard within a potential UN operational initiative.

Part Four

Working Group Reports

I. Small Arms

Chapter 1

The Situation in Latin America

Marta Parodi

As explained by the participants in their lectures, the problem of illicit trafficking in small arms in the region shows the following characteristics, which make a rapid solution more difficult:

1. Illicit trafficking in small arms does not constitute an isolated process in the context of international organized crime. Arms-trafficking, drug trafficking and terrorism are phenomena which are intrinsically related and it is almost impossible to combat them separately.

2. These phenomena generate enormous profits, use the same routes and have similar characteristics, not forgetting that the demand for illicit drugs and arms production are located in the industrialized countries, while drug production and the demand for arms come from developing countries.

3. The fight against organized crime and international terrorism did not have the vital coherence it needed in information and operational terms, since the intelligence agencies analysed these subjects separately.

4. The organizations involved in illicit trafficking were effective at penetrating the international scene, taking advantage of the phenomenon of economic and political globalization.

5. There is a manifest lack of adequate legislation or the capacity and effectiveness to enforce it.

6. There are deficiencies in import and export controls and in the registration and control of weapons by the countries of the region.

7. The mechanisms which enable an efficient exchange of information between the bodies responsible for the analysis of this problem do not function well enough (for example, intelligence agencies, government organizations, etc.).

8. A lack of international coordination—in spite of current efforts—to develop an integrated strategy aimed at the eradication of the phenomenon.

9. A lack of appropriate legislation and administrative procedures to combat the scourge at regional and international levels.

10. The economic problems which exist in most countries of the area affect the standard equipping of the local security forces, which means that they are operating in conditions which are inferior to the irregular forces.

11. Growing social insecurity, with the consequent acquisition of weapons for personal protection, a fact which, in turn, encourages the functioning of the black market.

These characteristics, added to other factors mentioned during the lectures such as:

- the extension and permeability of borders;
- the low cost of small arms;
- the difficulty of detecting them due to their size;
- the growing activity of suppliers from Asia and Eastern Europe;
- the disarming of some guerrilla organizations;
- the persistence of terrorist movements in some countries of the region, etc.,

turn the traffic in small arms into a problem of great importance, already present in our societies and which requires urgent solutions.

In the short term we must:

(*a*) Achieve effective internal control;
(*b*) Pass laws capable of combatting the scourge at national level;
(*c*) Promote international cooperation to configure multilateral legal instruments, establish international centres to fight organized crime and intensify the pertinent exchange of intelligence and information.

Chapter 2

Other Regions in Perspective

Isabel Sarmiento

"The Interrelation between the Illicit Trafficking in Small Arms, Drug Trafficking and Terrorism" and "The Role of the Manufacturers and Dealers".

1. The first subject drew our attention to the new world order in which we find ourselves and in which we are undergoing profound structural changes.

A world in which the Cold War has ended and States are searching for solutions to problems such as poverty, unemployment, the destruction of the environment and the rights of indigenous peoples, to name a few.

In the modern world, international organizations, States and societies must take time to think.

What are the new threats? What are the dangers to the security which is essential for democracy?

It is in the context of these questions that an analysis of the interrelation between weapons trafficking, drugs trafficking and terrorism assumes a genuine importance.

It should be remembered, if only to visualize one of the many possible examples, the process which Peru has gone through.

These illicit trades, which function like true black markets—clandestine markets which challenge the legislatory systems of all modern States—are driven by players as diverse as "the Yacuza" the "Cosa Nostra" or the "Camorra". This was the thinking on the activities of the Mafia groups.

The advantage in trafficking for these criminal organizations is not related solely to the profits to be made but to other motives as well, as is the case with weapons trafficking. These have to do with:

- securing control of the territory in which they are operating;
- having the capability to confront State efforts to suppress them; and
- maintaining their supremacy over rival groups.

In all cases there is one common enemy: the State. It is to the search for solutions that current thinking must turn. International organizations must assume a major role in this challenge.

As regards the United Nations, the problem of the "militarization of civilian society" began to be observed with concern in the 1980s. Recently, the UN Secretary-General exhorted the international community to initiate a process of "microdisarmament" and recalled that small arms or light weapons are in reality the only ones currently causing deaths in conflicts which are developing principally within States.

Emphasis must be placed on one concept: control of the illicit traffic in weapons requires much more than the firm intentions of the States to counteract it. Full international cooperation is required, in which the exchange of information and the harmonization of legislation become fundamental elements.

Furthermore, it was considered appropriate to make special mention of the initiative by the President of Mexico, Ernesto Zedillo, and the Rio Group, to draw up a "convention" on the illicit trafficking in weapons. This is an example of the determination which exists in the region to establish a policy, in association with the work being done by the United Nations.

2. With respect to the "Role of the Dealers and Manufacturers", an analysis was given of how the roles of manufacturer and dealer are currently becoming blurred.

The illicit trafficking in small arms is generally linked to the restrictions on potential purchasers preventing them from accessing legal channels of supply. To this should be added the advantage to the manufacturers of obtaining niches in the market with a high level of demand for this equipment, particularly when there are international bans in force.

Between 1990 and 1996, approximately 40 armed conflicts were recorded around the world (including the former Yugoslavia) with similar characteristics in relation to the blockading of weapons. These conflicts had one common denominator: their long duration, the sustained demand for weapons, and the need for replacement.

On the other hand, demand from the armed forces and the security forces has diminished as a consequence of the high degree of specialization. The legal commercial channels are experiencing increasing difficulties. In contrast, the illegal channels for weapons offer greater commercial flexibility, a supply tailored to any budget and a variety of potential markets and clients.

For this reason, it is probable that there is an increase in the number of companies deciding to take on the dual role of manufacturer-dealer.

Profitability increases when the usual large commissions in this type of transaction and the demanding operating conditions of the dealers are set aside.

The supply of weapons in areas of conflict, with the support of one or other of the protagonists, also involves companies in taking on a virtually political role in the course of the conflict which might then be beneficial to their own interests.

As an example, it was demonstrated how the weapons manufacturers operated jointly with the dealers or directly assumed that role, supplying equipment to countries in conflict or to illegal groups.

Finally the following was explained:

- There is a relationship of common interests between the manufacturers and the dealers, based on the interests at stake;
- Organized crime, through transnational Mafia groups, and ethnic, political, religious and cultural conflicts, is supplying the heavy demand for light weapons;
- Many manufacturers take on the role of dealer to have greater freedom of action in the chain of distribution and to increase profitability;
- The control of light weapons presents great difficulties; and
- Criminal organizations operate by combining weapons trafficking with drugs, thus acquiring enormous power to act with impunity.

3. Finally, two issues which have been fundamental needed to be highlighted:

- In the political and diplomatic sphere there is strong demand for international collaboration, which requires an increasing level of commitment from international organizations and coordinated action to achieve harmonization of legislation;
- In the more operational domain, in which intelligence work plays a fundamental role, the work between friendly services must respond with sufficient effectiveness to ensure that the processing of information is a useful instrument in the fight against illicit trafficking and organized crime.

Chapter 3

Strengthening International Cooperation: A New Agenda for Control Regimes?

Patricia Salomone

Firstly, we report on the presentation by Martin Roeber on the Role of the Intelligence Services.

Addressing the subject of strengthening international cooperation as regards illicit trafficking, the speaker emphasized that the intelligence agencies were merely one part of the network of organizations involved in this issue. He added that the priority which had been given to other issues such a drug trafficking over and above illicit trafficking in small arms was due basically to the difference in the sums involved.

He emphasized that this subject was not the focal point did not mean that it was less important. This was an issue which required a transnational approach so that it could be dealt with effectively.

In this respect, international cooperation should work towards:

1. Identification of purchasers;
2. Exchange of information between the different administrative areas involved in the operations;
3. Assistance and cooperation on judicial matters.

Another element to be taken into account, so as to achieve greater international attention to this subject, is the impact which it could have on society, given that the greater the priority given to it by governments, the more effective the cooperation would be.

In his talk on international policing (INTERPOL), Donald Manross reported on the establishment of new cooperative links in international policing. He began his lecture with an explanatory introduction on the functioning of INTERPOL, its character as an international organization with national offices in different Member States and its basic objectives which were to ensure mutual assistance between police authorities and to establish institutions capable of

contributing to the improvement of its functions in the pursuit of international crime.

He acknowledged that in spite of the efforts deployed there were still difficulties in terms of cooperation in this domain and a reluctance to examine it in more depth, which would have to be overcome.

He illustrated how the illegal trafficking in small arms appeared to be growing as did its links with organized crime. This increasing flow was revealing a lack of effective mechanisms of cooperation, above all in relation to the exchange of information, the monitoring of the flow of traffic and its destination, the sources of the weapons and even the types of weapons being traded. However, he added that the lack of effective mechanisms of cooperation was not the only obstacle which must be overcome, as, for example, there are some legislative systems which are extremely lenient in terms of the possession of light weaponry or handguns.

It could also be said that there is no awareness at a societal level of the dangers which result from the current proliferation of small arms nor of the terrible consequences it has for modern society.

In his lecture, Dr Saborío reported on the Central American experience in relation to the control and patrolling of border zones. He mentioned that small arms were a problem in Central America and that the control mechanisms consisted of efforts by the region which at internal level involved various inter-institutional initiatives.

The Central American region had, over the last few decades, shared three common phases which distinguish it from the rest of the hemisphere:

1. A phase of excessive militarization;
2. A phase of civil war;
3. Implementation of peace processes.

In essence, following Esquipulas II (1987), the pacification process involved demilitarization and disarmament. It was in this context that joint activities were initiated for the reduction of the armed forces and the disarmament of the militant groups.

In terms of the specific case of the illicit trafficking in small arms, it was the Security Commission, established as a result of Esquipulas, which served as the forum for the agreement of measures such as:

1. The commitment by all countries to strengthen their mechanisms for control and monitoring at points liable to be used for the illegal trafficking in small arms;
2. The fluid exchange of information in border areas, and the patrolling of these areas;
3. Harmonization of legal procedures, judicial cooperation and assistance;
4. Mechanisms for multilateral consultation for the resolution of controversial cases.

He also reported on a recent important event which took place in January 1997 when the Central American Presidents signed the "Declaración sobre Recolección de Armas Ilícitas en Manos de Civiles" [Declaration on the Collection of Illegal Weapons in Civilian Hands] in Nicaragua (he emphasized that Belize also signed it). Its purpose is to plan and carry out the collection of weapons so as to eradicate illegal possession and reduce illicit trafficking. It should be added that these documents also contained a request for cooperation from friendly countries and international organizations such as the UN/OAS, especially in border areas.

In her lecture on the role of the State, Swadesh Rana formulated the following assessments:

1. In spite of the difficulties presented by this issue, future prospects are not completely negative though, nor should they give rise to an unrealistic sense of optimism. It must be acknowledged that one difficulty lies in the fact that the global response to this subject has been far less substantial than the attention it has received at national level;
2. The global repercussions of the problem must be studied in depth;
3. The involvement of the various communities in the treatment of the issue, due to the resulting social consequences, is an element to be taken into account when considering the importance which the problem is acquiring.

Ms Rana gave a breakdown a posteriori of what in her opinion were the various essential components of the issue:

A. Type of Weapon: Breakdown into the Following Categories

1. Military weapons, i.e., those conforming to military specifications, produced by governments or in accordance with the requirements of States;
2. Weapons not manufactured for military purposes (hunting, etc.);

3. Home-made (clandestine industries);
4. Tools and accessories.

B. Weapon Activities

- Violence;
- Crime, urban crime;
- Illicit trafficking;
- Threats against the State and its institutions.

Ms Rana explained that it was very difficult to establish an exact correlation between the type of weapon and its applicability.

To conclude, she emphasized that the role of intelligence was today far removed from the espionage stereotype, rather it was related to investigation, systematization and harmonization with a view to the prevention and limitation of the consequences resulting from illicit trafficking.

The panel chairman, Ambassador Marcos Castrioto de Azambuja, provided a conclusion to the lectures, underlining the following points:

It is clear that we find ourselves facing a new and different army. The Cold War period prioritized weapons of mass destruction. The post-Cold War period finds the international community better prepared to tackle the complex issue which forms part of the enlarged international agenda.

The international community, which up till now has sidestepped this issue, in which various factors are interlinked and different players are involved, and which requires a multi-dimensional focus, now has the opportunity to take on a new agenda in which this subject must occupy a preponderant position.

The subsequent questions revealed the interest in studying various aspects of this subject in more depth:

1. The level of sensitivity which still exists between States and which obstructs the free flow of exchanges of information and inter-agency cooperation;
2. The link with drugs trafficking and the possibility of tackling the issue using the same strategy used to confront the drug problem, including devoting the same amount of financial and human resources to it;

3. The flow of small arms must be the object of increased monitoring, and the same level of monitoring must be directed at the resources involved in this type of illicit trafficking;
4. It would be useful to analyse the possibility of agreement on the establishment of a register of transfers of small arms as a way of making this trade more visible.

At this point a distinction was made between the various mechanisms, forums and objectives which exist in the international context:

1. The United Nations Register of Conventional Weapons. Pre-determined categories. Measures to promote mutual confidence;
2. Prevention of crime and the consequences for society which result from the proliferation of small arms;
3. United Nations working group on the illicit trafficking in small arms and handguns.

These are initiatives of different types but nonetheless convergent, though there is no a priori coordination. As things stand, it does not seem right to give precedence to one forum above another, given that, while some duplication of effort must exist, the nature and consequences of the issue justify these different focuses which, even though they are moving forward in parallel, are working towards the resolution of a single problem.

II. Weapons of Mass Destruction

Chapter 4

Nuclear Issues

María José Cassina

Since the beginning of the 1990s, with the fall of the Berlin Wall, a large increase in illegal trafficking in nuclear materials has been recorded, a situation made worse by the sensationalist tone with which some of the print media have treated the subject, which has tended to create a confused and exaggerated perception of the threat posed by this type of trafficking.

Though this problem has been lessening in importance since 1994, it still requires careful monitoring, in view of the fact that the materials in question cannot be only used for criminal purposes but also represent a danger to public health, due to the radioactivity of many of the substances involved.

Though few cases of trafficking in nuclear material have been discovered in France, the experience of that country in relation to the subject permits the following conclusions to be drawn:

- None of the substances offered for sale came from military stocks of fissile material or nuclear weapons and no case of trafficking has involved vector components or technology, which illustrates the innocuous nature of this type of traffic (as regards proliferation);
- The evidence gathered has not demonstrated the existence of organized networks for the trafficking of nuclear materials. Though the print media regularly refer to Mafia networks, the search for potential purchasers and the transport of the material are carried out at random, as is evidenced by the numerous seizures effected by the police;
- In spite of the fact that the materials involved in the illicit traffic are suitable for the manufacture of nuclear devices, the quantities involved

are relatively small, not attaining the volume required for the manufacture of weapons;
- The lack of technical knowledge which is common to most traffickers, leads them regularly to associate the radioactive nature of an element with military nuclear material.

Moreover, in 1995, French INTERPOL carried out an analysis of the actual seizures of nuclear materials, offers for sale and cases of fraud which occurred between 1992-1994 mainly in Europe, and which produced the following results, much of which coincide with the conclusions reached by the representative of the French Ministry of Defence:

- The smuggling of substances mainly originated in countries which had been part of the former USSR, especially Russia, the Ukraine and Belarus. The suppliers, when they could be identified, proved to be mostly of Russian origin;
- The countries of Eastern and Central Europe proved to be the main countries of transit, while the destinations of the materials in question were countries in Western Europe such as Austria, Germany and Switzerland. Other European countries such as France, Belgium, Spain, the Netherlands or the United Kingdom have been barely affected by this phenomenon. Apparently, the countries most affected—such as Germany—are considered to be the places where potential purchasers may be found most easily;
- The following nuclear materials were found and/or seized: plutonium 239, uranium (whether natural, light or highly enriched), beryllium, caesium 134, caesium 137, cobalt 57, cobalt 60, iridium 192, radium 226, strontium, californium 249, californium 252, caesium 133, rubidium 85 and lithium 6;
- Though no cases of accidents or damage caused by radioactivity had been reported, the above-mentioned study revealed that packaging of the material was poor or insufficient. Some traffickers are unaware of the danger represented by some of the substances they are handling and so could contaminate themselves or their surroundings without realizing it;
- It was thought that it would be useful—if possible—to carry out an analysis of the records of the financial transactions of the traffickers or possible suspects in order to identify the networks or links between traffickers.

As stated above, emphasis was placed on the need to gather precise information so that the situation could be analysed and an objective assessment made of the danger posed by this activity. In this respect, it was considered essential to know what is happening in relation to the illicit trafficking in nuclear materials in regions outside the European geographical context.

With regard to the national and international initiatives adopted to combat the illicit trafficking in nuclear materials, special emphasis was placed on the efforts deployed by the Secretariat of the IAEA to support the work of the States in preventing the expansion of this type of trafficking. Nonetheless, the fact was stressed that though international bodies play an important role in terms of the recommendation of measures intended to prevent this illicit trafficking, it is national governments which have the responsibility for establishing a system of control over all radioactive sources.

National governments must achieve coordination of action in the domain of intelligence, customs and police, in close contact with the governments of other affected countries.

As regards Argentina specifically, the different agreements reached at national, bilateral and multilateral levels were enumerated, these had been established to ensure the physical protection of nuclear materials and the application of safeguards at nuclear installations. Likewise, emphasis was placed on the joint establishment with Brazil of a common system for the accounting and monitoring of nuclear materials through the setting up of the ABACC and the maintenance of an effective system of export control for this type of element.

To summarize, and in accordance with the content of the three lectures given during the first session of Working Group II, it can be concluded that: though the illicit trafficking in nuclear materials does not currently constitute a problem of great magnitude, it does represent a concern for the international community which must be dealt with through joint initiatives adopted in concerted manner, so that this problem does not increase in size and importance.

Chapter 5

Chemical and Biological Agents

Eduardo Duarte

In the first lecture, Masashi Matsuo dealt with the subject of "Illicit trafficking in chemical agents" under the terms of the Chemical Weapons Convention (CWC). He began by highlighting the differences between the States Parties and those countries which have still not ratified the treaty, and the importance of obtaining full compliance with Article I (Rights and Obligations).

He stressed that the sanctions which would be applied in response to cases of violation of the Convention had still not been established for they were shortly to be drafted at the initial meetings of the Conference of States Parties of the Organisation for the Banning of Chemical Weapons (OBCW).

The speaker explained that there were dual-purpose chemical substances which were not included in any of the CWC lists and were therefore not subject to its control. This presented the practical danger that chemical products which were close—in their synthesis path—both to agents and to precursors could be used by a proliferating country to develop a military programme.

Concerning the phenomenon of the internationalization of the chemical industry, it was stated that the boundaries between the three historical categories of nations (countries possessing raw materials, producer-processor countries and consumer countries) were becoming blurred, which was making the detection and monitoring of the chemical substances to be controlled more and more complicated.

This situation also arose in the case of dual-purpose equipment, which again is not controlled under the CWC. It gave rise to the need for each country to draft measures to be enforced at national level which would enable any gaps which might appear to be dealt with.

Within this context, the role of intelligence in the detection of illicit trafficking was again underlined, with the importance of achieving collaboration between the various national services and the construction of a "network" with the aim of establishing a more effective system for detecting and preventing proliferation.

It was stressed that the CWC provided a mechanism for inspection following a complaint in the event that a State Party is suspected, but that there was no established mechanism in the case of non-member States.

Based on this, a remote detection system had been proposed, using satellites which would enable the monitoring not just of chemical weapons, but of biological, nuclear and conventional weapons as well.

Specifically, it was intended to use satellite images with resolution levels of 1-3 m, with the aim of conducting systematic and regular monitoring of installations in any part of the world.

In the second lecture, Louise Hand also spoke on the problem of the illicit trafficking in chemical agents, but from the perspective of the Australian Group.

Giving some historical background, she explained that this system has its origins in a series of events which occurred in the 1980s, among them the violation of the Geneva Protocol during the Iran-Iraq war, the obtention of materials and equipment by Iraq and Libya in the international market and the realization by a group of nations of the practical deficiencies of the 1925 Protocol.

It was explained that the Group currently has 30 members, in addition to the European Commission (it is intended to increase it significantly) and that its basic objective is to promote control of the proliferation of chemical and biological weapons through the implementation—at national level—of export control measures on the precursors of chemical agents, micro-organisms and dual-purpose equipment.

The system is based on the granting of export licences issued by the relevant authority of each of the member countries in this Group. In terms of criteria it was felt that these should be practical and easy to fulfil, so as not to have a negative effect on the legal trade (something which has been achieved if it is taken into account that only 0.03 per cent of the world trade in chemical substances was subject to refusal).

It was also emphasized that the licences have proved useful for exporters because it enables them to ensure that they have not become involved in the development of a proliferating programme.

To conclude, the collaboration between the Australian Group and the CWC was highlighted, as were the successes achieved by the system in respect of the blocking of the obtention of capability in the chemical-biological field by some proliferating countries, which in many cases abandoned their initial intention to develop this type of weapon.

In the second part of the session of Working Group II, Malcolm Dando and Ms Louise Hand dealt with subjects linked to the issue of biological weapons.

It was stressed that during the Cold War little importance was placed on the potential dangers of this type of weapon in comparison with all the other types of weapons of mass destruction (WMD).

In fact, it was explained that it was as recently as this decade that people became aware of the threat they represent, especially when the inspections carried out by UNSCOM in Iraq led to the discovery of a large biological arsenal. This had been developed in only five years and included different types of agents suitable for use in tactical, strategic (Al Hussein warheads with anthrax, botulinum toxin and aflatoxins) and economic (pathogenic fungi to attack cereal crops) weapons.

In this respect, it was recalled that in the past there were various programmes for the production of agents on a military scale; among those which stood out were those developed by Japan, the United States, the United Kingdom, the former USSR and of course, Iraq.

It was pointed out that application of the techniques and knowledge resulting from the current biotechnology revolution could facilitate and even reduce the costs of production of biological agents on a military scale.

Similarly, these developments had opened up new dangers in this field, among which were:

1. Using the techniques of genetic engineering, organisms could be created which would adapt more closely to warfare requirements;
2. The advances in the Human Genome Project present the danger of the development of ethnic weapons;
3. The important advances in the understanding of the human nervous system could also lead to new opportunities for the development of anti-personnel agents.

To this paradigm are added the resurgence of diseases which were thought to be under control (tuberculosis) and the emergence of new diseases (ebola) in a context in which it is not possible clearly to distinguish epidemic outbreaks caused by natural mutations of micro-organisms from others which could have been induced by genetically manipulated pathogens.

Similarly, it was explained that generally in the face of a biological attack it is only possible to confirm its occurrence when the symptoms appear, which makes identification of the possible attacker more complicated due to the time

elapsed between the actual attack and its discovery. The attack presents similar characteristics to an indiscriminate act of terrorism, but in reality it could constitute a planned act of war.

It was considered that, due to the unlimited extension of the NPT and the fact that the CWC was soon to come into force, biological weapons could come to be the option selected by the potential proliferating countries; especially if account is taken of the fact that there is no existing mechanism for verification and that technically, biological weapons are comparable in their destructive capability to strategic nuclear weapons.

This danger will be increased if it is borne in mind that the knowledge, materials and equipment needed to carry out a biological agent programme are technically and economically accessible to a large number of countries (in fact it is suspected that there are approximately ten which have already made progress in this field).

In this context the major differences which separate the biological option from the nuclear stand out, as the time and financial and human resources required for the execution of an atomic programme are much greater.

On the basis of what had been stated above, it was concluded that the BTWC is the weakest link in the context of the counter-proliferation of WMD as it still does not have a system of verification to monitor compliance with the Treaty in the field.

In this respect, emphasis was placed on the importance of reaching an agreement to achieve acceptance of the measures resulting from VEREX on the part of the signatory countries, which could be achieved during this year if they can reconcile the industrial and economic interests associated with the biotechnology sector and the international issues.

Chapter 6

Strengthening International Cooperation: A New Agenda for Control Regimes?

Luis Alberto Padilla

This meeting was chaired by Mario Remetin, a retired general and now adviser to the Argentine Department of State Intelligence. After introducing the speakers, he called on José Athos Irigaray dos Santos, general coordinator for research at the Brazilian Department of Strategic Affairs, who spoke on the subject of the role of the intelligence services in the strengthening of international cooperation for the control of weapons of mass destruction.

In his lecture he referred to COCOM [Co-ordinating Committee for Multilateral Exports] as an example of a control mechanism for preventing the export of sensitive technology (dual-purpose) to the Warsaw Pact countries, although its scope and results were limited. In the context of the quest for the non-proliferation of weapons of mass destruction, Irigaray explained that Brazil has declared itself in favour of their proscription and of disarmament within the framework of a multilaterally agreed process, and for this reason has been party to the major conventions such as the one relating to chemical weapons (CWC), the Treaty of Tlatelolco, the convention on biological weapons and the control regime for missile technology (MTCR), although not without reservations related to the need for the developing countries—such as Brazil—to be able, precisely because of their status, to acquire or create their own technology in order to be more competitive and for this reason those mechanisms which would be unnecessarily interventionist are resisted.

Furthermore, and by way of conclusion, mention was made of the need for the intelligence services to cooperate with each other so that, through the exchange of information, illegal transfers can be reduced, especially now that the new world context of economic globalization is facilitating the operation of the transnational groups associated with organized crime. As the international organizations (the United Nations or the OAS) do not have intelligence services, it is essential for States to collaborate, by providing the information

and data which are indispensable to the decision-making capability of these organizations.

In the lecture by Leonel Solís, who is Director of Public Safety for Panama, reference was made to the importance which a reform of the system of border controls has to the progress of the fight against the illegal transfer of materials (chemicals, for example) liable to be used in the manufacture of weapons of mass destruction or in the production of drugs. With regard to the latter, he referred to the difficulties which Panama has been facing through sharing a long border with Colombia in an area which is difficult to access and control, and which has suffered phenomena such as the massive migration of peasants seeking refuge in that country, fleeing from the violence unleashed by guerrilla groups with links to the drug traffickers. In this respect, he mentioned the initiative to establish a Multilateral Centre for Combatting Drug Trafficking, which would be based in Panama and which would be coordinated by the Foreign Ministries of the member countries.

The third speaker was Serguei Zamyatin, who is from the Secretariat for the Wassenaar Group in Austria, and as such spoke in depth on the nature of this Group and the type of control over exports which had been established thanks to the cooperation of the 33 member countries which in 1996 decided to set up this mechanism as a substitute for the former COCOM, disbanded in March 1994. The member countries were accepted on a non-discriminatory basis, open to all those wishing to sign the agreement and as a key element, control had been established over a list of issues such as high-tech materials, computers, machinery, electronic instruments, telecommunications, sensors, aircraft, marine systems and propulsion systems of a "sensitive" nature or dual-purpose, and a commitment made to notify each other of any type of transfer or any refusal to supply this type of equipment to other States.

The Wassenaar Group also had agreed to use the list of munitions used by COCOM and to exchange information on the export of tanks, armoured vehicles, artillery, combat aircraft, helicopters, warships and missiles, more frequently (twice a year) and in more detail (stating model and type, for example). Information is also to be provided on the refusal to sell this type of armament when it is destined for suspicious or clandestine projects, although in principle, no list of proscribed countries is kept. In conclusion, the Wassenaar system is seeking greater transparency, and is not, therefore, merely a copy or a repeat of COCOM.

Following the lectures and questions from this first working group, two further lectures were given: one by Dr Malcolm Dando, lecturer in international security at the University of Bradford, in the United Kingdom and another by

the engineer Pier Giorgio Rabino, technical and operational director of the NahuelSAT project in Argentina.

Dr Dando referred specifically to various export control mechanisms resulting from the major treaties on the control of chemical and biological weapons (BTWC and CWC), with an emphasis on the need for these to be placed in the context of the prescriptions from the United Nations on substances which are harmful to human health, those arising from General Assembly resolutions and also those which have originated from bodies such as PNUMA, FAO, or from the Rio Earth summit in 1992 (Agenda 21). These have been gradually leading to a draft convention to control the importation of chemical substances (PIC) which is currently under negotiation. He also mentioned the importance of the Biological Diversity Convention, which is related to the need to control substances liable to be used in the production of biological weapons (*Biosafety protocol*).

Finally, Mr Rabino gave a very interesting lecture on an innovative project for the creation of a system of seven satellites designed to keep watch from space to enable the detection, tracing, monitoring and identification of illegal trafficking in weapons. This system was designed within the framework of a fairly wide-ranging project, with sponsorship from Italy, Spain and Greece and, if the necessary finance is obtained (some 400 to 500 million dollars), could also be used to provide advisory services on forest fires, the increase or reduction of forests, the movement of fish shoals, movement of cattle, etc. and not just to monitor trafficking in weapons or substances and materials liable to be used in the manufacture of weapons of mass destruction.

Part Five

Final Recommendations

Final Recommendations

Eduardo Pelayo, Péricles Gasparini Alves and *Daiana Belinda Cipollone*

The following recommendations, which derived from the debate during that conference, provide what could be considered as the first step towards achieving that goal:[1]

A. Short-term Actions

I. National Level

1. Raise the awareness of the decision-makers to the growing importance of intelligence gathering in the prevention and struggle against the illicit traffic of substances, technologies, materials and equipments, and the need to provide relevant agencies with human and technical resources;

2. Increase investigations of centres of arms concentration, aiming at reducing their importance as a fuelling factor of armed violence at the domestic, regional and international levels;

3. Create or improve the control of small arms related systems in the possession of civil society;

4. Improve control mechanisms at airports, airstrips, harbours, terminals, borders, stations, land, air and sea routes, and any other place that could be used for illicit trafficking;

5. Install adequate mechanisms to coordinate the efforts of the different agencies responsible for this issue; and

6. Implement training courses for those directly enforcing national laws in the field, as well as for those at the senior levels of law enforcement.

[1] It should be pointed out that while they are derived from the discussions in Buenos Aires, they contain some reflections that may or may not represent the viewpoints of all the participants.

II. Regional and Global Levels

1. Conduct a detailed survey of all industries relevant to the question, regardless of volume of sales, which might eventually be subject to control mechanisms;

2. Increase cooperation in intelligence activities to enhance the detection and monitoring of the supply and demand of arms and sensitive substances;

3. Conduct joint investigations of border areas and encourage the exchange of information on criminal elements and traffickers involved in the illegal trade of arms and other substances;

4. Enhance monitoring measures for legitimate international commerce in order to detect unusual flows of goods or funds that might be related to illicit trafficking;

5. Foster permanent collaboration among countries in order to implement national control measures for the export of dual-use materials, equipments and technologies;

6. Encourage information flow among the national agencies specializing in the field at regional and global levels to improve policies and legislation concerning the investigation of illicit trafficking of materials and technologies subject to control; and

7. Promote the dissemination of information on different types of proliferation of small arms and sensitive technologies at the political, university and business levels in order to assist the implementation and further development of control measures in each country.

B. Long-term Actions

There is a growing willingness on the part of organizations working to curb illicit trafficking to cooperate both nationally and internationally. Therefore, the development and implementation of the proposed short-term

actions should be carried out as soon as possible in order to move on to actions which could have a much longer and sustainable effect.

The reality is that it is very difficult to completely eliminate illicit trafficking worldwide. Long-term actions, therefore, should be pre-emptive, i.e., anticipating the flow of such traffic and stopping attempts before they are made. This is the underlying notion of the following recommendations.

I. Cooperative Initiatives

1. Collective actions for the future must integrate national and international ventures in combating illicit traffic. This is particularly important with respect to the sharing of growing databases on national experiences. One cannot discard all the existing knowledge, but rather optimize its utilization by:

   (*a*) conducting training courses such as the preparation of professional staff on the identification, detection and development of illicit traffic;

   (*b*) filling the void of certain criminal information that is not readily available, thus providing a unique and personalized system of databases;

   (*c*) instigating new activities between different organizations, for example, by stimulating an informal group of institutions to maintain a minimum flow of information, as well as formulating joint events; and

   (*d*) reinforcing cooperation between national organizations, and regional and global institutions that are not usual partners—such as with the United Nations, INTERPOL, IAEA, Euratom, Organization of American States (OAS), and governmental and non-governmental organizations.

2. In keeping with the spirit of cooperation, such actions should be taken collectively and jointly coordinated by all parties. Such an approach would ensure full participation by all the cooperating partners, and would promote the sharing of responsibilities among them.

II. Legal Aspects

1. The entry into force of the Chemical Weapons Convention (CWC) is an important factor in enhancing efforts to curb illicit trafficking. Reaching agreement on a verification package for the Biological Weapons Convention (BWC) would be an additional obstacle for manufacturers and dealers of illicit traffic. Yet new agreements, such as a comprehensive treaty on the registration of small arms, should be sought. The intelligence community, international police and border control authorities could conceivably strengthen monitoring and control mechanisms under such a treaty. In the long run, all of these initiatives would undoubtedly help to broaden control regimes towards universality, or to give them a legally binding character; and

2. Future-oriented actions must also be aimed at improving national import/export legislations and creating coherent international standards involving different countries. In the long term, the development of legislative reforms of an industry-wide national control of illicit arms and dual-use material would have to include information on manufacturers of this material. That could help adherence to treaties by parties that have not signed or ratified them.

III. Improving Technical Means

1. One of the major problems in fighting illicit traffic is identifying the dealers, the routes and methods most commonly used for such traffic. Past and present research work in this area plays an important role in the efficiency of implementing improved control regimes. In addition, understanding the demand for narcotics as it relates to the purchase of small arms helps prevent the flow of illicit traffic. In the light of this, there is a recognized need to establish more effective and continuous means of monitoring illicit traffic;

2. Satellite applications might be an additional feasible and viable option to support information-gathering related to illicit trafficking. This leads us to ask the following questions:

   (*a*) What existing satellite systems could enhance the international community's efforts in this area?

(*b*) Are there any possible synergies between civil- and military-grade satellite assets?

(*c*) How will information-sharing in this area be structured in the future?

3. These are the major options for long-term actions. Others will be discussed below as strategic recommendations.

C. Strategic Views

It should be reiterated that these recommendations were drawn up mainly for the above-mentioned seminar. In organizing this event, UNIDIR and SIDE both wanted the Seminar to focus on what could be done in order to strengthen efforts aimed at curbing the illicit traffic in small arms and sensitive technologies. Thus particular attention was paid to enhancing cooperation between field-oriented institutions such as intelligence services, border patrol, other uniformed services, and international institutions such as INTERPOL. That theme was also highlighted at the 1996 Rio de Janeiro meeting organized by UNIDIR and the Brazilian Intelligence Service on the future of the transfer of sensitive technologies and control regimes. The 1997 Buenos Aires event therefore became a natural follow-up seminar that helped to broaden the debate. It will be a challenge to follow up on this Buenos Aires initiative.

One clear conclusion arose from those discussions. There was a general perception that no individual institution could cope with the problem of illicit trafficking in small arms or sensitive technologies on its own, and that no single approach to the issue would work. Hence, there was an indispensable need to increase cooperation in order to gain a better picture of the *why*, *how* and *when* of different transactions in the field.

A second conclusion derived from the discussions was that any adequate long-term action to curb such traffic *must* deal with all aspects of the issue and call out for inter-agency and/or international action.

Four strategic themes emerged in the following recommendations:

1. There is an evident need for institutions fighting illicit trafficking to learn more about each other in order to:

(*a*) Know more on *who* does *what* and *how*. This could improve regional and even global cooperation. One example would be to develop better cooperation synergies between intelligence services and police forces;

(*b*) Better understand what are the similitudes as well as differences in the body of law of different countries;

(c) Better discern with *whom* and *when* to join forces in fighting illicit trafficking;

(*d*) Increase opportunities of optimizing human, technical, and financial resources;

(*e*) Take advantage of potentials for complementarity;

(*f*) Develop standards for methods and procedures to hinder illicit traffic worldwide; and

(g) Create or strengthen regional cooperation as a first step towards global initiatives.

Emphasis should be made on increasing cooperation while taking into account the specificity of each institution.

2. There is a need for the international community to have a *new vision* of where efforts should be placed in the future with respect to curbing illicit traffic. This vision *must*:

(*a*) Promote a set of agreed norms against illicit trafficking in small arms (such as the Inter-American Convention Against the Illicit Manufacturing of and Trafficking in Firearms, Ammunition, Explosives, and Other Related Materials) as a contribution to a new international security paradigm;

(*b*) Incorporate the notion that curbing illicit traffic is also linked to the need to address national and international security problems. In other words, illicit trafficking does not exist in a political, military, economic or social vacuum;

(c) Stimulate awareness of the need to make the sale of small arms and sensitive technologies transparent. It is important to note that with transparency also comes a sense of responsibility on the part of States to identify, detect and react whenever appropriate. That is *condition sine qua non* for this new vision;

(*d*) Provide a clearer role for institutions combating illicit traffic, such as:

(i) the intelligence community at the national and international levels (State and military intelligence, national police, border patrol, etc.);

(ii) lawmakers, the legal system and the diplomatic community; and

(iii) the academic community.

There is an important role for each actor to play. For example, with respect to the role of intelligence services, how could improved performance provide information to facilitate the combat against illicit traffic? How could its role as information provider help policy-makers? In the case of other government and non-governmental institutions, what could be done to raise awareness of the problem of illicit traffic, particularly as regards its industrial base?

3. There is a need to build the structure of the fight against illicit trafficking on a solid base aimed at short- and long-term implementation:

(*a*) short-term actions as those mentioned earlier should constitute measures that could provide practical results within the next couple of years or so;

(*b*) long-term actions, however, must prepare institutions to cope with illicit traffic well into the next century; and

(c) both types of actions *could* and *should* be carried out simultaneously.

4. The cooperative efforts of UNIDIR, the Brazilian Intelligence Service and the Argentinean State Intelligence Secretariat have provided an opportunity for experts and decision-makers to reflect on the practical measures that can contribute to building international security on a more solid base. These experts have invested their richest assets to serve this cause, among other things, their time, their attention and their intellectual input.

Yet, work is far from finished. The main objectives of the Buenos Aires seminar, its ideas, proposals, and recommendations should be widely disseminated. There is still considerable work to be done in order to convince those who *can move mountains* to take these new visions and short- and long-term actions further. Whatever was said above is worthless without actions: deeds *must* follow words and recommendations, for they alone can change the status quo.

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